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KANSAS FARMER

For the improvement of the Farm and Home

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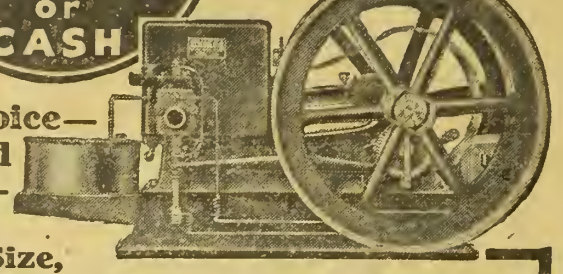

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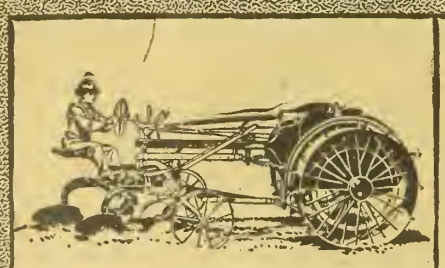

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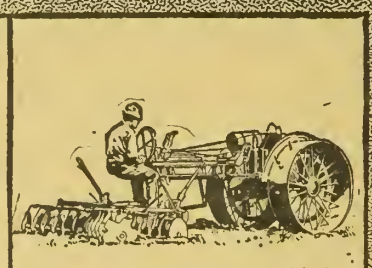

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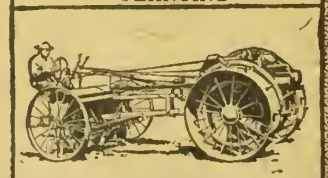

DRILLING



HARVESTING WHEAT



HARVESTING CORN

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

A great deal of the repair work that is done in the average blacksmith shop is of such a nature that it might well be done at home. Broken castings can many times be drilled and a plate riveted on to hold them together. The welding of mild steel and iron is very simple and with a small amount of practice most men can master the art fairly well. The most useful tool in a shop is an emery wheel, and it is absolutely necessary to have some sort of power other than that of hand or foot to turn it. As for the forge or post drill, they must be turned by hand, but this becomes tiresome and many jobs may be slighted that might otherwise have been finished well had there been some form of power to drive the machine.

A small rip saw in a shop equipped with power will soon pay for itself in the time and money saved in quickly working up broken and split lumber into suitable size for the various farm uses.

The shop engine should be separated from the room where the machinery is set by a tight partition. The dust from the shop or feed grinding room if carried into the moving parts of the engine causes rapid wear.

Winter Use of Cars

To those isolated in many instances from mechanics or garages, the problems connected with operating an automobile during the winter months are often difficult of solution. Cold weather, as a rule, drops down over night and finds many car owners with frozen radiators and a silent motor.

As a simple matter of preparedness, the rural car owner should make a considerable quantity of anti-freeze solution for himself to keep on hand for the cold spell. We all know that freezing results in cracked cylinders, split radiator tubes and a big repair bill. The anti-freeze solution is therefore the cheaper remedy in the long run.

Before placing the solution in the radiator, it is a good plan to thoroughly flush out the system. Use the following solutions for various degrees of severe weather: For zero weather, 3 quarts of glycerine, 2 gallons of alcohol, 4 gallons of water. For 5 below zero, 1 gallon of glycerine, 1 gallon of alcohol, 4¾ gallons of water. For 30 below zero, 9 pints of glycerine, 9 pints of alcohol, 4½ gallons of water. We do not suggest the use of alcohol and water without glycerine, as alcohol will evaporate too readily at the temperature of 180 degrees. Never under any circumstances use calcium chloride.

A proper understanding of the choke valve and primer with which most modern cars are equipped, will aid greatly in the starting of the car during the winter months. At night when the car is driven into the garage, the engine should be speeded up rapidly and choke valve advanced as far as possible. This shuts off entirely the supply of air and fills the cylinder with a charge of gas. In fact whenever the car is to be left standing during the day for any length of time it is well to use the choke valve to stop the engine. Then when it is necessary to again start the car, the driver will advance the choke valve toward a "rich" position and press the starter button. When the weather is very severe, and it is impossible to start with the choke valve, the primer should be used. The primer is designed to inject raw gasoline into the cylinder. If the motor will not start, some obstruction is preventing the flow of gasoline from the carbureter, possibly ice. The use of the primer in this case will remove the obstruction.

The use of "bib" or other radiator covers is recommended both as an aid in warming the motor and from the standpoint of gasoline economy. A motometer attached to the radiator to give the temperature is also an excellent thing.

Among the important things to watch in cold weather if the owner is to have the use of his self starter, is the storage battery. A battery should not be subjected to continued periods of cranking. Continued cranking will eventually result in a discharged battery. If your motor doesn't start, find the cause. A few turns of the motor are sufficient to start.

It is the duty of the generator to supply enough current to compensate for the amount used in general operation. This is not possible in cases where the starter motor has been used extravagantly or the car is not driven a sufficient mileage to take care of the amount used.

Few realize the amount of time required for the generator to recharge the battery. If the starter motor is used one minute in starting, the generator, to restore the charge, is required to operate at a speed of over eight miles per hour for twenty minutes.—H. W. MILLER.

Macadam Revival in New York

A few years ago roadbuilders joined in a universal requiem for the old-fashioned waterbound macadam road. It served its purpose when vehicles were all horse-drawn, it was acknowledged, but with the advent of motor vehicles it was laid aside with the muzzle-loaders, crinolines and other prides of departed days. But recently the macadam road has come back into favor. This is because road officials are now judging the cost of a road by its total annual expense, including maintenance and sinking fund. On this basis it has been discovered that a macadam road is an economical one for certain classes of travel. This was the opinion expressed at the recent meeting of the New York State Association of County Highway Superintendents by many of those present. Practically all the recent roads built by these men have two courses of broken stone, and frequently it is possible to build the roads with a lower course of cheap local stone, using the more expensive stone from a distance for the upper course only. This reduces the first cost without causing any reduction in the life and strength of the road. When they are finished they are sometimes treated at once with tar or asphalt, but usually this treatment is deferred long enough for travel over the road to reveal any weak spots, so they can be repaired before the oiling is done. It is this development of efficient and economical methods of maintenance with the help of road oils which has led to the renaissance of waterbound macadam in New York. It is one of many recent indications that where the work of maintenance is thoroughly done and cost records of it are properly kept, important light is thrown on the best types of construction to carry travel of different classes and intensities.

Second Tractor Show

The second annual tractor show will be held in Kansas City the week of February 12 to 17, the same week as the automobile show.

The tractor show will be located on the Union Station plaza, as it was last year, but will be much larger. The tent will be 500 feet long, the great weight of the canvas being upheld on steel poles—a new feature. There will be a double wall of ten-ounce khaki, well paraffined, and the use of forty-five salamander stoves will assure comfort regardless of the weather.

Inside the show tent this season there will be a double floor. Practically all contracts have been let for the space. There will be shown exhibits of seventy different models of tractors, in addition to power cultivators, all kinds of new power lift machinery, power lift plows, and special binder hitches. The caterpillar tractor, which was the foundation of the wonderful "tanks" which have been of so much note in the European war, will be among the exhibits.

There will be shown tractor attachments for automobiles. A large number of new factories will make their debut as tractor makers, among them some automobile manufacturers of popular-priced cars.

The presence of so much farm machinery in addition to the tractors themselves, will make this show of special interest to implement dealers and farmers of the Southwest.

If an automobile is used only occasionally during the winter, the wheels should be jacked up and the tires partially deflated.

KANSAS FARMER

The Farm Paper of Kansas

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FARM BUREAUS IN KANSAS

A letter just came to us asking for information about the county farm bureau. The reader wants to know what benefit the farmer will receive from the farm agent, and how a county should proceed to get one. He says they call them "farm advisers" or "farm doctors" in his neighborhood.

The fact that these terms are used in speaking of the man employed by a county farm bureau, indicates that the real scope and purpose of the organization is not very well understood. We have watched the development of the farm bureau work in Kansas from the start and have become fully convinced that it is a most useful organization. We believe it is a factor in the development of better agricultural methods and in promoting rural organizations generally, that merits the consideration of every up-to-date farmer in the state.

Sixteen counties in Kansas had farm bureau organizations last year, and during the closing months of the year four additional counties completed their organizations and arranged all the necessary details to starting work with the beginning of the new year. Several other counties are also working to perfect organizations. The membership of these bureaus increased from 1,300 July 1, 1915, to 6,000 December 31, 1916.

In answering our correspondent's questions and similar questions in the minds of many, we cannot do better than quote from a little leaflet recently published [illegible] farm bureau work in the [illegible]ers the question, "What [illegible]u?" as follows:

"[illegible]ureau is an organization [illegible] are interested in county-[illegible]al education and rural improvement.

"A committee of farmers representing all parts of the county is responsible for the work undertaken by the bureau, and is assisted, through the county agent, by the agricultural college and the United States Department of Agriculture in the execution of the plans adopted.

"Demonstrations of methods best adapted to local conditions are given; better live stock is introduced; assistance is given to farmers' organizations, breeders' associations, granges, farmers' unions, women's clubs, boys' and girls' clubs, marketing associations, and any other existing farmers' associations in the county.

"The farm bureau is the leader and organizer for improvement in better methods of agricultural practice, farm business, agricultural education, and economic and social welfare."

Here are some of the specific things farm bureaus are doing in our state: Promoting improved methods of crop production, live stock management, plant disease eradication in field, orchard and garden; introducing and studying new and profitable farm crops, better methods of orchard and garden management; arranging and constructing farm buildings; installing farm drainage systems, water supply and lighting systems; making systematic records of the farm business with a view to increasing its profitableness; organizing boys' and girls' clubs, and short courses; arranging for farmers' meetings, agricultural tours, and extension schools; promoting breeders' organizations and co-operative sales of live stock; assisting in county and live stock fairs; encouraging community co-operation, and serving generally as a clearing-house for all farmers' organizations.

Farm bureaus in Kansas cost from $2,400 to $3,000 a year. This pays the salary of the county agent and the running expenses of the bureau. The funds come from several sources. The members of the farm bureau which shall comprise 25 per cent of the bona fide farmers of the county, or as many as 250, are required to pay a membership fee of not less than one dollar a year. In some bureaus a larger fee is assessed. These fees amount to $250 to $500 a year. In beginning the work a special fund of $800 must be raised in order to provide suitable equipment for conducting the work of the bureau. This is commonly raised by private subscriptions in both country and town. Sometimes business organizations in the towns furnish the whole amount. Federal and state funds have been appropriated and from these $800 to $1,200 a year is guaranteed toward the salary of a county agent, providing the county appropriates an equal or greater amount.

The county agent is employed by the bureau from a list of qualified men recommended by the state county agent leader who is located at the agricultural college.

The best way to find out the results possible through organizing a farm bureau and employing a county agent, is to visit some county where this work has been going on for a year or two.

BOARD OF AGRICULTURE PROGRAM

The program for the forty-sixth annual meeting of the Kansas State Board of Agriculture, which will be held in Memorial Hall, Topeka, January 10-12, 1917, follows:

Wednesday, 4:00 P. M., Business session. Evening session: Address of Welcome, Charles H. Sessions, on behalf of the governor; Address of welcome on behalf of Topeka, Mayor Jay E. House; Response, President J. T. Tredway; "A Twentieth Century Vision," A. Ross Hill, president Missouri State University.

Thursday morning: "The Agricultural Fair," W. R. Mellor, secretary Nebraska State Board of Agriculture; "The Federal Farm Loan Act," Charles E. Lobdell, member Federal Farm Loan Board; "The Federal Reserve Bank and the Farmer," Charles M. Sawyer, chairman Board of Directors, Federal Reserve Bank, Kansas City. Afternoon session: "Could Kansas Be a Dairy State?" George W. Marble, Fort Scott; "How to Farm in Kansas, and Why," T. A. Borman, editor KANSAS FARMER; "The Farm Flock for Kansas," A. L. Stockwell, Larned. Evening session: "Rural Permanency," Cora Wellhouse Bullard, Tonganoxic; "The Farmer and His Paper," Charles Dillon, managing editor Capper Farm Papers; "Women and the State Viewpoint of General Federation of Women's Clubs," Catherine A. H. Hoffman, director, Enterprise.

Friday morning: "Relation of Transportation to Agriculture," Z. G. Hopkins, special representative, M. K. & T. Railway, St. Louis; "Fixing the Responsibility for Road Improvement," Thomas H. MacDonald, chief engineer, Iowa State Highway Commission; "Work of the Hays Experiment Station," Charles R. Weeks, superintendent. Afternoon session: Election of officers and members; "The Standardization of Rural Schools," J. A. Shoemaker, Kansas Rural School Supervisor; "The Foot and Mouth Disease," J. H. Mercer, Kansas Live Stock Sanitary Commissioner; "Fire Prevention on the Farm," L. T. Hussey, Kansas Fire Marshal; Query box; Installation of the new board and officers at the secretary's office.

At 6:30 P. M., Friday, a complimentary banquet to those attending the board's meeting will be given by the Topeka Chamber of Commerce, southwest corner Seventh and Quincy streets.

* * *

The farmer who is able to present a definite analysis of his business has a decided advantage over the one who cannot give any particulars concerning the results of his work. One of the essentials to commanding capital on liberal terms is the ability to present this sort of information in detailed form. Just recently a farmer of Jewell County had a practical demonstration of this point. A careful survey had been made of his farm business by a man who had given special study to this kind of work. The records showed that of all the farms surveyed in his township he had received the highest labor income in 1915, or a little more than $3,500, the average for the township being only $554. He needed additional capital to carry on his business and the definite analysis which he was able to present to the loan company furnished just the information needed to guide it in fixing the terms of the loan. Men in commercial business have long accepted this principle and take as a matter of course the requests for information concerning their business made by those who furnish them additional capital. The adoption of approved business methods on the farm will enable the farmer having use for additional capital to secure better terms than he could otherwise obtain.

* * *

MANURE WHEAT IN WINTER

It has been abundantly demonstrated that top-dressing wheat during the winter is a profitable practice. This is specially true in the older sections of the state. Land that has been cropped for a good many years runs down in fertility. The amounts of some of the essential elements of plant food become so small that profitable returns are impossible. Manure supplies the lacking elements, and by spreading it on top during the winter the soluble parts are washed out and go into the ground, leaving the coarser material on top where it acts as a protection to the wheat. Later this coarser portion of barnyard manure will decay and yield its manurial value.

Before the advent of the manure spreader it was difficult to apply manure satisfactorily as a top dressing. With the spreader it can be distributed evenly and at whatever rate seems most desirable. Every spreader load will leave its effect on the wheat field and this effect will be noticeable for several years in the crops that follow.

Failure to get barnyard manure back to the soil constitutes one of the big wastes on many farms. A farmer in Nemaha County who built a good dairy barn a few years ago that provided an open shed where the manure was protected from the weather, told us that the fertility saved in this way had been enough to pay interest on his investment in the barn.

The manure spread directly from the stable is worth at least 75 cents a ton more than that which is left for three months in an open yard before spreading.

* * *

HOME CURING OF MEAT

Every farmer in Kansas ought to kill and preserve his own meat. No packing-house product can equal home-made country ham. On farms from which the finest of cattle and hogs go to market, it would seem that the farm family should have the best of meat for home use.

In the days before the packing house, butchering time was an annual event. The animals were carefully fed with this end in view and the meat was preserved so as to be far superior to what we ordinarily buy at the present time. Many of the industries that were formerly carried on in the home are better and more cheaply conducted in the factories, but no farm family should have to buy ham or bacon in order to have good meat on the table.

Butchering and curing meat successfully is an art that can be acquired. It requires care and attention to details, but so do many other things that are done on the farm. We of the present generation have found it so easy to buy meat already prepared, that little attention has been given to home methods of meat preservation. We need a revival of the old-fashioned butchering day.

Not only is it possible to have better meat, but much needless waste can be saved. In buying meat at the store, a profit is paid to the local shipper, to the packer, the retail grocer, and a double profit to the railroad which hauls the live animal to the central market and the meat back again.

PLAN CROP ROTATIONS NOW

Head work is an important part of successful farming. From the fact that conditions are never exactly the same, there has perhaps been a tendency to let things drift and not try to plan, because so frequently plans have to be changed to fit changed conditions. These things make it even more important that the man who labors with Nature, carrying on his work in harmony with her laws, be resourceful and ever ready to take advantage of opportunities as they present themselves.

Even though it is impossible to work out detailed plans, as can be done in some occupations, there are certain general fundamental principles entering into the farming business that must be considered. The evils of any single crop system have been brought out by the steady decline in the yield of such staple crops as corn, where this practice has been followed. In every corn county in Eastern Kansas the records show that the yields have steadily fallen off for a thirty or forty-year period. The Missouri Experiment Station has just reported a test covering seventeen years in which corn grown continuously on the same land has averaged less than twelve bushels an acre, as compared with about fifty bushels an acre on ground planted to corn, wheat and clover, in rotation, and about fifty-four bushels where the rotation was corn, oats, wheat, clover, and two years of timothy.

The necessity for a good rotation in cropping is fundamental and some time might be most profitably spent this winter in working out rotation plans that will fit the farm and result in giving greater returns for the labor expended. A good rotation should include some cultivated crop, then there must be a crop that adds nitrogen and organic matter, such as alfalfa, clover, cowpeas or sweet clover. Plowing under some of these legumes for green manure brings immediate results in adding organic matter and thus increasing fertility. Usually a small grain or grass crop is included in a good rotation. It naturally follows that a rotation plan must include live stock to consume the greater part of the crops grown. While different kinds of crops make different demands on the soil so that crops in rotation wear out land less rapidly than a single crop grown year after year, no rotation can build up a soil unless the greater part of the products is fed on the farm and the manure returned to the soil as a part of the rotation scheme. In some cases it may be necessary and profitable to add lime and phosphates in addition to returning the barnyard manure to the soil.

* * *

TEN EYCK TO NEW POSITION

A. M. Ten Eyck, who is well known to many of our readers through his work at the agricultural college, has become head of the Emerson-Brantingham agricultural service bureau which has just been established. Professor Ten Eyck was reared on a farm in Wisconsin and has always been associated with agricultural work. He spent ten years in Kansas—seven as professor of agronomy at the agricultural college and three as superintendent of the Hays Experiment Station. He is the author of a number of valuable bulletins on crops and soils. During the time spent at Hays, Professor Ten Eyck made some valuable investigations in dry-land farming. He made many public addresses while in Kansas and became familiar with farming conditions all over the state.

Previous to taking up this new work, Professor Ten Eyck was county agricultural agent of Winnebago County, Illinois, where his efforts to improve agricultural methods were much appreciated.

The purpose of the new department which he heads is to furnish all the help possible to the patrons of the implement company.

FIGHT CONTAGIOUS ABORTION

Isolate and Treat Affected Animals, Disinfect Bulls, Clean Up Premises

ABORTION is insidious. It creeps in like a thief in the night, and it is not always an easy thing to trace. New animals, whether male or female, purchased from an affected herd, or a cow served by a neighbor's bull which has become affected, or contact with diseased animals in other ways, may be the means of introducing the disease. Take warning, therefore, and protect your herd from this destructive disease.

CAUSES OF ABORTION

In Circular No. 14 of the Kansas Experiment Station it is stated that the terms, "slinking," "casting," "losing," "aborting," etc., are used in discussing this trouble, the idea being conveyed that the young is cast out of the womb before it is fully developed and capable of separate existence.

"Abortion may be brought about in many ways. The principal causes probably are injuries to the mother from fighting, falling, kicks from other animals, drinking excessively of very cold water, exposure to severe or sudden changes in the weather, and the eating of spoiled, frozen or moldy foods, especially wheat or rye, which contain ergot or smut. Improper hygienic surroundings also contribute, especially in stabling, breeding too young, inbreeding, and severe constitutional diseases. The death of the fetus itself is at times responsible.

"When any of the accidental or explainable causes cannot be assigned to the case, contagious abortion is always to be suspected, for it is common in this state and easily spread from one animal to another. The failure of many mares and cows to breed may often be attributed to this trouble. The diseased animals are often able to infect those with which they associate, so it is readily seen that the immediate loss of the young animal is not the only loss sustained by a herd in which this disease may get a foothold. It frequently results in many months of sterility or possible loss of increase completely, as well as infection of new herds or animals replacing the old herd.

"There can be no doubt of the fact that the disease is of germ origin, or infectious, as we more properly say. The fact that it spreads rapidly from one animal to another, and that, experimentally, it can be produced by the introduction of the discharge of an affected animal into the vagina of a pregnant animal, both conclusively prove this point.

"The germs of the disease are found in the vagina and uterus of affected animals and are passed out with the discharge from these organs, therefore the membranes and discharges from a case of abortion should always be buried, burned or thoroughly covered with a strong and efficient disinfectant.

"This is one disease where it is obvious that prevention is worth vastly more than an attempt to cure, mainly because the trouble is as a rule not suspected to be present till it has occurred, therefore treatment is directed to those animals supposed or known to be affected, and the known exposed ones."

Is your herd already affected? If so, you have some work ahead of you. But don't quit on that account. Abortion has been and can be controlled by thorough and intelligent treatment. It is not a lazy man's job, but by careful attention to details of sanitation and hygiene and the control of breeding the disease can be overcome.

Don't waste your energies on unprofitable animals. Send the boarders to the butcher; then give your attention to the good cows. "An ounce of prevention is worth a pound of cure." Clean up the stable, put in windows and let the sunshine in, then give a liberal coating of whitewash, so that you can see if there is any dirt. Drain the barnyard and make everything clean and sanitary.

CLEAN AND DISINFECT STABLE

Chemical disinfectants are used to good advantage in controlling disease and the following directions for their use are given in a recent bulletin of the Federal Department of Agriculture:

Sweep ceilings, side walls, stall partitions, floors, and other surfaces until free from cobwebs and dust.

Remove all accumulations of filth by scraping, and if woodwork has become decayed, porous, or absorbent, it should be removed, burned, and replaced with new material.

If the floor is of earth, remove four inches from the surface, and in places where it shows staining with urine a sufficient depth should be removed to expose fresh earth. All earth removed should be replaced with earth from an uncontaminated source, or a new floor of concrete may be laid, which is very durable and easily cleaned.

The entire interior of the stable, especially the feeding troughs and drains, as well as milking stools and all other implements, should be saturated with a disinfectant, as cresol compound (U. S. P.), or carbolic acid, six ounces to every gallon of water in each case. After this has dried, the stalls, walls, and ceilings may be covered with whitewash (lime wash), to each gallon of which should be added four ounces of chloride of lime. The disinfectant, of course, should be rinsed thoroughly from drinking troughs before animals again drink from them.

All refuse and material from stable and barnyard should be removed to a place not accessible to cattle or hogs. The manure should be spread on fields and turned under. In addition, the yards should be disinfected by sprinkling liberally with a solution of copper sulphate, five ounces to a gallon of water.

The best method of applying the disinfectant and the lime wash is by means of a strong spray pump, such as is used by orchardists.

This method is efficient in disinfection against most of the contagious and infectious diseases of animals, and should be applied immediately following any outbreak, and, as a matter of precaution, it may be used once or twice yearly.

To prevent the bull from carrying the infection from a diseased cow to a healthy one, first clip the tuft of long hair from the opening of the sheath, then disinfect the penis and sheath with a solution of one-half per cent of cresol compound, lysol, or 1 per cent carbolic acid, or 1 to 1,000 potassium permanganate in warm water. Two tablespoonfuls of fluid equal one ounce, therefore this amount of antiseptic added to six pints of boiled water will make approximately a 1 per cent solution.

The only apparatus necessary is a soft rubber tube ⅝ inch in diameter and 5 feet long, with a large funnel attached to one end; or an ordinary fountain syringe and tube would serve the purpose. The tube should be inserted into the sheath and the foreskin held with the hand to prevent the immediate escape of the fluid. Elevate the funnel as high as possible and pour in the fluid until the preputial sac is filled. In addition to this, the hair of the belly and inner sides of the thighs should be sponged with an antiseptic of twice the strength of the irrigating solution. This disinfection should invariably precede and follow every service.

TREATMENT OF THE COW

Isolate the aborting cow. The germs of the disease are contained in the discharge, and in the dead fetus and its membranes. Gather these up and bury or burn them and disinfect the stall thoroughly. Don't neglect this cow. By thorough treatment you can restore her to usefulness and prevent sterility.

More than half the cows abort but once, so don't sell your cow because she aborts.

The uterus should be irrigated daily with one of the antiseptics mentioned for the bull, using the same apparatus, and irrigation should be continued until discharge ceases. If large numbers of animals are to be treated, a bucket can be fitted with a small faucet to which the tube is attached. This can be suspended from the ceiling or from the rail of the litter carrier. After treating the animal, disinfect hands and apparatus thoroughly with the solution before treating another animal. Complete cleanliness is important. Lugol's solution, in a strength of 2 per cent, has been found to be desirable as a uterine douche. This solution is not allowed to remain in the uterus, but is flushed out with salt solution.

Lugol's solution of iodin is compounded as follows: Iodin 5 parts, potassium iodid 10 parts, and boiled water to make 100 parts. Two parts of this compound in 100 parts of boiled water make a 2 per cent solution suitable for uterine irrigation. Lugol's solution can be purchased from your druggist.

A 1 per cent solution of common salt in boiled water at body temperature makes a suitable irrigating fluid. A heaping tablespoonful of dry salt weighs approximately one ounce, and this amount in one gallon of boiled water gives the proper strength.

The action of the antiseptic should be noted, and if it causes straining or irritates the tender membranes of the genital organs, a weaker and less irritating solution should be used. In addition, the external genitals, root of tail, escutcheon, etc., should be sponged daily with a solution twice as strong as that used for irrigation, and this latter treatment should be given the non-aborters as well. Should the preliminary symptoms of abortion be detected, the animal should be removed from the herd and treated as above.

After treating an affected animal, be careful to disinfect hands before going near apparently healthy animals.

RETENTION OF AFTERBIRTH

The retention of the afterbirth is a serious matter. It should not be forcibly removed, as the lining membranes of the uterus would be torn and a point of entry thus provided for the germs which cause blood poisoning. The uterus is very susceptible to this form of infection at such times, and injury should be carefully avoided. Clumsy and forceful manipulation of the parts may cause infection and death of the animal. The best practice is to flush the uterus twice daily with a mild antiseptic to prevent the accumulation and absorption of poisonous product and allow the membranes to come away of themselves. In all these manipulations, hands and utensils should first be thoroughly disinfected. In fact, so much special knowledge and operative skill is required that a competent veterinarian should be employed to instruct the owner before these operations are undertaken.

BREEDING AFTER ABORTION

After abortion, breeding should not again be attempted within two months, or until the discharge shall have ceased, as the uterus would not be normal and the animal either would not conceive or would abort again in a short time.

Sterility, weakling calves, retained afterbirth, white scours, and calf pneumonia frequently accompany abortion. The measures recommended will also assist in overcoming these complications.

Do not rely on drugs or proprietary medicines administered by the mouth. No effective remedies of this kind have yet been found.

Serums and vaccines are still in the experimental stage. Their effectiveness, however, has not yet been conclusively demonstrated. The Department of Agriculture advises farmers to rely for the present on the protective measures and sanitary treatment outlined above.

Let us repeat. Give this matter your earnest attention. Join your neighbors, your state, and the country in fighting this plague, and we will soon have it under control.

Write today to the Department of Agriculture for the Farmers' Bulletin, which gives details of the disease and its prevention and treatment.

National Campaign Against Abortion

ABORTION is fast becoming the most destructive of all animal diseases. It hits animal production at its very source. If the offspring are killed and cattle cannot reproduce, we get neither beef nor milk. The necessity is plain for vigorous action to prevent such a calamity.

The Federal Bureau of Animal Industry is making a determined effort to devise a method of treatment which will be effective in controlling this serious disease. Are you doing your part? The bureau asks your help. An appropriation has been made, but not enough to provide individual attention for all infected herds.

Write to the Experiment Station at Manhattan, not only to ask for aid, but to offer your assistance in a systematic campaign to control the disease. Also write to the Division of Publications, Department of Agriculture, Washington, D. C., for their latest bulletin on contagious abortion.



DAIRY BARNS ON FARM OF GEORGE C. TREDICK, KINGMAN COUNTY, KANSAS.—LARGE BARN HAS FORTY STALLS, A BULL PEN AND SEVERAL BOX STALLS.—SMALL BARN HAS THIRTEEN CALF STANCHIONS, FOUR SMALL CALF PENS AND THREE BOX STALLS FOR CALVING COWS.—EQUIPPED WITH MILKING MACHINE AND FEED AND LITTER CARRIERS RUNNING FROM SILOS TO EACH BARN

IMPORTANCE OF CLUB WORK

Will be Reflected in Inproved Farming and Home Life of Next Generation

By W. D. HURD, Director of Extension, Massachusetts Agricultural College, Before National Association of Agricultural Colleges

THERE have been many criticisms made of our public school system —some just, some unjust. It has been said, and generally agreed to, I think, that most of the subject matter taught has been abstract—unrelated to life, the home, and other interests of the child. Methods and subject matter havo not resulted either in leading in the direction of the farm those in cities who are adapted to the farming vocation, or in keeping on the farm those brought up on farms and better fitted for this than for other vocations. The nature study craze, and the idea of wholesale teaching of elementary agriculture have not accomplished what was expected of them except perhaps to lead toward the saner and more practical ideas that are now being put into practice. The school, except in rare instances, still stands as an isolated institution, disconnected with the life of the community in which it exists. The gulf between the homc and the school has not been bridged with any span yet proved to be permanent. Boys and girls from farm homes still continue to grow up with an actual distaste for farming and rural home life. The past history of the attempts made to teach agriculture in our public schools has not been flattering. Young people who ought to stay on the farm continue to go to the city—and I make no attempt here to define the theory that all farm-born children should be farmers. Conditions of soil fertility, financial return from farming, social life, mcthods of marketing, and all-round contentment in rural districts over the country as a whole do not seem to be improving very rapidly. Various other agencies, such as scouts, campfire girls, Y. W. C. A. groups, etc., are doing the work formerly looked after by parents and which might have been attached to the school.

The junior extension work movement is a natural outgrowth of the nature study and elementary agriculture idea. It is more real, more vital, has an element of financial profit in it, the competitive element gives zest and interest, and agriculture is now taught without being left, as formerly, without effective application. The sole reason for developing the club work idea is to teach agriculture, not to promote prize contests or to over-emphasize the material side—although these may serve a good purpose in reaching desired ends—and it is accomplishing in a remarkable degree, this purpose.

The best argument I know for the value of club work as a real educator of boys and girls is to be found in the attitude of bankers and other business men, usually rather callous to movements of this kind. In our state, as in others, they have not been slow to see exceptional value in it, have been willing to spend thousands of dollars personally to further it, and have heartily endorsed it both privately and in public.

To be most successful and most valuable, the club work should be developed either as a part of the school system or as a very close adjunct to it. Adequate supervision and follow-up work are absolutely necessary. It's not how many register in the spring that counts, but how many come through with completed projects in the fall.

No boy or girl can carry on a club project lasting four months, or a full season, and perform all the necessary duties faithfully so that recognition is gained and admission is allowed into the group of successful contestants without coming in contact with and absorbing many things that really educate. He or she cannot plow and prepare the soil, or care for poultry, or pigs, or make a garment, or bake a loaf of bread, or go through the process of canning fruits or vegetables, or practice drainage when necessary, or mark out the rows in a garden, or select seeds and fertilizers, or combat insects and diseases, or clean up the back yard prior to gardening operations, or receive the benefits of travel to the nation's capital or to places of interest in their own state, without coming in contact with scientific facts, whether they recognize them as such or not, and having lasting impressions made upon them; without being broadened by the business men with whom they come in contact; without learning to take bravely discouragements due to climate, rain, or other causes; without recognizing the need of co-operative relationships; without learning to respect the rights of others; and without learning lessons in community work. They will be spurred on by the competitive spirit, will be more keen and observant, and will find expression of their thoughts in the final report which they must render. In club work the boy or girl either fails to come through, or else when they do, it is with all the exhilaration of overcoming obstacles and of winning something which is much worth while. It's a real man's job that they have accomplished.



THIS FORM OF EXERCISE BRINGS HEALTH, PLEASURE, AND GOOD RETURNS FOR PRODUCTS GROWN.—MANY KANSAS CLUB BOYS AND GIRLS TEND THEIR PLATS IN A WAY THAT WOULD DO CREDIT TO EXPERIENCED HANDS IN THE BUSINESS

Examples and instances are not scarce of how organized club work has had a remarkable effect on the career of those participating, their parents and neighbors, and generally the community in which the work goes on.

Organized either as a part of or as an adjunct to our school system, clubs connect the school with the home, this being the only link that has so far been found. They inject a vitalizing element into the school itself. Subjects taught in the school become at once associated with real things outside. The school becomes a part of the community. Club work activities become the feeders for agricultural schools and colleges.

The effect of club work on club members must not be lost sight of. Boys and girls learn to work, they learn to discriminate, they learn to co-operate, they learn to describe what they do, they learn business methods, they learn to weigh and balance things according to real values, they are encouraged to read and discuss, they are broadened by their contact with others, they develop initiative and judgment, they come to the age of eighteen or nineteen able to do something with a knowledge of how, and the confidence that they can do it. Club work gets hold of boys and girls at the right stage of their development for directing or redirecting their thought.

Club work is proving to have a great effect on farming and home making—the two goals to be reached. Corn, potato, pig, poultry, calf, and other clubs, conducted on scientific principles, introduce better farm practices and make for better farming, as can be instanced by examples in every state where such work has been carried on.

Canning, garment-making, bread-making, and other clubs associated with home economics, are bringing back into our homes almost lost arts.

The various kinds of clubs carry either to the farm or to the home those things which we are condemning our school system for leaving out.

The route back to the farm is paved far better with the subjects taken up through the club work than by the way of Greek and Latin.

An element that should not be overlooked is that under our present system of organization and supervision all these educational values may be had with little and in many cases no cost to the local community, a fact not to be overlooked in the day of high tax rates under which many of our smaller towns are struggling.

Most of this work, too, is outside of the traditional course of study and recognized classroom standards, but that it is truly educational is, I think, proved by the product turned out.

Have I put too great a value on this junior extension work in its relation to the existing school system, and have I shown too much enthusiasm for it? As one not actively engaged in the actual work of organization and supervision, but who is in sufficiently close touch so that I can see its real workings day by day, I have felt that no other movement —at least none with which I have been in contact—contained such possibilities.

I have not held it up as a panacea, not offered it as a remedy for any of the existing ills of our educational system. It simply stands for what it is worth as one movement.

But in presenting this subject I have been thinking of the boys and girls with whom I come in contact, full of strength, energy, enthusiasm, keen of eye, eager to tell of their accomplishments, which can only be felt by personal work and actual achievement. I am thinking in the terms of the teacher and the school superintendent as they act as leaders in this work, of their enthusiasm for it and their testimony as to what it brings into the school system. I am trying to foresee what the ultimate effect of this work will be, when developed further and to the point it ought to be, through the cooperation of federal, state, county, district and local agencies, on the agricultural industry of this country.

The results are still invisible and intangible, but we will all agree, I am sure, that work done with the coming generation will count most, and it is at least safe to say that boys' and girls' agricultural club work carried on today will be refleeted in a new and improved farming and home life twenty-five years hencc.

Prisoners Work on Farm

By BAGDASAR K. BAGHDIGIAN

A large amount of produce is raised on the Kansas State Penitentiary farm at Lansing, but only about 21 per cent of the vegetables consumed by the inmates. Last year the value of the produce amounted to $15,017.72

It is planned to increase the number of acres of cultivated land, thereby decreasing the runing expenses of the institution and opening more opportunities for trusty prisoners to work outside.

This year 209,668 pounds of vegetables were raised on the farm. This included green peas, cabbages, beets, turnips, green corn, eucumbers, lettuce, pumpkins, squashes, radishes, rhubarb, and tomatoes. In addition 1530 bushels of both sweet and Irish potatoes and 182 gallons of blackberries were produced. The milk supplied during the year by the 44 high-grade Holstein cows was 33,666 gallons. The amount of beef produced was 34,100 pounds, pork 40,590 pounds, poultry 598 pounds, and 923 dozen eggs.

Of the 1,920 acres of land only a little over 640 acres is in cultivation. The rest is in pasture. This year 250 acres was in corn, 30 in sorghum for molasses, 50 in corn for fodder and silage, and 20 in watermelons and cantaloupes.

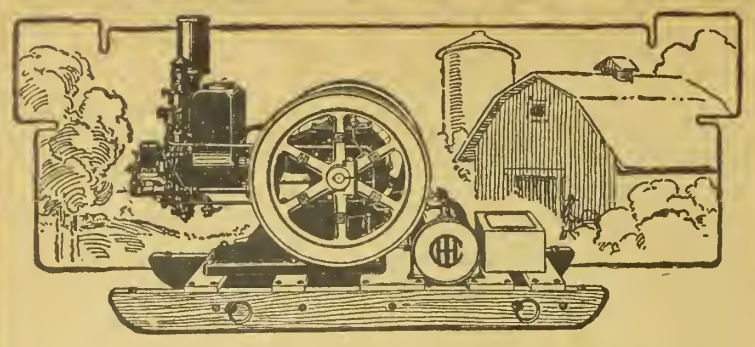
Nine teams and 45 men do all the work of the farm. It is managed by up-to-date methods. Each day the men are assigned to their work and given definite instructions. Under the kind supervision of the farm superintendent, Mr. Dews, the inmates perform their tasks willingly and cheerfully. Hardly ever there is a complaint on the part of the "convict farm hands." Their work is assigned according to trust and ability.

Through a well planned rotation of crops the land is either improved or kept in its normal state of fertility. Some commercial fertilizer is used and a great deal of green manure is turned under. Many of the inmates show a decided interest in farming. Twenty of them are enrolled in the correspondence course in agriculture offered by the Kansas Agricultural College. Those who do study the various phases of farming have splendid chances to learn the practical side of it during the summer under Mr. Dews, who is a thoroughly practical farmer and stockman.

The land on the island, in the Missouri river, is being improved by clearing the timber, this being used for mine props and other uses in the institutions. Oxen raised on the island are being used to plow this cleared land. The twenty acres of watermelons and cantaloupes were raised on the island. A trusty prisoner was given a shot gun to keep the crows off the melon patches. He was there months at a time. Visitors always carried a good word for him to Warden J. K. Codding who is always pleased to hear favorable reports about his "boys." There are other trusty prisoners who work on the island looking after the different crops. The corn raised on the island is stored in a large silo. Two other silos are found on the farm proper.

The Crop Reporting Board of the Bureau of Crop Estimates of the United States Department of Agriculture reports that the area sown to wheat this fall is 2.3 per cent more than the revised estimated area sown in the fall of 1915, equivalent to an increase of 887,000 acres, the indicated total area being 40,090,000 acres. Condition on December 1 was 85.7 against 87.7 and 88.3 on December 1, 1915 and 1914, respectively, and a ten-year average of 90.2.

Arrange your poultry house so that most of the eleaning can be done with a broom. To do this, keep the floor well covered with dry earth and when the house is to be cleaned, simply sweep off the floor and scatter fresh earth, using an extra quantity under the roosts. In this manner the work can be done in a few minutes and the droppings can be placed in barrels and the earth will assist in preserving them. Dry earth is one of the best absorbents and deodorizers that can be found.



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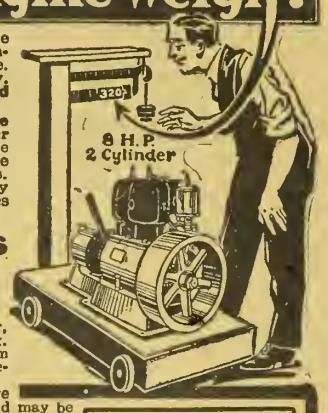
What Should an Engine Weigh?

Abraham Lincoln was asked how long a man's legs should be and he replied, "they should be long enough to reach the ground—and no longer." An engine should weigh enough to do its work—and no more. Years ago it was necessary to cast engine parts very large and heavy, with heavy base and flywheel, or **the violent explosions and fast and slow speeds of the old-style engine** would tear it to pieces.

Eight years ago the Cushman Motor Works designed a new type of farm engine weighing about one-fifth as much per H. P. as other farm engines, but so well built, balanced and governed that it ran more steadily and quietly than a farm engine was ever known to run. Some people laughed, and said that a 4 H. P. engine weighing only 190 lbs. must be a toy, but **when they saw the Cushmen at work** beside heavy engines weighing five or six times as much, they realized that weight does not mean power, and that the Cushman is a giant in power for its size.



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8 H. P. Weighs Only 320 lbs. **20 H. P. Weighs Only 1200 lbs.**

Cushman Engines have Throttle Governor and Schebler Carburetor, insuring regular speed even on jobs of irregular loads, like sawing. Their perfect balance also helps to make them steady, insuring unusual durability and freedom from engine trouble.



The 4 H. P. and the 8 H. P. are mounted on trucks, if desired, and may be **pulled around by hand.** These are very useful engines, as besides doing all work heavy engines do, they may be attached to machines in the field, as **4 H. P. on grain and corn binders and 8 H. P. on hay balers.** All over 4 H. P. are double cylinder, giving steadier power.

The Cushman is not a cheap engine, but it is cheap in the long run. Ask for free Light Weight Engine Book.

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The Government this year is asking farmers to put increased acreage into grain. Military service is not compulsory in Canada but there is a great demand for farm labor to replace the many young men who have volunteered for service. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature as to reduced railway rates to Supt. of Immigration, Ottawa, Can., or to

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160 ACRE FARMS IN WESTERN CANADA FREE

LIVE STOCK

Conference on Sheep Production

THERE has been a general decline in the wool and sheep industry of the United States. Manufacturers of woolen and worsted goods report a great shortage in their supply of raw material. They need annually 600 million pounds of wool. Wool production in the United States has decreased in the past five years from about 325 million pounds annually to 288 million pounds. The world's wool supply has been effected by the war. In Australia and New Zealand, flocks have been reduced in size. In Argentine there has been a decline and it is reported that the wool they have on hand is being purchased by European interests for use after the war.

In view of these facts a conference was held in Philadelphia in November, which was participated in by farmers, manufacturers and many others interested in promoting a greater production of wool and mutton in this country. As a result of the discussions the following recommendations were prepared and adopted as resolutions:

1. That the present possibilities for profitable sheep raising make it advisable that the breeding flocks be conserved with the greatest possible care.

2. That the growing of mutton and wool be encouraged by every available means.

3. That a program for affording this encouragement be developed which recognizes the interests of all concerned.

These recommendations are made in the belief that the sheep-raising industry, if properly undertaken and conducted, will be immediately profitable to the American farmer.

A definite program was suggested which included a plan for securing the co-operation of the Federal Department of Agriculture, the state departments of agriculture, the agricultural colleges, the railway development departments, the sheep breeders' associations, the bankers' associations, and the commercial and manufacturing interests handling wool.

This movement for increasing sheep production suggests an opportunity in live stock farming that is now open. Sheep can be made most profitable on many of the farms of Kansas and at the present time there are exceptional reasons why they should be considered.

Wormy Horses Do Not Thrive

Many horses get out of condition, or fail to make gains during winter months because they are infested with worms. This is especially true of colts. Horses suffering from worms generally have a good appetite, but apparently benefit little from the food eaten.

There may be no symptoms which point conclusively to worms, but this trouble is so common that if the colts and horses are not doing as well as they should for the feed given, a worm remedy may prove of decided value. In treating horses for worms, Dr. L. S. Backus, of the Missouri College of Agriculture, suggests, it is well to keep in mind that the drug is meant for the worm rather than the horse and should therefore be given in as concentrated a form as possible. To insure this, little or no bulky food should be fed during the course of treatment, and as the parasites are stupefied by worm remedies rather than killed, the animal's bowels should be kept in an active condition so that the stupefied worms may be passed out before they regain their vitality. A well salted bran mash once a day will generally insure such an action.

The following formula is a worm remedy which is also of value as a tonic: Powdered nux vomica, 2 ounces; powdered gentian root, 4 ounces; powdered areca nut, 6 ounces; sodium chloride (common salt), 4 ounces; arsenious acid, 2 drams. Mix.

Give one heaping teaspoonful to every 250 pounds weight, every morning and evening for about ten days. The medicine may be mixed with ground feed or sprinkled over oats or corn which has been dampened.

Notice to Stallion Owners

All stallions that are used for public service during the year 1917 must have a 1917 license, which means that all stallions that had licenses for 1916 must have them renewed for the year 1917,



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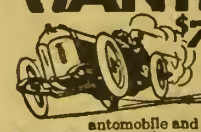

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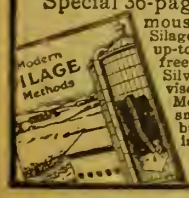

THE SILVER MFG. CO.
Box 352 Salem, Ohio

and all stallions that were not licensed during the year 1916 must have new licenses for the year 1917.

I most earnestly urge that stallion owners make application for licenses at once. Nearly every year the majority of owners wait until near the opening of the season to make application for licenses, and this results in unavoidable delay.

Make your application early and avoid all delay.—C. W. McCAMPBELL, Secretary Kansas State Live Stock Registry Board.

Wichita Live Stock Show

The annual convention of the Kansas Live Stock Association, commonly referred to as the cattlemen's convention, is one of the big annual events in Kansas. A stock show is to be held in Wichita at the time this association holds its next annual meeting, the date being February 26 to March 3.

The Kansas National Live Stock Show Association has recently been organized to conduct this show, which will be one of a three weeks circuit of spring shows, Oklahoma City and Ft. Worth following in the order named.

The officers and board of directors of the show association include some of the most prominent, progressive and responsible men in Kansas.

The packing houses are represented on the board of directors by Fred W. Dold, general manager of the Jacob Dold Packing Company, and J. G. Irwin, general superintendent of the Cudahy Packing Company. The Live Stock Exchange is represented by H. E. Newlin, vice-president of the Union Live Stock Commission Company, and J. E. Wood, general manager of the Standard Live Stock Commission Company. The Union Stock Yards Company is represented by its general manager, Dan C. Smith, and its secretary, C. C. Miner. The finances are handled by F. T. Ransom, president of the Union Stock Yards National Bank and vice-president of the Wichita Cattle Loan Company. The cattlemen are represented by W. J. Tod, president of the Kansas Live Stock Association, the strongest association of its kind in America.

One of the main purposes in holding this stock show is to increase the interest in better live stock and to furnish entertainment for the members of the Kansas Live Stock Association who attend their annual convention at Wichita during the same week, all members being admitted free.

The full payment of all premiums and expenses are guaranteed by the Wichita Stock Yards Company and the Wichita Live Stock Exchange.

The show will be held in the Wichita Forum, a modern exposition building, located in the central part of the business district of Wichita. It is equipped with steam heat, electric lights, city water and sewer, opera chairs for 5,000 people, and an exhibition arena 90 x 150 feet, also nicely arranged rest rooms for ladies and children.

The annex has stable room for 800 head of stock, with switch and platform, where all stock can be unloaded direct into the building, all under one roof, where the show will be held rain or shine.

The premiums offered on Shorthorn breeding cattle amount to $1,000, with a like amount on Hereford cattle and Percheron horses, and $500 on Poland China and Duroc hogs. Competition is open to the world, and every breeder in America is cordially invited to exhibit his stock at this exposition.

There will be a sale of pure-bred live stock of the various breeds each day of the show, all breeders who have first-class pure-bred stock will find this a splendid place to dispose of their surplus.

The general manager, F. S. Kirk, has opened an office in the Live Stock Exchange building and will furnish the official premium lists and entry blanks to any one on request.

Before beginning to milk, brush the cow's sides, wash her udder and teats carefully or wipe with a damp cloth, and milk with dry hands. Milk comes from the cow in a pure and clean state. Impurities that get into it are due largely to the thoughtless acts of the people who care for and handle the milk.

Farmers will find flaxseed the most profitable crop. More money in it than wheat. Booklet from Fredonia Linseed Oil Works, Fredonia, Kan.—(Adv.)

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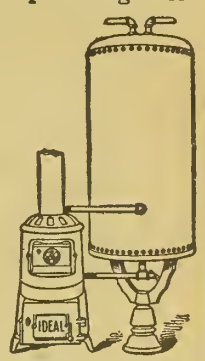

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Don't buy an engine of any make or kind until you have seen my new low 1917 prices and read my free book. It tells you the truth about engines of all kinds. If interested mention engines on a postal and I'll send you this great book by return mail. Our engines not overrated.



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THE WM. GALLOWAY CO., Farm Implement Manufacturing Specialists, Box 217 Waterloo, Iowa

Kansas Farmer Dairy Club

Are You Doing Your Part?

YOUR standing in the club does not depend on any one thing. We remind you of this because some members have done exceptionally well on certain points and not so well on others. The one who has the highest producing cow may not stand at the top when the different points are averaged at the close of the year's work. You should not become discouraged because some other member has a cow that is making a bigger record than yours. Remember that not only cows, but boys and girls as well, are making records. You cannot help it if your cow does have less capacity for production than some other member's cow has, but you are responsible for what you do yourself.

The profit you make will to a considerable extent depend on the amount of thought you put into feeding your cow a ration that will not only produce a large quantity of milk but be economical as well. The manner in which your records are kept is entirely in your own hands. If you do careless work no one is to blame but yourself. The quality of the milk and cream produced is likewise a point that will depend upon your skill and care in milking and handling the product.

Perhaps some may have forgotten the basis upon which your standing will be determined. First comes the total production for the year, and 30 points are allowed for this. Someone may win the full thirty points. Then comes the profit over cost of feed and interest, also allowed 30 points. It is quite possible that the high score on this point will not go to the one making the best production record, although as a rule the heavy producing cows are also profitable producers if properly fed. The members with high-priced cows have had heavier interest to meet, and this enters into this point. Twenty points are allowed for records and the story of the year's work. Here is a chance for you who have poorer cows, to even things up by doing your work so carefully that you will receive the full 20 points. Accuracy, getting your records in on time, and the neatness of the records themselves, will be considered. Some members will come considerably short of getting the full twenty points, while others will grade high. All can improve their standing in this point by striving to do better work for the balance of the year. There is perhaps even a greater difference in the way the records are being kept than there is in the capacity of the cows. The story of your year's work which you will be asked to write, will also be considered with your feed and milk records.

As yet, no steps have been taken to learn anything about the quality of the product you are producing, but you will have a chance to win twenty points on this before your year's work closes. Learn all you can about producing good milk and cream and put your knowledge into practice. It is good to know these things because you can put it into practice later and it will stand you in good stead when your milk is inspected as it will be before the year closes.

With these four things entering into the placing of the final honors, no member needs to feel discouraged. Do the best you possibly can in those points for which you alone are responsible. No one has as yet an assured grasp on the highest place.

Both Feed and Butter Fat High

We are glad to see the good results our dairy club members are showing for the winter months. The records show that the cows are making good returns for their feed.

Present feed prices seem very high, but prices for butter fat are just as high, and there is only one rule to follow when you are wondering if you can afford to buy feed for your cow. Study your feed and milk records carefully and see if your cow is using her feed for making milk. If she is, you can afford to buy enough milk-making feed to keep her right up to her capacity, for you are receiving prices for the butter fat to warrant you in making her produce all the butter fat she is built to produce.

It is highly profitable to feed $10 worth of feed to a cow that will produce $20 worth of butter fat for that feed, leaving a profit of $10. And this is the November record sent in by one member of the club. Another a profit of $4.40 on a feed bill of $7.80. Another had a feed bill of $5.13 and his cow produced $8.20 worth of butter fat for that feed, which gave him a profit of $3.07.

It is profitable to feed your cow well, even though you must buy the feed, so long as she makes use of all that feed by giving milk in return for it. And you can absolutely know whether or not your cow is making a profit for you over and above the cost of her feed, and whether or not she is making as much profit as she should. All this has been explained in these columns, but if you have missed it, or do not know just how to figure this out to your satisfaction, write us and we will be glad to help you.

How to Feed Your Dry Cow

A number of the Dairy Club members will have to feed their cows through a dry period before completing the year's record. You must not think that the dry cow can be fed a poor ration simply because she is not giving milk. It is true, she is not converting a lot of feed into milk during this period, but the unborn calf is making heavy demands and these must be met by the feed she eats. In addition her own body must be kept up and it is possible to store up a reserve during this period which will be returned in milk later. In the making of world records, the skillful feeder always feeds his cow so she will accumulate as heavy a reserve as possible that can be drawn upon when she begins her record. It is possible to make a considerable increase in the total production by the right kind of feeding during the dry period. A cow that has gone through a long milking period has drawn heavily on her body reserve of both fat and mineral matter, and must during the dry period be fed so she can make up for this loss. She cannot do this if she is kept on scant rations of feeds lacking in fat and minerals.

There should likewise be plenty of protein in the ration of the dry cow for in addition to keeping up her own body she has the body of her calf to build. As a rule, it is not necessary to feed much grain during this period if the roughage is of good quality, such as alfalfa, clover hay, and silage. Straw and corn fodder should not be the only feed. It takes protein to build body tissue and these feeds are deficient in protein.

It will not hurt in the least to have a good milk cow get fat during the resting period. Some dairymen seem to have a great fear of feeding their cows so they will get fat. The milk cow that gets fat while giving milk is not profitable because it shows she is not using the feed she consumes for milk, but the fat which a really good milk cow stores in her body during the resting period will be used to good advantage later. The cow that uses all her feed for milk will fall off in weight during the first few weeks after freshening. This is because she is using fat and mineral matter stored in her body, in the milk she gives.

Mineral matter is very necessary in milk production. Such feeds as alfalfa and bran contain liberal amounts of minerals, and if the cow is fed these feeds she will have an extra amount of mineral matter to use at the beginning of her milking period. It has been learned as a result of careful experiments that cows giving large amounts of milk cannot digest enough mineral matter from the feed given them day by day. It has been found that quite an increase can be made in a cow's production by so feeding her during the dry period that she can store a reserve of mineral matter to be used in milk-making after she freshens.

If your cow is naturally a good milker, the extra feed you give her during the few weeks before calving will not be lost. Do not try to economize too much in feeding your cow just because she is not giving milk. It may seem expensive to be giving her high-priced feed during the time she returns no product to sell, but remember that she is storing up such of the nutrients as are not needed to keep up her own body and later will turn them into cash for you.

A Hog At His Best

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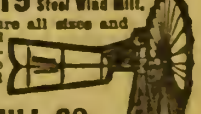

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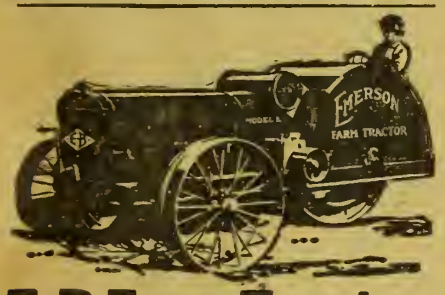

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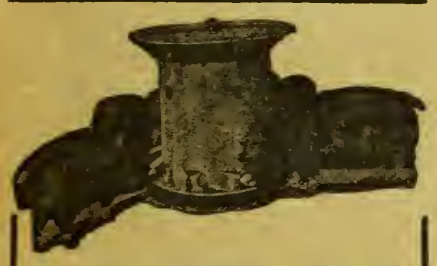

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FARM ITEMS

Need For Study of Insects

TOO little attention is given to the life histories and habits of our injurious insects. One of the most useful and helpful men on the extension staff of an agricultural college is the entomologist. T. J. Talbert, formerly in the extension work in Kansas but now in similar work in Missouri, is probably known to many of our readers. In writing of his work he says:

"The chief object of the extension entomologist is to acquaint the gardener, the orchardist, and the farmer with the practical facts about the habits, life histories, injuries, and control of insects. When this has been done the producer is more capable of intelligently shaping his farm practice in a way that will be unfavorable to the development of injurious insects. He is also more interested in his work and if sprays, poison bait, or mechanical barriers are necessary to control the pests, he knows how to prepare and how to use them most effectively.

"Field meetings and demonstrations are of great value to the farmers because they are able to study the insects in their different stages upon their food plants. The farmers learn in the field in a few minutes more than any amount of reading or lecture courses could teach them. They are freer to talk and to ask questions when in the field. If their interest and attention are aroused in the field, the field, the literature on insects and their control appeals to them and they will make a study of it with the determination of putting into practice the remedies or control measures suggested.

"The apparent indifference and lack of knowledge on the part of farmers concerning insects is due perhaps to a number of causes. Prominent among these is the small size and insignificant appearance of many injurious insects. If the pests were as large as hogs, sheep, colts, or calves, no doubt their habits, life histories, and control would be well understood by every farmer. The damage and ravages of insects are often attributed to floods, storms, droughts, lack of soil fertility, and the like. It is also a fact that the general public knows less about insects than any other branch of agriculture. Many country school teachers are not even on speaking terms with the chinch bug, Hessian fly, or army worm. A few farmers will say, 'There is no use of trying to control the insects because we have always had them with us and we always will have them. We will just have to depend upon the weather and the Lord to control them—that's all.'

"This indifference and lack of interest in insects is not confined entirely to farmers. Many business men, professional men, and college teachers have no notion whatever of the value of a knowledge of insects. It is a sort of general notion among some that a discussion of insects is going to be dry and uninteresting and it is not worth while anyway. When the subject is handled properly, however, it is equally as interesting as any other phase of the extension work. In many cases farmers have been heard to say, 'Well, I am not much interested in bugs; I wish we had a man to talk live stock.' When once the farmers are shown the insects and their work in the fields, they are anxious to know more about their habits, life histories, and control. They see at once that their health, happiness, and prosperity may depend in no small way upon a knowledge of insects. Farmers are always immensely interested in a practical discussion on insect control."

Silage has cheapened the fattening ration for steers in Iowa. In a feeding test one lot where the daily ration per steer was 17 pounds shelled corn, 29 pounds silage, 2 pounds oil meal and 1½ pounds alfalfa, made gains at a cost of $9.57 a hundred pounds, while another lot receiving 8½ pounds corn, 51 pounds silage, 2 pounds oil meal and 1½ pounds alfalfa, made gains at a cost of $7.67 a hundred. In the first lot the steers averaged 2.94 pounds gain per day, while in the second lot they averaged 3.04 pounds. Reducing the corn and increasing the silage increased the gains and cut down the cost of making the gains.

Farmers will find flaxseed the most profitable crop. More money in it than wheat. Booklet from Fredonia Linseed Oil Works, Fredonia, Kan.—(Adv.)

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Yes, Sir, I take all the risk—you take none! Furthermore, if you decide to buy my "SIMPLEX" I'll trust you and not a cent do I ask till next October! As a money-maker the Simplex will skin any machine on your farm.

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Simplex Straw Spreader

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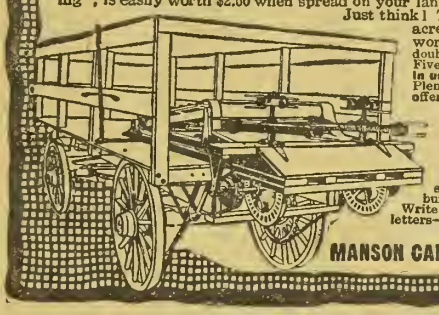
Straw as a fertilizer, a conserver of moisture, a protection against "winter kill" and "soil blowing", is easily worth $2.50 when spread on your land. And spreading is easy with a SIMPLEX. Just think! Twenty feet at a time! Thick or thin! Twenty acres per day! Machine pays for itself in three working days! Fits high or low wagon! Has double-drive (both rear wheels) and double-width carrier! Five years' proven success behind it! **Thousands already in use!** Thirty days' FREE TRIAL—no money in advance! Plenty of time to pay! Man, it's the biggest and best offer you ever saw!



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I've got a very Special Proposition for one farmer in each township. I won't make it public. But when you write—I will explain all. I'll send you my new Straw Spreader Catalog together with several hundred actual letters from owners—greatest bunch of letters you ever saw! Can't help convincing any man that it's folly to burn straw or allow it to rot.

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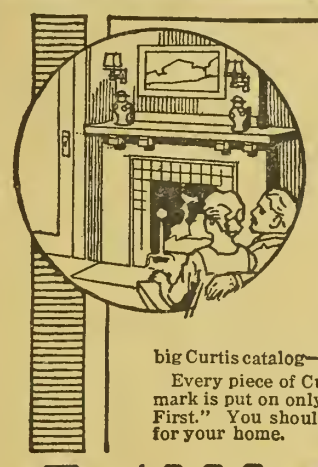

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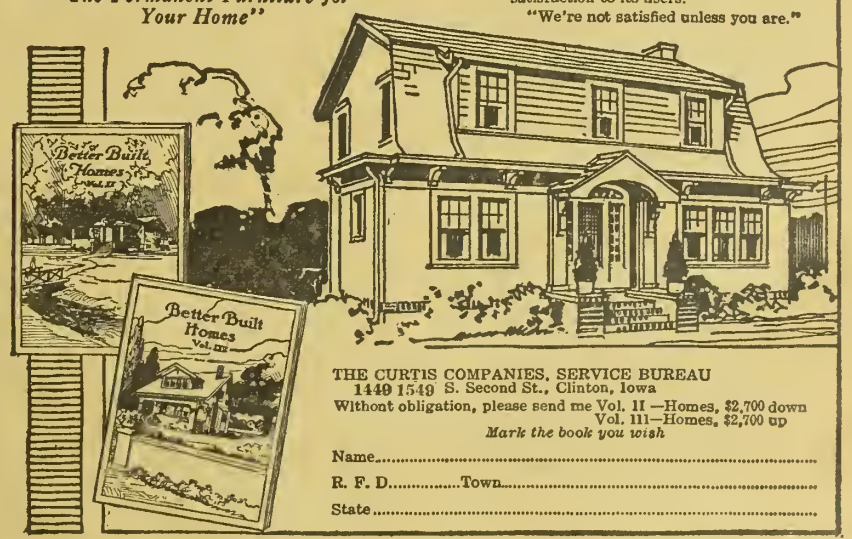

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With railroad facilities this country is developing fast. Farmers are making goor profits on small investments. It is the place today for the man of moderate means.

Wheat, oats, barley, speltz, kaffir and broom corn, milo and feterita grow abundantly in the Southwest counties referred to. Chickens, hogs, dairy cows and beef cattle increase your profits.

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Write for our book of letters from farmers who are making good there now, also illustrated folder with particulars of our easy-purchase contract. Address

E. T. Cartlidge,
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LET US TAN YOUR HIDE.



Cattle or Horse hide, Calf, Dog, Deer or any kind of skin with hair or fur on. We tan and finish them right; make them into coats (for men and women), robes, rugs or gloves when ordered.

Your fur goods will cost you less than to buy them, and be worth more. Our illustrated catalog gives a lot of information which every stock raiser should have, but we never send out this valuable book except upon request.

It tells how to take off and care for hides; how and when we pay the freight both ways; about our safe dyeing process which is a tremendous advantage to the customer, especially on horse hides and calf skins; about the fur goods and game trophies we sell, taxidermy, etc. If you want a copy send us your correct address.

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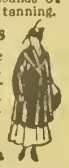

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MAIL SAMPLES and State Price.

Hyde Seed Farms, - Pattonsburg, Mo.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Use well the moment. What the hour
Brings for thy use is in thy power;
And what thou best canst understand
Is just the thing lies nearest thy hand.
—Goethe.

Saving Is a Good Habit

As soon as the child is old enough to want a few pennies of his own to spend, he is old enough to be taught the value of saving a part of these. When he is learning this lesson he should not get the impression that he is saving his money for the sake of having money laid away, but that he is saving it to use for a better purpose than for gratifying his hunger for candy.

It is hard for many people to realize there is a difference between saving money and being stingy, but there is a great difference. Not long ago we heard of a wealthy railroad president who took a picture to a shop to be framed. When the picture was unwrapped the rubber band which held the paper around it, was saved by this man and put into his pocket. Upon realizing that it might seem odd to the shop keeper, he explained that he had so thoroughly learned the lesson of saving in childhood that it had always been a part of him. And yet this man is not stingy with his money. He uses it for many good purposes, but unquestionably he has more to use than he would have had if he had not learned the lesson of saving.

It is an old saying that "it is not how much money a man makes, but how much he saves, that counts." Most of us can think of cases bearing out the truth of this statement. Some families seem to make their earnings reach over so many more advantages than do others. There is no secret to the way they do it, except that they have learned the habit of saving. They are not stingy, but frugal.

That Uninviting Parlor

Will you ever forget that room in the northwest corner of the house in which was stored all the best furniture, and which was opened only when there were visitors? If it was not in this particular corner, it always seemed so as there was a dampness and chill about it because of its being closed almost all the year. Even when it was opened and inhabited by company and the family, it didn't seem comfortable and we were glad at the end of the special occasion when it was set in order and again closed. For some reason, comfort in the rest of the house was spoiled, too, when this room was opened and we were expected to use the furniture.

What useless things parlors are anyway. There they stand, unused eleven and one-half months in the year, and when they are used if a vote were taken both the company and all members of the family would favor moving to the sitting-room.

We like the new term—living-room—better than the old, for when a living-room is mentioned we have come to think of the house as being free from the discomforts of a parlor, while the house that had a sitting-room nearly always had a parlor. The term living-room itself is full of meaning, and the room should be full of comfort. If comfortable, substantial chairs and couch, a good-sized reading table and a good light are there, it requires only a rug or small rugs and a few good pictures to complete its furnishings. Then all that is needed to make it a living-room is the presence of people who frequent it often enough to not feel strange in it or afraid to make the most use of it. Such a room as this, where all members of the family meet at the close of the day for visiting, reading, or play, will always be a pleasant memory instead of bringing a chilly feeling or a picture of stiff, seldom-used chairs.

Let us be more humanitarian and exchange the parlor furnishings for those which will bear up under daily use and will not be ruined by the presence of sunshine, air, and human beings.

What a comforting thought that every day is the beginning of a new year for us. Every day we have the opportunity of starting anew with a determination to make more of our lives.

Fresh air is as essential to health in winter as in summer.

Norwegian Prune Pudding

½ pound prunes
2 cupfuls cold water
1 cupful sugar
1½ cupfuls boiling water
⅓ cupful corn starch
1-inch piece stick cinnamon

Pick over the prunes and wash them, soak one hour in cold water, and boil them until soft. Remove seeds, add sugar, cinnamon, boiling water, and simmer ten minutes. Dilute corn starch with enough cold water to pour easily, add to the prunes and cook for five minutes. Take out the cinnamon, mould the pudding and chill. Serve with the following sauce:

¾ cupful thick cream
¼ cupful milk
⅓ cupful powdered sugar
½ teaspoonful vanilla

Mix cream and milk, beat stiff with egg beater. Add sugar and vanilla.

FAMOUS DRY CURE FOR HAMS

PRESIDENT H. J. WATERS of the Kansas Agricultural College, recommends the following recipe for curing hams:

"For each 1,000 pounds of meat use the following: Forty pounds common salt, 10 pounds New Orleans sugar, 4 pounds black pepper, 1½ pounds saltpetre, ½ pound cayenne pepper.

"Weigh the meat, and take such part of the ingredients as that is a part of the 1,000. Let the meat cool thoroughly. After thoroughly mixing the ingredients, one-half of the amount should be rubbed well into the meat. Put the meat in a dry, cool place—never in a cellar. Let it remain two weeks, then rub on the remainder of the cure, and let it lie about six weeks, when it is ready to hang.

"It is important that the meat be well rubbed each time the cure is applied, and that plenty of the cure be forced in the hock end and around the joints. Less cure should be used on the thin sides than on the joints. The heavier and fatter the meat, the longer the time required for curing. The warmer the weather, the quicker the meat will take the cure. These arrangements are estimated on the basis of about 200 or 225-pound hogs and ordinary January and February and March weather.

"While in general a light straw color would indicate sufficient smoking, it is always safe to try a piece of thin bacon or shoulder, to be certain that the process has been carried far enough to give proper flavor and cure. The hams may be kept one, two or three years without detriment, and will improve in flavor up to the end of at least two years. No deterioration will take place for even five years if a ham is properly cured.

"Smoking should be done slowly. It should occupy four to six weeks, a little every day, and with little heat. Slow smoking gives a delicate flavor. After the smoking is finished, wrap each piece in paper, put in an unwashed flour sack and hang in a dry place."



Daylight at Night on the farm with the best and most economical light in the world, the

Coleman GAS LANTERN

Gives strong, 300 candle power light without flicker. No Dirt, No Smoke, No Grease, No Soot. No wicks to trim—no globes to wash. Nothing to get out of order. More powerful than 20 ordinary lanterns, and only a tenth the cost of kerosene lighting.

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Can't be filled while burning. Can't spill—Can't explode. Absolutely safe anywhere. No danger if rolled around in straw. Won't blow out. Can't be jarred out. Nothing to break or get out of order.

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Golden Winesap

This is a new apple, but one that gives wonderful promise. Yellow and red, firm texture and fine flavor; crisp and juicy. Small core and a good keeper. Everyone speaks highly of it. Be sure to try some of these. See catalog for prices.

True Delicious apple, 10c each. Large fruit, of a beautiful dark red, in quality unsurpassed, in flavor sweet, slightly touched with acid, coming out of storage in April in perfect condition. It makes an ideal apple for the orchard. Very hardy. Other apple trees, 7c each. Fruit trees, small fruits, and seeds of all kinds at wholesale prices. Reliable, hardy, western stock. Garden and flower seeds. Corn, clover, alfalfa and New Kherson Rust-Proof Oats. Write for free Tree and Seed Book.

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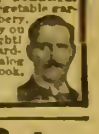

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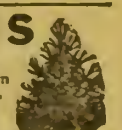
38 Hardy Tested Varieties



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LENHARDT'S SELECTED Early Prolific Seed Corn. Every ear inspected by us. It gives best results Write Lenhardt Brothers, Carnesville, Georgia.

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The Awards

FOUR HUNDRED AWARDS TOTALING $3,500!

For the best set of title suggestions	$1,000.00
For the next or second best set	500.00
For the third best set	250.00
For the fourth best set	125.00
For the fifth best set	100.00
For the sixth best set	75.00
For the seventh best set	50.00
For the eighth best set	50.00
For the ninth best set	25.00
For the tenth best set	25.00
For the eleventh to fiftieth best sets, $10 each	400.00
For the fifty-first to one hundred fiftieth best sets, $5 each	500.00
For the one hundred fifty-first to three hundredth best sets, $2 each	300.00
For the three hundred first to four hundredth best sets, $1 each	100.00
Total, four hundred awards	$3,500.00

No awards will be divided. In case of ties, an identical award will be made to each tieing participant.

WHAT THEY'RE FOR.

The award list above will be given to readers of Kansas Farmer and associate publications who submit the best suggestions for titles to fifty pictures constituting the Farm Implements Puzzle Game. Five of these pictures appear opposite and the balance of the series will appear in a future issue of this paper.

As is explained below, the reprints of pictures 1 to 35 will be sent free to all readers. To get these reprints with complete information, simply send your name and address. Understand thoroughly that the pictures have no titles now.

When you and other readers have submitted your suggestions a committee of judges will go over them all and decide which in their judgment are best or most fitting or applicable—in other words, the titles which the pictures best portray.

As indicated by the legend under each picture, some farm part or tool or term is to be applied to the pictures. Titles contained in a list of about 3,000 items (the Official Key Book) will be used by the judges in making selections.

This Official Key Book is offered to participants in two ways: (a) Copy will be placed on public file in a public library of any town. (b) A copy will be given free when subscription is taken out as shown by the coupon below.

It is not a requirement of the game that you refer to the Key Book, but when you realize that no title not listed in it will be considered and that it follows the titles to the fifty pictures must be in it, you will see the importance of using it.

HOW TO SUBMIT SUGGESTIONS.

Sets of title suggestions may be submitted in either one of two ways: (a) In the Reprint and Reply Book. (b) Participants may also submit sets of suggestions written on forms supplied by the participants either with pencil, pen, or typewriter, preferably on sheets of uniform size. Each sheet must be numbered in order and have pasted thereon a picture clipped from this publication or drawn thereon a duplicate easily recognizable, beneath which picture or drawing is to be placed one title suggestion (one only) for the pictures, and the player's name and address.

If a player desires to submit more than one title suggestion for a picture, the additional title must be included in a secnd complete set prepared as above. In other words, when submitting single sets of title suggestions, each set must include no less and no more than fifty pictures (Nos. 1 to 50) with one title suggestion for each picture and with the participant's name and address written on the bottom of each sheet in every such set. When submitting single sets of title suggestions the pages must be arranged in numerical order, securely fastened together, wrapped flat, and sent prepaid by express or postpaid with stamps affixed at 2 cents per ounce, to **Farm Implements Puzzle Game Editor, Farm and Fireside, Springfield, Ohio.**

GET PICTURES 1 TO 35 FREE!

We will send reprints of pictures 1 to 35 to anyone requesting them. Thus, with pictures 36 to 40 clipped or copied from this page and reprints of the preceding pictures, you will have all pictures which have appeared to date, and as you have until midnight of February 20 in which to submit sets of suggestions, you will see that you have ample time in which to make an earnest effort to win the thousand dollars or one of the other four hundred awards.

LOOK—HERE IS WHAT THIS COUPON BRINGS:

Circular of information; all previous pictures; copy of Official Key Book or Reprint and Reply Book, or both; all rules, instructions, hints and helps.



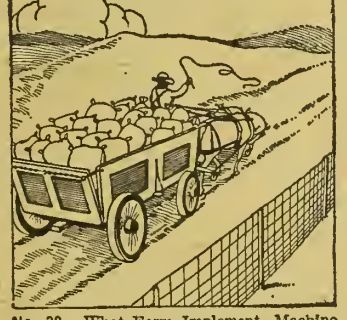
No. 36.—What Farm Implement, Machine Part or Mechanical Term Does This Picture Represent?



No. 37.—What Farm Implement, Machine Part or Mechanical Term Does This Picture Represent?



No. 38.—What Farm Implement, Machine Part or Mechanical Term Does This Picture Represent?



No. 39.—What Farm Implement, Machine Part or Mechanical Term Does This Picture Represent?



No. 40.—What Farm Implement, Machine Part or Mechanical Term Does This Picture Represent?

Send Your Name and Address for Circular of Information!

KANSAS FARMER GAME EDITOR, TOPEKA, KANSAS.

Enclosed herewith please find (*$1.00—†$2.00) to cover (one—two) subscriptions to Kansas Farmer and Farm and Fireside, each for one year. (If you enclose $2.00, two subscriptions to both publications must be included. One can be your own.) This remittance entitles me to a copy of the (Official Key Book—Reprint and Reply Book) to be sent me free and postpaid, together with instructions and information.

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*Remittance of $1.00 entitles you to choice of one book. †Remittance of $2.00 entitles you to both.

IF YOU WANT INFORMATION ONLY, SIMPLY SEND NAME AND ADDRESS

Road Maintenance Argument

It is the people of today who are paying for all maintenance and new construction, and the people who pay the bills today are entitled to have roads in good condition for their own use now. The man who is footing the bills today hopes, of course, that future generations, especially his own children, may have better roads than he has. He is willing to have just as much of the taxes he pays go into good permanent grading and bridge building as possible, but he does want enough of the money he provides spent on maintaining the roads he has to use every day to keep them in reasonable condition for his own use now. Some of the best county engineers and boards of supervisors in Iowa are great on permanent construction work but woefully weak on maintenance features. They are making great progress in permanent grading and bridging, but there is constant justified complaint about the condition of their roads from lack of dragging, neglect of bad mudholes, rough fills over bridge approaches and culverts, road grades built to a peak in the center, and all the other ills to which roads are subject when persistently neglected. Absolutely the first duty of both engineer and board is to keep the roads in reasonably good condition for the people who pay the taxes and who want to use them today. The second duty is to make all possible progress with permanent construction work. There is no justification for neglecting the maintenance of the roads today in order that the extra money saved may go into more permanent construction for better roads tomorrow. — Iowa Highway Commission.

Know Your College

How many of us realize that the United States has the greatest system of agricultural education in the world?

How many of us are aware that the United States Department of Agriculture has no equal?

We Americans, because we accomplish much, demand much, and we are right in doing so. But let us never lose sight of the fact that ability of the agricultural colleges and the Department of Agriculture to do good depends almost entirely upon the desire and willingness of ourselves to take advantage of and apply knowledge that is ours for the asking.

Make it a point to know your college. Visit your college periodically; attend Farmers' week and Farmers' Institute meetings. Cultivate the acquaintance of the professors. Discuss your plans and problems with them. These men have a wide acquaintance among farmers and a wide knowledge of conditions. They may know how these men solved the problems. Furthermore, they have access to a vast fund of scientific knowledge which you can put into practical use. You are not getting value received for your taxes each year if you don't know your college.

If you expect to build, repair or rearrange your hog houses in advance of the spring litters, you will find it helpful to have a copy of Farmers' Bulletin No. 438. This may be had of the Editor and Chief of Publications, United States Department of Agriculture, Washington, D. C.

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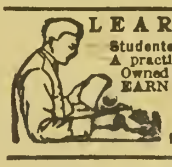

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FATTENING CHICKENS

PEOPLE on the farms seldom make any attempt to fatten poultry for market. A chicken properly fattened is much superior to one that has had only ordinary free range feeding. Crate fattening, as conducted by the large poultry-buying houses, may not be practicable on the farms where poultry is largely a by-product, but there are those who attempt to build up a private trade in dressed poultry and these people should by all means learn to finish their stock for market.

It is just as important to fatten chickens for this kind of trade as it is to fatten hogs or beef cattle. In fact, when the chicken comes from the range it is in the proper condition to put on economical gains. Students in the poultry department of the University of Missouri found in recent tests that chickens will gain about 23 per cent in twelve to fourteen days' feeding. That this gain is economical was shown by the fact that the grain required to put on a pound of gain was approximately 3½ pounds.

The total cost of a pound of gain with corn meal at $2.25, bran at $1.50, middlings at $1.75, and sour milk at 20 cents a hundred pounds, was eight cents. Even at the present high price of feeds, economical gains can be made.

The ration consisted of corn meal 7 pounds, shorts 3 pounds, and bran 1 pound. To every pound of this mixture, two pounds of sour milk was added. This wet mash was fed twice daily. The length of the feeding period, which was ten minutes the first day, was increased a minute a day as the period advanced. The chickens were confined in coops 2 x 2½ feet square, each coop having a wire bottom. Slats were placed up and down, 1½ inches apart, permitting them to reach the food which was placed in a trough outside. The close confinement not only discourages exercise, thus promoting gain, but the inactivity causes the tendons to soften. The fat is distributed through the muscles by the fattening process and the result is a luscious flesh which comes only in a finished product, put on cheaply.

Bran is one of the very best foods that can be given to chickens. It can be placed before them all the time and they will not eat too much of it. One of the main advantages of feeding bran is that it contains more mineral matter than ordinary ground grain, and supplies that which may not be abundant in the ration. It is customary to add one pint of linsced meal to two quarts or bran, mixing this with four quarts of ground grain. When made into a mash, bran need not be fed over once a day, and it is excellent when given with clover hay or cooked potatoes.

Kansas Hens Money-Makers

That the Kansas hen has been a life-saver to the farmers who have experienced crop failures and other reverses, is indicated by letters received by the poultry husbandry department in the Kansas Agricultural College.

The farmer's wife usually has the poultry under her supervision and she has contributed a big share to the family finances. One woman in Western Kansas reports a net profit of $200 on her poultry in the last eleven months.

"A well-bred healthy hen, properly nourished, will lay 120 eggs a year, while the average fowl will produce from sixty to eighty eggs," said Ross M. Sherwood, acting head of the department. "Some farmers figure that the hen earns her board in destroying weed seeds and injurious insects.

"The reason why some hens are not more productive is because they are not properly nourished. It is just as important to feed a balanced ration to the hens as to the hogs and cows. Particularly is this important in winter. The food problem does not require so much attention in the summer, for the hens forage on the farm and get a variety of diet. In any season the fowls should go to roost with full crops."

Make changes in handling poultry as gradual as possible. Crude changes of any kind both in housing and feeding, as far as possible, should be avoided. In putting fowls into winter quarters, do not confine birds too closely and leave the windows open. Sudden changes from range to night houses frequently throw fowls into moulting in early winter. If the pullets have been raised and fed on the same feed they are to receive at laying time, the results will be more satisfactory. Feed all the whole sound grain the fowls will eat, and provide beef scrap and wheat bran in boxes. Throw a forkful of hay into the pens every day.

If all poultry houses were lathed and plastered with two coats of mortar, the lice problem would be solved and the cold drafts of winter shut off. To destroy lice in such a building it would only be necessary, once each month, to burn enough sulphur to fill the house with dense fumes, keeping it shut for an hour and the work would be done. When the house is not plastered, it is not airtight and too much fresh air comes in while the sulphur is burning. Whitewashing will also be easier on a plastered wall, and the poultry house will be warm in winter and the hens more comfortable and profitable.

Hens in Snow Time

When the snow is knee deep and everything sealed with ice, hens will require the best of care. A hen is as helpless in the snow as if she had no legs at all. She must have some place, however, where food, water and the dust bath are accessible, for she will not lay if compelled to crouch on the floor beneath the roosts. With snow on the ground the world is a wilderness to hens; they have no inducements to lay, and will quickly defer egg production until spring weather arrives. The flock will appreciate a warm, commodious scratching shed when the ground is covered with snow, better than at any other time. They can go out and do a little foraging in rainy weather, but when deep snows come they must be kept indoors, and a scratching shed is essential to keep them healthy and in laying condition. If you have no shed for your hens to scratch in, then a few square yards in front of the chicken house should be cleared away of snow, where the hens can go out for a little while during the sunshiny days. The food at such times should be given warm at least once a day, and fed on clean boards or in troughs, so that it may not be contaminated with the filth that is on the floor of the poultry house. A warm place should be provided for them to roost in and the house rendered as comfortable as possible. The main factor in egg production in winter is warmth and dryness. It may involve some labor to remove enough snow to afford the hens a little room outside of their cramped quarters in the hen house, but it must be done or there will be no eggs.

The hen should be compelled to exercise in the winter. One way to furnish some exercise is to feed such grain as corn, oats, wheat and barley in litter. Cover the floor with straw six inches deep and scatter the grain feed in it. The straw should be changed frequently as it must be remembered that it will soon become soiled from the droppings from the birds. Some of the poultry diseases are spread through the droppings.

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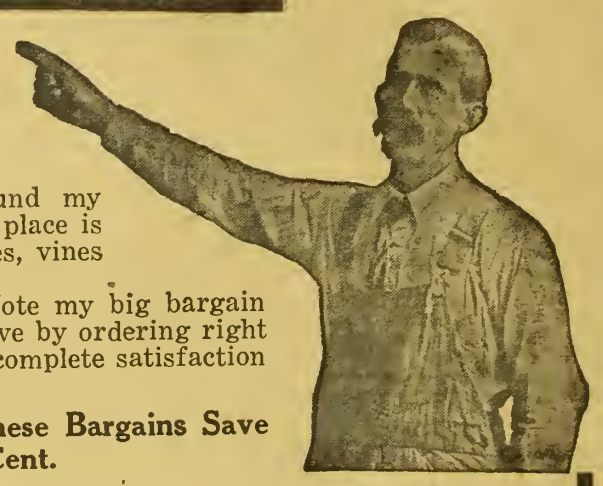

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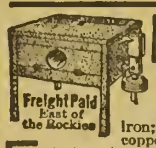

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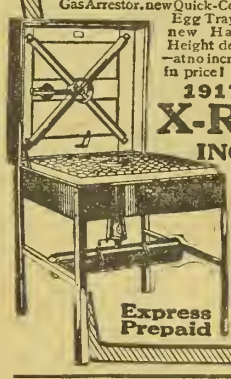

1917 X-RAY INCUBATORS Include 20 Improvements

One gal. oil—one filling—to a hatch—and the X-Ray Automatic Heat Regulator, being only a few big reasons for X-Ray supremacy. Express prepaid to practically all points. Write for FREE Book Today.

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BIG HATCHES! On One Gallon of Oil—One Filling of Tank!



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NEW KIND OF INCUBATOR

Requires 3 minutes a day. Saves work, time, money. Built round, like hen's nest. No cold corners. One gallon of oil, one filling of lamp to a hatch. Wonderful built-in moisture attachment and complete circuit radiators mean even heat, moist and mild always. Many other features that save work, time and money fully described in new FREE book—write postal for your copy NOW.

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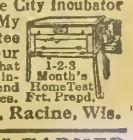
Big Money In Poultry

My Big Free Poultry Book, "Hatching Facts" tells how you can make money raising chickens—all about My World's Champion Belle City Incubator and Brooder—My Low Price—My 10-Year Money-Back Guarantee and My $1000 Gold Offers. Your chance to earn extra money. Learn what this means to you before you buy an incubator. Sales to date, 524000. Send for this book today. Jim Rohan, Pres.





Belle City Incubator Co., Box 18, Racine, Wis.

Three important factors enter into profitable egg production—the breed, the feed, and comfortable surroundings for the hens. Each is important, but all are essential. The absence of any one of the factors will neutralize the effect of the other two.

CAMPINES.

CAMPINES—GOLDENS, SILVERS. 261-egg Buff Orpingtons. Both sexes. Bargains. M. Spooner, Wakefield, Kan.

PLYMOUTH ROCKS.

WHITE ROCKS, SIZE AND QUALITY, priced reasonable. Write G. M. Kretz, Clifton, Kansas.

BIG BONED BARRED ROCK COCKERels, fancy breeding, $2 each. Bred to lay strain. C. D. Swaim, Geuda Springs, Kan.

PURE-BRED BARRED ROCK COCKERels. The Taylor strain. Price $1.50 if taken soon. C. H. Wempe, Seneca, Kansas.

FOR SALE—BUFF ROCK AND BLACK Langshan roosters, good ones, $1.50 each. Newton Coffman, Rosendale, Mo.

BARRED—FIRST PEN ST. LOUIS SHOW. First cockerel and cock, State Fair exhibition; breeding males. J. K. Thompson, 205 The Drive, Topeka.

PETTIS' BARRED ROCKS — WINNERS Missouri State Show, 1916. Cockerels, $2 to $5. Egg producing. Booking orders. Mrs. P. A. Pettis, Wathena, Kansas.

BARRED PLYMOUTH ROCK COCKERels, Bradley strain. Parks 200-egg strain. $3 to $5 each. Eggs in season. Gem Poultry Farm, Haven, Kansas.

BARRED ROCK COCKERELS, FROM prize winning stock, $1.50 to $3.00. Write today. Satisfaction guaranteed. R. D. Ames, Walton, Kansas.

LINDAMOOD'S BARRED ROCK COCKereis are better than ever. Nicely marked, strong boned. Order now for coming season. Prices, $3 to $5 each. Sent on approval. C. C. Lindamood, Walton, Kansas.

PURE BARRED ROCK COCKERELS—Large, vigorous, well marked birds, heavy laying strain, $1.50 each. Choice large pen birds, $3 each. S. R. Blackwelder, Isabel, Kansas.

ANCONAS.

FOR SALE — SINGLE COMB MOTTLED Ancona cockerels, Sheppard strain, from sweepstakes winners; $1 up. Write me your wants. Frank Glenn, Newton, Kansas.

SINGLE COMB ANCONA COCKERELS, two dollars each; good ones. Mrs. Cecile McGuire, Pratt, Kansas.

GUINEAS.

PEARL GUINEAS, $1 EACH. CLIFFORD Barrans, Lenox, Iowa.

LANGSHANS.

BIG BLACK LANGSHANS. FANCY AND utility cockerels and pullets. Guaranteed. H. Osterfoss, Hedrick, Iowa.

BLACK LANGSHAN COCKERELS FROM blue ribbon and sweepstakes winners. Mrs. D. A. Swank, Blue Mound, Kansas.

POULTRY WANTED.

POULTRY WANTED — TURKEYS, 23c; capons, 20c; ducks and geese, 12c; guineas, each, 40c. Paying prices No. 1 fowls. The Copes, Topeka.

ORPINGTONS.

A FEW GOOD BUFF ORPINGTON cockerels for sale. Mrs. C. F. Cooper, Nickerson, Kansas.

PURE-BRED BUFF ORPINGTON COCKerels, $1.00 to $5.00 each. Hens and pullets, $1.00 each. Myrtle Howard, Byron, Okla.

EVERYTHING IN WHITE ORPINGTONS. Some scored by Judge Southard. Satisfaction guaranteed. R. G. Bowman, Pawnee Rock, Kansas.

DUCKS AND GEESE.

GEESE, EMBDEN, TOULOUSE, CHINA; turkeys, ducks. All leading breeds of poultry. Emma Ahlstedt, Roxbury, Kan.

RUNNER DUCKS, FAWN HEADS, FINE markings, $1 and $2 each. Mrs. E. M. Jones, Granger, Mo.

SIXTY VARIETIES PRIZE WINNING geese, ducks, turkeys, chickens, peafowls, guineas, stock, eggs. Cheap. Write wants. F. J. Damann, Farmington, Minn.

ROUEN DUCKS, FINELY MARKED; Wild Mallards, good and tame; White Guineas, White Wyandottes, French Houdans from scored stock. Guarantee safe arrival. Robert Fullilton, Austin, Neb.

JERSEY CATTLE.



SEVENTY HEAD REGISTERED JERSEYS

FORTY COWS AND THIRTY HEIFERS FOR SALE.

Nothing over five years old. Richly bred Fox Signal and Fern Lad families. All bred to choice registered herd bull. Must reduce herd.

N. L. DUCHESNE - GREAT BEND, KANSAS

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

REDMAN & SON - TIPTON, MISSOURI

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. BERRY & SON, Jewell City, Kansas

DORNWOOD FARM JERSEYS

Fine young bulls from Register of Merit and Imported cows; descendants of Fontaine's Eminent, Pogis 80th of Hood Farm, and Golden Fern's Lad.

DORNWOOD FARM, Route 1, Topeka, Kan.

REGISTERED JERSEY 40-POUND 7 PER CENT COW, $90

Her heifer by Register of Merit bull, bred, $60, if sold in next fifteen days.

BIG FOUR STOCK FARM
Route 1 - Hickman Mills, Missouri

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

Bargains in Jersey Cows

From one to a carload of good, young, registered Jersey cows, mostly fresh or soon due. Offered at sacrifice prices because short of feed and cannot winter. Also a few open heifers and young bulls. Write your wants or come and see this stock.

The Ennis Stock & Dairy Farm, Horine, Mo.
(Just South of St. Louis.)

LINSCOTT JERSEYS

BJH

Kansas First Register of Merit, Estab. 1878. If interested in getting the best blood of the Jersey breed, write me for descriptive list. Most attractive pedigree.

R. J. LINSCOTT - HOLTON, KANSAS

AYRSHIRE CATTLE.



On actual test—
25,329 lbs. milk, 11,780 quarts, at 6 cents a quart $706.80, less $177.46 food for one year, gave a profit of $524.34. If you want hardy, prolific, profitable cows, write for information and nearest breeders.

AYRSHIRE BREEDERS' ASS'N
C. M. Winslow, Secy.
33 Park Street Brandon, Vt.

AYRSHIRE BULLS

Age two weeks to two years, priced to move quickly at $40 to $80. Worth double. Bred for high production. All pure-bred and sure to get high producing heifers. Herd of nearly a hundred, established in 1906, located at Linwood, Kansas, near Kansas City. Tuberculin tested yearly, never found a reacter. Milk test over 4 per cent.

Dr. F. S. SCHOENLEBER, Manhattnn, Kan.

DUROC JERSEYS.

A HERD BOAR

We offer the splendid herd boar, Gold Medal 176231, also spring boars by him and the great boar, Country Gentleman 132541. All double immunc. Prices reasonable.

W. R. HUSTON - AMERICUS, KANSAS

TWENTY FIVE SPRING BOARS

Sired by Crimson Wonder Again Jr., first prize boar at Topeka Fair, 1916, and G. M.'s Crimson Wonder. Big rugged fellows ready for service. Immunized nnd priced to sell.

G. M. SHEPHERD - LYONS, KANSAS

QUARANTEED DUROC BRED GILTS

Immune Duroc gilts with size, bone and stretch. Guaranteed in farrow. Shipped to you before you pay.

F. C. CROCKER, BOX K, FILLEY, NEB.

Wood's Durocs

Gilts bred and open. Boars all sold. A nice bunch of gilts to select from. September pigs of both sexes. Prices reasonable.

W. A. WOOD & SON, ELMDALE, KANSAS

SHEEP.

RAMBOUILLET SHEEP

A lifetime experience proves the Rambouillet is easily the best sheep for Kansns conditions. We offer choice individuals, either sex, with good hone, size, form and fleece. E. D. KING, Burlington, Kansas.

JERSEY CATTLE.



The Giant Of The Dairy

Grade up with a Jersey Bull! He is half the herd, and the breed determines half the profits. Breed him to your grade cows and bring the herd average near the Jersey average—489 pounds of butter fat per year. Your calves will be beauties. They'll mature quickly into gentle, hardy, vigorous and persistent milkers, long-lived and adapted to any climate. Let us tell you more about them. Send for our book, "The Story of The Jersey." It's free and it's a dandy.

Write for it *now.*

The American Jersey Cattle Club
375 West 23rd Street - New York City

AUCTIONEERS.

Live Stock and Farm Auctioneer

Write or wire for date. I can please you.

LAFE BURGER, WELLINGTON, KANSAS

FRANK J. ZAUN Live Stock Auctioneer. Write or wire for date. Independence, Missouri



P. M. GROSS

MACON, MISSOURI
LIVE STOCK AUCTIONEER

Pure Bred Sales a Specialty

"Twelve Years on the Block"

Sales Made Anywhere

BROWN SWISS CATTLE.

"BRYN-COED"

Ten choice young bulls by well selected sires and highly-bred heavy-producing dams. Prices reasonable.

PHIL H. JONES - NASHOTAH, WIS.

FARM AND HERD.

The Big Four Stock Farm, Hickman Mills, Mo., reports their O. I. C. herd doing well. This is one of Missouri's good herds of that breed of hogs and a feature of the herd at this time is the choice lot of young stock. They also have a fine herd of Jersey cattle.

W. W. Shott of Lathrop, one of Missouri's pioneer breeders of high class jacks and jennets, reports his herd doing well. Owl Hollow Stock Farm, owned by Mr. Shott, has produced a number of great jacks, and his herd from time to time has been headed by famous jacks, among them Lucky Dutchman, one of the greatest sires of his day and the sire of a number of famous jacks.

W. A. Wood & Son, the well known breeders of registered Hereford cattle and Duroc hogs, report their herds doing well. This year they sold a number of very fine boars to go to good herds. A feature of their herd at this time is the large number of choice gilts bred and open and the very fine lot of September pigs.

George C. Tredick, of Kingman, Kansas, manager of the famous Tredico Farm Holstein herd, reports that the herd made another fine record in 1916. This is one of the herds that was started with heavy producing foundation stock and that has been built from foundation up for production, and few herds in the Southwest have a better record.

The management of Edgewater Stock Farm, Fort Atkinson, Wisconsin, report their herds of Holsteins and Guernseys doing well. This is one of the leading dairy cattle farms in Wisconsin. They have large herds of both Holsteins and Guernseys and foundation stock for dairy herds are shipped from this farm to many states.

H. B. Walter & Son have settled on February 6 for a bred sow sale to be held at the farm near Effingham, Kansas. A special train will be run from Atchison for the benefit of parties wishing to attend the sale. This train will return in the evening in time for all connections. There will be sold forty head of immuned tried sows and fall gilts, practically all of which will be either sired by or bred to Big Bob Wonder; five selected sows all bred to him, and thirty fall gilts pronounced by all who have seen them to be the best bunch ever sired by one boar sired by him. The Big Bob Wonder gilts will be bred to Wonder King, the noted son of Long King's Equal that was selected to cross on these gilts, and Eclipse Model, an outstanding son of Wonder Master by Wonderful out of a Grand Master dam.

L. W. Case, of Waterloo, Iowa, announces a dispersion sale of high grade Holsteins to be held at Waterloo, Iowa, January 17. This sale will include the entire high grade herds of Clover Valley Holstein Farm, Whitewater, Wis., and the Maxwell Farm, Waterloo, Iowa. The offering will include thirty large choice cows, springers or lately fresh; twenty-five choice springing 2-year-olds; ten choice bred heifers coming 2 years old, and fifteen head of extra good yearlings not bred. All of the cattle in the sale will be tuberculin tested by state approved veterinarians.

Fred Chandler, of Charlton, Iowa, the well known breeder and importer of Percheron and Belgian horses, reports that his herd is doing well and that there is a good demand for high class draft stallions and mares. Mr. Chandler has a very fine lot of young stallions at this time. They are the produce of the sixty-two imported mares on the Chandler farm.

Lilac Dairy Farm, owned by Smith & Hughes, of Topeka, is the home of one of the outstanding herds of pure-bred Holstein cattle in the Southwest. This herd has been built up along lines that insure producers and the record of the herd is ample evidence of the success of this firm. A feature of the herd at this time is the great lot of A. R. O. dams and the choice young stock, including a number of young bulls backed by records.

80 - HEAD OF HOLSTEIN-FRIESIAN CATTLE - 80

TO BE HELD AT BIG SALE PAVILION AT

Waterloo, Iowa, Wednesday, January 17, 1917

Complete Dispersion of the High Grade Herds of Clover Valley Holstein Farm, Whitewater, Wisconsin, and Maxwell Farm, Waterloo, Iowa.

Thirty large choice cows, all of which are close springers or lately fresh.
Twenty-five fine large springing two-year-olds.
Ten choice bred heifers coming two.
Fifteen extra good yearlings not bred.
All cattle tuberculin tested by state approved veterinarians. This is your opportunity to secure some of the best Holsteins ever sold in a public sale ring.
Sale begins at 12:30. For detailed information write

CLOVER VALLEY HOLSTEIN FARM, Whitewater, Wis.
MAXWELL FARM, Waterloo, Iowa.

AUCTIONEERS—R. E. HAEGER, WILLIAM HOLLAND.

NOTE—The Maxwell Farm consignment is composed largely of daughters of Sir Ormsby Skylark, sire of world's champion cow.

GUERNSEY CATTLE.

A Guernsey Grade Cow

in Springfield, N. Y., PRODUCED in one year 13,388 lbs. of milk and 755 lbs. of butter fat, EQUIVALENT TO 878 lbs. of BUTTER.

"USE A GUERNSEY BULL on your grade herd and you can produce such cows



Write us for booklets and names of breeders

THE AMERICAN GUERNSEY CATTLE CLUB
BOX R-K PETERBORO, N. H.

HEREFORD CATTLE.

WALNUT BREEDING FARM



Hereford Cattle, Shropshire and Cotswold Sheep, Berkshire Hogs. Thirty-five grandsons and granddaughters of Beau Brummel 10th for sale. Some extra herd headers at reasonable prices, breeding considered. Come and see my herd. Satisfaction guaranteed.

LEON A. WAITE, WINFIELD, [illegible]



HEREFORD CATTLE FOR SALE

35 BULLS, 10 MONTHS TO 2 YEARS OLD.
20 COWS AND HEIFERS.

Best breeding families. Bred to an Imported Bridlsher bull. Come and see me. Sale barns right in town.

T. I. WOODDALL, HOWARD, KANSAS

STAR BREEDING FARM---HEREFORD PLACE



FOR SALE--100 BULLS
50 EARLY BULL CALVES
30 COMING 2-YEAR-OLDS
20 COMING 3-YEAR-OLDS

Herd headers and range bulls. Ten yearling heifers, twenty heifer calves and a carload of good cows. The very best breeding represented. Come and see me.

SAMUEL DRYBREAD, ELK CITY, KANSAS

HEREFORDS AND PERCHERONS

Choice 2-year-old bull, weight 1,600 lbs.; extra good bull calves. One May calf, weight 600 lbs., outstanding herd header prospect. Two choice yearling Percheron stallions. Priced to sell.

M. E. GIDEON - EMMETT, KANSAS

HEREFORD CATTLE

150 Head in Herd. A few cows and heifers for sale. Also a lot of farm and range bulls. Priced reasonable.

B. M. BROWN, FALL RIVER, KANSAS

RED POLLED CATTLE.



RED POLLED CATTLE

FOR SALE—Twelve cows and heifers.

I. W. POULTON, Medora, Kan.

Red Polled Cattle

A few 1916 bull calves for sale. Also a few cows and heifers.

AULD BROS. - FRANKFORT, KANSAS

RED POLLED BULLS

FORTY yearling bulls, big rugged fellows, sired by ton sires; all registered and priced reasonably. Will sell a few females.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

ANGUS CATTLE

McAdams Angus Herd

Outstanding herd bulls and richly bred cows with calves at foot for sale. Cows with calves by the great young bull, Senator Blackcap, and rebred to Blackcap II, grandson of Blackcap Judy. Also the show breeding bull Ecuador Ito by Undulata Blackcap Ito. Will also sell some choice Berkshire gilts.

GEO. M. McADAM - HOLTON, KANSAS

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE

Twenty-five young bulls, also some good cows and heifers for sale. All registered.

D. J. WHITE, CLEMENTS, KANSAS
Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

When writing advertisers, please mention Kansas Farmer.

HORSES AND MULES.



Percherons and Belgians

SIXTY-FOUR HEAD REGISTERED STALLIONS AND MARES.
THIRTY STALLIONS AND THIRTY-FOUR MARES AND COLTS.

To close up a partnership, the thirty-four mares and colts must be sold by March 1, 1917. I mean business. Come and see me.

J. M. NOLAN, Paola, Kansas

FOR SALE THREE STANDARD-BRED COLTS. One brown filley 4 years old, 16 hands high, weighs 1,200 pounds, sire Pactolus Ellwood 50245 by Pactolus 2:09, No. 9102; has been tracked a little and shows lots of speed. One black stud, 3 years old, stands 15.3, weighs 1,135 pounds, broken single and double, has been tracked some with success; is a full brother to the above filley. One black filley, name Luta Miller, 3 years old, broken to drive and quite clever, same sire and dam is Estan Selotta by Blackleer No. 46643 by Symboleer 2:09 No. 19869. Six head of Hereford males, 2 years old; 60 head of well-bred stock cows, 3 to 4 years old; 15 Poll Angus; 45 head Shorthorn grades bred to the Hereford males; six head of high-grade Holstein heifers, two milking, two springing, bred to my Holstein male; one Holstein male, 2 years old next April, weight 1,200 pounds; four head of registered female Jerseys. **O. L. THISLER, CHAPMAN, KAN.**

PIONEER STUD FARM

Established 1870

FIFTY REGISTERED STALLIONS AND MARES

JUST ARRIVED—A new shipment of stallions and mares. If you are in the market for a good Percheron stallion or mare, now is the time. We can show you more bone, size, action and conformation than you will find elsewhere. Write or come today.

C. W. LAMER & SON - - - - - - SALINA, KANSAS

PRAIRIE VIEW STOCK FARM



Has 40 big, black Mammoth jacks and jennets. Every jack my own raising; two to six years old, 15 to 16 hands high, extra heavy bone, big bodies. I can sell you a better jack for $500 to $600 than most speculators can for a thousand. Come and see for yourself. They must sell.

ED BOEN, LAWSON, MO.
38 Mi. E. of K. C. on C. M. & St. P.
40 Mi. S. W. of St. Joe, on Santa Fe

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40 Head Percheron Stallions - Jacks and Jennets - 40

Two to six years old. Heavy bone. Imported Spanish jack at head of jennet herd. Prices reasonable. Come and see us. We mean business.

J. P. & M. H. MALONE

CHASE - - - - - KANSAS

SIX BREEDS DRAFT STALLIONS
Pedigree and guarantee with each, $450 and up. Time given.
R. I. LITTLE, Good Block, Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. **AL. E. SMITH, Lawrence, Kansas.**

DISPERSION SALE OF CLYDESDALES.
One span of brood mares, regular breeders, in foal by imported stallion. One coming 3-year-old filley, one coming 2-year-old stud colt and one weanling. All show stuff. The thick, blocky kind, sound and best of breeding.
C. H. WEMPE - - SENECA, KANSAS

POLAND CHINAS

Poland China Boars and Gilts

Twenty-five early spring boars and twenty-five gilts. Sired by I Am King of Wonder and Watt's King.

WM. WATT & SON - GREEN CITY, MO.

OWA KING BRED SOW SALE FEB. 1

Will Sell 40 Head of Tops. Am offering now some choice herd boar prospects, June and July pigs. All immune. Send for catalog of sow sale and price on boars.

P. M. ANDERSON, LATHROP, MISSOURI

TOWNVIEW FARM
Big-Type Poland Chinas.
For Sale—25 summer and fall gilts, sired by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 25 summer boars. Come and see my herd.
C. E. GREENE - PEABODY, KANSAS

DEMING RANCH POLANDS
Twenty strictly high class boars, bred the same as our grand champion sow and other prize winners. They are herd headers. Also gilts and bred sows and 150 fall pigs. All immune.
THE DEMING RANCH
H. O. Shelden, Herdsman Oswego, Kansas

EUREKA POLANDS AND DUROCS
April boars, fancy individuals. Priced for quick sale. Sires, Lafollette's Last, Bader's Golden Model 2d, McWonder and Big Ex Wonder.
W. H. SALES - SIMPSON, KANSAS

ARKELL'S BIG POLANDS

April and March bred gilts by Longfellow Again and Chief Big Bone, weight 225 to 275 pounds. They are bred to Arkell's Big Timm. Also a few bred sows. Priced right.
JAS. ARKELL, JUNCTION CITY, KANSAS

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

HORSES AND MULES.

Home-Bred Draft Stallions, your choice $500 with the exception of two. Also mares for sale. **A. Latimer Wilson, Creston, Iowa**



PERCHERONS—BELGIANS
Imported and home-grown mature stallions, ton and heavier, 3-year-olds, 2-year-olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. **Fred Chandler, R. 7, Charlton, Ia.** (Above Kansas City.)

PERCHERONS FOR SALE

Five head pure-bred Percherons — Two mares, one 2-year-old stallion, two last spring colts. All good ones. Low price to the man that takes all.

J. W. BARNHART, BUTLER, MISSOURI



JACKS AND JENNETS

15 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. Fifteen good jennets for sale. Come and see me.

PHIL WALKER,
Moline, Elk County, Kansas

LOOK HERE!
$15,000 Worth of Property.
Twenty-five head of stock horses and mules; 11 head of mammoth jacks; also some extra good jennets; good new 7-room house, acre of ground with good stock barn in Lathrop, Mo. Also one Percheron stallion, weight 2,000. Will sell this stuff cheap for cash or trade it for a good stock farm of 200 acres, within 100 miles of Kansas City.

W. W. SHOTT
Owl Hollow Stock Farm, Lathrop, Missouri

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

CHESTER WHITE HOGS

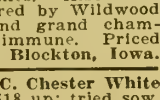
CEDARDALE CHESTER WHITES
Extra good April boars, sired by Wonder Chief and W P Sweepstakes. Also herd boar, W P Sweepstakes, sired by Wildwood Prince, senior champion and grand champion Iowa, 1914. Cholera immune. Priced to sell. **J. S. KENNEDY, Blockton, Iowa.**

Registered Immune O. I. C. Chester White Bred Gilts. Service boars, $18 up; tried sow, prize winner, $35; weaned pigs, $8; unrelated pairs $15, while they last.

BIG FOUR STOCK FARM
Route 1 - Hickman Mills, Missouri

HAMPSHIRE HOGS

ATTEBERRY'S HAMPSHIRE HOGS
Bred sows, $25 to $30 each. July gilts and boars, $10 each for 30 days. Choice individuals. **ATTEBERRY & SONS, Lancaster, Mo.**



POLAND CHINAS.

LANGFORD'S SPOTTED POLANDS
Boars — Serviceable age, guaranteed to please. Breeding stock, both sexes.
T. T. LANGFORD & SONS, Jamesport, Mo.

Size and Quality Polands

Poland China boars and bred gilts for sale. I have six gilts bred to farrow in March that weigh 275 pounds each. Price, $35 each. Four boars of same weight, $25 each. Lot of summer and fall pigs, $15 and $10 each, the big kind.

OTTO PLAGAMANN, EUREKA, MISSOURI

HOLSTEIN CATTLE.

Clyde Girod, At the Farm. F. W. Robison, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, Towanda, Kansas

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We have an especially large, choice selection of extra high grade young cows and heifers due to freshen this fall and early winter, all in calf to pure-bred bulls. These females are large, deep bodied, heavy producers, with large udders, all well marked individuals and the right dairy type. Our offerings are at prices that challenge comparison for Holsteins of their breeding and quality. High grade heifer calves, $25. Send draft for number wanted. Let us know what you want in Holsteins, and we will be pleased to send you descriptions and prices. Keep us in mind before purchasing. Wire, write or phone us.

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During the fiscal year ending April 30, 1916, there were reported to the Advanced Registry office of the Holstein-Friesian Association, 11,868 short time official records, over one half of which were by heifers with first or second calves. The average seven-day production of these 11,868 animals was 401.1 lbs. of milk, containing 3.53 per cent of butter fat. These figures emphasize the fact that Holstein merit is based, not on individual records, but upon the wonderful uniformity of high productiveness of the pure-bred Holstein cow. There is big money in the big "Black and White" Holsteins.

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A. R. O. BULL CALVES
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D. J. White, Clements, Kan.
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
HOLSTEINS.
C. E. Bean, Garnett, Kansas.
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Size	Cap. Lbs. per Hour	Regular Price	Our Price
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No. 3	400	65.00	40.00
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Standard Wire Nails in 100 lb. kegs. Sizes from 8d to 20d mixed. **Order No. DC-30 Price $2.25**

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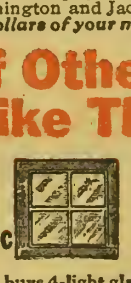
98c buys this good, substantial pine door 1⅜ in. thick, painted or unpainted Size 2 ft. x 6 ft. **Order DC-11.**



90c buys good fir window frames. Size 16x24 in., 2-light. **Order DC-12.** All other sizes and styles priced proportionately low.



48c buys 4-light glazed barn sash. 8x10 in., 4-light. **Order DC-13.** Every desired size priced proportionately low.



58c for this 2-light white pine glazed window. Size 12x20 in. **Order DC-14.** Any other size priced proportionately low.



$2.50 for this clear fir glazed heavy front door; 1⅜ in. thick. Size 2 ft. 8 x 6 ft. 8 in. **Order DC-15.** Other doors at like savings

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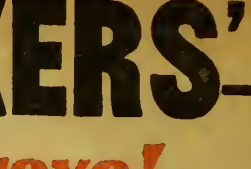
Galvanized Fence



24c per Rod 26 In. High

Hog Fence. Barbed Wire bottom. Order No. DC-140. 7 wires high, stays 8 in. apart. No. 11 gauge carbon wire top. No. 14 gauge intermediate line and stay wires.

Tubular Posts With Adjustable Clamps



Pointed Drive Metallic Painted Tubular Fence Posts. Made of 2 in. tubing. Finest grade of charcoal iron, covered with a heavy coat of mineral black paint, which adds to the appearance and life of the post as well. **Order No. DC-120.** For 4½-in. post with two clamps, each **27c**

Other sizes 54, 60, 72, 77 and 84 in. long, with necessary clamps, just as low. Special prices in carload lots.

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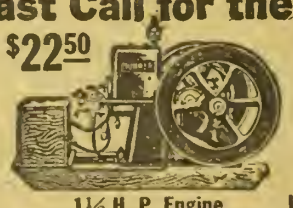

$22.50

1½ H. P. Engine

A first class guaranteed, 1½ H. P. gasoline engine. High grade, perfectly made and finely finished. Sure starter, low cost to maintain. Limited stock. **Order No. DC-230 Now.**



$197.50 75 Lights

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The greatest bargain ever offered—an absolutely first class guaranteed high grade complete Rumely-Falk outfit. Perfect engine—generator—switchboard and outfit complete with Willard Storage Batteries. Larger sizes proportionately low. **DC-240.**



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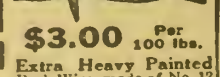

$3.00 Per 100 lbs.

Extra Heavy Painted Barb Wire, made of No. 12 Wire throughout. Our price less than manufacturers cost. About 100 lbs. to the reel. **Order No. DC-194. $3.00** While it lasts . . .

GALVANIZED

A special lot of Heavy Galvanized Barb Wire, high grade, **order No. DC-195. Price per 100 lbs. . . $3.65**

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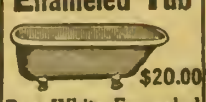

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Best White Enameled Cast Iron One-Piece Heavy Roll Rim Bath Tub 5 ft. long. Latest style nickel-plated trimmings—Fuller Double bath cocks for hot and cold water, nickel-plated connected waste, overflow and supply pipes. **Order No. DC-230. Price . . $20.00**

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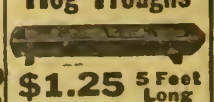

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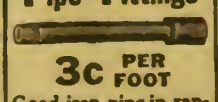

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Good iron pipe in random lengths, complete with couplings, suitable for gas, oil, water and conveyance of all liquids. Sizes ⅜ in. to 12 in. Our price on ⅜ in., per ft. . **3c** 1 in., per ft., . . **4½c**

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All other sizes up to 14 gauge at proportionately low prices.

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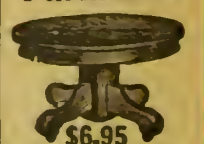

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For the improvement of the Farm and Home

Volume 55, Number 2. TOPEKA, KANSAS, JANUARY 13, 1917. Established 1863. $1 a Year



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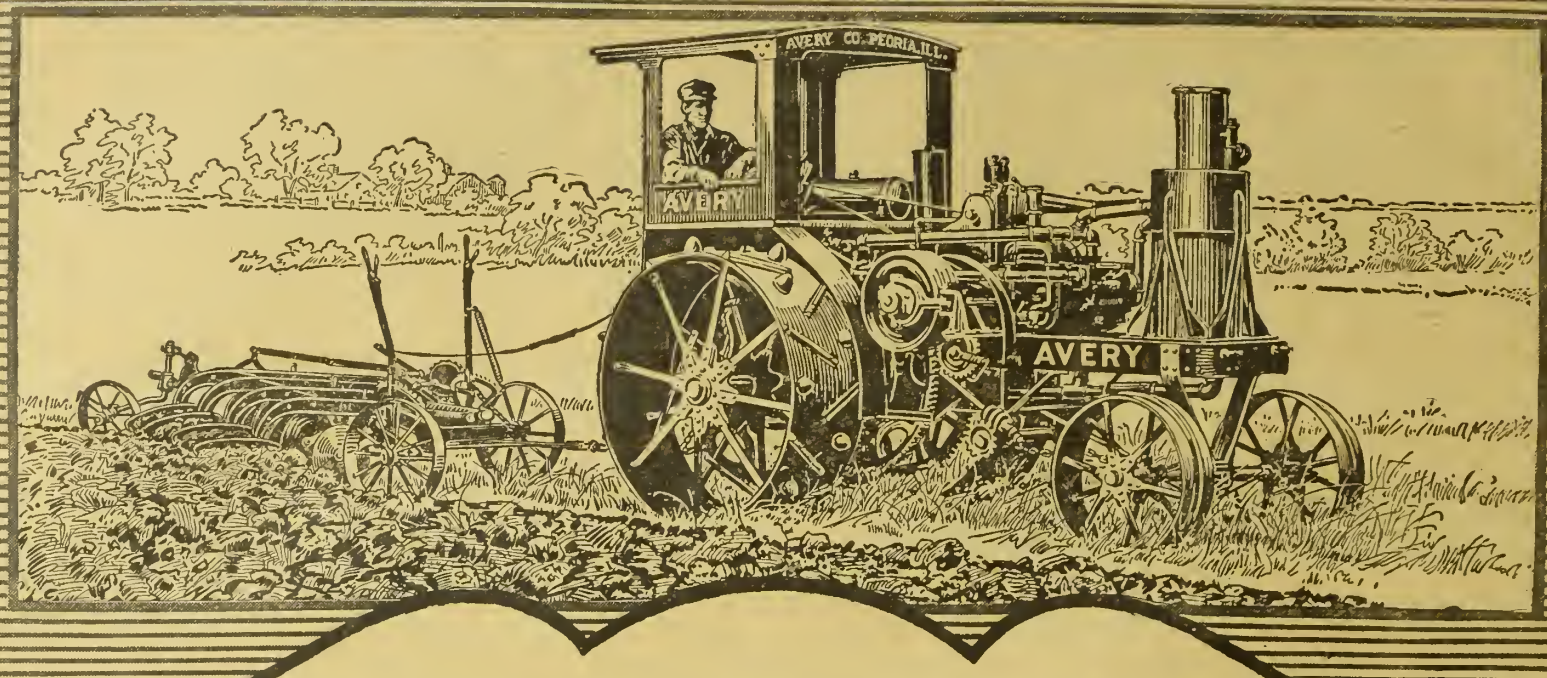
The silo becomes a badge of agricultural prosperity in any community.

—G. C. Wheeler



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IT may sound rather strong to say that Avery Tractors are the only make having a standardized design, but the facts clearly prove it. Avery Tractors are the only make built in five sizes (a size for every size farm) all having exactly the same design. There is practically no other make of tractors where there are more than two sizes of the same design. Some companies building four or five sizes of tractors have as many different designs as they have sizes. Most companies building new sizes of tractors are building them of a different design from their former sizes, which is clear proof that their former design was not satisfactory and the best that can be said of any new design is that it is an experiment.

But when the Avery Company builds one size tractor and after thoroughly testing it out, builds another size, and then another, and then another, and then another, until it has five sizes all of exactly the same design, it is unquestionable proof of the success of that design.

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Avery Tractors proved themselves to be

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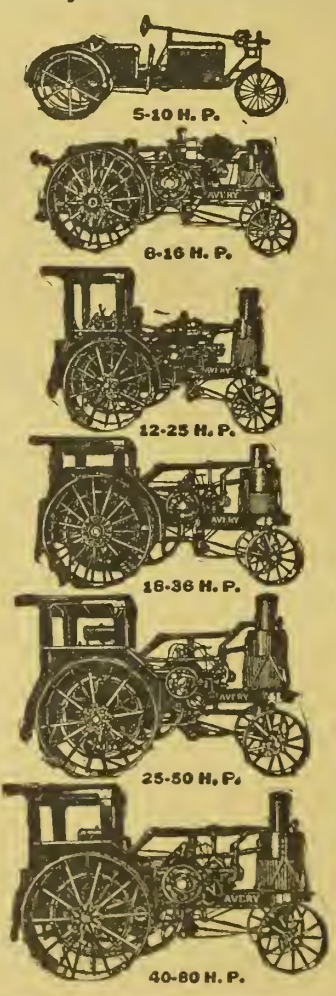
You can get an Avery Tractor in any one of the following regular sizes—8-16, 12-25, 18-36, 25-50 or 40-80 H. P.—and a special smaller size tractor rated at 5-10 H. P. We also build and sell plows in sizes to fit all size tractors and threshers in any size to run with 8-16 to 40-80 H. P. Tractors.

There's a size Avery Tractor and Plow to fit every size farm and a size Avery Thresher to fit every size run.



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When you get an Avery you get a design that's so simple and strong that most men require few repairs and no help. The Avery design was so nearly correct at first that we have not had to spend time changing it, but have been able to put all our effort during the past five years on perfecting the original design.

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KANSAS FARMER

The Farm Paper of Kansas

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ABUNDANCE OF NITROGEN

Chemical analyses have shown that the soils of Kansas in continuous cultivation for forty years have lost from a fourth to a third of the nitrogen they contained when first broken. This loss of nitrogen is responsible for the steadily decreasing yields of our staple crops.

It might seem that there is no great reason for concern, since another third of the nitrogen could be removed and still leave the soil with enough nitrogen to produce crops for another forty years. The facts are, however, that in the first forty years of farming we have skimmed the cream from the soil. Those who take the second third must face steadily decreasing returns and the margin of profit will necessarily narrow. It cannot be assumed that all the plant food in the soil can be used. Long before the nitrogen is totally exhausted, or even before the second third could be used, yields would be so low as to be unprofitable.

Nitrogen is the most abundant element of plant food. Prof. C. O. Swanson, chemist at the Kansas Experiment Station, recently stated that the air over an acre contains nitrogen enough to produce fifty million bushels of corn. This element is practically inexhaustible and yet it is the element that is limiting crop production on those lands that have been farmed thirty or forty years.

Nature's method of getting the nitrogen needed for plant growth is through the leguminous plants. These plants can reach out and take in nitrogen from the air direct. So far as known, no other class of plants is able to do this. If a legume rotation had been steadily practiced through these forty years of cropping, the chemical analyses would not now show a third of the nitrogen gone from the soil. This use of the legume, with live stock to consume it, is the simple way to secure nitrogen, and every farmer can practice this means of keeping a supply of this element in his soil.

New and more rapid methods of securing nitrogen from the air are now being used. It is largely due to the fact that Germany has been able to secure nitrogen from the air, that she has not been conquered. Nitric acid is an absolute necessity in the manufacture of high explosives. The war has stimulated the development of new and improved methods of securing the nitrogen needed for war purposes. When peace comes, the new knowledge can be turned to productive purposes. Perhaps the ability to draw on this inexhaustible supply of plant food contained in the air will be the next great step in agricultural progress. Our own government has appropriated twenty million dollars to establish a plant for using nitrogen directly from the air.

At the present time nitrogen as it exists in the form of nitrates that can be used as fertilizers, is worth from twenty to twenty-five cents a pound. This is prohibitive for fertilizing purposes.

The old reliable way of getting nitrogen into the soil by using legumes is no experiment and should be practiced on every farm. On farms where alfalfa and clover are grown in rotation, fed to live stock, and the manure hauled out, the crop yields have not decreased. A most striking fact brought out in some experiments that have gone on at the Missouri Experiment Station for twenty-eight years is that the rotation including clover has been as effective in keeping up the corn yield as spreading seven tons of manure annually. This does not mean that rotation is the only essential to retaining fertility, for in this same experiment a combination of rotation and manuring has maintained yields at a higher level than has either alone.

* * *

CHOOSING A VOCATION

Choosing a vocation should be one of the big events in life. A right choice may mean the difference between a useful, successful life and a total failure. Young people need all the help they can get in deciding this momentous question.

"The only people who are worth while are those who work," said Henderson S. Martin, Vice-Governor and Commissioner of Education of the Philippine Islands, in his address to the second division of the 1916 class who received their degrees December 20, 1916. "Choosing a Vocation" was his subject, and he went on to say that the young man or the young woman who enters upon a career of unlimited possibilities has a better chance than the young man or young woman who enters upon a career of limited possibilities.

"The career which I suggest," said Mr. Martin, "is a career of unlimited possibilities. It has to do with agriculture, which is the life of the nation; for that matter, it is the life of human society.

"Two things justify me in thus exalting agriculture. The first one is that it feeds the world; it makes possible the multiplication of human beings, and a progressive human society. The second fact is that the country is the only good breeding ground for men and women, and agriculture leads men and women to the country.

"In the ancient world agriculture went from first place to last place. In Europe, some centuries ago, agriculture led the industries; at this time, with one or two exceptions, Europe has no country where agriculture can be classed among the chief industries.

"In our country we are traveling the same road; we are following behind the people of the Orient and of Europe. If we travel the same road, it is inevitable that we shall reach the same destination. The business I am suggesting to you is the business of rescuing American agriculture before it is too late, as it is now too late in the Orient and in Europe.

"Swiftly, American society is passing from an agricultural society to an industrial society and my suggestion to you, young men and young women, is that you make it the business of your lives to rescue agricultural society. This is the time and here is the place. This is the time because we have a little temporary prosperity in agriculture and your demands could be supported by some power. This is the place, because Kansas is the most enlightened agricultural community in the world."

In pointing out some of the ways in which these young people could take part in this great work, Mr. Martin said that one of the first requirements for saving agricultural society must be a radical readjustment of rewards. "Farming must be made as profitable and as attractive as other lines of business. Conditions must be such that a due proportion of our financial leaders will be among the men whose business is farming; that a due proportion of our intellectual leaders will be among men whose business is farming, and that a due proportion of our social leaders will be among women who live on the farms.

"In an effort to promote agriculture it is a mistake to attempt to drive other people from the banquet. Fighting the railroads or the banks is not the way to secure a new agriculture. You should be constructive, not destructive. You should insist upon another plate at the banquet, a plate for agriculture.

"American agriculture needs a new spirit—a spirit that will ask questions, that will overthrow the old traditions about the place that should be assigned to agricultural society. Other modern industries have been to school. They have learned lessons, chief among which is co-operation. American agriculture has not yet learned that lesson."

Mr. Martin expressed the hope that this class might furnish its full share of the men and women needed to bring about this great work of saving American agriculture from the dangers before it. He told them that the legal profession is overcrowded; the medical profession is overcrowded; there are too many clerks, too many merchants, and too many real estate men. In closing he said, "My suggestion is that you, passing by the overcrowded callings, become advocates of American agriculture. The prospect is tempting. If you do not want to plant corn, you may plant greater crops; you may plant ideas. Let me repeat that now is the time."

There were over sixty who received degrees at this time. They were the members of the 1916 class who required another term's work in order to finish the course.

* * *

DAIRY ASSOCIATION MEETING

The Kansas State Dairy Association will hold its annual meeting in Manhattan February 7, during Farm and Home Week. This day has been designated "Dairy Day" and a program of unusual interest to dairymen has been prepared. Dairying is an industry that is rapidly developing in Kansas and this meeting should be widely attended.

The principal speakers on the dairy program will be Dr. L. W. Goss of the Kansas Agricultural College, who will talk on "Some Common Diseases of Dairy Cattle." Theodore Macklin, also of the college, will speak on the subject of "Profitable Methods of Marketing Butter Fat." One of the most important addresses will be that of John B. Irwin, of Minneapolis, Minnesota, who will give his experiences in breeding and developing Holstein cattle. Mr. Irwin is one of the leading breeders in the United States, a director of the Holstein-Friesian Association and owner of Duchess Skylark Ormshy, whose record is 27,761 pounds of milk and 1,205 pounds of butter fat in a year. Mr. Irwin has made his money from dairying and his experience and advice should be most helpful to all who are interested in this great industry.

F. B. Hills, publicity man for the American Guernsey Cattle Club, will be present and tell something of interest about the Guernsey cattle.

The most valuable part of the meeting will be a review of the experimental work with dairy cattle at the Kansas Experiment Station. This will be given in the live stock judging pavilion by Prof. O. E. Reed, head of the dairy department, and his associate, Prof. J. B. Fitch.

* * *

STATE DAIRY EXHIBIT

Kansas dairymen have been overlooking the exhibit of dairy products that is made each year at the annual meeting of the Kansas State Dairy Association held in Manhattan. Some very high quality exhibits of milk and butter have been sent but the size of the exhibit has been entirely too small to be truly representative of what Kansas is doing in dairy production.

This year, as heretofore, premiums will be awarded for the best milk, the best five pounds of dairy butter, and the best ten-pound tub of creamery butter. Over $200 in cash and dairy equipment is offered in prizes.

All entries of dairy exhibits must be sent, express prepaid, so as to reach the dairy department of the college not later than four o'clock in the afternoon of February 6.

We would urge dairymen all over the state to take part in this exhibit of dairy products. For further particulars write J. B. Fitch, secretary-treasurer of the Kansas State Dairy Association, Manhattan.

* * *

J. B. Dobbs, one of our old friends, writes from North Dakota to request a change of address. He says: "I will be eighty years old next summer. KANSAS FARMER is still a welcome guest at my home after over forty-four years of service, and I think it is increasing in value. I love it as an old and tried friend. I would write more often but my hands are quite stiff with rheumatism and your space is better filled. Success to you in your good work."

KAFIR AND DRY WEATHER

One of the interesting things about farming and handling live stock is the fact that there are so many new things to learn. Endeavoring to solve the whys and wherefores of various farm operations is ever fascinating. It is easy to work at various jobs when you know exactly what is happening and why.

Recently Edward C. Miller, of the Department of Botany of the Kansas Agricultural College, reported some interesting facts about kafir and milo that illustrate this point. It is a matter of common observation that these plants stand dry weather better than corn. Some wonder why this is so. The careful study made by Mr. Miller shows that they are not only better fitted to absorb moisture from the soil because of their root systems, which have twice as many small fibrous roots as corn, but their leaf surfaces are only about half as great as that of corn. Because of this they lose less water by evaporation.

Mr. Miller used some sandy loam land that was of nearly even texture to a depth of ten feet, in making his study. After plowing it in the fall he irrigated it with eight or ten inches of water until it was saturated to a depth of three or four feet. In the spring it was given several shallow cultivations and harrowed and floated. Alternate rows of kafir, milo and corn were then planted. During the season all the suckers were kept out and every weed was cut as soon as it appeared. No other cultivation was given. At the end of the season the main roots of the different plants had spread out three feet at each side and had gone down six feet. The kafir and milo had twenty-five to thirty secondary roots to each inch of main or primary root, while corn had but twelve to fifteen. This large development of fine roots makes it possible for the kafir and milo to secure the moisture needed from the soil when the quantity present is so small that corn would wither and burn.

This explains why these crops are considered hard on the soil. Other crops cannot be grown until sufficient time has elapsed to again store the soil with moisture.

* * *

ROAD MEN TEST CONSTITUTION

The constitution of the State of Kansas is to be tested by the Kansas Good Roads Association. It has generally been accepted that our constitution prohibits the state from taking any part in highway improvement. The $2,255,000 that is to come from the federal government in the next five years for road work, is contingent on the state matching it dollar for dollar.

The good roads boosters have come to the conclusion that perhaps the constitution cannot be held up as a legal reason for the state's failure to act at once in the matter of aiding road work. One clause of the constitution is as follows: "The state shall never be a party in carrying on any works of internal improvement." This might seem to be conclusive, but in the same article of the constitution is another clause reading as follows: "For the purpose of making public improvements, the state may contract public debts."

The state has from time to time made appropriations for building roads about the grounds of state buildings, and it would appear that some precedents have already been established in the matter of the state taking part in road building. The plan of the Good Roads Association is to bring a suit in the supreme court and obtain a decision as to whether the state can legally improve public roads. As it now stands, nothing can be done with the federal money until the constitution has been amended, and that may mean a wait of two or three years before any road work can be taken up by the state.

MOVABLE HOG HOUSE

Proper Housing of Sow and Litter Essential to Success in Pork Production

MOVABLE hog houses or farrowing cots are most successfully used by many farmers who make a business of growing and finishing hogs for market. Shelter of the proper kind is a very important consideration in handling hogs. Many failures are due to the neglect to plan for suitable shelter and at no time is it more important than when the sows are farrowing. The pigs farrowed in February, March, or April, require warm, dry, well ventilated quarters. Otherwise the losses will be heavy and all hope for profit will be gone at the very beginning. Providing suitable shelter is distinctly a money-making proposition.

The individual, movable house is thoroughly practical. It has been carefully tested by experiment stations as well as by practical farmers. While some prefer the large centralized hog house, the movable type of house has many advantages to commend it.

It is our purpose to describe a good type of individual farrowing house. For the descriptive matter and the cuts we are indebted to Iowa Experiment Station Bulletin 152, prepared by John M. Evvard and J. B. Davidson.

IOWA GABLE ROOF HOUSE

The movable house described is known as the "Iowa gable roof house." It is a little more expensive than the A-shaped house but has a number of advantages over that type. It has been successfully used for many years at the Iowa Experiment Station. It is simple of construction and presents a very attractive appearance. Some of its good features are: The perpendicular walls enable the floor space to be utilized to good advantage, permit of shade and airing doors, make possible considerable of overhead space, adds substantially to the general attractive appearance, and encourage ease of moving.

In moving houses with upright walls, a very successful method of procedure is to take a strong, heavy rope, throwing it entirely over and around the house so that it is snug up against the walls; fasten same to a clevis, hitch a team on, and take the house where wished.

The framing structure of the Iowa house is rigid and substantial, thus insuring durability.

The roof doors, preferably placed on the east or south roofs and attached at the side, enable one to open the house for sunlight and aeration, thus increasing sanitation.

The entrance door may be placed either in the front end or in the side of the house. In the "A" house the door can be placed only in one of the ends.

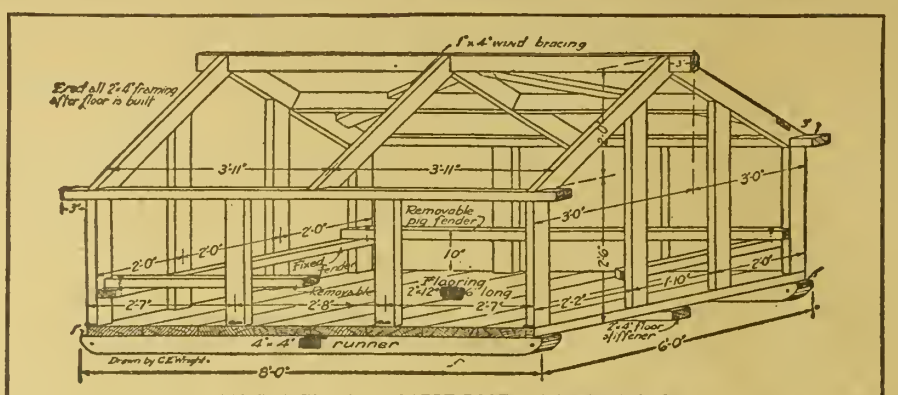
The runners or skids provide the foundation of the movable house. They should be large enough to hold it well off the ground. Four-by-fours of the more durable woods, such as fir or cypress, make good runners. It is not a good plan to use short-lived two-inch material in contact with the ground. Shoes or runners of steel made of wagon-tire iron are sometimes used on the runners but are hardly worth the extra cost.

FLOOR OF HOUSE

The plans for this house call for two-inch floors. One-inch material can be used if joists are used to stiffen the floor. The cost of the house is reduced somewhat by using one-inch material, but the two-inch floor is much to be preferred. The wood used for the floors should be of the kind that resists decay. Number one white pine is more satisfactory than the yellow pine, especially if the ground is damp. Many of the experiment station houses have floors of fir—a very substantial, durable wood, but more expensive than pine. Earth floors are very satisfactory if kept dry, free from dust, and sanitary. Banking the house on the outside will prevent drafts getting underneath the side walls and will make the house considerably warmer.

FRAMING OF HOUSE

The design submitted is of a rather substantial frame built of 2 x 4-inch material. It is entirely possible to build this house with much less framework, but the more substantially built house is desirable. White or yellow pine, No. 1 or No. 2, may be used in the framework. The construction of the frame is clearly shown in the drawing.



FRAMING PLAN OF GABLE-ROOF MOVABLE HOUSE

Wind braces in the roof framing on the slope opposite the hinged roof doors are quite essential in that they prevent distortion when the house is moved; they likewise add much to the general rigidity of the roof, thus insuring that the doors fit more closely.

SIDING AND ROOF

The house is covered with ten-inch shiplap, which makes a tight wall. White pine of No. 2 grade is recommended for both the roof and sides, as it stands the weather somewhat better than does yellow pine. Yellow pine often shrinks so that battens are necessary, and sometimes resin oozes out and this causes the paint to scale. If desired, the white pine roof can also be battened, but this is hardly necessary unless plain roofing boards without grooves are used.

DOORS CONVENIENTLY ARRANGED

Location, size, and general character of the doors mean much to the convenience of the hog house. There are entrance, end, and shade doors, each of which deserves mention.

The entrance door may be placed in the middle of the gable end, or near one corner of the end or side. The corner location, whether it be in the side or end, is the best because the hogs are better protected from drafts and storm, and bedding is not so apt to be blown or carried out. The size of doorway called for in the original plans, 22 x 26-inch, may be made larger, higher, especially, by building the sides higher, say six inches or so. Some of the large breeds demand higher doorways than specified.

The southeast corner door makes it possible for the direct rays of the early morning sun to fall upon the floor of the inner house, thus promoting growth and general vigor of the pigs.

When the door is at the corner it is necessary that hinges be used, whereas the central location enables one to have the more serviceable sliding door, which is firmly held in place by guides and easily fastened with a solid, substantial pin or bolt.

A piece of burlap hung over the doorway furnishes an automatic door, but its serviceability is short. Another sort of automatic door may be made by means of straps (ropes or heavy dog chain may be used) and light pieces of about 1 x 2-inch or 3-inch dimensions. Simply nail the straps down on both ends of the previously arranged 1 x 2's or 1 x 3's sawed to fit the doorway horizontally, and placed side by side. The straps must extend beyond the combination of pieces so as to enable attachment to be made to the casing above the doorway from which the door swings. This door may be made of rope by boring two holes in both ends of the cross-cut pieces and then weaving the rope therein. Generally, however, the more rigid doors are to be advised because of their durability and other obvious advantages. With the automatic doors described, the hogs are not easily shut in or kept out of the house.

Doors in the roof are a great convenience and in addition they permit the interior to be thoroughly sunned and ventilated. The roof doors had best be on the east side of the houses which have the entrance doors on the south end; this is in order to take advantage of the successive early morning and forenoon sun. When the entrance door is in the east corner of the south side wall the roof doors should be on the south or sunny side.

The roof doors may be hung at the side or at the top. The side attachment allows of a maximum of sunning and convenience, whereas when hung at the end considerable shade is possible. The top hinged doors may be arranged so as to be turned back upon the opposite roof, thus avoiding the necessity of having a door to hold up.

The arrangement of window sash in the door openings of the roof is a commendable feature; especially is this true when early pigs are farrowed. It is entirely optional with the builder as to whether or not the sash be included. The window sash are best made removable, so as to avoid accidental breakage when not in use. When the houses are moved the stresses may be such as to twist the window frames and crack the glass. The sash should fit snugly to avoid leakage. Standard size sash are preferable, as they are more economically purchased than when made to special order. In general, the glass sash in roof are of much service in the winter, early spring, and late fall. It is quite surprising to the novice to find how much warmer the house is when fitted with glass than when not. One can secure an abundance of sunshine without cooling the house by opening the doors—a necessary procedure when sunshine is wished in houses not equipped with sash.

To provide ventilation and furnish means for a convenient method of observing the sow and litter, the small end doors, usually placed well toward the comb, are a valuable addition; these, properly located, may be made of glass.

Hogs must have protection from the hot summer sun; the shade doors solve the problem of furnishing a warm, dry, airy place for rest and comfort. These doors had best be thoroughly reinforced at the hinges to insure stability and service.

FENDERS SAVE PIGS

For the protection of pigs at farrowing time fenders may be provided on the sides and ends of the house. A satisfactory protective fender is made by fastening 2 x 4-inch pieces flatwise six inches from the floor. If the sides of the house are made into shade doors the fenders along these sides should be made detachable. The removable fenders can be so cut as to fit in place upon the end fenders, which are securely spiked into place and held firmly thus with an easily withdrawn bolt or spike.

VENTILATORS TO SUPPLY FRESH AIR

A satisfactory scheme of ventilation is provided by leaving an opening of moderate size beneath the ridge pole, protected by nailing a wide triangular board under and flush with the edge of the extending roof boards. The wind is prevented by this arrangement from sweeping through the house. A larger ventilator may be provided throughout the length of the entire ridge by leaving an opening of two inches or so, protecting same with a false comb. Sometimes the smaller movable houses need a maximum of ventilation to insure dryness and fresh air, hence this suggestion. However, the use of the extended ridge ventilator necessitates that the roof doors be cut short at the top so as to easily clear the false protective comb.

PAINT A GOOD INVESTMENT

Not only will the expense of painting the wooden movable house prove a good investment in prolonging the life of the building, but it adds sufficiently to the appearance of the house to justify the expenditure. Any good outside paint will be satisfactory, but two coats should be given to insure that the wood be thoroughly covered.

Some successful swine raisers practice the spraying of their hog houses, both inside and outside, with creosote oil or other similar preservative liquid. These liquids not only preserve the wood, but also act as disinfectants; they help especially in the eradication of lice and mange. Creosote oil stains the wood black and sometimes makes it streaked, thus possibly making its use objectionable from the standpoint of appearance.

If you want to get started in pure-bred hogs cheaply, buy a pure-bred gilt due to farrow in the spring and a good pure-bred boar pig. You can use this boar on the sow and the sow pigs next fall and also the following year. By raising two litters a year you can have ten or twelve pure-bred sows and gilts ready to breed by the time you need a new boar. If you make good selections in the beginning you can probably sell a few boar pigs for enough to cover the cost of the first sow and boar. It is just as easy to raise the pure-breds as grades and if properly handled they are sure to be more profitable.

BILL OF MATERIAL AND ESTIMATE OF COST
THE IOWA GABLE ROOF HOUSE

1 piece 4"x4"x16' for runner, fir, 21⅓ board feet @ $55 per M	$ 1.17
4 pieces 2"x12"x12' for floor, No. 1 white or yellow pine, 96 board feet @ $30 per M	2.88
1 piece 2"x4"x8' for floor stiffeners, No. 1 white or yellow pine, 5⅓ board feet @ $28 per M	.15
3 pieces 2"x4"x8' for rafters, No. 1 white or yellow pine	
1 piece 2"x4"x8' for girt, No. 1 white or yellow pine	
1 piece 2"x4"x10' for ridge, No. 1 white or yellow pine	
2 pieces 2"x4"x10' for plates, No. 1 white or yellow pine	
*2 pieces 2"x4"x8' for studs, No. 1 white or yellow pine	
*2 pieces 2"x4"x10' for studs, No. 1 white or yellow pine	
2 pieces 2"x4"x8' for fender, No. 1 white or yellow pine	
1 piece 2"x4"x10' for fender, No. 1 white or yellow pine 82⅔ board feet @ $28 per M	2.32
1 piece 1"x4"x12' for brace, No. 1 white or yellow pine, 4 board feet @ $30 per M.	.12
3½ pieces 1"x10"x12', No. 1 white or yellow pine for ends	
*5 pieces 1"x10"x16' shiplap for ends and sides, No. 1 white or yellow pine	
1 piece 1"x8"x8' No. 1 white or yellow pine	
3 pieces 1"x10"x10' No. 1 white or yellow pine 114⅓ board feet @ $30 per M	3.44
11 pieces 1"x10"x8' shiplap for roof, white or yellow pine, 72⅔ board feet @ $30 per M.	2.21
3 pieces 1"x4"x16' for bottoms, 16 board feet @ $30 per M	.48
12 eyebolts @ 5c	.60
8 U bolts at 8c	.64
5 pairs 12" strap hinges @ 22c	1.10
1 pair 8" strap hinges @ 18c	.18
1 door pull	.10
1 wire for holding door open	.10
12.5 pounds nails @ 4c	.50
.60 gallon to paint double coat 150 sq. ft. @ $2.00 per gallon	1.20
Cost of material	$17.19
Labor 15 hours @ 25c	3.75
Total cost	$20.94

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

A LINCOLN County reader asks if it will hurt four-months-old pigs to run after cattle that are being fed heavily on cottonseed meal. The pigs are being fed some ground rye.

Cottonseed meal as now prepared cannot be safely fed to hogs. They seem to thrive at first, but in four to six weeks they begin to sicken and usually some will die unless a change is made at once in the feed. There seems to be little risk, however, in having pigs follow cattle eating cottonseed meal. Apparently it loses its poisonous principles in passing through the cattle. Care should be taken that the cattle do not throw any of the meal or cake out of the feed boxes where the pigs can get it. If this is watched there will be no danger in letting these pigs run after the cattle.

Packing Ice

P. W., Brown County, asks how to pack ice in an ice house.

In packing ice, the best practice is to place the cakes on edge without any packing material between them. They should be so cut as to make it possible to have the upper surface of each layer smooth. Pack them as closely together as possible. If sawdust is used for packing, there should be from twelve to fourteen inches packed between the ice and the walls of the house. Poles or rails can be laid on the floor a few inches apart and covered with a layer of sawdust five or six inches deep. When all the ice is in place the top should be covered with fourteen or fifteen inches of the sawdust.

Drainage should always be provided to carry off the water. It is not always possible to get sawdust for packing. Fine chaff can be used in its place.

West Kansas Corn Breeding

I. N. F., Rooks County, plans to take up corn breeding. He writes that he is very much interested in this line of work and would like to ask some questions through KANSAS FARMER. He is trying to settle on the most important features that he should consider in developing corn adapted to that part of the state. He says:

"I will mention a few of the points that have come to my mind and invite a thorough discussion of these points in KANSAS FARMER. It seems to me that for this part of the state earliness is important. Combined with earliness must be vigor, or the quality of making a strong growth in a short time. Other important features are those having to do with the prevention of inbreeding, avoiding the suckering habit, producing a type of ear that sheds rain and husks easily, height and thickness of stalk, desirable shape of kernel for accuracy in planting and vitality of the germ, and last but not least, high yields. Perhaps all of these cannot well be combined in the same strain or variety. It may be that an early and a medium or late strain would be best to grow. Can you suggest any other essential features that should be considered in breeding corn adapted to our Western Kansas conditions? Perhaps some of those suggested are not strictly essential and might stand in the way of developing more valuable qualities. Can a favorable environment be counted on to develop good qualities which will become permanent and be transmitted?"

We believe there are many characters that have been found valuable in developing corn in the more humid sections that must be modified in developing corn adapted to Western Kansas conditions. Farmers of the corn belt have been urged to select seed ears rough in type with covered tips, well rounded butts, and deep uniform kernels. Many of the characters are desirable but we believe the relative importance of some of them to yield has not been definitely worked out.

Some work along this line has been done during the past few years by C. C. Cunningham of the Kansas Experiment Station. The relation of different characters to yield has been the primary consideration in these tests. Such characters as length and circumference of ear, rounding out of butts, number of rows, and surface indentation, have been considered. In addressing the American Society of Agronomy, Mr. Cunningham stated that the work had progressed far enough to indicate that some characters that have been emphasized actually tend to decrease yields. Under Western Kansas conditions comparatively smooth types of corn will produce better than the roughly indented types. Deep-kernel varieties do not produce as well on thin, upland soils as do varieties having shallower kernels. Where moisture is the limiting factor, varieties having smooth, shallow kernels invariably produce the best yields.

Characters that have developed under favorable environments cannot be expected to be permanent when the corn is taken to an entirely different environment. It is for this reason that seed corn breeding must be taken up in different sections. It is not possible to breed in Eastern Kansas types of corn that will be satisfactory in the western part of the state. There are real opportunities for those who will make a specialty of developing adapted types of corn. Those interested in this work should write to the experiment station for a copy of the circular telling of the relation of ear characters of corn to yield.

We trust those of our readers who are interested in corn breeding will write us their experiences along the lines of the suggestions offered by our Rooks County correspondent.

Cement Water Tank

P. L. F., a Russell County reader, plans to build a water storage tank which he will use to irrigate his garden in dry weather, supply water to the house and to the drinking tanks for live stock. He asks if it would be advisable to use a silo form about ten feet in diameter and build a cement tank fifteen feet high, and whether such a tank would freeze enough in winter to bother.

It is practical to build a supply tank of concrete. A tank ten feet in diameter and fifteen feet high will hold, when full, 475 barrels of water. In a large supply tank where the water is continually being agitated, there is not much danger from freezing. The tank should have a roof on it if it is to be used to supply water to the house, and this will help to keep it from freezing.

In building a concrete storage tank it is important that it have a solid foundation, be properly reinforced, and be made of a rich enough concrete to be water-tight. It is generally advised that the wall of a storage tank fifteen feet high should be twelve inches thick at the bottom, narrowing to eight inches at a height of ten feet and to four inches for the top five feet Water is considerably heavier than silage and exerts more pressure. There must be enough reinforcing material in the wall to withstand water pressure.

For reinforcing a tank ten feet in diameter and fifteen feet high, one-half-inch rods should be placed in the wall every six inches at the bottom, gradually increasing the distance between them as the wall goes up. At a height of ten feet one rod every fifteen inches is enough. It is a good plan to change to quarter-inch rods toward the top. Four quarter-inch rods have the same tensile strength as one half-inch rod. If the change is made at a height of ten feet, place quarter-inch rods about every five inches apart, gradually increasing the distance between them an inch at a time. In placing the rods in the concrete the ends should lap two feet in making splices. They should be laid toward the outside of the wall. Some vertical reinforcement is also necessary. Half-inch rods can be used for this, placing them two and one-half feet apart. The rods going around the tank can be wired to the vertical rods to hold them in place while the concrete is being placed in the form.

For a water tank the concrete mixture should consist of one part cement, two parts clean sand, and three parts gravel or broken rock, the pieces of rock being not more than three-quarters inch across. The concrete should be carefully mixed and made wet enough to settle solidly in the forms, but should not contain an excess of water. A thin paddle or spade should be used next to the form so as to insure a smooth wall having no pockets or open spaces.

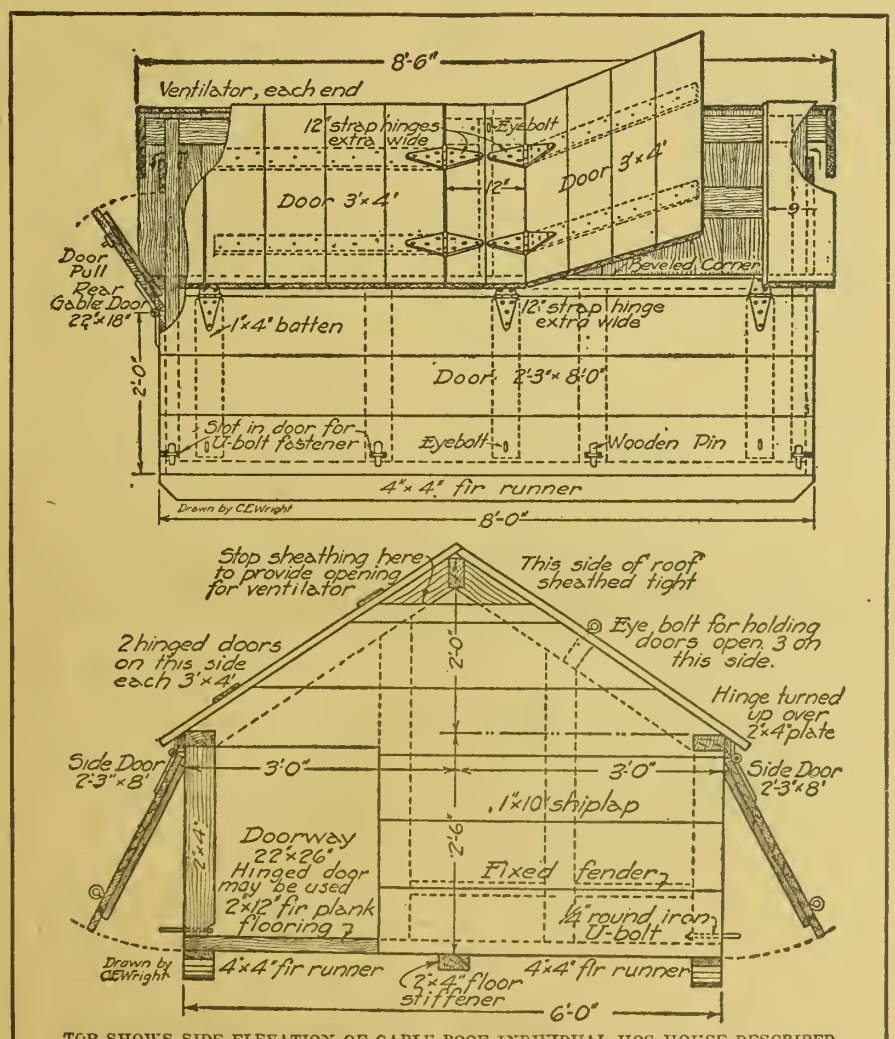
Special care must be taken in putting fresh concrete on top of concrete that has fully set. The top of the old work must be perfectly clean and should be slushed out with water after the forms are set for the next fill. Clear cement should then be sprinkled over the top of the wall before the new concrete is shoveled in.

The foundation must be below frost and rest on solid ground. The footing under the wall should be two feet wide and twelve inches thick, and a four-inch floor should be made at the same time the footing is put in, if possible. This should also rest on solid ground.

In building a water storage tank, it is a good plan to put it on an elevation if possible. This gives increased pressure and sometimes where there is a hill close at hand the tank can be made entirely under ground. This is an ideal way for making such storage tank. It can be more cheaply built than one that must be elevated above ground, and the water is kept cooler in summer and will not freeze in winter.

The inlet and other needed pipes must be put in when the concrete is placed.

The large cement companies furnish pamphlets that are very helpful in doing concrete work. The local dealer in cement will be able to tell you where to write to get such pamphlets.



TOP SHOWS SIDE ELEVATION OF GABLE-ROOF INDIVIDUAL HOG HOUSE DESCRIBED ON OPPOSITE PAGE.—BOTTOM SHOWS END ELEVATION.—NOTE LOCATION OF ENTRANCE DOOR AND SIDE DOORS FOR SUMMER USE

Feeding Hogs for Profit

William Littlefield, of Pottawatomie County, writes us of his experiences in feeding hogs on high-priced feed. Hogs cannot be profitably fed when feeds are as high as they are now without feeding so as to get the largest amount of gain possible from the feeds used.

In a recent issue of KANSAS FARMER a letter from Mr. Roush, of South Dakota, was published, and some suggestions were offered relative to feeding his hogs so as to be reasonably sure of making some profit. Mr. Littlefield writes especially in view of the problems of our North Dakota reader, but what he has to say is also of value to all feeders of hogs.

He advises feeding a carload if possible, even though it may be necessary to buy a few extra stock hogs to make out a full load. Mr. Roush proposed the plan of feeding his hogs thirty head at a time, but Mr. Littlefield says it takes almost as much labor to feed thirty head as to feed a carload. His letter is as follows:

"When you have your carload ready for feeding, give them all the corn they will clean up morning and night. At noon feed about a half sack of shorts and a little more than a third of a sack of tankage or meat meal to the bunch. This will make two barrels of very rich slop. Keep a supply of the best and finest alfalfa hay before them all the time. It will pay to buy some fine quality fourth-cutting hay if you do not have any. You must supply them good fresh water and keep ashes, salt, and coal slack before them. Above all things provide good sleeping quarters. Other farm animals require exercise, but hogs in the fattening pen do best when they can eat their feed and then go and lie down in a dry, comfortable, sanitary shed.

"You can expect to make at least ten pounds of pork to each bushel of corn fed if you will feed as suggested and almost live with your hogs. In about fifty or sixty days you will have them ready for market. Ship them to your best market and go with them. You can get a pass, so you will not have to pay railroad fare.

"I am feeding my third carload this fall and winter. I have 150 head on feed at the present time and expect to make a profit of $1,200 on my feeding for the winter. You need not be afraid to feed 75 or 80-cent corn to 10-cent hogs if you will make a careful study of the best methods of feeding and handling hogs in the fattening pen."

"If you want to get rid of your cull steers to the best advantage, feed them out late in the winter so as to put them on the market early in May," says H. B. Oberholser, a Morris County, Kansas, feeder. "At this date cheap steers bring a relatively high price. Packers are then trying to get away from high-priced, choice quality, corn-fed steers and substitutes are scarce. A little later in the season there are plenty of grass cattle to meet the need of cheap beef. A little earlier there are more cows and heifers"

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This preparation contains the tonics, laxatives and blood purifiers which your stock needs now to overcome the bad effects caused by winter confinement, dry feed, etc. It will expel troublesome worms, too, and quickly put your stock in the best of condition. Test it at our risk. Our Guarantee protects you.

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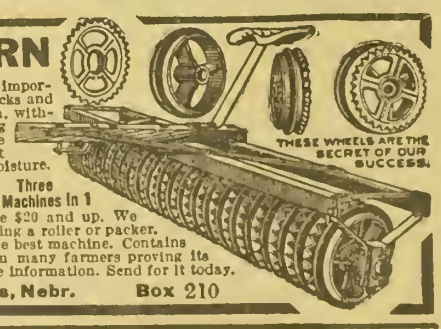

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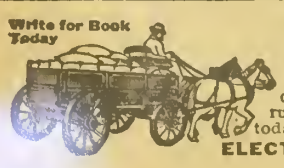

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YOU cannot weigh all the fodder, hay, and rough feed your cow eats, but the records are incomplete unless estimates are made of the amounts. An estimate is not merely a guess. It is possible to weigh once in every week or so, the hay or fodder your cow actually eats in one day. You can then estimate how much she is eating in the month. The amount should be put down in the record daily, the same as you put down the grain fed.

Some are simply making a statement on the feed record that the cow ate roughage during the month worth a dollar or a dollar and a half. This gives no idea as to what kind of roughage eaten or the amount. The feed, both grain and roughage, is being figured in the records at the uniform prices given in the feed schedule which you have. We are doing this work after receiving your records at our office. These prices may not correspond with what you are paying for feed or what your feed might sell for on the market, but to be fair to all the same feed prices are being used on all records. You will see from this how necessary it is that you put down on your feed record the amounts of hay, fodder, and silage your cow eats each day. We still want you to list on your feed records the price you pay for purchased feeds.

In making up your feed records be sure that all the feed the cow eats is shown on the record in pounds.

If your cow eats hay or fodder in a lot with other cattle and you cannot find a way to make an estimate, you will have to allow her the amount of feed usually eaten by a cow in a day. For example, if your cow is fed hay as the only roughage she will eat about two pounds daily to every pound of her weight, or a 1,000-pound cow will eat twenty pounds of hay in a day. If you are feeding her thirty pounds of silage daily, the 1,000-pound cow will eat in addition about ten pounds of hay daily.

When corn fodder or other rough feed of this kind is fed, the cow will not eat it all. You might give her an armful weighing thirty pounds and she would not eat over half of it. She should be charged on the record, however, with all you give her, for the prices on rough feeds of this kind are low in order to make allowance for the fact that they are poor in feeding value and will not be eaten clean.

Some of you who are feeding roughage that the cows like very much and which has high feeding value, such as good alfalfa hay, will find that they will eat more than the average allowance of hay mentioned above. There are also some differences in cows, one seeming to have a greater capacity for rough feed than another.

Every member of the club is interested in having the records as nearly correct as possible. It would not be fair to the other members of the club for you to make a low guess on the amount of rough feed your cow eats, any more than for some of them to underestimate their feed. We cannot complete your records here in the office unless you fill in the roughage on the feed sheet as directed. We want you all to make these estimates of hay, fodder, silage, or whatever rough feed your cow is eating and put the amounts down on the blank. If you fail to do this we will have to charge your cow with about the amount of rough feed we know a cow will eat on an average and complete your record in that way. Of course, your grade on keeping your records will suffer as a consequence.

If you have been sending in your records complete with the amounts of all the different kinds of feed in, this article is not for you. It is for those who have not been doing this.

Here's a Good Record

In answer to your letter I wish to say that I have found the sheets in question. I am mailing them to you as asked.

Girlie is about dry now and will not freshen until in January. She will pay for her feed this month I think, though I milk her only once a day now. I am not feeding any grain now, but am feeding alfalfa and cowpea hay night and morning, also some corn fodder.

I have paid about $60 on Girlie now and by April hope to have quite a bit over what I paid for her.—RALPH S. EDWARDS, Leavenworth County.

Alfalfa Clover Oats Get our prices on hardy western field seeds of all kinds. Kherson Oats, rust proof, ripen earlier, make stiffer straw. Yielded 65 bushels to acre and only oats that did well in West last season. Also Potatoes; Garden and Flower Seeds, Trees, etc. Apple Trees 7c. Seed and Nursery Book mailed free.
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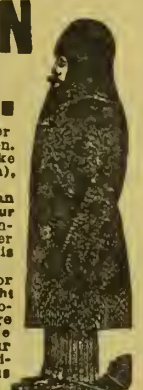

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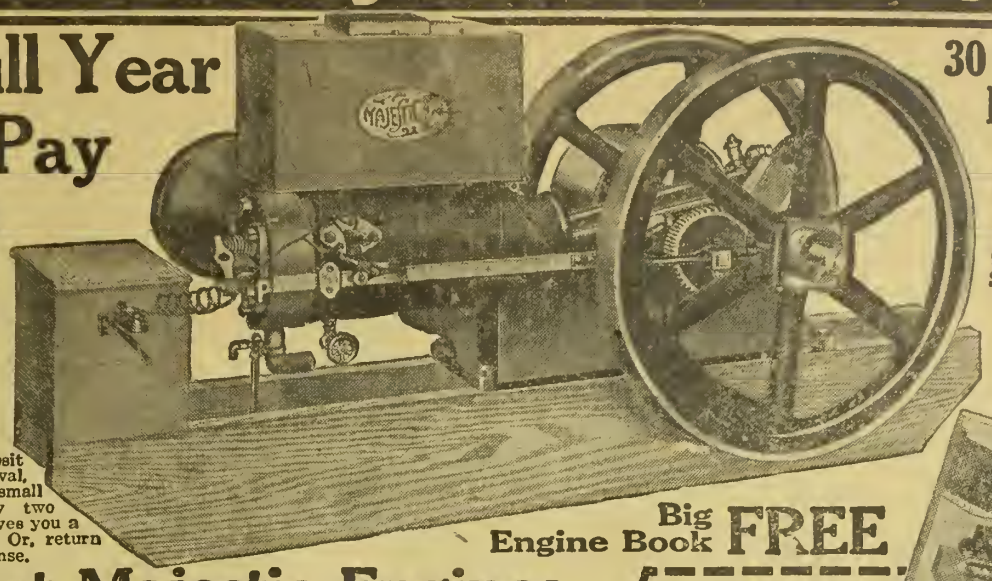

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Economic Status of Milking Machine

IN A recent bulleting of the Federal Department of Agrieulture are given the results of some extended investigations on the labor requirements of dairy farms as influenced by the use of milking machines.

It is stated that the use of the mechanical milker directly affeets farm organization through its bearing upon the amount and distribution of labor required by the farms. In general farming labor efficieney is secured by the production of crops in combination with such other farm enterprises as will provide a nearly uniform amount of work throughout the year. There is no eonstant determining faetor as to labor requirements. On the farm which reeeives the major part of its income from dairy products, however, the dairy alone is generally the determining factor. Any marked saving of labor effeeted on sueh a farm must be made in the production or handling of milk, henee the significanee of the milking maehine as a factor in the organization of the dairy farm.

The data upon which this bulletin is based were seeured from 109 New York dairy farms, 56 of which were using mechanical milkers, and from 160 dairy farms in Ohio, Miehigan, and Illinois, of which 100 were using milking maehines. On the New York farms dairying eonstituted 90 per eent or more of the total farm business. The farms studied in Ohio, Miehigan, and Illinois devoted considerable time to general farming as well as to dairying.

The prineipal faets brought out are summarized as follows:

The time saved by the use of the mechanical milker inereases with increase in the size of the herd.

With herds of fifteen cows or less the average time required to milk a eow by hand is a fraetion over seven minutes; by machine a fraetion under five minutes.

With herds of over fifty eows it takes slightly under seven minutes to milk a cow by hand and but 4.15 minutes by machine.

With herds of over fifty cows one man with a machine milks on the average about twenty-eight eows per milking as against seventeen where the milking is done by hand.

With increase in the size of the herd the cost per cow of hand milking changes very little, while the cost per eow of machine milking deereases rapidly.

With herds of fifteen eows or less the average cost of milking per eow by hand is $10.91 per year as against $10.45 in herds of fifty or more.

With herds of fifteen eows or less the average cost of milking per cow by machine is $11.77 per year as against $7.34 for herds of fifty or over.

Although with the average small herd of fifteen eows or less it eosts more per cow to milk by machine than by hand, it does not follow that the machine is neeessarily an unprofitable investment on all farms on whieh sueh small herds are kept. On thirty-two farms having herds of fifteen cows or less the use of the meehaniеal milker was found to effeet an annual saving in hired labor of $2.63 per eow through the dropping of hands who had been kept primarily to do the milking.

Causes of Bitter Milk

Bitterness in cream and milk is a frequent trouble during winter months. If milk is bitter when it is drawn, the trouble is with the eow or her feed. Very often eows give bitter milk toward the close of their laetation period. The old dry weeds of winter pasture also give rise to a bitter flavor in milk. The remedy in this ease is to keep the eow from sueh pastures.

However, if the bitterness develops after the milk is drawn, which is most often the case in winter, it is due to the growth in it of a eertain variety of baeteria. These baeteria get into the milk usually from pieces of dirt or manure from the barn. At low temperatures they will develop a bitter flavor before the milk or eream sours. When the dairy is onee infested with sueh baeteria they may remain in the separator, pails, strainers or eooling tank for a long time. To prevent bitterness due to this eause, these baeteria must be eliminated. This means that all utensils, separator parts, strainers and cooling tank must be thoroughly washed and sealded. All dirt should be kept out of the pail at milking time by keeping the ean clean and using a pail with a small opening.

While making sueh a clean-up the trouble might be prevented by adding some sour milk to the eream as soon as separated and keeping it in a warm plaee until the batch is sour. Then it can be eooled and kept till churning time. Sour cream seldom turns bitter unless kept several days.—Press Bulletin, Missouri Agricultural College.

During the dry period the eow should be given a good ration so that she will be in good flesh when she freshens. This will improve the quality as well as the quantity of the milk. Just before freshening the grain ration should not be too heavy and should eontain plenty of bran. The bowels should be kept well regulated. If neeessary, one to one and one-half pounds of epsom salts may be used as a dreneh. The eow should have a period of rest of four to six weeks in order to give the best supply of milk during the period of laetation.

Farmers will find flaxseed the most profitable crop. More money in it than wheat. Booklet from Fredonia Linseed Oil Works, Fredonia, Kan.—(Adv.)



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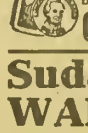

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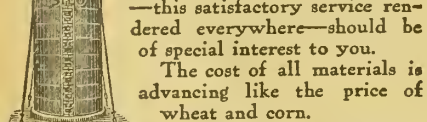

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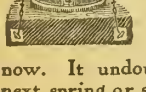

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WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER



PAINT AND CLIMATE

THE use of paint is of considerable value in protecting wood from the weather. A good deal of paint can be profitably used on the farm, not only as a means of making buildings more attractive but to make them last longer.

Paints differ greatly and it is important that the kinds used be of good quality and adapted to the special purposes for which they are designed. Cold weather, contrary to general opinion, has less effect on paint than hot weather, according to the results obtained from experiments during the last year by Prof. H. H. King, of the Kansas Experiment Station. The tests that have been made are for the purpose of ascertaining what kinds of paint pigments and mixtures of these pigments together with the various drying oils are best suited to the Kansas climate.

A test fence running east and west was built a year ago. On each side were placed 65 panels of selected wood painted with 65 different kinds of white paint. A panel of each kind of paint was placed on each side so that the effects of the two exposures might be compared. The paints were all made of white pigments ground in oils, but varied as to the proportions and kinds of white lead, zinc oxide, inert pigments, and fillers.

The panels exposed to the hot sun were found to have undergone a greater degree of deterioration than those which had been exposed to the wind, sleet, and snow on the north side.

Another such fence running north and south has 60 panels on each side, those facing east being tinted yellow and those on the west gray. Corresponding panels on this fence differ only in the coloring matter used. The gray panels show the most pronounced signs of weathering. This difference, however, is not attributed to the difference in tint but to the effect of the strong sunshine to which the gray is subjected. The sun, baking the board, causes the resin to come to the surface, pushing off the paint film.

On some panels a chalking tendency shows a softened surface. The paints mixed with the inert substances show this tendency less decidedly, for they are not so susceptible to the action of the air.

The oil tests, after one year of exposure, show no material difference in the paints containing drying oils not commonly used in paints. Sunflower oil, menhaden fish oil, cottonseed oil, and corn oil were used, being mixed in varying proportions.

A committee composed of H. A. Gardner, director of the scientific section of the American Paint Manufacturers' Association; W. H. Hendricks, general sales engineer of the New Jersey Zinc Company; Dr. J. A. Schaeffer, head chemist for the Picher Lead Company; and Professor King, have examined these fences and the results of their observations are to be published in a bulletin now in preparation.

Poor results in painting are more often the fault of the painter than of the paints. Either the lumber does not possess the proper surface, or the painter is unfamiliar with the best methods. Resinous, sappy, or green wood is unfit for paint. When heated, the resin "fries out" and the sap evaporates, taking off the film of paint. Warping wood sometimes causes splitting and peeling of the paint.

The most important point in the application of paint is the priming coat. This coat should have the most care because it is the bond between the wood surface and the subsequent coats. The paint should be thinned with turpentine to make it penetrate the wood and carry the oil into the pores. If the priming coat is not well applied the utmost skill will make no difference in the staying qualities of the following coats.

Interstate Live Stock Meeting

A convention of farmers and stockmen will be held in Arkansas City, Kansas, January 23. It is the annual meeting of the Interstate Association of Farmers and Stock Raisers of Kansas and Oklahoma. The program is largely along the line of how to prevent and control live stock diseases.

J. H. Mercer, Kansas Live Stock Sanitary Commissioner, will speak upon "Sanitation on the Farm." Hon. F. M. Gault, president of the Oklahoma State Board of Agriculture, has accepted an invitation to speak on the program and will give a talk upon "The Disease Influence Upon the Live Stock Industry." Dr. F. S. Schoenleber, State Veterinarian of Kansas, will tell of "The New Serum Treatment for Blackleg. Dr. L. L. Lewis, State Veterinarian of Oklahoma, will make an address upon "Efficient Live Stock Quarantine."

John Fields is one of the speakers well known for his consistent efforts for safe live stock farming. He will speak upon "The Need of Publicity in Prevention and Control of Live Stock Diseases." E. G. Barnard, of the Department of Agricultural Development of the Frisco Railroad, will talk upon "Sanitation in Shipping." Dr. B. W. Murphy of the U. S. Bureau of Animal Industry will discuss "Combating and Preventing Hog Cholera." Other speakers will also address the meeting on hog cholera, tuberculosis, and other diseases affecting live stock in general.

Great pains have been taken to prepare a good program. The men behind the convention are pushing it with the hope that every farmer and stock raiser within several hundred miles of Arkansas City, Kansas, will arrange to be there on January 23. Further information will gladly be furnished by G. Homer Brown, Secretary, Arkansas City, Kansas.

A Farmer with a Vision

W. H. Niemeir went out to Western Kansas a few years ago with a small amount of money, enough to buy a quarter of cheap prairie land, build a small house and get a few cows. In Central Kansas where land is around $100 an acre he would have been considered a poor man, because he didn't have money enough to buy a fair-sized wheat field in that section, to say nothing of improvements.

Niemeir is a student. As he went along he took notice of every phenomenon of Nature. For instance, one spring he ran his drill east and west over a wheat field which was threatening to blow away, and the dirt stopped flying. Not long ago he discovered that broom corn stalks make excellent silage.

There was never a farmers' institute that he did not attend. One bitterly cold January day he drove about fifteen miles to the county seat to attend an institute when the total attendance was not over a dozen. He was always ready to listen and learn. He never poked fun at "book farming." He is sending his children to public school and his oldest boy attends the short courses at Manhattan.

To make a long story short, he is now worth close to $50,000. He has immense barns, big cement silos, an excellent house and other improvements. He has a big herd of cattle and his farm is a model of thrift, a big money-making plant.

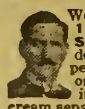
Does the story end here? By no means. The best part is to come. Money-making is not the chief end of man, and Niemeir knows this. He once spent a half day at the county seat looking over pianos. He has installed a modern heating plant. Just last week he came to Wichita to investigate an electric farm lighting and power system. His home is a model of comfort.

Mr. Niemeir knows that the best investment is in citizenship and he is going to make good citizens of his children—men and women who will stay on the farm and bring to it the best there is in life, from schools, colleges, churches, and every other source of refining influence. He does not preach to his neighbors. Perhaps it never occurs to him that he is fulfilling a mission. But he is a first class missionary.—Wichita Eagle.

Sheep and Dogs

One session of the Sheep and Wool conference held in Philadelphia last

PERFECTION



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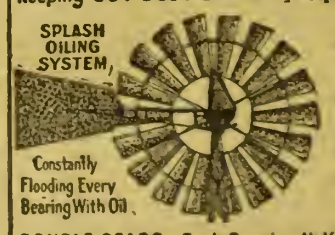

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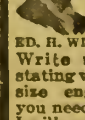

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November was devoted to hearing suggestions from bankers, a discussion of dogs and dog laws, and to questions of marketing. L. T. McFadden, president of the Pennsylvania Bankers' Association, said that any movement to be effective must be directed towards encouraging the farmer by putting the sheep industry on a profitable, business basis. Promoters of the industry must not cause the farmer to think they were handing him something, and he must be convinced that there will be a stable market.

Mr. Conahan, a manufactnrer and sheep raiser of Ohio, said: "I have 600 ewes and am always wondering when I will have the next dog raid. I have asked hundreds of farmers why they do not raise sheep and the invariable answer is, 'Because of dogs.' Up to the present there has been no law passed that really protected sheep and never will be until one is enacted which requires all dogs to be muzzled, or confined, all the time."

Mr. Bayard, of Pittsburgh, who is a member of a committee selected to study and propose dog laws, said that the dog laws of Pennsylvania are a conglomeration of laws and amendments, many inconsistent with others, and it is proposed to codify these and add the following: (a) a minimum tax, (b) a kennel license, and (c) require all dogs confined between sunset and sunrise.

Mr. Munce, of Washington County, Pennsylvania, said that they had found a rigid enforcement of the present law brought good results. Such enforcement had resulted in the killing of 3,500 dogs last year in that county.

Mr. Hopper, of the extension department of Cornell, New York, in giving some results of co-operation in Otsego County, said that after the farmers had pooled their interests and offered their wool to competitive buyers they received 33 cents per pound, whereas 26 and 27 cents was the best they could obtain before co-operating. Such concrete examples makes co-operative projects attractive and has stimulated the sheep industry in that county.

Curing Meats on the Farm

In curing pork on the farm, be sure that the hog has been properly slaughtered and then chilled without freezing for at least twenty-four hours. Hams, shoulders and sides make the best smoked meat and should be trimmed of all three-cornered pieces and ragged edges. These small scraps make good sausage but poor ham. Rub the meat well with salt and leave over night. Pack in a clean hardwood barrel with heavier hams on the bottom, the shoulders next and the bacon on top. Good brine can be made from 10 pounds of salt, 2 pounds of sugar or molasses and 4 gallons of water to 100 pounds of meat. It is a good precaution to boil and skim the mixture. Saltpeter may be added to preserve the natural color of the meat but is harmful to the health even if used in small quantities. Brine does not easily freeze but meat cures more rapidly if it does not become too cold. The bacon will cure in from twenty-two to thirty days, while the heavier hams need from forty to sixty days. Freshen cured meat in lukewarm water for six hours. Dry and smoke with hardwood or corncobs for four to seven days. It is safer to let the fire go out at night. Well smoked meat keeps best in a cool, dark, dry, well-ventilated place.

Exercise for Ewes

The more exercise the ewe gets, the healthier and stronger the lambs are likely to be. The ewes will also deliver their lambs more easily. Some men advocate hauling the roughage for the ewes to the field and spreading it about in small bunches. The ewes will then obtain exercise by running about from place to place. On wet, rainy or stormy days, they should be left in the barn, but whenever the weather is at all favorable the ewes should be out of doors for exercise.

One should not allow the fleeces of the sheep to get soaking wet in the winter time. The sunshine is not warm enough during this season of the year to dry them out again. Sheep with wet coats are likely to contract colds or pneumonia.

Plan Spraying Schedule

A spraying schedule good for all time is an impossibility, because what is considered good practice today may be obsolete tomorrow.

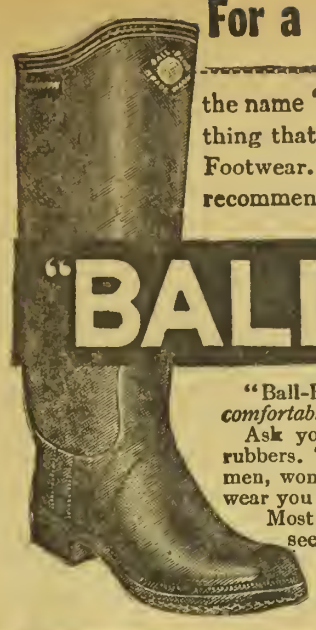
Steady progress is being made in spraying, the same as in other lines of agriculture, but a spray schedule cannot be made that will fit all localities equally well. Each grower must take the general schedule and change it to fit his locality, the variety of fruit he is growing, and the conditions with which he has to deal.

As is well known, the scab is a northern disease and the grower in Northern Kansas would not use the same schedule as the man in Southern Kansas who does not encounter apple scab.

Apple blotch, being a southern disease, has been serious in Southern Kansas. The same spray schedule used in Southern Kansas for blotch would not fit other sections of the state where blotch is not so serious. Most of the plant diseases for which the grower must spray are to be found worse on some varieties than on others.—GEORGE O. GREENE, Horticulturist, Extension Division, K. S. A. C.

Generous feeding of young colts is required to produce heavy draft horses.

Farmers will find flaxseed the most profitable crop. More money in it than wheat. Booklet from Fredonia Linseed Oil Works, Fredonia, Kan.—(Adv.)



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I have been here since 1901, my former home being in Knox County, Illinois, and have gotten along fairly well. I had no capital at the start, just a few cattle and horses.

Have grown some wheat, milo and kafir, barley, oats and other feeds. Have raised some cattle, a few hogs, some horses and mules, and I have made something from year to year. My highest yield of wheat was 38 bushels to the acre and some years less. My average on wheat is fully 15 bushels per acre. My oats made me 85 bushels one year. My barley runs around 30 to 35 bushels and barley is fine for all live stock.

As I made a little money from year to year I bought a little more land and I now own 5,440 acres. I have a good home, good barn that cost me $3,000, granary that holds 15,000 bushels of grain, a full farming outfit, and have other things necessary to carry on farming like it should be.

I have about 50 horses, 150 head of cattle and 100 hogs.

Every man with some get-up has made money in this country. My property has all come from what I made from the land, growing crops, raising cattle, horses, mules and hogs. Maybe I am worth $100,000, land and all; and some people think the few horses and cattle I had back in 1901 and my little farming has made me rich. But I am not doing any better than any one can do if he will work.

L. L. Medlim,
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The best prairie land will be sold at about $20 an acre on eight years' time to bona fide settlers; small payment down.

Wheat, cattle and hogs are big money-makers here.

You are favored by climate, mild winters, rich soil and rainfall that mostly comes during crop-growing season.

No guesswork about what the land will do: you have the experience of others who have pioneered before you.

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Write me for book of views and statements of farmers now there. —I will put you in touch with owners of these lands.

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Awards to Young Gardeners

Year's Results Show Plans and Effort Count in Making Soil Produce—By Mary M. Baird

THE prizes in the annual Kansas Square-Rod Garden contest have been awarded. This is one of the many agricultural club contests carried on each year by Otis E. Hall, director of junior extension of the Kansas Agricultural College and co-operating with the United States Department of Agriculture.

In the garden club work any vegetable that can be used on the home table or sold on the market may be grown, although contestants are urged to use good judgment in the selection of seeds and varieties. They are also encouraged to keep every foot of space producing something from early spring until late fall.

Careful records are kept of all vegetables used at home or sold and the market price at that time noted. Where there are no good markets near and in homes where the families are large, home consumption is recommended.

The points on which prizes are awarded are the length of time products are available, the variety of vegetables, the total value of vegetables grown, the profits and the record and story, each of equal value.

It is a significant fact that the first and second prizes were taken by girls and the first prize in the same contest was won last year by a girl in Jewell County.

Elsie Gordanier of Otego, Jewell County, won the first prize this year. Her lead over her competitors was due to the high value of products grown on her plot—this value being $23.83—and to the net profit, which was $22.35. At this rate, the profit on one acre would amount to $3,576.

Ruth Bray, winner of the second honors, lives in Manhattan, Riley County, and ranked first in every item considered by the judges, save value of products. She received a perfect grade on records and story, with perhaps the best set of papers ever sent in by a member of this club. She also received full grades for variety of products grown and length of time they were available for use, missing first prize only because her net profit was low compared with that of the first prize winner. Her story about her work follows:

"My garden was plowed March 17, by one of our neighbors. Before it was plowed it was carefully spread with fertilizer. Our whole garden is 50 by 60 feet. The plowing cost 75 cents. As there are 3,000 square feet in the whole garden, my share for plowing 270 square feet is 7 cents. Fertilizer for the whole garden cost $2.50, my share being 23 cents.

"Vegetables were first gathered from my garden on April 18, and the last ones were gathered October 19, making six months and one day that the products were available. The first products were green onions and the last ones were beets, carrots, tomatoes and peppers, the latter being gathered on the evening of October 19, just before the heavy frost. There are still some of the carrots and peppers unused in our basement.

"Altogether I have raised fourteen different kinds of vegetables. I kept record of the time of planting, length of time after planting until ready for use, and the date of the last gathering.

"The onions required the least time for growing before they were ready for use and the peppers required the most time of all the vegetables which I raised.

"The tomatoes and peppers were first planted in a window box on March 14. The tomato plants were transplanted to the garden May 10, and the pepper plants on May 30.

"The total receipts for vegetables raised were $10.25. The expenses for fertilizer, plowing, seeds and labor were $3.22. My net profits were $7.03.

"There are 160 square rods in one acre. Since my profits on one square rod were $7.03, the profits for one acre would be $1124.80. I wish I could have had the profits on an entire acre.

"When my garden was planted, the top of a little ash tree was cut off and stuck into the ground to mark one of the rows. To my surprise, a little later leaves started to grow on this little cutting. The spring was quite wet and the little tree continued to live. I think roots must have formed because the little ash lived all through the hot, dry months of July and August and was still living when the first frost came this fall.

"I am glad I joined the Square Rod Garden Club. I have enjoyed the work very much and I have $7.03 to my credit."

Other winners in the Garden Club are: Third prize, Everet George Reed, Lyons, Rice County, whose profits were $12.70. He won second in the local contest. Fourth prize, Lavon Stewart, Newton, Harvey County, whose profits were $10.31 Fifth prize, Iva Conner, Ottawa, R. F. D., whose profits were $10.47.

Teeth Affect General Health

Out of 330,179 school children examined in the City of New York in 1914, 194,207, or 58.8 per cent, suffered from defective teeth. This exceeded the sum total of all the other defects noted by nearly 80,000. Defective teeth impair general health and impede school progress. Disorders of the digestive tract, tuberculosis and various other diseases frequently are preceded by diseased conditions in the mouth. There is a direct relationship between dental development and mental development, and it is absolutely essential to good work in schools that children's teeth be maintained in a healthy condition.—Public Health Service Bulletin.

It will save steps and time to have several dust cloths. Keep these in different parts of the house so that it will not be necessary to go up and down stairs when you are ready to use one.



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OVERLAND RED

A Romance of The Moonstone Canon Trail

CHAPTER XXIX
TOLL

Aunt Eleanor and Walter Stone were at the gate. Collie was helped to the house and immediately taken to the guest-room. He was much fatigued with the journey. The question in his eyes was answered by Aunt Eleanor. "Louise rode over to the north range today. She should be back now."

Winthrop scarce needed an introduction. He was Anne Marshall's brother. That was sufficient for the host and hostess. He was made welcome—as he was wherever he went. He had heard a great deal, from his sister, of the Stones, and their beautiful niece, Louise Lacharme. He was enthusiastic about the Moonstone Canon. He grew even more enthusiastic after meeting Louise.

She came riding her black pony Boyar down the afternoon hillside—a picture that he never forgot. Hey gray sombrero hung on the saddle-horn. Her gloves were tucked in her belt. She had loosened the neck of her blouse and rolled back her sleeves, at the spring above, to bathe her face and arms in the chill overflow. Her hair shone with a soft golden radiance that was ethereal in the flicker of afternoon sunlight through the live-oaks. From her golden head to the tip of her small riding-boot she was a harmony of vigor and grace, of exquisite coloring and infinite charm.

Her naturalness of manner, her direct simplicity, was almost, if not quite, her greatest attraction, and a quality which Winthrop fully appreciated.

"I have been quite curious about you, Mr. Winthrop," she said. "You are quite like Anne. I adore Anne. Shall we turn Boyar into the corral?"

If William Stanley Winthrop had had any idea of making an impression, he forgot it. The impression Louise was unconsciously making straightway absorbed his attention.

"Yes, indeed! Turn him into a corral—turn him into anything, Miss Lacharme. You have the magic. Make another admirer of him."

"Thank you, Mr. Winthrop. But Boyar could hardly be improved."

"You trained him, didn't you?" queried Winthrop.

Louise laughed. "Yes. But he was well-bred to begin with."

Winthrop ejaculated a mental "Ouch!" Simplicity did not necessarily mean stupidity.

"Do you enjoy mining—the real work—out there in the desert, Mr. Winthrop?"

"I could enjoy anything in company with Overland."

"Of course. Do you think people who have lots of money are apt to be cynical?" she asked.

"Not more so than people without money. But what splendid animals!" he exclaimed as they approached the corral.

"Uncle Walter and I are very fond of them," she said, turning Boyar into the inclosure.

"Do you know, Miss Lacharme, I like horses and dogs and cats, and I just revel in burros. But animals don't seem to like me. They're rather indifferent to me. I wonder if it is a matter of health, or magnetism, or something of that sort?"

"Oh, no! But it is difficult to explain. Even if you are very fond of animals it doesn't follow that they will like you. That seems rather cold, doesn't it? It's almost unfair."

"Yes, if one considers it seriously."

"Don't you?"

Winthrop gazed at her for a second before replying. "I see I must tell you the truth," he said lightly. "You compel it. It does hurt me to have anything or any one that I care for indifferent to me. Perhaps it's because I realize that I am giving affection and selfishly want 'value returned,' so to speak. Pardon me for becoming serious."

"Surely! But I thank you, too. See Boyar roll! He's happy. No, he doesn't roll because his back itches. You see, he's sweaty where the saddle covered him. Before he rolled, you noticed that he deliberately found a dusty spot. The dust dries the sweat and he doesn't take cold. That's the real explanation."

"I knew it couldn't be through happiness at leaving you," said Winthrop.

"If you are determined to keep it up," said Louise mischievously, "all right. But be careful, sir! I enjoy it. It's been dull—dreadfully dull since Anne and the doctor left. May I have your knife?"

A belated crimson Colombe rose nodded beneath the guest-room window. Louise cut the stem and pinned the flower in the lapel of Winthrop's white flannel coat. He gazed at her intent on her task.

"There!" she said, with a light touch of her supple fingers. "That will do." And slowly her eyes lifted to his.

The color flooded to his face. His eyes became momentarily brilliant. He drew a deep breath. "You told me to be careful. I shall be," he said, bowing slightly. "Please say something. Your silent attack was a little too—too successful."

"Truce?" she queried, laughing.

"Never!" replied Winthrop. "Even as our rather mutual and distinctly illustrious friend Overland says, 'Not till me wires are all down and me lights are out.'"

Collie, standing at the open French window just above them, drew back. Quite naturally, being a young man in love, he misinterpreted all that he had seen and heard. Louise had been away the day he was expected to return to the ranch. She had come back. She was seemingly satisfied with Winthrop's society. She was even more than satisfied; she was flirting with him. An unreasonable, bucolic jealousy, partly due to his condition, overcame Collie's usual serenity. His invalidism magnified the whole affair to absurd proportions.

Perhaps it was the intensity of his gaze that caused Louise to glance up. His expression startled her. His eyes were burning. His face was unnaturally white. He met her glance, but gave no sign of recognition—a rudeness that he regretted even while he manifested it.

Louise turned away proudly, calling Winthrop's attention to a huge garden-seat beneath the live oaks. "We have dinner out there quite often," she said, her eyes glowing. "Would you care to rest a while after your ride?"

"A jug of wine—a loaf of bread—" he quoted.

"But it isn't a wilderness. And dinner won't be ready for an hour yet. Don't you think a wilderness would have been utterly stupid with his 'thou' beside him singing everlastingly? Now please don't say, 'It would depend on the thou.'"

"Do you sing, Miss Lacharme?"

"A little."

"Please, then—a little. Then I'll answer your question."

"I had rather not, just now."

"My answer would be the same in either case. This is living, after the desert and its loneliness. I discovered one thing out there, however—myself. It was a surprise. My 'way'back ancestors must have been pirates."

"Mine—grew roses—in southern France."

"I am glad they eventually came to America," he said.

"Are you so fond of candy, Mr. Winthrop?"

"No."

"Neither am I."

"I'm glad they came, just the same. I simply can't help it."

"Overland — Mr. Summers — doesn't take life very seriously, does he?" asked Louise.

"Not as seriously as life has taken him, at odd times."

"You brought Collie in your car, didn't you?"

"Yes."

"He's much better?"

"Yes. But he's pretty shaky yet. He's a little queer, in fact. As we came up the canon he asked me to stop the car by the cliff, near this end—that place where the sunlight comes through a kind of notch in the west. I thought he was tired of the motion of the car, so we stopped and he lay back looking at the cliff. Pretty soon the sun shot a long ray past us and it fairly splattered gold on the canon wall. Then the shaft of sunlight went out. 'It will shine again,' he said, as if I didn't know that. Collie's a pretty sick man."

Later Winthrop and Louise joined the others at the veranda. Louise excused herself. She searched a long time before she found another rose. This time it was a Colombe bud, full, red, and beautiful. She stepped to Collie's window. "Boy!" she called softly.

White and trembling, he stood in the long window looking down at her. "I'm glad you are home again," she said.

He nodded, and glanced away.

"Boy!" she called again. "Catch." And she tossed the rose. He caught it and pressed it to his lips.

CHAPTER XXXI
NIGHT

Evening, placidly content with the warm silence, departed lingeringly. Belated insects still buzzed in the wayside foliage. A bee, overtaken in his busy pilfering by the obliterating dusk, hung on a nodding mountain flower, unfearful above the canon's emptiness. An occasional bird ventured a boldly questioning note that lingered unfinished in the silence of indecision. Across the road hopped a young rabbit, a little rounded shadow that melted into the blur of the sage. A cold white fire, spreading behind the purple-edged ranges, enriched their somber panoply with illusive enchantments, ever changing as the dim effulgence drifted from peak to peak. Shadows grew luminous and were gone. In their stead wooded valleys and wide canons unfolded to the magic of the moon. There was no world but night and imagination.

With many rustlings the quail huddled in the live oaks, complaining querulously until the darkness silenced them.

The warm, acrid fragrance of the hills was drawn intermittently across the cooler level of the shadowy road. A little owl, softly reiterating his cadences of rue, made loneliness as a thing tangible, a thing groping in the dusk with velvet hands.

Then came that hush of rest, that pauze of preparation, as though night hesitated to awaken her countless myrmidons. With the lisping of invisible leaves the Great Master's music-book unfolded. That low, orchestral "F"—the dominant note of all Nature's melodies—sounded in timorous unison—an experimental murmuring. Repeated in higher octaves, it swelled to shrill confidence, then a hundred, then myriad invisibles chanted to their beloved night or gossiped of the mystery of stars.

Then Night crept from the deep, cool canons to the starlit peaks and knelt with her sister hillfolk. Silence and Solitude; knelt, listening with bowed head to that ancient antiphony of thankfulness and praise; then rose and faced the western sea.

Boyar, the black pony, shook his head with a silvery jingling of rein-chains. His sleek flanks glistened in the moonlight. Louise curbed him gently with hand and voice as he stepped through the wide gateway of the ranch.

He paced lightly across the first shallow ford. Then the narrowing walls of the canon echoed his clean-cut steps—a patter of phantom hoof-beats following him, stride for stride. Down the long, ever-winding road they swung.

Louise, impelled to dreams by the languorous warm night and Boyar's easy stride up the steep, touched his neck with the rein and turned him into the Old Meadow Trail.

The tall, slender stems of the yucca and infrequent clumps of dwarfed cacti cast clear-edged shadows on the bare, moonlit ground. Boyar, sniffing, suddenly swung up and pivoted, his fore feet hanging over sheer black emptiness. Even before his fore feet touched the trail again, she heard the sibilant bur-r-ing of the cold, uncoiling thing as it slid down the blind shadows of the hillside.

"I shan't believe in omens," she murmured.

[To be Continued.]

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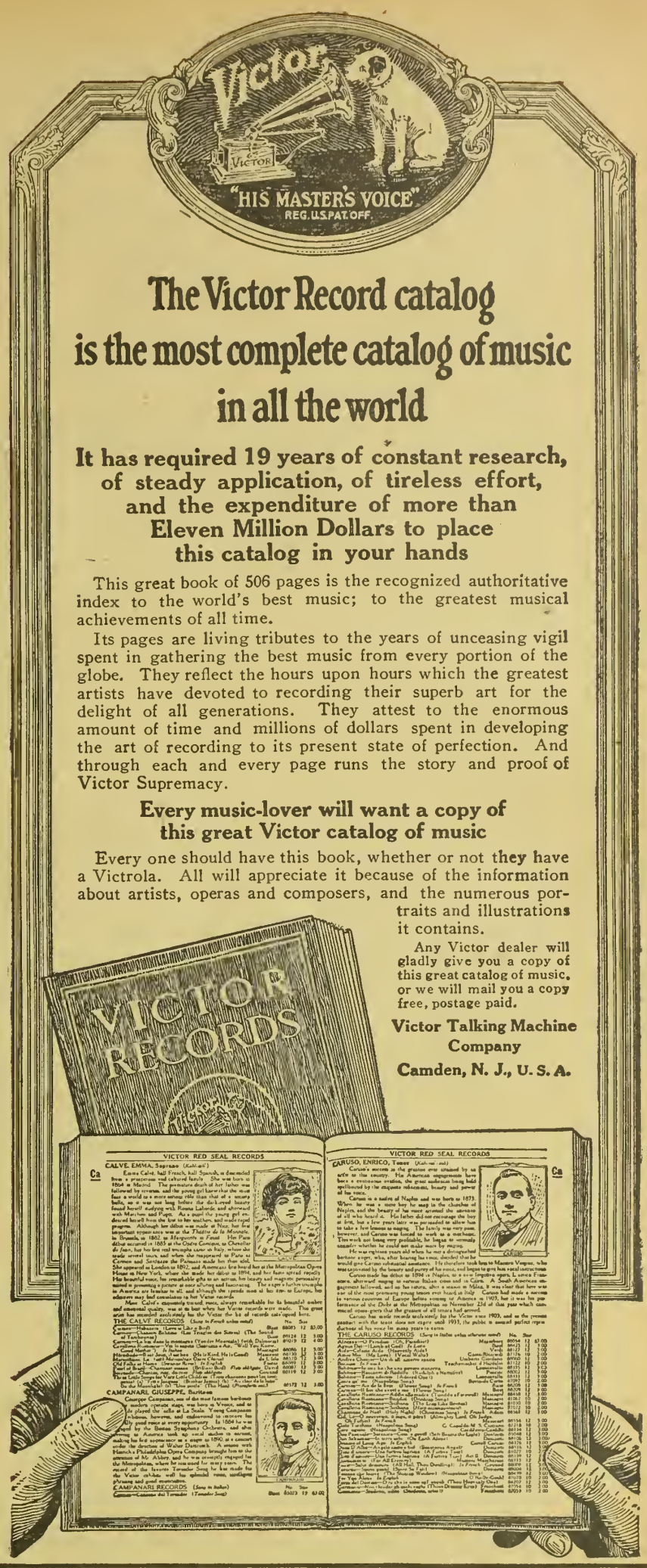

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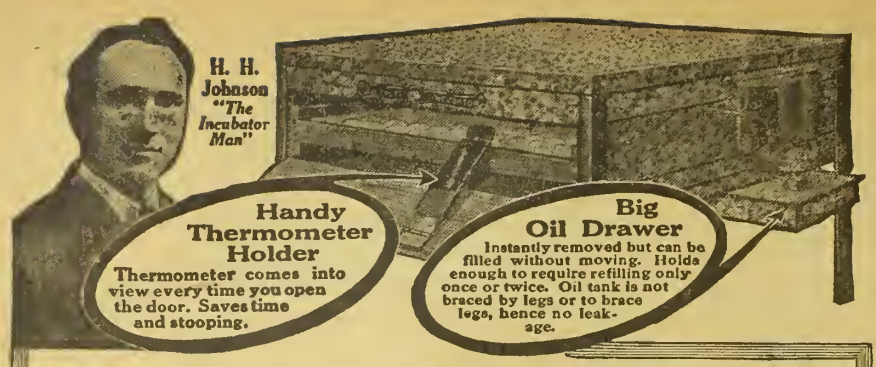

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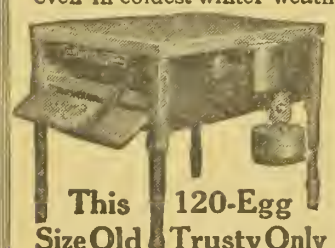

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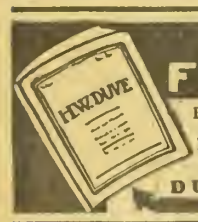

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POULTRY

TO SUCCESSFULLY winter poultry there are a number of points in their care that should be watched closely. Ross M. Sherwood, of the Kansas Agricultural College poultry department, mentions the following rules as those that should be given special attention during the winter season:

Watering pans should be emptied at night to prevent freezing.

A slight increase in egg production may be obtained by feeding the chickens a warm mash once daily, but care must be taken not to have the feed too hot.

Either keep the birds in the house all the time or let them have free range. Letting them out one week and then keeping them in one week is sure to cut down the egg yield.

Green feed stimulates digestion and gives egg yolks a richer color.

Poultry houses should be free from drafts and dampness.

Fresh air and sunshine are two of the best disinfectants.

Dropping boards should be cleaned at least once a week.

Litter on the floor should be removed as soon as it becomes damp.

For the best egg yields do not neglect the protein feeds such as buttermilk and meat scrap.

Silage is a cheap form of succulence or green feed.

In the summer when the hens lay well they have bugs, worms, grasshoppers and other insects. In the winter they need something to take the place of this kind of food. Cut fresh bone is very good. Half an ounce daily per hen supplies all she needs of this food. High grade beef scrap is good and is in a very convenient form for feeding.—Extension Department, Agricultural College.

Fresh air is very necessary in the poultry house. Without ventilation the poultry house is neither dry nor sanitary. Chickens in a damp house are more liable to colds and roup than in a dry house. One of the best ways to ventilate in winter is by having an opening covered with muslin. An opening on the south side 2 by 3 feet for each 8 or 10 feet of length of house. A good way is to put the muslin on a frame which can be on hinges so that it can be raised on warm days to allow more air to enter.

Hens need some green food in winter if they are to lay well. Mangels, carrots and cabbage are good. Hang them up so that the hens can just reach them nicely. Sprouted oats are also good. Alfalfa and clover leaves can be soaked up and fed to good advantage.

Caponize Surplus Cockerels

"Caponize the surplus cockerels by all means. Two years ago I held over about two dozen good pure-bred cockerels to sell for breeders. I tried to get a dollar and a half apiece for them, but my neighbors were only used to paying 50 cents to a dollar for a 'rooster,' so I found a poor market and lost money.

"Last year I kept just enough cockerels for my own use as breeders, caponizing the rest early in the summer. The capons brought me over $2 apiece last January. I figure a two dollar capon, which I can sell, better than a dollar and a half cockerel which I can't sell."

This is the answer given by a poultry breeder when asked if it paid to caponize. Is he right?

Avoid Winter Diseases

During the winter and early spring season there is entirely too much trouble in our poultry flocks from colds, roup, and similar respiratory diseases. These are largely a result of drafts in the houses. To prevent them, nail up any cracks in the back, sides and roof of the henhouse.

Do not crowd the poultry house. From two to five square feet of floor space per bird should be allowed. The exact ratio should depend upon the breed and the extent of the yarding. As a rule it will be found advisable to allow about four square feet for the lighter breeds, such as the Leghorns.

Keep about five or six inches of straw litter in the house. The grain may be fed in this. The hens will scratch for the grain and exercise will be insured. Clean nesting material should be placed in the nest boxes. There should be one nest box for every four hens.

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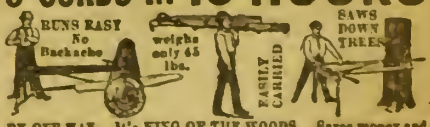

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TAKEN UP BY F. A. HEUSTIS, FARMER Township, Wabaunsee County, Kansas, one 4-year-old red steer with white face, scissor brand on right hip, valued at $50. November 13, 1916. L. B. Burt, County Clerk, Wabaunsee County, Alma, Kansas.

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COLLIE PUPS FROM GENUINE STOCK dogs that drive from the heel. Best of breeding. E. L. Dolan, Route 2, Platte City, Missouri.

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PURE ALFALFA HONEY, DELICIOUS flavor; two 60-pound cans, $12.75. Wesley Foster, Producer, Boulder, Colo.

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Reliable Poultry Breeders

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BIG BONED BARRED ROCK COCKERels, fancy breeding, $2 each. Bred to lay strain. C. D. Swaim, Geuda Springs, Kan.

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FOR SALE — SINGLE COMB MOTTLED Ancona cockerels, Sheppard strain, from sweepstakes winners; $1 up. Write me your wants. Frank Glenn, Newton, Kansas.

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BLACK LANGSHAN COCKERELS FROM blue ribbon and sweepstakes winners. Mrs. D. A. Swank, Blue Mound, Kansas.

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PEARL GUINEAS, $1 EACH. CLIFFORD Barrans, Lenox, Iowa.

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ROSE COMB RED COCKERELS, $1.50, $2.00. Mrs. Ella Stehle, Byron, Okla.

CHOICE ROSE COMB RHODE ISLAND Red cockerels. Mrs. C. H. Jordan, Wakarusa, Kansas.

COCKERELS, S. C. R. I. REDS, GOOD size, good color. Price $1.50. Mrs. Joseph Greene, Bernard, Iowa.

BIG FANCY AND UTILITY S. C. RED cockerels. Satisfaction guaranteed. Lela Osterfoss, Hedrick, Iowa.

FINE ROSE COMB RED COCKERELS, $2. Baby chicks, 10 cents. Order now. Lily Robb, Neal, Kansas.

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ROSE COMB REDS, NICE LARGE GOOD colored cockerels, $1.50 and $2 each; also few Bourbon Red toms, $3.50 each. J. M. Nielson, Marysville, Kansas.

BRED TO LAY S. C. REDS, CHOICE large, deep red, hen hatched, farm raised cockerels. Best I ever raised. Satisfaction guaranteed. $1.50 to $3.50. Belmont Farm, Topeka, Kansas.

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Registered Immune O. I. C. Chester White Bred Gilts. Service boars, $18 up; tried sow, prize winner, $35; weaned pigs, $8; unrelated pairs $15, while they last.

BIG FOUR STOCK FARM
Route 1 - Hickman Mills, Missouri

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Mahlon Groenmiller, Pomona, Kansas.
HOLSTEINS.
C. E. Bean, Garnett, Kansas.
DORSET-HORN SHEEP.
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J. B. Porter & Son, Mayetta, Kan.

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FARM AND HERD.

Catalogs are out for P. M. Anderson's Poland China bred sow sale to be held at Lathrop, Mo., February 1. This year Mr. Anderson has catalogued forty head, the tops of his big herd. This offering is either carrying the blood or bred to Mr. Anderson's great boar, Iowa King, first prize aged boar at the Missouri State Fair, 1915. He is a thousand-pound hog with great quality and one of the best breeders now in service. There will be sows in the offering bred to Anderson's Big Bone, a son of the grand champion Long Bone. Others are bred to Smooth Columbus 2d by Smooth Columbus.

E. E. Carver & Son, of Guilford, Mo., announce January 16 for their sale of Shorthorn cattle and Poland China hogs. On this date they will sell twenty-three head of cows and heifers. Several have calves at foot and are bred again to their pure Scotch herd bull. All the cattle and hogs are registered and are a useful lot of working stock. The cattle are from the best strains of milking Shorthorns and are the profitable kind for any farmer. The bred sows and gilts are the best in the herd and are all the big-type breeding, bred for early spring litters to the big herd boar, Alexis Again by Trusty King. This hog was the best boar sold in the T. E. Durbin 1915 fall sale and has proven a great sire of large even litters. Alexis Again is assisted by a splendid young boar, Mastodon Big Bone by Long Big Bone, and was bred by Clarence Dean, of Weston, Mo.; also C's Big Orange by Brown's Big Orange by A Wonder. His dam was King Lady and was the top sow in Fessenmeyer's 1913 spring sale.



Shorthorns and Polands

Tuesday, January 16, 1917

Evergreen Stock Farm, One Mile Northeast of Guilford, Mo.

TWENTY-THREE HEAD REGISTERED SHORTHORN COWS, HEIFERS AND YOUNG BULLS

All reds and roans. Some of the cows have calves at side and re-bred to our great Scotch bull, Prince of Quality.

TWENTY-FIVE BIG-TYPE POLAND CHINA BROOD SOWS

Bred to our great herd boar for spring litters. One or more young boars ready for service.

This stock is in fine thrifty condition and the best we have ever offered for sale.

Crates for Shipping Only

E. E. CARVER & SON, GUILFORD, MO.

P. M. ANDERSON'S
POLAND CHINA SALE
IOWA KING BRED SOW SALE
LATHROP, MO. FEB. 1, 1917

FORTY HEAD, as good as will be sold in Missouri, bred to or carrying the blood of the great Iowa King 67584. Sows sired by such noted boars as Iowa King, Smooth Columbus, Superior Jumbo, Master Orphan, King Jumbo, Long Wonder, Long Jumbo 2d and Long Wonder Boy and bred to four of the best boars I could mate them to—Iowa King, King Jumbo 2d, Anderson's Big Bone by the grand champion Long Big Bone, and Smooth Columbus 2d by Smooth Columbus. Write for catalog. Sale in heated pavilion, no postponement.

P. M. ANDERSON, - - LATHROP, MO.

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College Pavilion, Manhattan, Kansas

FRIDAY, FEBRUARY 9, 1917

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Every One Sound and a High Class Individual.

For particulars and catalog address

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JERSEY CATTLE. *JERSEY CATTLE.*



SEVENTY HEAD REGISTERED JERSEYS

FORTY COWS AND THIRTY HEIFERS FOR SALE.

Nothing over five years old. Richly bred Fox Signal and Fern Lad families. All bred to choice registered herd bull. Must reduce herd.

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120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

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Fine young bulls from Register of Merit and imported cows; descendants of Fontaine's Eminent, Pogis 80th of Hood Farm, and Golden Fern's Lad.

DORNWOOD FARM, Route 1, Topeka, Kan.

$50 Noble Stockwell's Torono $50

Sire, Noble Stockwell. Dam, granddaughter of Hood Farm Torono. She milked 32½ pounds milk daily, 2 years old.

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Her heifer by Register of Merit bull, bred, $60, if sold in next fifteen days.

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Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

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Bargains in Jersey Cows

From one to a carload of good, young, registered Jersey cows, mostly fresh or soon due. Offered at sacrifice prices because short of feed and cannot winter. Also a few open heifers and young bulls. Write your wants or come and see this stock.

The Ennis Stock & Dairy Farm, Horine, Mo.
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Kansas First Register of Merit, Estab. 1878.

If interested in getting the best blood of the Jersey breed, write me for descriptive list. Most attractive pedigree.

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Hereford Cattle, Shropshire and Cotswold Sheep, Berkshire Hogs.

Thirty-five grandsons and granddaughters of Beau Brummel 10th for sale. Some extra herd headers at reasonable prices, breeding considered. Come and see my herd. Satisfaction guaranteed.

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FOR SALE 35 BULLS, 10 MONTHS TO 2 YEARS OLD. 20 COWS AND HEIFERS.

Best breeding families. Bred to an Imported Bridisher bull. Come and see me. Sale barns right in town.

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FOR SALE--100 BULLS 50 EARLY BULL CALVES, 30 COMING 2-YEAR-OLDS, 20 COMING 3-YEAR-OLDS

Herd headers and range bulls. Ten yearling heifers, twenty heifer calves and a carload of good cows. The very best breeding represented. Come and see me.

SAMUEL DRYBREAD, ELK CITY, KANSAS

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150 Head in Herd. A few cows and heifers for sale. Also a lot of farm and range bulls. Priced reasonable.

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HEREFORDS AND PERCHERONS

Choice 2-year-old bull, weight 1,600 lbs.; extra good bull calves. One May calf, weight 600 lbs., outstanding herd header prospect. Two choice yearling Percheron stallions. Priced to sell.

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When AYRSHIRES are through milking they fatten easily for the butcher and make splendid beef. For veal, their calves bring highest prices. They are the nearest "dual purpose" cow there is. Milk passes all requirements—beef yield large. That means DOUBLE PROFIT. Send for information.

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AYRSHIRE BREEDERS' ASS'N
33 Park Street Brandon, Vt.

AYRSHIRE BULLS

Age two weeks to two years, priced to move quickly at $40 to $80. Worth double. Bred for high production. All pure-bred and sure to get high producing heifers. Herd of nearly a hundred, established in 1906, located at Linwood, Kansas, near Kansas City. Tubercullin tested yearly, never found a reacter. Milk test over 4 per cent.

Dr. F. S. SCHOENLEBER, Manhattan, Kan.

BROWN SWISS CATTLE.

"BRYN-COED"

Ten choice young bulls by well selected sires and highly-bred heavy-producing dams. Prices reasonable.

PHIL H. JONES - NASHOTAH, WIS.

HAMPSHIRE HOGS

ATTEBERRY'S HAMPSHIRE HOGS

Bred sows, $25 to $30 each. July gilts and boars, $10 each for 30 days. Choice Individuals. ATTEBERRY & SONS, Lancaster, Mo.



RED POLLED CATTLE.



RED POLLED CATTLE

FOR SALE—Twelve cows and heifers.

I. W. POULTON, Medora, Kan.

Red Polled Cattle

A few 1916 bull calves for sale. Also a few cows and heifers.

AULD BROS. - FRANKFORT, KANSAS

RED POLLED BULLS

FORTY yearling bulls, big rugged fellows, sired by ton sires; all registered and priced reasonably. Will sell a few females.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

ANGUS CATTLE

McAdams Angus Herd

Outstanding herd bulls and richly bred cows with calves at foot for sale. Cows with calves by the great young bull, Senator Blackcap, and rebred to Blackcap H, grandson of Blackcap Judy. Also the show breeding bull Ecuador Ito by Undulata Blackcap Ito. Will also sell some choice Berkshire gilts.

GEO. M. McADAM - HOLTON, KANSAS

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE

Twenty-five young bulls, also some good cows and heifers for sale. All registered.

D. J. WHITE, CLEMENTS, KANSAS
Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

AUCTIONEERS.

Live Stock and Farm Auctioneer

Write or wire for date. I can please you.

LAFE BURGER, WELLINGTON, KANSAS

FRANK J. ZAUN Live Stock Auctioneer. Write or wire for date. Independence, Missouri

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

HORSES AND MULES.



Percherons and Belgians

SIXTY-FOUR HEAD REGISTERED STALLIONS AND MARES.
THIRTY STALLIONS AND THIRTY-FOUR MARES AND COLTS.

To close up a partnership, the thirty-four mares and colts must be sold by March 1, 1917. I mean business. Come and see me.

J. M. NOLAN, **Paola, Kansas**

PIONEER STUD FARM

Established 1870

FIFTY REGISTERED STALLIONS AND MARES

JUST ARRIVED—A new shipment of stallions and mares. If you are in the market for a good Percheron stallion or mare, now is the time. We can show you more bone, size, action and conformation than you will find elsewhere. Write or come today.

C. W. LAMER & SON - - - - - - SALINA, KANSAS

PRAIRIE VIEW STOCK FARM



Has 40 big, black Mammoth jacks and jennets. Every jack my own raising; two to six years old, 15 to 16 hands high, extra heavy bone, big bodies. I can sell you a better jack for $500 to $600 than most speculators can for a thousand. Come and see for yourself. They must sell.

ED BOEN, LAWSON, MO.
38 Mi. E. of K. C. on C. M. & St. P.
40 Mi. S. W. of St. Joe, on Santa Fe

40 Head Percheron Stallions 40
- Jacks and Jennets -

Two to six years old. Heavy bone. Imported Spanish jack at head of jennet herd. Prices reasonable. Come and see us. We mean business.

J. P. & M. H. MALONE

CHASE - - - - - KANSAS

SIX BREEDS DRAFT STALLIONS
Pedigree and guarantee with each, $450 and up. Time given.
R. I. LITTLE, Good Block, Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

DISPERSION SALE OF CLYDESDALES.
One span of brood mares, regular breeders, in foal by imported stallion. One coming 3-year-old filley, one coming 2-year-old stud colt and one weanling. All show stuff. The thick, blocky kind, sound and best of breeding.
C. H. WEMPE - - SENECA, KANSAS

POLAND CHINAS

Poland China Boars and Gilts

Twenty-five early spring boars and twenty-five gilts. Sired by I Am King of Wonder and Watt's King.
WM. WATT & SON - GREEN CITY, MO.

OWA KING BRED SOW SALE FEB. 1

Will Sell 40 Head of Tops. Am offering now some choice herd boar prospects, June and July pigs. All immune. Send for catalog of sow sale and price on boars.
P. M. ANDERSON, LATHROP, MISSOURI

TOWNVIEW FARM
Big-Type Poland Chinas.
For Sale—25 summer and fall gilts, sired by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 25 summer boars. Come and see my herd.
C. E. GREENE - PEABODY, KANSAS

DEMING RANCH POLANDS
Twenty strictly high class boars, bred the same as our grand champion sow and other prize winners. They are herd headers. Also gilts and bred sows and 150 fall pigs. All immune.
THE DEMING RANCH
H. O. Shelden, Herdsman Oswego, Kansas

EUREKA POLANDS AND DUROCS
April boars, fancy individuals. Priced for quick sale. Sires, Lafollette's Last, Bader's Golden Model 2d, McWonder and Big Ex Wonder.
W. H. SALES - SIMPSON, KANSAS

ARKELL'S BIG POLANDS

April and March bred gilts by Longfellow Again and Chief Big Bone, weight 225 to 275 pounds. They are bred to Arkell's Big Timm. Also a few bred sows. Priced right.
JAS. ARKELL, JUNCTION CITY, KANSAS

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

Lone Cedar Poland China Herd

Good spring boars by Meyer's Orange and out of mature sows, at farmer's prices for thirty days; also fall and spring gilts, bred or open. Weanling pigs cheap. All immune.
A. A. MEYER - McLOUTH, KANSAS

LANGFORD'S SPOTTED POLANDS
Boars — Serviceable age, guaranteed to please. Breeding stock, both sexes.
T. T. LANGFORD & SONS, Jamesport, Mo.

HORSES AND MULES.

FOR SALE OR TRADE All or any part for dairy cows, Holsteins preferred, my stable of brood mares and young prospects, consisting of three record producing mares by Allerton, Baron Wilkes and Robt. McGregor. Two are bred to Trampfast (2) 2:12½, four coming two-year-old fillies, three coming two and three-year-old geldings, one weanling colt, sires by Capt. Aubrey 2:07¼, Peter Red 2:11½, Whitefoot 2:22½, all eligible and registered under Rule One. Size, quality, and in good flesh. Address
BOX 72, ROUTE 3, SMITHVILLE, MO.

Home-Bred Draft Stallions, your choice $500 with the exception of two. Also mares for sale. A. Latimer Wilson, Creston, Iowa



PERCHERONS—BELGIANS
Imported and home-grown mature stallions, ton and heavier, 3-year-olds, 2-year-olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. Fred Chandler, R. 7, Charlton, Ia. (Above Kansas City.)

PERCHERONS FOR SALE

Five head pure-bred Percherons — Two mares, one 2-year-old stallion, two last spring colts. All good ones. Low price to the man that takes all.
J. W. BARNHART, BUTLER, MISSOURI



JACKS AND JENNETS

15 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. Fifteen good jennets for sale. Come and see me.
PHIL WALKER,
Moline, Elk County, Kansas

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

DUROC JERSEYS.

A HERD BOAR

We offer the splendid herd boar, Gold Medal 176231, also spring boars by him and the great boar, Country Gentleman 132541. All double immune. Prices reasonable.
W. R. HUSTON - AMERICUS, KANSAS

TWENTY FIVE SPRING BOARS

Sired by Crimson Wonder Again Jr., first prize boar at Topeka Fair, 1916, and G. M.'s Crimson Wonder. Big rugged fellows ready for service. Immunized and priced to sell.
G. M. SHEPHERD - LYONS, KANSAS

GUARANTEED DUROC BRED GILTS

Immune Duroc gilts with size, bone and stretch. Guaranteed in farrow. Shipped to you before you pay.
F. C. CROCKER, BOX K, FILLEY, NEB.

Wood's Durocs

Gilts bred and open. Boars all sold. A nice bunch of gilts to select from. September pigs of both sexes. Prices reasonable.
W. A. WOOD & SON, ELMDALE, KANSAS

SHEEP.

RAMBOUILLET SHEEP
A lifetime experience proves the Rambouillet is easily the best sheep for Kansas conditions. We offer choice individuals, either sex, with good bone, size, form and fleeced. E. D. KING, Burlington, Kansas.

POLAND CHINAS.

Size and Quality Polands

Poland China boars and bred gilts for sale. I have six gilts bred to farrow in March that weigh 275 pounds each. Price, $35 each. Four boars of same weight, $25 each. Lot of summer and fall pigs, $15 and $10 each, the big kind.
OTTO PLAGAMANN, EUREKA, MISSOURI

HOLSTEIN CATTLE.

Clyde Girod, At the Farm. F. W. Robison, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, Towanda, Kansas

Pure-Bred Holsteins, all ages, strong in the blood of the leading sires of today, headed by Oak De Kol Bessie Ormsby 156789. Special offering of choice young pure-bred bulls, ready for service, from tested dams. Let us furnish you a bull and improve your herd. TWENTY-FIVE pure-bred females, young useful Holsteins with A. R. O. records from 12 to 26 pounds butter in seven days.

BEFORE YOU BUY, TALK WITH US

We have an especially large, choice selection of extra high grade young cows and heifers due to freshen this fall and early winter, all in calf to pure-bred bulls. These females are large, deep bodied, heavy producers, with large udders, all well marked individuals and the right dairy type. Our offerings are at prices that challenge comparison for Holsteins of their breeding and quality. High grade heifer calves, $25. Send draft for number wanted. Let us know what you want in Holsteins, and we will be pleased to send you descriptions and prices. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON -:- -:- TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM



Offers everything in **Pure-Bred and High-Grade Holsteins.** A number of registered cows and heifers from noted sires such as granddaughters of Pontiac Korndyke, with high record A. R. O. dams. Also a number of cows and heifers bred to one of the best sons of Rag Apple Korndyke 8th, the world's champion bull, and several male calves by the same sire with good record dams, at bargain prices. Write your wants in Holsteins to

T. R. MAURER, **EMPORIA, KANSAS**

Farm Located Three-Fourths Mile West of Town on Sixth Avenue

HOLSTEINS and GUERNSEYS

Registered and high grade cows and heifers—service bulls. Carload or less. High grade calves, $18.00 each crated. Write us. We have what you want. Address
EDGEWATER STOCK FARM - - - FORT ATKINSON, WISCONSIN

HOLSTEIN CATTLE

We offer for sale 200 choice, high grade Holstein cows, heifers and service bulls of various ages; well marked and in good condition. Also can furnish a few choice, beautifully marked, 15/16ths pure-bred heifer or male calves, 1 to 2 weeks old, out of heavy milk-producing dams, at $15 each, crated f. o. b. cars. First draft takes them. Write
W. C. KENYON & SONS, ELGIN, ILLINOIS

TREDICO FARM HOLSTEINS

Breed 'em from "Tredico Truth Herbert Oak" ancestry; largest type. Champion of "National Dairy Show." Good udders and no extreme angles of hard forcing records.
George C. Tredick, Route 2, Kingman, Kan.

SHORTHORN CATTLE.

Barber Shorthorns

Villager Junior and Curley Dals Head Herd.

For Sale—Twenty coming yearling bulls, 20 yearling bulls, 40 cows and heifers, Scotch and Scotch topped. We have what you want. Come and see our cattle. Three hundred head in herd.

F. C. Barber & Sons
SKIDMORE - - - - - - MISSOURI

PEARL SHORTHORN HERD

Pearl, Dickinson County, Kans.

For Sale—Twenty bulls, 8 to 10 months old, red, white and roan. Can ship over Rock Island, Union Pacific, Missouri Pacific or Santa Fe. Come and see my herd. Address
C. W. TAYLOR - ABILENE, KANSAS

Shorthorn Heifers

For Sale—Six Scotch-topped heifers and one Scotch-topped bull, April and May calves, good ones, weight about 500 pounds, bull 600 pounds; all reds.
CHARLES HOTHAM & SON, Scranton, Kas.

OUR HERD BULL
Abbotsford Lad 2d 395841, pure Scotch, deep red and a good breder, three years old, priced to sell quick. We are keeping every heifer calf sired by him, also some young bulls six to ten months.
CHESTER A. CHAPMAN, Ellsworth, Kan.

CEDAR HEIGHTS SHORTHORNS

For Sale—Ten herd bulls from seven to eighteen months old. Scotch and Scotch-topped. Priced reasonable. Come and see my herd. HARRY T. FORBES, Bell Phone 59-N-1, Route 8, Topeka, Kansas.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

RIVERSIDE SHORTHORNS

Headed by Prince Valentine 4th 342179.
Families represented, Orange Blossoms, Butterflies, Queen of Beauty and Violets.
H. H. HOLMES, Route 1, Great Bend, Kan.

REGISTERED HOLSTEINS

We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.
M. E. MOORE & CO. - CAMERON, MO.

HOLSTEIN COWS

Holstein cows, springers or bred heifers. Very large, good markings, out of best milking strains, bred to pure-bred bulls of the very best blood. Special prices on carload lots. J. C. ROBISON, TOWANDA, KANSAS

CORYDALE FARM HERD

Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.
L. F. CORY & SON, BELLEVILLE, KAN.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

The Cedar Lane Holstein Herd

We are now offering some exceptionally good bulls of serviceable ages at very attractive prices. These calves are sired by our 29.4-pound grandson of Pontiac Korndyke.
T. M. EWING, INDEPENDENCE, KANSAS

Wichita Holstein Herd

High grade and registered cows, some heifers and heifer calves at reasonable prices. Bull calves at $10 and up.
Wichita Holstein Herd, R. 4, Wichita, Kan.

HOLSTEIN CALVES
Registered and high grade Holsteins. High grade heifer calves two to four weeks old, $20, delivered. We can supply you with anything in Holsteins.
CLOVER VALLEY HOLSTEIN FARM
Whitewater - - - - Wisconsin

BONNIE BRAE HOLSTEINS

Registered bulls from calves to 5 months old. Best breeding and good individuals.
IRA ROMIG - - TOPEKA, KANSAS

Braeburn Holsteins

A. R. O. BULL CALVES
H. B. Cowles, 608 Kansas Av., Topeka, Kan.

LILAC DAIRY FARM

Route No. 2, Topeka, Kansas.
BREEDERS OF PURE-BRED HOLSTEINS
Bulls from A. R. O. cows, all ages, for sale.

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Heilo No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

HOLSTEIN BULL CALVES
Out of A. R. O. dams. Three, six and eight months old. Priced reasonable.
P. W. ENNS - - NEWTON, KANSAS

HIGH-GRADE HOLSTEIN CALVES beautifully marked, 15-16ths pure, $20 each. Write us. Fernwood Farm, Wauwatosa, Wis.

REGIER'S HOLSTEINS

Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.
G. REGIER & SONS, WHITEWATER, KAN.

HOLSTEIN CALVES—Ten heifers and two bulls, 15-16ths pure, beautifully marked, 5 weeks old, from heavy milkers. $20 each, crated for shipment anywhere. Write EDGEWOOD FARM, Whitewater, Wis.

LOWEMONT SHORTHORNS.
Brawith Heir 351808 heads herd. Inspection invited. E. E. Heacock & Son, Hartford, Kan.

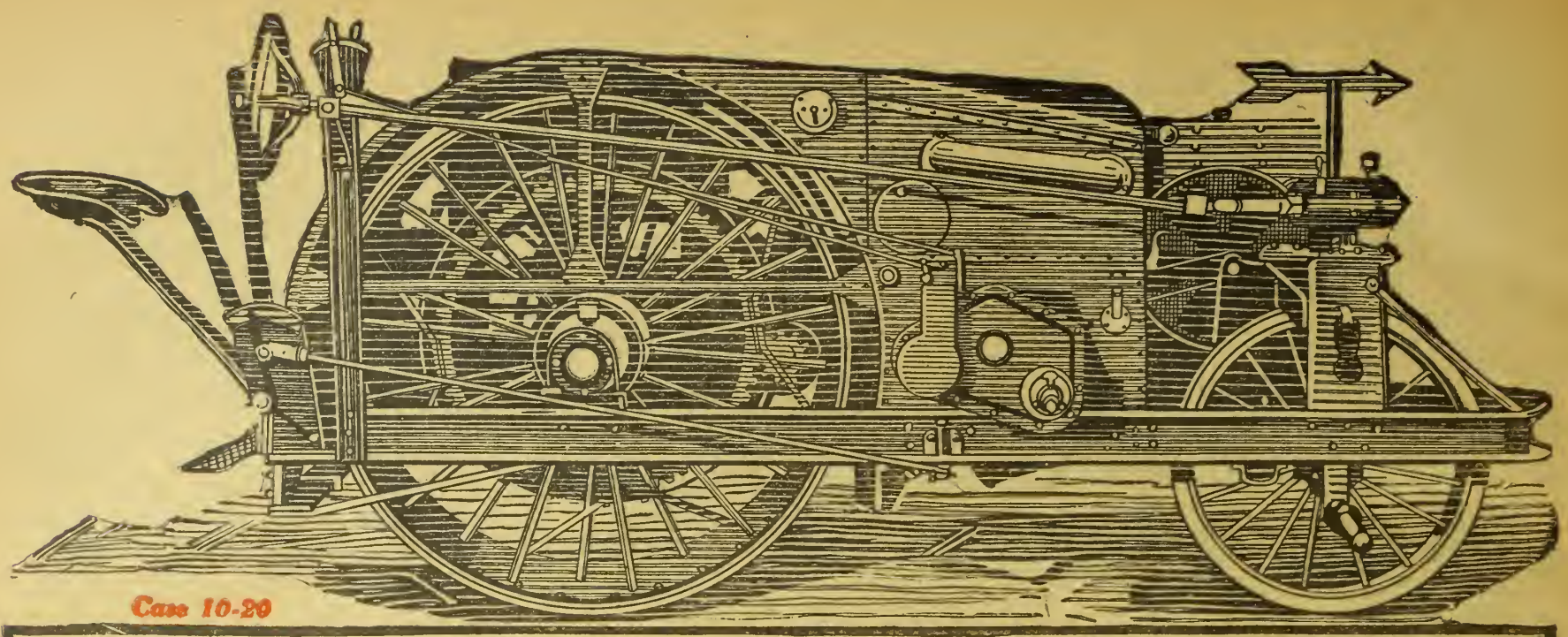


FAULKNER'S FAMOUS SPOTTED POLANDS

THE WORLD'S GREATEST PORK HOG.

ANNUAL BROOD SOW SALE, WEDNESDAY, FEBRUARY 14, 1917

Sixty big spotted tried sows and yearlings bred for February, March and April farrow. You know the kind. Catalog tells all. Ask for it. Address
H. L. FAULKNER, BOX K, JAMESPORT, MISSOURI



Case 10-20

For Men Who Want a *Quality* Tractor

As farmers study and buy tractors more and more, the merits of Case Tractors are better appreciated. Quality is the first thing to consider, advise authorities. Wise men heed it. For quality means performance.

Careful farmers are more inclined than ever to turn to an old-established concern which has a record behind it, one that can afford to include construction superiorities. That was evident at the demonstrations.

From grandfather to father and son (this is our 75th anniversary) has passed the word that Case machinery may be depended upon. It is almost a farm proverb. This has decided hundreds to choose Case Tractors. Few can content themselves with lesser quality.

With 24 years of gas engine experience, Case has set the pace in the farm world for kerosene and gasoline tractors, of the higher grade, as it did in the steam engine field years ago, where it still dominates.

This preference for Case was proved last winter, when over 15,000 farmers wrote to us to inquire about these farm labor-savers. Hundreds of testimonials have come in from all over the country from satisfied, enthusiastic users. At the demonstrations, farmers saw for themselves the superiorities which Case can afford to put in its machinery, and made comparisons. Farm paper and agricultural college experts praise the performance and simplicity of Case Tractors.

Most people now concede Case leadership.

Announcing a Fifth Size

In addition to the four master tractors offered last season, Case now introduces the 9–18. This smaller size follows Case principles, and is built in the same honest and careful manner as the 10–20, 12–25, 20–40 and 30–60. All are made complete at the Case plant by Case workmen. The 9–18, though designed for smaller farms, is not too light, too small nor too cheap.

At the tractor demonstrations this summer the 9–18 created a profound sensation. Orders for hundreds were received from farm owners and dealers.

All know that Case Tractors have been approved after long and severe tests. Owners have the insurance that comes with owning a *proved* tractor, not an experimental one.

Announcing a Small Thresher

Another announcement of widespread interest is that Case now offers small, light threshing machines suitable for use with tractors. While these have all the well-known perfections of the larger Case Threshers, their capacity and price make it possible for each farmer to own his own thresher.

We have just prepared a new 1917 Case album in colors in commemoration of our 75th anniversary, which we think is the finest yet produced in the agricultural world. It is a book so replete with information of value to every farmer that no one can afford to be without a copy.

This catalog describes Case kerosene and gas tractors, Case steam engines, Case threshing machines, Case road machinery, Case automobiles, and every Case product. Write today for your copy. It is free.

J. I. CASE THRESHING MACHINE COMPANY, Inc., 174 Erie Street, RACINE, WIS.

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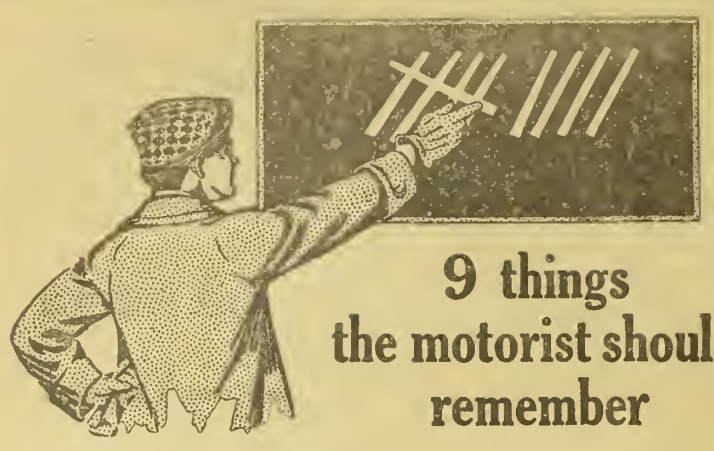
KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 3. TOPEKA, KANSAS, JANUARY 20, 1917. Established 1863. $1 a Year



Western Kansas Dairy Calves Grazing on Wheat Pasture



9 things the motorist should remember

1. One of your smallest expenses — lubrication — is your chief safeguard against your heaviest expense — depreciation.

2. Friction is relentless.

The effects of the incorrect oil will not be apparent during the first piston stroke or the second. But when piston strokes run up into the millions—and that does not take long—friction begins to get its due. You need not *look* for the effect of wear then. You can *hear* it.

3. Worn motors never "come back."

4. If given intelligent care and scientific lubrication, your car should run better the 2000th mile than the first.

5. No matter how freely a low quality or wrong-bodied oil is used it can never do the work of the correct lubricant.

6. No one oil will suit all cars. This is absolute.

7. You selected a car that suits you. Now select an oil that suits your car.

8. Though you may *want* correct lubrication, you will seldom stumble on it by chance.

9. The Lubrication Chart, printed in part below, was prepared only after an engineering analysis of every American car and the leading foreign makes. It is revised yearly to include each season's new models. It represents our professional advice and specifies the correct oil for your car.

GARGOYLE

Mobiloils

A grade for each type of motor

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. For information, kindly address any inquiry to our nearest office.

CORRECT AUTOMOBILE LUBRICATION

Explanation:—The four grades of Gargoyle Mobiloils, for gasoline motor lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A" — Gargoyle Mobiloil "E"
Gargoyle Mobiloil "B" — Gargoyle Mobiloil "Arctic"

In the Chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A," "Arc" means Gargoyle Mobiloil "Arctic," etc. The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

MODEL OF CARS	1916 Summer	1916 Winter	1915 Summer	1915 Winter	1914 Summer	1914 Winter	1913 Summer	1913 Winter	1912 Summer	1912 Winter
Abbott Detroit	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc	A	Arc.
" " (6 cyl)	A	A	A	...	...	...	...	...	...	...
Apperson	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	Arc.	...	...	...	...	...	...	...	...
Auburn (4 cyl)	A	Arc.	A	Arc.	...	A	A	A	A	A
" (6 cyl)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...
Abtocar	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Avery	A	A	A	A	A	A	A	A	A	A
" (Mod. 5 & C, 1 Ton)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...
Briscoe	A	Arc	A	Arc	A	Arc	...	...	...	...
" (8 cyl)	A	A	...	...	...	...	...	...	...	...
Buick	Arc.	Arc.	Arc.	Arc	A	Arc.	A	Arc	A	Arc.
Cadillac	...	...	...	Arc.	Arc.	Arc.	Arc.	Arc	Arc.	Arc.
" (8 cyl)	A	A	Arc.	...	...	...	...	...	...	...
Case	A	A	A	Arc.	A	Arc.	A	Arc	A	Arc.
Chalmers	Arc.	Arc.	Arc.	Arc.	A	A	Arc	Arc	Arc.	Arc.
" (Model 6-40)	A	Arc.	...	...	...	...	...	...	...	...
" (Model 6-30)	A	A	...	...	...	...	...	...	...	...
Chandler Six	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...
Chevrolet	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	A	...	...
Cole	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	A	A	A	...	...	...	...	...	...
Cunningham	...	...	Arc.	Arc.	Arc.	Arc.	A	A	A	A
Detroiter	Arc.	Arc.	A	Arc.	A	A	A	Arc.	A	Arc.
" (8 cyl)	...	...	Arc	Arc.	...	...	...	...	...	...
Dodge	A	Arc.	E	E	...	...	...	...	...	...
Empire	...	...	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
Federal	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Fiat	B	A	B	A	B	A	B	A	A	A
Ford	E	E	E	E	E	E	E	E	E	E
Franklin	A	A	A	A	A	A	Arc.	A	Arc.	A
Gram	A	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...
Haynes	A	A	A	A	A	Arc.	A	Arc.	A	Arc.
" (12 cyl)	A	A	...	...	...	...	...	...	...	...
Hudson	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc	A	Arc
" Super Six	A	A	...	...	...	...	...	...	...	...
Hupmobile	A	Arc.	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.
H. C. (air)	B	E	B	A	B	A	B	A	...	...
" (water, 2 cycle)	A	A	A	A	A	A	A	...	...	...
" (water, 4 cycle)	A	Arc.	...	...	...	...	...	...	...	...
Jackson	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc	A	Arc.
" (8 cyl)	A	A	...	...	...	...	...	...	...	...
Jeffery	A	Arc.	A	Arc	A	A	...	...	...	...
" (Chesterfield)	A	Arc.	A	Arc	...	...	...	...	...	...
" Com'l	A	Arc.	A	Arc	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Kissel	E	E	E	E	...	...	...	...	...	...
" Com'l	A	Arc.	A	Arc	...	...	...	...	...	...
Kelly Springfield	A	A	A	A	A	A	Arc.	Arc.	Arc.	Arc.
King	...	A	Arc.	A	A	A	A	E	A	E
" (8 cyl)	A	A	Arc.	Arc	...	...	...	...	...	...

MODEL OF CARS	1916 Summer	1916 Winter	1915 Summer	1915 Winter	1914 Summer	1914 Winter	1913 Summer	1913 Winter	1912 Summer	1912 Winter
King Com'l	Arc.	Arc	Arc.	Arc	Arc.	Arc.	...	...	...	...
Kissel Kar	A	Arc	A	Arc	A	Arc.	A	Arc.	A	Arc.
" " Com'l	A	Arc	A	Arc	A	Arc.	Arc.	Arc.	Arc.	Arc.
" (Model 48)	A	A	A	A	A	A	...	...	...	...
Knox	B	A	B	A	B	A	B	A	B	A
" (Model 35)	A	A	A	A	...	...	...	...	...	...
Locomobile	E	E	E	E	E	E	Arc.	Arc.	Arc.	Arc.
Lozier	A	Arc	A	Arc	A	Arc	Arc.	Arc	Arc.	Arc.
Marmon	A	A	A	Arc	A	Arc.	A	Arc	A	Arc.
Maxwell	Arc.	Arc	Arc.	Arc.	Arc.	Arc	Arc.	Arc	Arc.	Arc.
Mercer	...	...	A	Arc	A	Arc.	A	Arc	A	Arc.
" (22-70)	...	...	Arc.	Arc	...	...	...	...	...	...
" (22-72)	...	...	...	...	...	...	...	...	...	...
Mitchell	A	A	A	Arc	A	Arc.	A	Arc.	A	Arc.
" (8 cyl)	A	A	...	...	...	...	...	...	...	...
Moline	...	...	...	...	...	...	A	Arc	A	Arc
" Knight	A	A	A	A	A	A	...	...	...	...
National	A	Arc	A	Arc	A	A	A	A	A	A
" (12 cyl)	A	A	...	...	...	...	...	...	...	...
Oakland	Arc.	Arc	Arc.	Arc	Arc.	Arc.	A	Arc.	A	Arc.
" (8 cyl)	A	A	...	...	...	...	...	...	...	...
Oldsmobile	Arc.	Arc	Arc.	Arc	Arc	Arc	Arc	Arc	A	Arc
" (8 cyl)	A	A	...	...	...	...	...	...	...	...
Overland	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Packard	...	...	A	Arc	A	Arc.	Arc.	Arc.	Arc.	Arc.
" (12 cyl)	A	A	...	...	...	...	...	...	...	...
" Com'l	A	A	A	A	...	...	...	...	...	...
Paige	...	...	A	Arc	A	A	A	E	A	B
" (6-45)	Arc.	Arc	Arc.	Arc.	...	...	...	...	...	...
" (6-36 & 30)	A	Arc	A	Arc	...	...	...	...	...	...
Peerless	Arc.	Arc.	Arc.	Arc.	Arc.	Arc	A	Arc.	...	...
" (12 cyl)	A	A	...	...	...	...	...	...	...	...
Premier	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	A	...	...	...	...	...	...	...	...
Pierce Arrow	A	A	Arc.	Arc	Arc.	Arc.	Arc.	Arc.	A	Arc.
" Com'l	Arc.	Arc	Arc.	Arc	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Regal	Arc.	Arc	Arc.	Arc	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	A	Arc	Arc	...	...	...	...	...	...
Reo	A	Arc.	A	Arc	A	Arc	A	Arc.	A	Arc.
Saxon	E	E	E	E	E	E	...	...	...	...
Selden	Arc.	Arc	Arc.	Arc.	Arc.	Arc	Arc.	Arc.	Arc.	Arc.
Stearns Knight	B	A	B	A	B	A	A	A	A	A
" (8 cyl)	B	A	...	...	...	...	...	...	...	...
Studebaker	A	Arc	Arc	Arc.	A	Arc	A	Arc.	Arc.	Arc.
Stutz	A	A	A	A	A	A	Arc.	Arc	Arc.	Arc.
Velie (4 cyl)	...	...	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (6 cyl)	...	...	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...
White	Arc.	Arc	Arc.	Arc	Arc.	Arc	Arc	Arc	Arc.	Arc.
Willys Knight	A	A	B	A	A	A	...	...	...	...
Winton	Arc.	Arc	Arc.	Arc	Arc.	Arc	Arc.	Arc	Arc.	Arc.

YOUR TRACTOR

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

A LONG time has passed since the ownership of a motor car was an evidence of wealth. We all drive now. Not merely bankers, head waiters, and master plumbers, but the lower classes also. Even editors of magazines.

The number of automobiles is being added to at the rate of more than a million a year: a million new cars means two million new drivers.

If driving is to continue to be safe and enjoyable for all of us, it must be made so by a tremendous exercise of courtesy on the part of every one.

Let me set down here some observation founded, not on police law, but on common sense plus courtesy.

First—However unflattering it may be to the rest of humanity, I know of no better rule than always to assume that the other fellow is a bigger fool than you are.

Assume that he is going to turn the next corner without giving any signal.

Assume that his wife, who is with him, may at any moment take a fancy to a wild rose at the edge of the road, and have the car brought to an abrupt stop.

Assume, when you turn a corner, that he will be coming around from the other way, too fast and on the wrong side of the road.

In a word, keep a sufficient distance between his car and yours, so that nothing he can possibly do can involve you in trouble.

Second—A horn can be either the voice of salvation or an instrument of torture, according to how it is used.

The courteous driver can make his horn say either "Please be careful" or "Curse you, Charles Montague, get off the road." His horn never says one when it should say the other.

Incidentally, the best drivers blow the horn least.

Third—The courteous driver stays just as close to the edge of his side of the road as it is possible for him to get. He never feels called upon to assert his dignity or to maintain his rights by edging as far out as he can.

He knows that the middle of the road belongs to no man.

Fourth — The courteous driver never uses his blinding headlights except on a road entirely unlighted; and he turns them down at the first sight of an approaching car.

Fifth—The courteous driver recognizes that pedestrians and horse vehicles have rights as well as he. He remembers—however irritating they may occasionally be—that, after all, the road belonged to them for years before it belonged to the motor car.

It is the law of the sea that the sailboat must give way to the rowboat. The power-boat must look out for the sail. Always the stronger must give way to the weak.

What is law for the sea ought to be the self-imposed and cheerfully accepted etiquette of the road.

Finally — The courteous driver — and his wife—make up their minds at what rate they like to travel best, and they jog along happily at that rate, enjoying the view, untroubled and untroubling.

If the occupants of another car desire to travel faster, they let them pass. They never race; never put on full speed when they hear a horn sounded behind them.

Never, under any circumstances, do they push ahead of a car in front by invoking a burst of speed, and then slow up so that their dust spreads over the car behind.

In all the category of meanness, there is no meaner trick than passing a car and then slowing down.

Let me see you drive and I'll tell you what you are.

I can stand by the side of the road and pick out the wife-beaters, and the fellows who are cheating the government on their income tax—the fellows that talk loud in theaters—

—and, thank God, the great overwhelming majority of good husbands and fathers, decent citizens, and courteous gentlemen—the wholesome folk who observe the etiquette of the road.—BRUCE BARTON, in Every Week.

Starting a Cold Engine

Difficulty in starting a gasoline engine in cold weather may be relieved by one of the following means:

Fill the water jacket or radiator with hot water.

Heat the gasoline by putting a bottle of it in hot water, being careful to keep the cork off the bottle.

Place a few drops of ether in the priming cup or spark plug hole.

Winter Care of Tires

If an automobile is used only occasionally during the winter, the wheels should be supported by jacks and the tires should be partially deflated.

The tires should be kept free from grease and moisture, as grease is injurious to the rubber and moisture to the fabric.

If the car is laid up for the winter, the tires should be removed. Cuts in the rubber should be repaired in order that moisture may not enter the fabric. The tires should be wrapped in paper or burlap to keep them as dry as possible and to protect them from sunlight. They should be placed in a dry room with the temperature ranging between 40 and 65 degrees.

Inner tubes should be removed and be either deflated or rolled loosely with a slight air pressure left in them. The tubes should then be given the same care as the tires.

The general information contained in the Studebaker Almanac concerning the care and upkeep of automobiles will be of especial interest to thousands of farmers. This advice, compiled by expert mechanics and automobile engineers, will save many a big repair bill and needless expense, if closely followed. It explains in detail the correct method of caring for the car in summer and winter, what to do when anything goes wrong, how to overhaul the motor when occasion arises, etc. Electric motors and stationary engines also come in for their share of attention, and form a ready reference for the farm owner who has these modern conveniences installed on his place.

Air-Driven Motor Cars

Automobile trucks with propellers like an aeroplane are now skimming lightly over the sands of the Moroccan desert transporting troops, food and ammunition supplies for the French army. In addiion to the usual rear-wheel drive of motor trucks, the transports have an eight-foot propeller, which makes 1,000 revolutions a minute, at the rear of the car. The propeller is driven by the same engine that operates the rear wheels.

The aeroplane propeller enables the car to travel lightly at a speed of from forty to fifty miles an hour over soft ground and sand in which a heavily-loaded army transport, dependent upon the rear-wheel drive, would sink into the ground up to the hubs and get stuck. When the aero-auto hits a hill or bump it flies through the air, a few inches above the ground. The new machine is not only a great saver in time and wear and tear on the machine, but also it travels so lightly over bad spots in the military roads that it does not leave them corrugated with ruts and impassable for infantry.—The American Boy.

The loosening and losing of burrs on farm machinery often causes the farmer much trouble and delay. The following plan is recommended for preventing the burrs from loosening: Unscrew the tap, paint the threads with white lead, put on the tap again and screw it down tight. After the white lead has set, the tap will remain tight under ordinary vibration. Furthermore it will not rust.

In order to avoid delayed shipments caused by probable car shortage next spring, it will be a good plan to order now such supplies as fertilizers, repairs on machinery, seeds and other things needed for spring work.

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LOAN BOARD NON-POLITICAL

The absolutely non-partisan character of the Federal Farm Loan Board was brought out in the address of Charles E. Lobdell, member of the board, at the recent meeting of the State Board of Agriculture. The Federal Farm Loan Act was non-partisan at its very inception. Commissioners were appointed during President Taft's administration to make investigation bearing on the subject through the farming sections of the country. When the reports were made and the act finally drafted, the Democratic party was in power. It was passed and became a law without party bias, and the board is composed of two Democratic members and two Republican members. The Secretary of the Treasury, who is an ex-officio member, of course changes with administrations.

Mr. Lobdell said that great pressure was being brought to bear on the board to appoint men having political backing or influence. Each bank is to have five directors. From these will be selected a president, a vice-president, a secretary and a treasurer, who will conduct the business of the bank. There are quite a number of other employes also for each bank. It was stated that these jobs will not be handed out as "political plums." Secretary McAdoo is most emphatic on this point. No member of the board has personal candidates for any positions to be filled. None of them have personal or political debts to pay, and even if they had there would be no attempt to pay them at the expense of the Federal Farm Loan system.

Mr. Lobdell said it was a pleasure to the board to find that the members of Congress are generally accepting this policy as the proper one to follow, and although the demand on them for jobs is tremendous, they are not embarrassing the board by urging political appointments. In presenting names for appointment, exactly the same kind of endorsements will be required as would be demanded in filling positions in private loan companies. The only considerations that are to be taken into account are those of efficiency and ability to perform the work required.

Mr. Lobdell was asked if there would not be an endless amount of red tape involved in getting a loan through one of these banks. He explained how simple it is for a group of farmers to organize the local loan association and make application for the money they wish to borrow.

He also explained how attractive the bonds of the banks would be to investors and especially those having small sums to invest. These bonds will be sold with the farm mortgages back of them as security. The absolutely non-partisan manner in which the business of the banks is to be handled is a guarantee of the safety of investments made in bonds secured in this way.

Mr. Lobdell called special attention to the fact that in appraising the land its speculative or selling value would not be considered. The law specifically states that land will be appraised on a basis of its productive value. This, to a certain extent, involves the ability of the man handling the land. One man might make land much more productive than another and because of this fact he could obtain a larger loan for making improvements. No loan can be made for more than 50 per cent of this productive value nor for more than 20 per cent of the value of improvements.

Loans may be made for the following purposes and no other: To provide for the purchase of land, the purchase of equipment, fertilizers, and live stock, farm buildings and other needed improvements, and to liquidate indebtedness. The terms "equipment" and "improvement" are to be defined by the Federal Farm Loan Board.

It is Mr. Lobdell's belief that there is enough money hidden away in the country to finance all of the farm mortgage business if the investor can be made to feel that he is thoroughly safeguarded in his investment. He considers the plan one of the finest ever devised for the small investor. The advantage to the farmer is principally in being able to borrow money for improvements on long-time notes at low interest rates and with liberal terms as to payment.

LOAN ASSOCIATION FORMED

There has been no great rush to organize farm loan associations in Kansas to take advantage of the new Farm Loan Act. The first, as far as we know, is that recently organized at Larned. Forty-five farmers met in the office of the Pawnee County Farm Bureau and thirteen of them decided to apply for loans aggregating $68,000. The land security offered aggregated $202,500 in value. Application was made to the Federal Farm Loan Board for the necessary forms.

This association will make its loan through the Federal Land Bank, which will be located at Wichita. The money is to be used largely in paying off old mortgages. These are probably carrying a higher rate of interest than will the loans made through the land bank.

Since there have been so few organizations formed, it might be assumed that farmers of Kansas having good security to offer have not been greatly handicapped in getting the capital they need on fairly liberal terms. As we become accustomed to this new banking facility there will probably be a good many farm loan associations formed. In some sections of the country the federal land banks will without doubt open up greatly increased possibilities in the development of agricultural lands.

BANKER STARTS PIG CLUB

Jewell County is one of the counties in Kansas where the people seem to have been awakened to the spirit of agricultural progress. A recent example of this is the action of W. A. Matson, a banker and farmer of Jewell City, who is offering to furnish money to every boy in that section of the county to buy a pure-bred, immune pig to feed and develop. The boys will be required to keep records of weights and gains and feed eaten, with its cost. When the pigs are sold they are to pay Mr. Matson the amount loaned and deposit a tenth of the selling price in the bank.

We most heartily endorse this plan of interesting boys in farm life. Feeding the pigs and doing chores will cease to be drudgery to the boy who has a chance to try his hand at this sort of thing. Parents who encourage their boys and girls to get into agricultural club work will find them taking a new and unheard-of interest in things about the farm.

Why not make the boys and girls junior partners and teach them business methods from the start?

BOARD OF AGRICULTURE FUNDS

The secretary of the State Board of Agriculture has practically no money to carry on the work of his department. In making an effort to further the usefulness of this board, providing a suitable appropriation is a point that deserves serious consideration. The state has been entirely too economical in dealing with the Board of Agriculture. The past two years the working funds have been but $1,500 annually. Agriculture returns the enormous sum of 350 million dollars annually. The sum of $1,500 is but a pittance for exploiting an industry of such proportions. A third of this appropriation the past year was used in preparing the cuts for the alfalfa book published by the board. In getting out this book, Secretary Mohler and his able assistant, H. W. Doyle, did a splendid piece of work. This alfalfa book is Kansas experience from cover to cover. It is a Kansas book adapted to Kansas conditions, and the information it contains is of great value to farmers of the state. It is an example of the kind of constructive work that could be done for the state if the board had more money available.

Another piece of valuable work is that of tabulating all breeders of pure-bred live stock in the state. The live stock of Kansas now represents a value of 341 million dollars. Promoting the increased use of pure-bred stock has a big influence in increasing the value of the live stock of the state. Through the assessors a start was made last spring in securing the names of these breeders, but it is necessary to verify the facts by sending return post cards to all these parties before the information can be safely used. This cannot now be done because there is no money to be used for the postage.

Giving the secretary a reasonable amount of money to spend in doing the kind of work demanded by the people of the state would result in greatly adding to the usefulness of the board. The secretary should be held to strict accountability for the expenditure of his appropriation. There is very little danger that the money would be foolishly expended. The state can well afford to be more liberal with the State Board of Agriculture.

INTEREST IN SHEEP

We were much gratified to note the real interest taken in the question of sheep at the recent meeting of the Kansas State Board of Agriculture. On another page of this issue we give a portion of the address on the "Farm Flock for Kansas" by A. L. Stockwell of Pawnee County. This was one of the good papers of the meeting. Mr. Stockwell thoroughly understands the handling of sheep and the suggestions offered in his talk were listened to with the greatest interest.

Interest in this question continued through the session. Following the afternoon program Friday, when the query box was opened, it was found that a number of questions pertaining to the growing of sheep had been dropped in the box. It was evident that those present wanted these questions answered. A number took part in the discussion which followed. More genuine interest was taken in the queries pertaining to sheep than in any others. Even after the meeting adjourned a group of men surrounded Mr. Stockwell and continued the discussion.

HORSE BREEDERS MEET

The annual meeting of the Kansas Draft Horse Breeders' Association will be held in Manhattan during Farm and Home Week. The program follows:

Friday, February 9. Forenoon session, 8:30 o'clock:

President's address, Geo. B. Ross, Sterling.

Report of Secretary, C. W. McCampbell, Manhattan.

Appointment of committees.

"Sterility in Mares," Dr. F. F. Brown, Kansas City, Mo.

"Kansas Breeders and Kansas Fairs," A. L. Sponsler, Hutchinson.

"Importance of Community Effort in Horse Production," Prof. W. A. Cochel, Manhattan.

"The Economics of Rural Social Development," Dr. Warren H. Wilson, New York City.

Kansas Percheron sale, 1 o'clock.

One new member was elected on the Kansas State Board of Agriculture at the recent annual meeting, this member being E. I. Burton of Coffeyville, who succeeds Charles E. Sutton. Mr. Burton is a successful and progressive farmer and will be a useful man on the board. H. W. Avery, Dr. O. O. Wolf, and H. S. Thompson were re-elected for another term. J. T. Tredway of La Harpe, who has been president for the last year, was also re-elected.

AGRICULTURAL LEGISLATION

The Board of Agriculture at its forty-sixth annual meeting formally petitioned the legislature to enlarge the delegate representation at the meetings which are held in Topeka each year. The present law provides for delegates from county agricultural associations. This usually means that the secretary or some other officer of the fair held by the local agricultural society comes as a delegate to the meeting. Each delegate has a vote in electing the members of the board and in transacting other business of the meeting.

It has seemed for some time that the delegates to the State Board of Agriculture meeting have not been sufficiently representative of the practical farming interests of the state. The papers and addresses given at the annual meeting are full of valuable information related to agricultural progress. It is most desirable that these addresses be heard by as many as possible of those actually engaged in farming operations and in a position to pass on the good things they hear to the people of their respective communities. It is also desirable that the business of the board be directed by those closely in touch with agriculture. The resolution requesting this enlargement of the representation is as follows:

"We, the delegates assembled with the State Board of Agriculture, congratulate this board upon its work for the past forty-six years as a department of state government and would advise no drastic change in the law relating to the character of its organization. Its past is inseparably connected with the history of this commonwealth and constitutes many a bright and valuable page—its present work is efficient and the state is altogether too economical and we would respectfully ask the legislature to increase its appropriation for the advanced and progressive work demanded of the secretary by the people.

"We would further commend to the legislature an amendment to the law, however, which will enlarge the representation to the annual meetings of this board, which may include representatives from the various state breed associations and county farmers' institutes."

The county institutes are organizations of farmers. Nearly every county in the state has such an organization. Many of them hold monthly meetings through the year and all have big annual meetings where the live agricultural and home-making questions of the community are discussed. If these institutes could be represented by delegates there would be no question as to the representation being closely in touch with the farm. There are now a number of pure-bred live stock organizations in the state and these also are actively engaged in promoting an industry that is indispensable to permanency in agriculture. Their representation in the meetings of the board would also greatly add to its strength.

The governor in his message made a plea for increasing the importance and value of the agricultural department of the state. His suggestions followed in the main the report of the Efficiency and Economy Committee appointed by the last legislature, and were that a number of different lines of work would be consolidated in one big department. No details of the proposed consolidation were given.

The greatness of agriculture in this state certainly justifies magnifying the work of the Board of Agriculture. The legislature can well devote some time to revising and improving the present laws and the idea suggested in the resolution quoted above, if incorporated into law, will most assuredly strengthen the work of the board.

A cow testing association was organized in Montgomery County last week. The members will find it to be a great help to them in their dairy business.

KANSAS FARMS NEED SHEEP

By A. L. Stockwell, Before Meeting of Kansas State Board of Agriculture

AT PRESENT there is only one sheep to 350 acres on Kansas farms. The Ohio average is one sheep on eight acres. In my own experience on a Kansas farm, all of which is under cultivation, I find need for one sheep to every four acres. We need a million sheep in Kansas today to take care of the weeds and waste of our fields. If the Nebraska State Board of Agriculture can use sheep for cutting weeds on the state fair grounds at a big saving of labor expense and show the handsome profit of nearly $1,000 besides, and our own agricultural college at Manhattan found their worth in ridding the campus of dandelions and other noxious weeds, you, Mr. Farmer, have a greater need for the "small farm flock."

The farm flock will convert the waste and weeds of our farms into high-priced wool and mutton without displacing any other live stock on the farm. Many of the weeds that are crowding out the grasses in our pastures and meadows are relished by sheep. An instance that came under my observation was a small pasture along a creek bottom that had been used for a number of years as a winter feed lot for cattle. In the summer this pasture was a dense growth of ragweed, ironweed and cockleburs and didn't afford grazing for a single cow. Forty sheep were turned into this lot. After the second year no weeds could be seen and a good turf of grass was the result.

The question of dogs is perhaps causing more farmers to hesitate about handling sheep than any other thing. My farm is situated within a mile of a good-sized town which is not wanting for worthless dogs, and in twelve years' experience in handling sheep I have yet my first loss to sustain from dogs. I find that two dozen sheep bells will generally protect the flock from the average dog, and the shotgun will regulate the more cunning ones.

The fences will suggest themselves after the sheep are once on the farm. These need not be expensive.

There was never a time when the Kansas farmer could slip into the sheep game with better grace than right now. The question naturally arises with a great many who have had no previous experience in handling sheep, "What class of sheep will respond best to one of limited knowledge?" From my experience and from the observations I have made in visiting a great many other flocks, I would say by all means try the western range ewe.



THIS WESTERN KANSAS FLOCK HAS BEEN SOURCE OF MUCH PROFIT

Let me relate my experience with the range ewe. I have been buying my feeding sheep on the range for several years and I find the flockmasters have a certain percentage of these old ewes that they expect to turn every fall. They are offered for sale in the fall of the year—during September and October—and generally find their way into the feed lots of the corn belt farms. They are the class of sheep the market calls "feeding ewes" and can be bought at a very low price. One reason I prefer this grade of ewes, aside from the cheapness, is that they will raise a greater percentage of lambs than will young ewes. They will be motherly, require less attention, respond to farm conditions and prove big money-makers. Keep them on the farm one year and market both ewes and lambs the following winter. Buy a new flock from the same source and in this way of handling you will avoid a lot of trouble that is incident to keeping the same flock year after year.

In September, 1914, while I was in the Texas Panhandle buying feeding sheep I was offered a carload of these old feeding ewes by the flockmaster from whom I was buying my feeding lambs. To illustrate how anxious they are to sell the old ewes before going into winter quarters, for fear they will die on their hands before spring, I will relate the conversation that led to the deal. "Stockwell, let me sell you a load of these old ewes. Take them along with your other shipment. I am anxious to close this end of the deal. I will take $2, with the shelly ones out at $1.25, and leave it to you as to how many go out at the lower price."

Even though not inclined to buy, one could hardly turn down as fair an offer as this. I bought a load of these old ewes. After getting them home in my lots, I carefully "mouthed" them, to find 200 head with fairly good mouths. These 200 head cost me $450 laid down. They were "flushed" on alfalfa stubble for about thirty days prior to breeding, thus putting them in first class condition.

They were bred to pure-bred Shropshire rams for March and April lambing. Wool worth $360 was clipped off their backs just prior to lambing, which greatly reduced my investment. I have always felt it safe to buy an old ewe for $2 if there was $1.75 worth of wool growing on her back.

Our losses were something like three per cent on this flock of ewes, and we raised to maturity 193 big husky lambs. This size flock was about double the number that should be kept on a farm the size of mine, where one depends on weeds and waste alone, so it was necessary to give them the run of fifteen acres of rye pasture until June 1, after which time they were put on sweet clover pasture until fall. The lambs were in the feed lot about sixty days prior to marketing, on a ration of alfalfa, silage, and a small amount of corn. On January 14 I sold the entire bunch on the Kansas City market, the lambs selling at $10.40 per hundred and the ewes at $7 per hundred.

The gross return from this little bunch of sheep, including the wool, was $3,150. The original investment was $450, value of feed consumed and labor estimated at $600, leaving a net return of $2,100.

Last year the same class of ewes were selling at $3 per head on the range and this year at about $4. Even at these prices the old ewes are showing as great a margin of profit today as when I bought at $2 per head, for the wool is 10 cents higher and finished lambs fully $3 per hundred higher than when I closed this deal.

A great many of you are situated so you cannot buy this class of ewes on the range as I do. If you are not located near a feeder who visits the range to buy them for you, I would advise buying them at the river market. Do not be content with anything other than range-bred ewes. Fifty makes a nice bunch to start with and with their increase will make you a single deck at shipping time. A flock smaller than this would make you dependent on the local butcher, which I found not a very satisfactory market.

Agricultural Fairs Educate

Best Method of Teaching is by Means of Object Lesson

THAT the big state fairs of the Middle West are important factors in promoting a better agriculture throughout the land was most strikingly brought out by W. R. Mellor of Nebraska in his address at the annual meeting of the Kansas State Board of Agriculture, which was held in Topeka last week. Mr. Mellor is secretary of the Nebraska State Board of Agriculture and has had a wide experience in fair work. He told of a visit to the great International Exposition at Brussels in 1910. "There were wonderful exhibits of art and historical data," said Mr. Mellor, "a great display of industrial machinery, and a wonderful showing of the making, handling and finished product in munitions of war. The great Krupp guns were the center of attraction for admiring thousands, and the powerful cranes which easily handled great weights, moved massive bars of steel from one place to another with marvelous ease. After viewing these wonders in the preparation of modern warfare, we began to search for the peaceful exhibits in the animal world and agriculture. After making the rounds of the ground and not coming across a single show animal or an agricultural exhibit, we made inquiry for these departments and were surprised at the information that none were there. In the light of recent events we are forcibly led to believe that a people who ignore agriculture as an attraction at its most representative gatherings do not dwell on the ideal of peaceful pursuits."

"The educational value of a well-rounded fair," said Mr. Mellor, "is not clearly appreciated. The two great Kansas fairs for 1916 held at Topeka and Hutchinson had a combined attendance of more than 300,000, while your great university at Lawrence had an attendance in the 180 days of school held last year, of 400,000. My understanding is that the state provided but $33,000 for these two fairs in 1916 and yet their aggregate attendance was fully three-fourths that of your splendid university. Many people fail to realize that a large fair is an educational institution. It is true that the stereotyped text books are not used, but the very best method of teaching, which has existed since the dawn of creation, is by object lesson. This is taught at the fair in its concentrated form. The exhibits there typify the finished product in all of its departments. Competent judges are on hand to intelligently select those exhibits of outstanding excellence and the blue ribbon or tag is a notice of the acme of perfection.

"Our farmer patron has unbounded admiration for the beautiful coach, thoroughbred and standard bred light horses, but his chief enjoyment is an examination of those splendid draft breeds characterized by massiveness. In these automobile days he is not so deeply interested in the light harness horse as he used to be, but horses which have weight to move heavy loads easily are still a necessity on the farm. Perfection in the show ring brings to his mind a longing to have something just as good at his home.

"Fully 80 per cent of the pure-bred stock on our farms today can be attributed to the original desire created from showing at our fairs. What is true of stock is true in agriculture, horticulture, art, textiles and domestic products. If this deduction is true, then is not the fair, with its perfected object lessons, an educational institution?

"'Oh, but,' I imagine some may say, 'the chief province of a fair is the amusement end.' This may be true in some instances because certain people go to fairs wholly to be amused, the same as some pupils go to school to have a good time. Many people of biased judgment call attention to the thing which is not pleasing to them in relation to the fair; this same condition is true of the one who finds fault with the school. The person who imagines himself placed in this world for entirely serious purposes is as much out of touch and harmony with his environment as the one whose whole aim is to be amused. A proper amount of each is the happy medium. The boy attending school cannot study all the time, he must attend the football games, the gymnasium sports, the class rallies, the private theatricals, the dances, the movies and many other forms of amusement, if he is a normal youth. He who attends too closely to his studies is considered by his classmates as a "dig" and he who is at school merely for a good time is little regarded by his classmen. The normal student is the one most admired. If this is true in school life, Mr. Objector, why should it not obtain in other walks also, even at fairs? No man can spend an hour among the exhibits at one of our fairs without absorbing more knowledge than he could glean from books in a week. The eye grasps situations from which intelligent deductions are made.

"If you desire to purchase a new automobile you may read about its beautiful lines, its tonneau, radiator, engine, transmission, levers, finish, etc., for weeks, but a half hour of actual examination gives you the information which a month of book study would not impart. The exhibits at the fair furnish the opportunity for this ease of knowledge to the busy man, he whose duties in life demand so much time that he cannot acquire this knowledge in such a short time at any other place. We therefore come to the conclusion that a careful analysis of such facts will convince the most skeptical that a fair is educational as well as entertaining."

Why not plan for a vacation during the week of February 5-10 and attend Farm and Home Week at Manhattan?

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

SUBSCRIBER A. H. W., of Lincoln County, asks if the Sand Hill plum is propagated and grown as a domestic variety. He states that he has been unable to find this variety listed in any of the nursery catalogs. He also asks whether the fine twigs and trimmings of cedar and pine trees have any value as fertilizer if plowed under among fruit trees.

The Sand Hill plum is not listed in the nursery catalogs for the reason that there are other varieties much better and just as hardy and prolific. The America is a plum that will do well in Lincoln County, and we would advise our correspondent to get this variety if he wants a good bearer of good quality and a plum that will be sure to thrive under the conditions of that section.

The twigs of the cedar and pine will not do the land any harm, but they do not possess any great amount of fertilizing value. The leaves of deciduous trees possess a higher fertilizing value than twigs and tree trimmings. This sort of material helps to lighten a heavy gumbo soil and it is always a good plan to plow under as much vegetable matter as possible in a soil of this kind.

Sweet Clover for Pasture

A Republic County reader writes that he is a renter and has only a one-year lease of the place he is now farming. He needs pasture the coming season for two cows and fifteen or twenty hogs. There is a five-acre field fenced hog-tight that was once in alfalfa but about half of it is nearly killed out. He wants to know if it would be a good plan to disk this field thoroughly and sow sweet clover. If so, what variety, what time of year to sow, and how much seed should be used to the acre.

It is a serious handicap to be on a farm without pasture and have so limited a tenure as to make it impossible to plan for forage crops. Sweet clover can be used very successfully as a pasture for hogs and cows, but cannot be pastured the first season much before June or July. The second year it comes up very early in the spring and will provide pasture through the whole season.

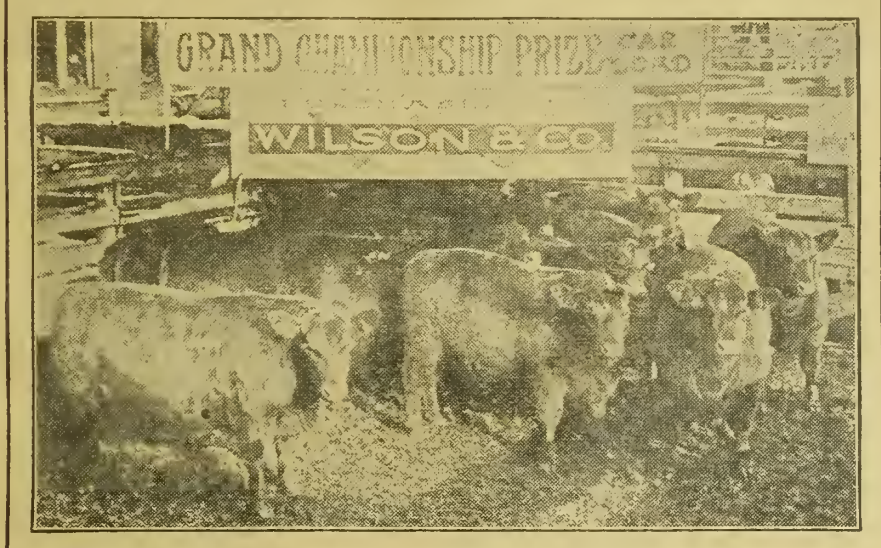
In seeding sweet clover the seed bed should not be too loose. It requires just enough loose soil on top to cover the seed. The disk and harrow can be used on this field in preparing it for seeding to sweet clover and the earlier the disking work is done, the better. Disk at any time during January or February when the ground is in suitable condition for working. The white flowered variety is the best kind to sow. In sweet clover seed there is quite a percentage that has a hard shell. This hard-shelled seed does not germinate readily. It may contain as much as 90 per cent of these hard seeds. If 60 per cent of the seed germinates readily, ten to fifteen pounds of seed to the acre is enough. The germination test can be made and the amount of seed sown based on the percentage that germinates. This can be easily done by counting out a hundred seeds and placing them in some moist soil in a box or pan and keeping it warm by the kitchen stove. Sweet clover seed has strong vitality and these hard-coated seeds will grow next year. It has been seeded any time from January to the first of May with good results. Early spring seeding is preferable—about oats sowing time.

Sweet clover should be pastured heavily enough to keep down the growth so that there will always be fresh new shoots coming on. If allowed to grow rank and tall it becomes woody and is not relished.

If hogs are to be pastured on newly-seeded sweet clover, it may be necessary to ring them to keep them from rooting up the young plants.

For the hogs, our correspondent should make plans for something that will be ready to pasture earlier in the season. It would pay him to fence off an acre or two of this field and put in oats or oats and Dwarf Essex rape. Some arrangement could be made with the owner of the land whereby the fence could remain the property of the tenant and be removed in case he goes to another farm. Rape can be sowed very early in the spring. It will stand quite a severe frost without injury. On rich land it will make a growth of sixteen to eighteen inches in six or eight weeks. The seed bed for rape should be fine and mellow. If sown broadcast, use from three to five pounds of seed to the acre. The hogs should not be turned in until it is twelve to fourteen inches high. If the hogs are taken off when there are still a few leaves left around the base of each plant, it will put forth a new growth and can be pastured again later in the season.

Oats and rape together make a fine early hog pasture. The best plan is to put the oats in first and after they are up nicely, sow the rape and harrow it in. An acre of rape or rape and oats on good land will pasture fifteen or twenty hogs for two or three months. If the balance of the field is sown to sweet clover it will be ready after the rape is pastured down the first time. The rape field might then be plowed shallow, harrowed down and sown to Sudan grass. This will grow better in hot weather than will rape, and will make a fine forage to be used either as hay or as pasture.



GRAND CHAMPION CARLOAD OF FAT CATTLE AT INTERNATIONAL EXPOSITION.—YEARLINGS FED BY ED P. HALL OF ILLINOIS.—AVERAGE WEIGHT, 1,146 POUNDS.—SOLD FOR 28 CENTS A POUND, A RECORD PRICE

Milk Test Alone Means Little

Milking a few cows is one of the sure ways of adding to the farm income. This means of securing some money to pay running expenses especially commends itself to the wheat farmer who often has considerable spare time during the winter season.

We have just received a most suggestive letter from G. E. R., a Smith County reader of KANSAS FARMER, who tells of his experience in milking cows. He says:

"I had been farming wheat alone but was not making much progress financially. A year ago last August I decided to purchase some cows and bought some common cows that were due to freshen soon. Since that time six cows have raised eight calves, made a living for my family consisting of my wife and two children and myself. In addition the cows have paid for most of our clothing. We sold some milk to town customers and supplied a restaurant with cream. We received 6½ cents a quart for the milk, and 25 cents a quart for the cream.

"Some time ago I tested my cows and found that two pure-bred Jerseys tested 6.4 per cent each; a cross-bred Jersey cow, 5.3 per cent, and three grade Shorthorns, 4.7 per cent, 4.6 per cent, and 5.4 per cent. I was somewhat surprised to find these cows testing so high. I would like to ask whether it is better to test the morning milk or the night milk. Five of these tests were from night's milking and the other was from morning's milk. I am now breeding all my cows and heifers to a registered Holstein bull from a heavy producing cow, and expect to purchase a pure-bred Holstein cow as soon as I am able to do so."

This reader is making a fine beginning, but the test alone is not the only factor in determining a cow's value. The tests given are high, but the quantity of milk must be considered. The amount of milk produced in a year is even more important than the test. If we were buying cows we would consider a definite record as to the amount of milk given in a year of considerably more value that a butter fat test without any record of the quantity of milk given. The test will increase as the period of lactation advances. Perhaps the samples tested were taken when the cows were almost dry, giving only a few quarts of milk. The test is always high at this time.

In order to get results that can be used in determining the real value of the cow, the test should be made monthly and a composite sample should be taken instead of a sample from a single milking. There is nearly always some variation between the test of the night and morning milking. If the interval between milkings is uniform, the variation will be very slight. By the composite sample we mean taking a sample from each milking for one, two, or three days, putting all the samples in a bottle in which has been placed a preservative tablet to keep the milk from souring until it is tested. The only object of making tests is to find out how much butter fat the cow is producing, and a single test might be very misleading, especially if taken when the cow was nearly dry.

Best Kafir Varieties

L. M., Linn County, asks if the pink variety of kafir is adapted to Eastern Kansas, and if so where he can get seed and what time to plant. He says he wants to get a good high-yielding variety of kafir.

Kafir should be planted a few days to a week later than corn. It is customary to begin planting kafir about the time the last of the corn in the neighborhood is planted. Prof. L. E. Call of the Kansas Agricultural College, in writing of the pink kafir, says:

"Pink kafir was developed by the United States Department of Agriculture and has been grown and distributed quite extensively from our Hays Branch Experiment Station. It is a variety that is well adapted to the central part of Kansas, where an early-maturing variety is needed. Pink kafir will mature in from ten days to two weeks less time than the black-hulled kafir.

"It is not a variety that I would recommend for growing in Eastern Kansas except on thin upland soils. On soils of this character that are not strong enough to grow and mature the black-hulled kafir, the pink kafir would be an excellent variety to grow. On soils of reasonable fertility in the eastern section of the state, black-hulled kafir outyields the pink kafir and for that reason should be grown. We have conducted a large number of tests in co-operation with farmers in which black-hulled kafir and pink kafir have been compared under identically the same conditions. These tests extend over four years. A number of tests were conducted in 1913, but none of the kafir matured seed. The results of the tests have been as follows:

		ACRE GRAIN YIELD	
		Black-hulled Kafir Bu.	Pink Kafir Bu.
1912	Butler County	27.2	18.7
1914	Average three tests in Allen County	10:6	8.3
1914	Butler County	35.5	33.2
1914	Harvey County	47.3	48.3
1915	Allen County	22.5	29.5
1915	Butler County	42.9	18.8
	Average	25.9	21.7

"Black-hulled kafir and pink kafir have been grown at the Manhattan station for a number of years. The comparative yields have been as follows:

	YIELD PER ACRE			
	Black-hulled		Pink Kafir	
	Silage Lbs.	Grain Bu.	Silage Lbs.	Grain Bu.
1915	33,200	54.4	27.140	23.1
1916	25,200	45.1	22,600	43.0

"The black-hulled is to be preferred for Eastern Kansas."

Hog Feeding Records

A farm bureau member in Kansas recently wrote a letter to a friend telling of some results he had secured in feeding hogs. He had kept such accurate account of his work and the financial outcome had been so satisfactory that the county agent secured his permission to publish this letter.

He fed fifteen shoats in a pen 18 x 32 feet, their shelter being a dry barn basement with a southern exposure. They were fed twice a day all the ear corn they would clean up, and bright alfalfa hay was set before them constantly. Although they ate the hay quite greedily, the total amount consumed was not great. They had free access to good fresh water and were given once a day, in addition, a thick slop of oil meal. The letter follows:

"I am sending you a few figures regarding my stock hog transaction. October 18 I purchased fifteen shoats averaging 133 pounds, paying $180 for them. I fed them 32 bushels of corn at $1 a bushel, and 300 pounds of linseed oil meal at $2 a hundred. The cost of the hogs and feed amounted to $218. On November 13 I sold these hogs, averaging 174 pounds, at $8.85 a hundred, the total amount received being $230.98. This gives me a profit of $12.98. The gain of 41 pounds a head is figured conservatively because the first weight was made when the hogs were full, and the selling weight was made after an eight-mile haul.

"If I had bought these hogs at eight cents a pound and sold them at nine cents, which were the prevailing prices at time of purchase and sale, the transaction would have figured out as follows: Fifteen 135-pound shoats at eight cents a pound, $159.60; corn and oil meal $38—total $197.60. Selling price of the fifteen hogs averaging 174 pounds, at nine cents a pound, $234.95, making a profit of $37.30. As it was, I received $1.40 a bushel for the corn fed. Taking the purchase price of the hogs and oil meal, at $136, from the total of $230.98—the selling price of the hogs—I had $44.98 left for the 32 bushels of corn fed.

"If I had not kept a record of this transaction, I would have been inclined to think I had lost money. Of course, there is some expense of doing business which is not taken into account in these figures."

Must Count the Interest

A farm business should pay for the capital invested the same as is expected of any other business enterprise. The capital is an expense in running the business. For instance, if the total receipts on a farm are $3,216, the current expenses $1,075 and 5 per cent interest on the capital $2,024, the profit is but $117 after the expenses and interest are subtracted. Such a farmer would have $2,141 available for his living, but $1,724 should be credited to his capital. This leaves only $117 for his own labor and management in addition to what the farm contributed toward the living. He is living off the interest of his investment.



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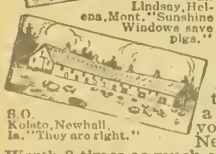

S. O. Kolsto, Newhall, Ia. "They are right."

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Kansas Farmer Dairy Club

Is Going To Buy Second Cow

I AM mailing you my November reports today, and I am enclosing you a picture of "Vic," the Guernsey bull that I took care of the past summer. Don't you think he is a fine looking fellow?

I have paid $108 on the price of my cow, "Daisy." I still owe $26, including interest. I expect to have this all paid off by February first. I am feeding alfalfa and oat straw and still keep the cow on pasture in good weather. You know the prairie pasture is good for stock even in the winter. I have about one and a half loads of oat straw. I got it a load for hauling a load and had to haul it about four miles.

Daisy's calf is doing fine. She eats nearly all the hay that Daisy leaves. I give her some good alfalfa and grain besides.

I like the Dairy Club business fine. I am going to try to get another cow as soon as I get Daisy paid for. I had no idea a boy could make money as fast as he can with a cow, and I am sure that I can handle two nearly as easily as I can one. I think you KANSAS FARMER people were great to organize the Dairy Club for us boys and girls. I hope you all have a Merry Christmas. —HARVEY RUSSELL, Scott County.



HARVEY RUSSELL, SCOTT COUNTY, AND THE GUERNSEY BULL WHICH HE ATTENDED LAST SUMMER

* * *

Judging from the picture you send, you are on very friendly terms with this young bull. It is not always a safe plan to encourage too much friendliness on the part of bulls. They are inclined to be playful but as they get older their play is sometimes apt to be dangerous. We never like to see anyone treat a bull as a pet. You can treat bulls kindly but it should always be with such firmness that they will not attempt to take liberties. Encouraging a bull in his playful tendencies while young is almost sure to result in his becoming dangerous as he gets older. He should never be trusted for you never know when he may become violent. We notice you have a ring in this young bull's nose, and we would suggest that you use it in handling him.

Liberal Feeding Pays

A common mistake in feeding dairy cows is the failure to feed high producing cows enough feed to allow them to produce to their full capacity. This is the poorest kind of economy, since after maintenance is provided for, the remainder of the ration is used entirely for milk production.

In the case of medium producing cows, about 50 per cent of the ration is used for maintenance and the remainder for producing milk. This proportion will run from 60 to 40 per cent, depending upon the milk producing ability of the individual cow. The highest producers, therefore, are the most economical producers, since a larger per cent of their entire ration is available for milk production.

Seven Months' Record Made

Five more days and seven months out of twelve will have passed by and my cow is still able to eat and give milk. I feed her 14 pounds of corn bran and wheat bran in equal parts, daily, and from 25 to 30 pounds of silage, besides alfalfa hay during the day. She has given a little over eight thousand pounds of milk and is giving only a little better than thirty pounds a day now. I am getting $2.25 per hundred for the milk at wholesale.

Since we have the barn finished and the colder weather has set in, I keep my cow in most of the time and I think she is doing better for it. At least she seems to enjoy the nice, clean straw to lie on and the water by her side all the time.

I am enclosing a picture of cow and myself which I think is very unsatisfactory, but am going to try in the very near future to get a good one. But as you requested, I am sending this one.—GLEN ROMIG, Shawnee County.

Sold Calf for Good Price

We take KANSAS FARMER and I try to read all I can every week. I have read the paper you sent me.

I sold my calf to papa for $150 last month.

I will try and send the milk sample to the right place this time. I will also try to get the milk records in sooner next time. The test kept me waiting some this time.—LESTER KINCAID, Logan County.

Good Seven Months' Record

I have not written to you for quite a while, but will now tell you about myself and cow.

I am fourteen years old and in the first year in high school. I am busy with my studies and do not have much time to write. My cow is doing pretty well now. She has been giving milk seven months and I have received $134.10 for her milk in that time. I am getting eighteen cents a gallon for her milk now.

I am feeding bran, cottonseed cake, and alfalfa.

I sent in my records for November, December 6.

I will have my cow's picture taken before long and will send you one. I read KANSAS FARMER every week. My father takes it so you will not need to send it to me any more.

I will close, wishing you all success. —FERMER HIDDLESTON, Johnson County.

Getting Very Good Price

I am sorry I did not send my records promptly, but hereafter I am going to send them in on time.

My cow is doing well. I have been feeding oil meal but have found out that I can get as much milk by feeding bran and shorts mixed and for that reason I am not feeding any more oil meal. It also is producing too much fat. I have been waiting to use corn chops in its place but it is $2 a hundred pounds, which I think is too expensive.

I sold my calf November 4, when it was twenty-eight days old. It weighed 145 pounds and brought me $13.05, or nine cents a pound.

I am selling whole milk at twenty-five cents a gallon. — ERNEST WENDEL, Leavenworth County.

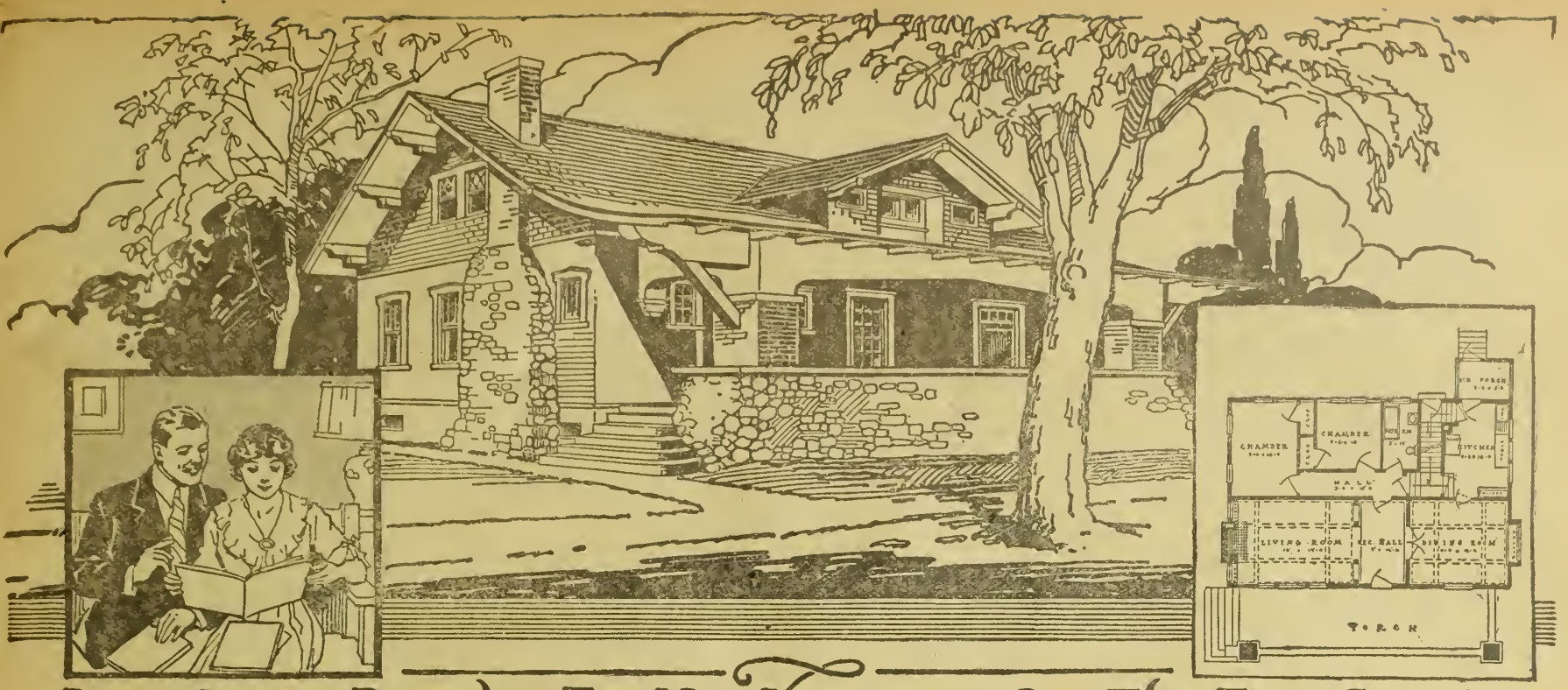
* * *

We saw Ernest at the meeting in Leavenworth December 8 and talked with him about shorts taking the place of oil meal.

Shorts do not take the place of oil meal. A pound of oil meal contains about three times as much protein as does a pound of shorts, and it is very important to have enough protein in the cow's ration. Protein can be purchased more cheaply in the oil meal than in shorts. Since corn is so high in price, shorts should be considered as a substitute for corn chop.

We have suggested to Ernest that he try the following ration: Four parts bran, four parts shorts and one part oil meal, all by weight, feeding about nine or ten pounds of the mixture daily. Oil meal is not a fattening feed. Shorts contains more fattening material than does oil meal. If the cow is increasing in weight and has the appearance of getting fat it indicates that she is not using all her feed for milk production. The ration above contains less grain but more protein and not so much fattening material. If she still seems to fatten it may be necessary to cut the grain still more.

If you have not already done so, tell us how you are selling your butter fat —whether in whole milk, cream or butter—and the price you are receiving for it. We will be glad to know this and so will the other members of the club.



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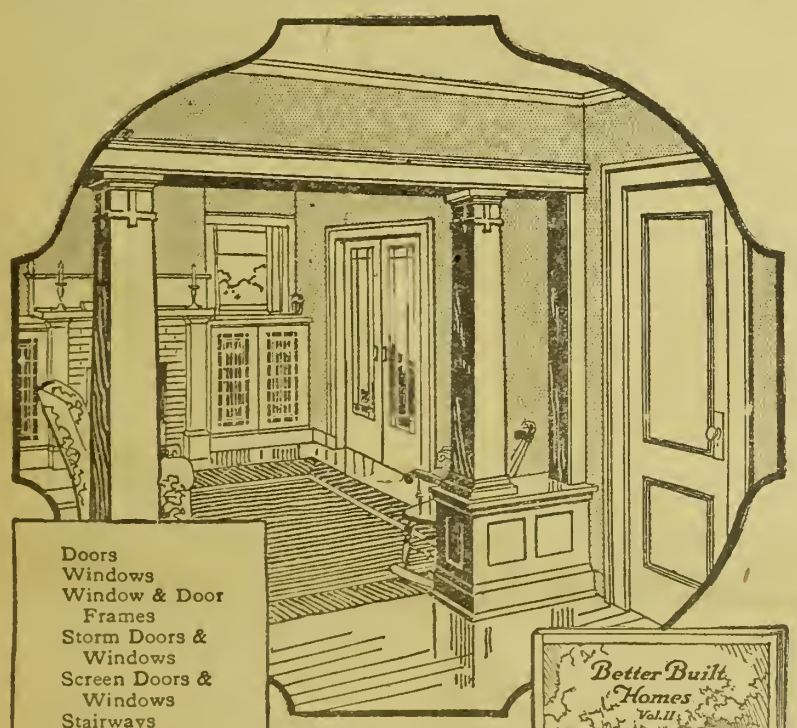

Doors
Windows
Window & Door Frames
Storm Doors & Windows
Screen Doors & Windows
Stairways
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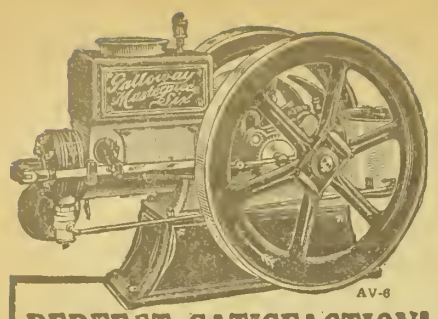

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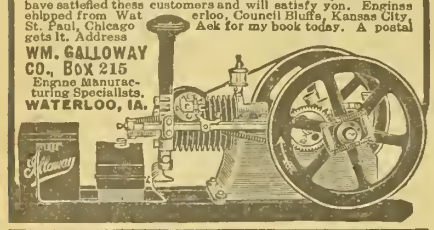

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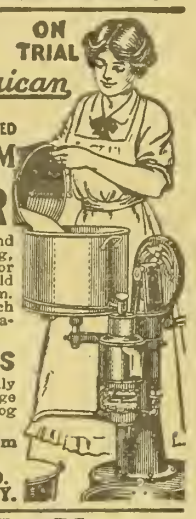

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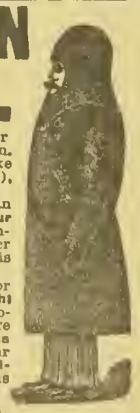

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Dairy Possibilities in Kansas

THE annual cash income of any one of at least half the counties of Kansas could be increased eleven million dollars through the production and sale of dairy products. This statement was made by George W. Marble, of Fort Scott, at the annual meeting of the Kansas State Board of Agriculture, held in Topeka last week. Mr. Marble has been making an exhaustive study of the dairy possibilities in Kansas, his investigations extending over a period of several years. During this time he has built up a good dairy herd of his own.

Mr. Marble said that in producing this increased revenue from dairying, each county would increase the value of its land from twenty to thirty millions, add from 10,000 to 16,000 to its population, and wonderfully improve social conditions and the general conveniences of the farms. According to Mr. Marble's estimates, twenty milk cows could now be kept on every quarter section of land in these counties through the use of feeds that are now going to waste. He included in this waste the difference between the value of the corn crop preserved and fed as silage and fed as dry fodder. In counties adapted to dairying it should be easily possible to maintain the twenty cows in addition to the stock now kept, simply by carefully conserving feed that is now wasted. It would not be necessary to increase the acreage of the crops grown.

Dairy crops and dairy markets are the two principal essentials to success in dairying. Where corn and alfalfa grow as successfully as they do in Central and Eastern Kansas, there can be no question as to the dairy crops. Where such crops can be grown, dairying is the most stable and profitable type of farming that can be practiced, providing there is a market for the products. This is furnished by the creameries and condenseries and near large centers of population through the demand for whole milk. Such is the demand for dairy products that no community in Kansas need fear to go into dairying because of lack of market for the products. Mr. Marble's observations have been that communities in which dairying is developed become increased consumers of dairy products and the creameries and condenseries are compelled to reach out for their milk and cream and pay higher prices than when the community first became interested in dairying.

Mr. Marble has made a personal survey of the Wisconsin dairy centers, this state generally being considered the most advanced dairy state of the West. In this visit he was not seeking proof that Kansas could be a dairy state, but rather looking for reasons why she could not be a great dairy state. He came to the conclusion that with the advantage of climate, the wonderful adaptability of our soil to the growing of alfalfa and the clovers and the relative low prices of our land, Kansas has a decided economic advantage over Wisconsin in the production of milk. He also visited dairy centers in Illinois. The climate and soil of Illinois and Wisconsin are specially favorable to grain crops, and yet farmers there are so generally engaged in dairying that one can travel through county after county and never see a farm that is not a dairy farm. Two silos and two barns are the usual equipment on these farms. A single silo and a single barn are the exceptions.

Kansas can grow as good corn as Northern Illinois up to the silage stage, but too often shortage of rain during the latter part of the season cuts the grain yield from 30 to 60 per cent. This big annual loss in the corn crop can be saved by the silo and made to yield full returns on farms where dairying is the leading industry.

Two-Year-Old Jersey Record

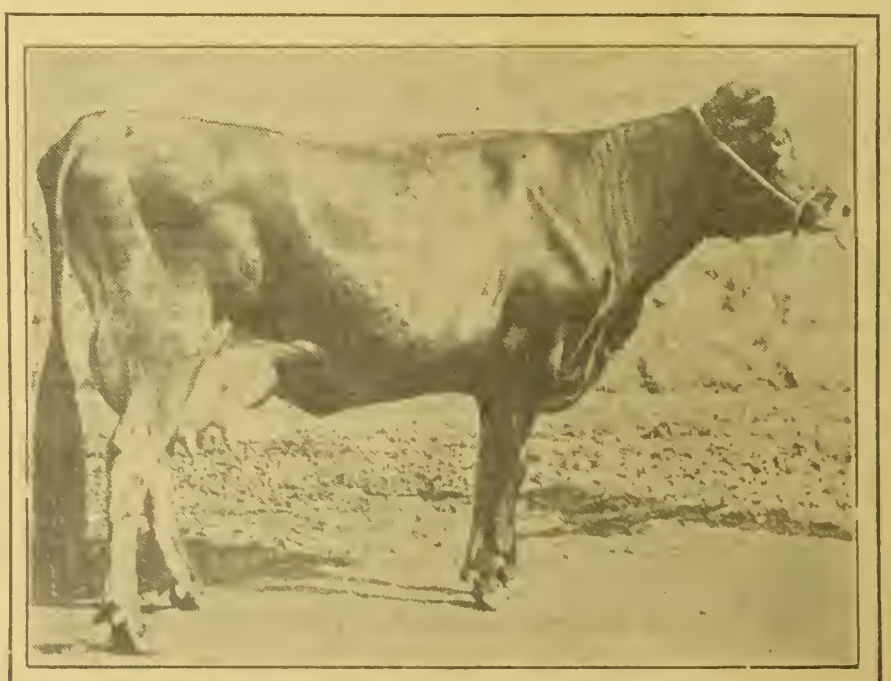
Irene's Cherry 285828 has earned the title of world's champion senior two-year-old Jersey. She went on test at two years and eleven months of age, and in the ensuing 365 days produced 12,567.7 pounds of milk, containing 749.87 pounds of fat. This means 882.2 pounds of 85 per cent butter and easily exceeds the record which was made by Lad's Lady Riotress Irene, the former champion.

The new champion is a direct descendant of Loretta D. and Ida Marigold. It will be remembered that Ida Marigold was the "best cow of any breed" in the cheese test at the World's Columbian Exposition at Chicago and St. Louis, and Loretta D. was pronounced "best cow of any breed" in the tests for economic production of butter fat and butter and economic production of milk for all purposes of dairying" at the St. Louis Exposition.

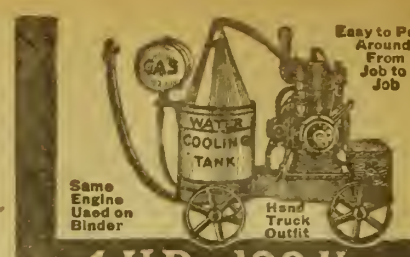
This young heifer is owned by F. D. Underwood, Wauwatosa, Wisconsin.

Missouri Josephine Sarcastic, a daughter of Missouri Chief Josephine, has just completed a year's record of 21,273 pounds of milk containing 584.98 pounds fat. This is equivalent to 731 pounds of butter. There are now four animals in the University of Missouri herd with records of over 20,000 pounds of milk in a year.

The great loss from the fermentation and leaching of manure in the open yard may be largely avoided by hauling the manure to the field as fast as it accumulates.



IRENE'S CHERRY.—RECORD AS TWO-YEAR-OLD, 12,567.7 POUNDS OF MILK AND 749.87 POUNDS OF BUTTER FAT



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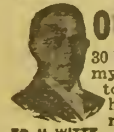

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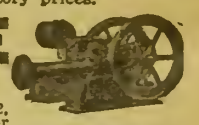

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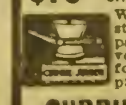

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Percheron Breeders Meet

THE annual meeting of the Percheron Society of America held in Chicago December 4 was attended by a large number of breeders from all parts of the United States and Canada. There were 304 members present at roll call, approximately 4,000 more by proxy, and many more members came in after the roll call was taken.

President White in his opening address reviewed in a comprehensive way the healthy condition of the Percheron trade. He laid stress on the fact that the elimination of importations had led American breeders to give better care to weanlings, yearlings, and two-year-olds, and that dealers, purchasing Percherons in this country at earlier ages than had been the custom, had themselves been surprised at the splendid outcome of their American-bred colts when given the same care and attention they had formerly given imported horses. He also called attention to the fee of $100 for registration of horses imported after July 1, 1916, stating that this had been passed by the board of directors in the belief that it was for the best interests of American breeders, in that it was calculated to discourage the importation of the poorer horses.

Mr. White then briefly reviewed the litigation pending against the Percheron Society. He stated that the cases involved the right of a recording association to control its registrations in such manner as to protect the purity of the breed; that the principle involved was a vital one affecting every record association in the United States, and every breeder of pure-bred live stock, and that for this reason the officers felt that the case should be fought through until decided by the Supreme Court of the State of Illinois.

Subsequently the breeders present adopted a resolution of confidence in the officers and directors, especially relative to their position in the litigation referred to. This was passed with but one dissenting vote, that one being from the attorney representing the suits against the society.

Secretary Dinsmore in his annual report stated that 9,044 registrations had been made during the year, an increase of 34 per cent over the preceding year. One hundred forty imported horses were recorded, but only 59 of these were brought over during the past year. Of the total registrations 2,014 were registered from Illinois and 1,772 from Iowa, so that these two states contributed 41.8 per cent of the grand total. Ohio came third with 747 registrations, Kansas fourth with 653, and Nebraska fifth with 466 registrations.

Eight hundred forty-seven new members were added during the year and the membership is now in excess of 8,000 breeders.

Transfer certificates issued during the year totaled 9,467, an increase of 38 per cent over the preceding year. Illinois and Iowa led in number of Percherons purchased and most of the horses bought not in these two states were bought within their own borders. Montana, at the other extreme, purchased 65 per cent of her Percherons from other states.

In the election of four directors for the ensuing three years, C. F. Curtiss of Iowa, W. S. Dunham of Illinois, and U. L. Burdick of North Dakota were elected to succeed themselves, and Arthur Colegrove of Girard, Kansas, was elected to succeed John L. DeLancey of Minnesota, who was not a candidate for re-election.

The income of the society for the year was reported as $52,257.10, and the normal expenditures as $46,597.01. Extraordinary expenditures due to the special litigation amounted to $16,939.87.

E. B. White was re-elected as president, U. L. Burdick was elected vice-president, and C. M. Jones treasurer. Wayne Dinsmore continues as secretary. President White was elected to represent the Percheron Society in the National Society of Record Associations.

Cheap Shed for Stock

I was up to the farm the other day and examined a shed that the boys have been making—50 feet long, 20 feet wide, open to the south. It is the best cheap shed I ever saw for warmth and comfort for loose cattle, colts and mules. Two rows of heavy posts were set about two feet apart on three sides. Eight feet out of the ground on inside of both rows heavy wire cattle fencing was nailed on very tight and filled with old last year's straw, tramped down as one would press baled hay. A row of ridge posts were set through the center. All posts were set six or seven feet apart and the roof was covered with a foot or more of straw, on brush, and hedge brush over that to hold it in place. As Kansas has very little rain in winter, the leakage is small. No animal can tear it down and if well packed it will make a warm shed all winter.—E. W. BROWN, Clay County.

Feeding Brood Mares

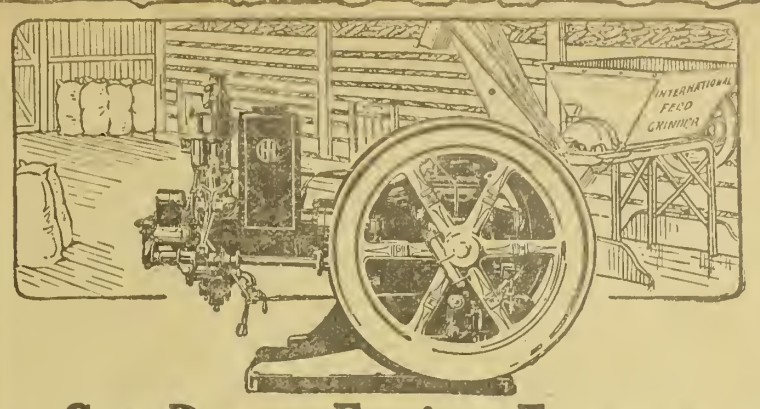
In seasons of high priced grain there is always the temptation to feed scant rations to stock that is being carried through the winter. The mares in foal are apt to suffer from this policy of scant feeding.

Dr. C. W. McCampbell of the Live Stock Registry Board calls attention to the fact that in years of high priced feeds there is always more than the usual number of complaints of mares losing their colts.

This condition is due primarily to two reasons. The mare owner being desirous of carrying his mares through the winter as cheaply as possible, depends largely upon such roughages as prairie hay, cane, kafir, and corn fodder. This kind of a feed is constipating, and such a condition prolonged often causes abortion.

When feeds are as high as they are at present, one is tempted to reduce the amount given, especially the grain portion of the ration, but he usually finds this to be expensive economy in the case of the brood mare. In order to raise the maximum number of colts the brood mares must be well fed and cared for, and if one is compelled to rely largely upon cheap roughages, bran and linseed oil meal should be added to the ration.

It takes feed to make a big horse. Are your draft bred colts getting enough grain to keep them growing?



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IT pays to buy a **Mogul kerosene engine,** both because it is a good engine and because it operates on kerosene. It takes about five gallons of fuel to run a 4-H. P. engine at full capacity for ten hours. Five gallons of gasoline costs close to $1.00. The same amount of kerosene costs only 40 cents or so. That is a big saving. It makes **Mogul** power wonderfully cheap.

Remember this too—the **Mogul** engine that operates successfully on kerosene has got to be a better engine than one that works on gasoline. It must be built more carefully and of better material. It also runs more steadily. It lasts longer. Because it burns kerosene it costs so little to operate that it is far and away the cheapest engine to use.

Get the whole story from the local dealer who handles **Mogul** engines or write to us for it, but don't buy any engine until you know just what it means to have a **Mogul** that operates successfully on common coal oil.

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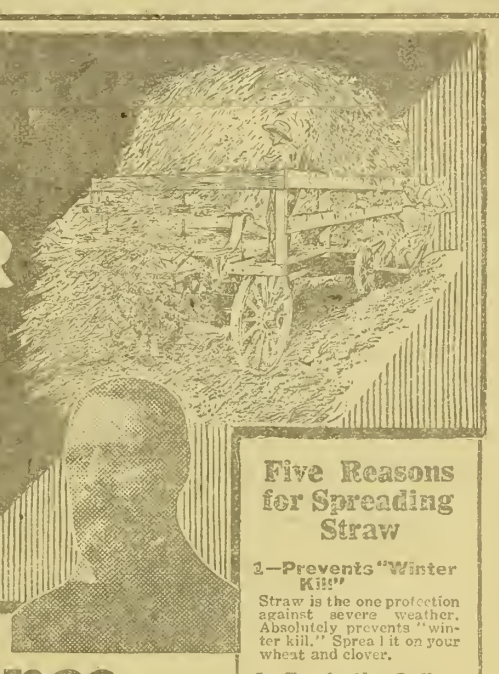

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So *sure* am I that I now offer to ship you my Simplex on a wide open **free trial**—no money down—not one cent in advance.

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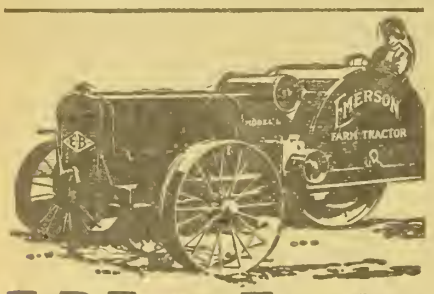

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HOW TO KILL HOGS

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A WELL-SELECTED butchering outfit and a convenient place for working are important considerations at hog-killing time. A handy and complete "kit" or outfit consists of two butcher knives, two "bell" or candlestick scrapers, a meat saw, and a sharpening steel. The meat saw is for sawing down the backbone and cutting up the carcass. The candlestick scrapers have detachable handles, and are used to remove the hair and scurf from the hogs. A long waterproof apron, which will protect the clothing, can be had at a small cost.

PREPARATION FOR SLAUGHTER

A 24 to 36-hour fast, plenty of water, careful handling, and rest before slaughter are all important in securing meat in the best condition for use, either fresh or for curing purposes. Food in the stomach decomposes very rapidly after slaughter, and where the dressing is slow the gases generated often affect the flavor of the meat. Water should be given freely up to the time of slaughter as it keeps the temperature normal.

It is highly important that the animals be not excited in any way sufficiently to raise the temperature of the body. If the animal becomes heated, it is better to allow it to rest over night before killing than to risk spoiling the meat. It is also essential that the hog be carefully handled so as not to bruise its body. Careful handling before and after slaughter greatly improves the quality of the meat.

POINTS ON KILLING

It is customary on the farm to stun hogs before sticking them, although in some localities this is not done. Another method is by shooting the hog through the head with a small rifle. After stunning by a heavy blow on the center of the forehead immediately above the eyes with an ax, the eight-inch straight-bladed knife is inserted into the hog's throat in the under portion of the neck, to a point just in front of the chest cavity, but not into this cavity. The knife is given a twist and sideward motion to sever the blood vessels and allow the blood to flow. By laying the hog on one side and elevating the ham end, it will bleed freely

EQUIPMENT FOR SCALDING

A barrel is the receptacle commonly used for scalding. If it is set at the proper slant, with the open end against a table or platform of the proper height and the bottom securely fastened, there is little danger of accident. A strong table about twenty inches high, built for the purpose, would be a very desirable thing on which to work, though it is not absolutely necessary. A box often serves very well. The water for scalding should be heated to the boiling point. This will allow for a reduction of temperature when the water is put into a cold barrel. Be careful not to have the water so hot as to cook the skin of the hog. If the water is too hot the hair is likely to set. A small shovelful of hardwood ashes added to the water aids materially in removing the scurf from the body, though it has no effect in loosening the hair. A lump of lime, a handful of soft soap, a little pine tar, or a tablespoonful of concentrated lye has the same effect.

HOW TO SCALD A HOG

The hog should not be scalded before life is extinct, or the blood vessels near the surface of the skin will be cooked, giving a reddish tinge to the carcass. While being scalded the hog should be moved constantly to avoid cooking the skin. Occasionally it should be drawn out of the water to air—when the hair may be "tried." As soon as the hair and scurf slip easily from the surface, scalding is complete. If it is suspected that the water is too hot, scald the hind end of the hog first. If the water is too hot and you overscald the head, you will be adding to the trouble of scraping the part most difficult to clean. When the water is about right, begin by scalding the head.

The scraping and cleaning of the hog's skin should be done as soon as possible after removal of the animal from the scalding vat. Scraping a cold hog is a difficult, if not an impossible, task. Where it is necessary to reverse the position of the hog in the barrel to complete scalding, the portion scalded should be cleaned before attempting to scald the other end of the hog.

When the hair starts readily, remove the animal from the water and begin scraping. The "bell" scraper should be used with a long, sweeping movement over the sides and ends while the hog is still hot. The head and feet should be cleaned first, as they cool quickly. Pull the ears through the hands to remove the bulk of the hair. Grasp with the hands the lower portions of the legs and twist to assist in cleaning them. Use the "candlestick" scraper for removing the skin and scurf from the flat surfaces and as much as possible from the other parts and finish the cleaning of the entire carcass, removing all hair, scurf, and dirt by rinsing with hot water and shaving with the large knife.

Cut the skin on the side of the tendons so that a gambrel stick may be inserted. The next step is to hang the hog by his hind legs by means of the gambrel stick high enough so that his head clears the ground. Wash down with hot water, shave over any unfinished patches and wash the entire carcass again to remove all loose hair and scurf.

Occasionally a hog is killed that is too large to scald in a barrel. If it is covered thickly with blankets or with sacks containing a little bran, and hot water poured over it, the hair will be loosened readily.

REMOVING THE ENTRAILS

In removing the entrails, first split the hog between the hind legs, separating the bones with the knife. This can easily be done if the cut is made directly through the union of bones between the hams. Run the knife down the center of the belly, holding the intestines back with the fingers of the left hand and guiding the knife with the right. There is little danger of cutting the intestines in this way. Split the breastbone with the knife or an ax and cut down through the sticking place to the chin. Cut around the rectum and pull it down until the kidneys are reached, using the knife wherever necessary to sever the cords attaching it to the "bed." Remove the sexual organs, then cut across the artery running down the backbone, cut around the diaphragm (skirt) and remove the intestines, stomach, and "pluck," that is, heart, liver and lungs, with a backward and downward pull—grasping the mass of organs near the union to the backbone and diaphragm, sever attachments with a knife where necessary. In this operation the windpipe down to the head should be removed with the pluck. Do not disturb the kidneys or the leaf fat in carcasses to be shipped, except in warm weather, when the "leaf" may be removed to allow quicker and more thorough cooling. If the hog is to be cut up on the farm and not intended for shipment in carcass form, it is advisable to loosen the leaf fat from the abdominal wall, allowing it to remain attached to the carcass at the ham end. Open the jaw and insert a small block to allow free drainage; then wash out all blood with cold water and sponge out with a coarse cloth. In hot weather the backbone should be split to facilitate cooling. It is good practice to do this also where the hog is to be cut up on the farm and not intended for shipment. The fat should be removed from the intestines before they get cold. Since it is strong in flavor it should not be mixed with the leaf fat in rendering.

Duroc-Jersey Fieldman

The president of the National Duroc-Jersey Record Association writes that at the last meeting of that association the stockholders decided to do more promotion and publicity work than they had been doing in the past. To this end they created the office of field secretary, and appointed to that position R. L. (Bob) Hill, of Columbia, Mo. Mr. Hill is a graduate of the Missouri Agricultural College, has fitted himself particularly along live stock lines and since leaving school has been actively engaged in breeding pure-bred Durocs.

The plan is to have Mr. Hill attend stock breeders' meetings, fairs, and get into territory that is new in the swine breeding business. He will, from time to time, submit to the agricultural press articles which will assist in the general upbuilding of the hog business.

"We appreciate the good work KANSAS FARMER is doing for the swine industry," says Mr. McLain, "and we want to co-operate with you, and to this end we would be glad to have you give space to such of Mr. Hill's articles as may be of service to your readers.

"Our general idea is first to assist in the building up of the hog business, and second to push the Duroc-Jersey breed."

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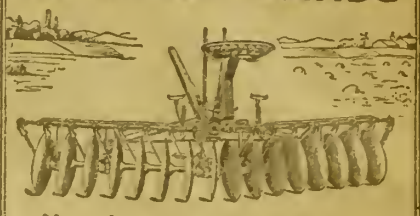

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Programs Live Stock Meetings

The annual meetings of most of the state live stock and agricultural associations of Kansas will be held in Manhattan during the State Farm and Home Week. The detailed programs of these meetings follow:

KANSAS SWINE BREEDERS' ASSOCIATION

Tuesday, February 6. 2 o'clock. Agricultural Building, Room 6.

"The Business of Selling Pure-Bred Swine," F. B. Caldwell, Howard, Kan.

"Feeding the Pure-Bred Pig," J. V. Evvard, Associate Chief in Animal Husbandry, Iowa State College, Ames, Iowa.

"Inheritance of Size of Litter in Swine," Prof. E. N. Wentworth, Kansas State Agricultural College.

Business session.

KANSAS CROP IMPROVEMENT ASSOCIATION

Tuesday, February 6. Forenoon session, 8:30 o'clock, old chapel, main building.

"Pasture Management," Ralph Kenney, Assistant Professor of Crops, Kansas Agricultural College.

"Cultivation to Conserve Moisture," W. W. Burr, Professor of Agronomy, Nebraska Agricultural College, Lincoln, Neb.

"Forage Sorghums," H. N. Vinall, Office of Forage Crops, U. S. Department of Agriculture, Washington, D. C.

General assembly, Auditorium.

Afternoon session, 2 o'clock:

President's address, W. G. Shelley, McPherson, Kan.

"Factors Influencing Yield of Wheat," L. E. Call, Professor of Agronomy, Kansas Agricultural College.

"Sudan Grass," Mr. Vinall.

"More Profitable Crops," W. W. Burr.

Business session.

KANSAS SHEEP BREEDERS' ASSOCIATION

Wednesday afternoon, February 7, 2 o'clock, in Agricultural Building, Room 6.

"Handling Western Lambs," J. B. Baker, Emporia, Kan.

"Sheep Feeding Experiments," Prof. W. A. Cochel, Kansas Agricultural College.

"Sheep Breeding," F. R. Marshall, in charge of sheep investigations, U. S. Department of Agriculture.

Business session.

KANSAS STATE DAIRY ASSOCIATION

Wednesday, February 7. Forenoon session, Live Stock pavilion, 8:30 o'clock.

President's address, P. W. Enns. Newton.

"Experimental Work with Dairy Cattle," O. E. Reed, Professor of Dairy Husbandry, Kansas Agricultural College, and J. B. Fitch, Associate Professor of Dairy Husbandry.

Business session.

General assembly, Auditorium.

Afternoon session, old chapel, main building, 2 o'clock:

"Profitable Methods of Marketing Butter Fat," Theo. Macklin, Instructor in Agricultural Economics, Kansas Agricultural College.

"The Breeding of Holstein Cattle," John B. Irwin, breeder and owner of the world's champion Holstein cow, Minneapolis, Minn.

"Suggestions for Control of Diseases in Dairy Cattle," L. W. Goss, Professor of Veterinary Medicine, Kansas Agricultural College.

KANSAS IMPROVED STOCK BREEDERS' ASSOCIATION

Thursday, February 8. Forenoon session, old chapel, main building, at 8:30 o'clock:

"The Product of the Grade Herd," Dan D. Casement, farmer and stockman, Manhattan, Kan.

"The Bovine Family and Its Domesticated Forms," (illustrated), R. K. Nabours, Professor of Zoology, Kansas Agricultural College.

"Some Problems in Cattle Breeding," E. N. Wentworth, Professor of Animal Breeding, Kansas Agricultural College.

General assembly, Auditorium.

Music — Selections by Department of Music, Kansas Agricultural College.

"From Range to Feed Lot," Hon. John Clay, Chicago, Ill.

Afternoon session, 1:30 o'clock:

Business meeting.

"The Breeding of the Grand Champion," R. H. Hazlett, farmer and breeder, El Dorado, Kan.

"The Outlook for the Live Stock Breeder," Hon. John Clay.

"The Breeding of Pure-Bred Cattle" (illustrated by examples from the college breeding herd, judging pavilion), W. A. Cochel, Professor of Animal Husbandry, Kansas Agricultural College.

Grand live stock parade of breeding and show animals of beef and dairy cattle, horses, hogs, and sheep, in judging pavilion.

Headquarters for stockmen, Agricultural Building, Room 10.

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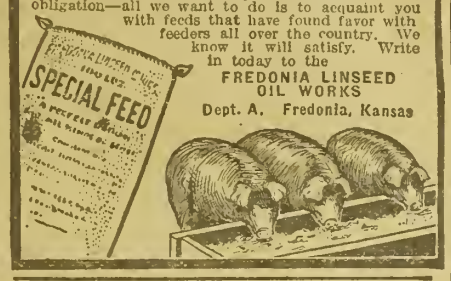

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Consisting of 2 pkgs. Radish, 2 pkgs. Lettuce, and 1 pkg. each of Asparagus, Wax Beans, Beets, Cabbage, Carrots, Endive, Turnips, Parsnips, Peas, Tomato, Nasturtium, Asters, Cosmos, Verbena, Zinnia, Sweet Peas. All varieties are best seeds for your locality.

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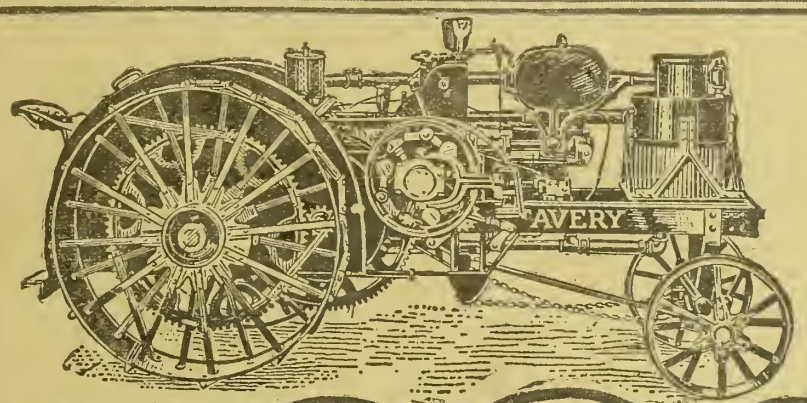

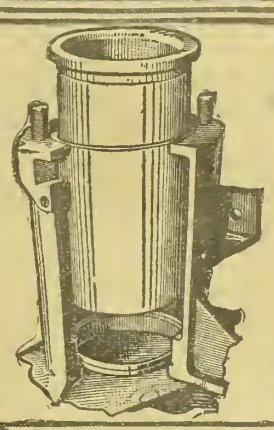

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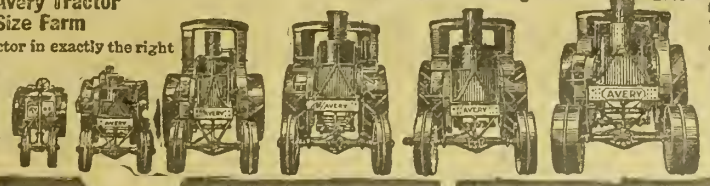

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SANTA FE TELEGRAPH SCHOOL
Desk F. Topeka, Kansas



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

"Speak a shade more kindly
Than the day before;
Pray a little oftener,
Love a little more."

Each high achievement is a sign and token of the whole nature's possibility. What a piece of the man was for that shining moment, it is the duty of the whole man to be always.—PHILLIPS BROOKS.

Remember the dates of Farm and Home Week at the Kansas Agricultural College—February 5 to 10. If you can attend, you will find there many interesting sessions.

The bed spread or top quilt can be kept unwrinkled and clean much longer if it is turned back or removed each night. By folding it double and then once again, it will not be necessary to take it off. See that the folds are straight so that there will not be wrinkles. All this takes much less time and strength than is required to wash either a bed spread or quilt, and the spread or quilt will not wear out so quickly, either.

Working Conveniences

Many housekeepers might have more of the conveniences that greatly reduce the drudgery of housework, if they would express a desire for them and a willingness to use them. Men are constructed differently. There are those who see and understand the needs of the household as well as does the housewife, and will provide them voluntarily. Then there are those who, though they do not see them, if their attention is called to these needs, they are provided promptly. And the third class is made up of those who neither see the needs nor are easily convinced regarding them.

We have known women who through their indifference were responsible for placing their husbands in the second or third class mentioned. A new convenience was brought home and without giving it a trial they would declare they could do the work easier and more quickly in their old way. Nothing will more surely kill the interest of the thoughtful husband in household conveniences.

The housewife should have all the conveniences for doing her work better and more easily, that the farm business will afford. This is what the farmer does regarding the machines and tools for the outside work. In fact, many times these machines and tools are bought on the theory that they will pay for themselves, which they do. So will the conveniences for making the housework lighter.

Housekeeping and home-making are a part of the farm business, the same as are the outdoor operations, and should be provided for as adequately.

Reading Is a Habit

A taste for good reading cultivated early in life, is one of our greatest blessings. To the man or woman who enjoys reading and who has learned to choose the best, few of the wonders and beauties of the world are barred. The reader need never be alone, for it is always possible to have at least a few of his book friends near him. These he can choose according to his mood and they will minister to his need in an almost human way.

With some, the reading habit is a natural one. With others it is possible of acquirement if thought is given to it early enough. The creation of a love for good reading is very important in the child's training. All his leisure hours should not be spent reading, for play hours are essential to the normal development of all children. But reading is as helpful to the development of the mind as play is to the body. As each day's exercise causes the body to grow normally, so will good daily reading exercise the powers of the mind and give it strength and development.

Building character—the highest type of manhood and womanhood—is the biggest and most important work there is, and we each have a part in it to the extent that we seek to guide childhood in the direction of the best influences. Through good literature the child can be surrounded with many of these best influences.

Keep the Mouth Clean

We do not refer this time to brushing the teeth—almost everyone does this. This is a warning against putting dirty things from the outside into the mouth.

How many of us moisten our thumbs with our tongues before turning the pages of a book or newspaper? But do we ever stop to think where the paper or book has been before it has come to us? It may have become contaminated with disease germs even in our own possession, but surely we have no way of knowing what it has passed through before reaching us.

Those who have made a study of this matter and who ought to know as they have carried on experiments in order to find out, tell us that we moisten postage stamps in our mouths at our own risk and that even they carry disease germs though the gummy substance used on them is supposed to be pure. But postage stamps pass through many hands before they reach ours. If postage stamps are dirty, surely it is not safe to moisten envelope flaps with our tongues.

Yes, all these things have been done for years and we may not know of a single case of sickness resulting from any one of them. But there may have been hundreds about which we did not know. A sure preventive in each of the cases mentioned, would be a small sponge kept in a small cup where it would be handy to get when needed for any of these purposes. It is far easier to keep a sponge clean than it is to take care of a sick person.

Some weeks ago we referred to the filth that accumulates on money and the dangerous practice of holding it in the mouth. At first thought it would seem there is no comparison between the dirt on money and that on clean postage stamps or new envelopes, and yet all pass through many hands and are exposed to dirt that should not be carried to the mouth.

Bulletin on Bedbug

Farmers' Bulletin No. 754 of the U. S. Department of Agriculture, gives interesting and valuable facts about the bedbug. At some time in almost every housekeeper's experience this troublesome pest makes its appearance, much to the chagrin of the housewife. She should not feel so disgraced as she usually does, but can successfully fight this enemy. The bulletin gives the history and habits of the bedbug and the remedies which have proven effective in ridding the house of it. This bulletin can be secured by writing the Division of Publications, U. S. Department of Agriculture, Washington, D. C.

English Rocks

1½ cupfuls brown sugar
3 eggs, well beaten
1 cupful butter, or part lard
Pinch of salt
½ cupful milk
½ pound raisins, chopped
3 cupfuls flour
Chopped English Walnuts
1 teaspoonful soda
1 teaspoonful cinnamon

Drop from spoon in buttered pan and bake in moderate oven.

Sour Cream Waffles

1 cupful sour cream
1 cupful of flour
1 tablespoonful white cornmeal
2 eggs beaten separately
½ teaspoonful soda
Pinch of salt

Sift salt and soda with flour. Mix beaten egg yolk and cream, flour, cornmeal, and stiffly beaten egg whites. Thin batter with water if necessary to run quickly and smoothly on hot greased waffle iron.

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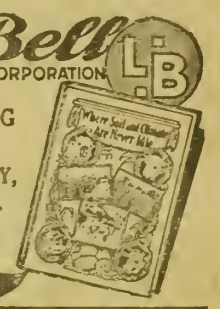

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OVERLAND RED

A Romance of The Moonstone Canon Trail.

(Chapter XXXI, "Night"—Continued)

She reassured the trembling Boyar, who fretted sideways and snorted as he passed the spot where the snake had been coiled in the trail.

At the edge of the Old Meadow the girl dismounted, allowing Boyar to graze at will.

She climbed to the low rounded rock, her erstwhile throne of dreams, where she sat with knees gathered to her in her clasped hands. The pony paused in his grazing to lift his head and look at her with gently wondering eyes.

The utter solitude of the place, far above the viewless valley, allowed her thought a horizon impossible at the Moonstone Rancho. Alone she faced the grave question of making an unalterable choice. Collie had asked her to marry him. She had evaded direct reply to his direct question. She knew of no good reason why she should marry him. She knew of no better reason why she should not. She thought she was content with being loved. She was, for the moment.

The Old Meadow, that had once before revealed a sprightly and ragged romance, slumbered in the southern night; slumbered to awaken to the hushed tread of men and strange whisperings.

Down in the valley the coyotes called dismally, with that infinite shrill sadness of wild things that hunger, and in their wailing pulsed the eternal and unanswerable "Why?" challenging the peaceful stars. Something in their questioning cry impelled Louise to lift her hands to the night. "What is it? What is it up there—behind everything—that never, never answers?"

The moon was lost somewhere behind the ragged peaks. The night grew deeper. The Old Meadow, shadowed by the range above it, grew dark, impenetrable, a place without boundary or breadth or depth.

"Got a match, kid?"

Louise raised her head. Some one was afoot on the Old Meadow Trail. She could hear the whisper of dried grasses against the boots of the men as another voice replied, "Sure! Here you are." And Louise knew that Collie was one of the men.

About to call, she hesitated, strangely curious as to who the other man might be, and why Collie and he should forcgather in the Old Meadow, at night.

"Never mind," mumbled the first speaker; "I thought I wanted to smoke, but I don't. I want to talk first—about the Rose Girl."

Louise tried to call out, but she was interrupted by Overland's voice. The two men had stopped at the lower side of the great rock. She could hear them plainly, although she could not see them.

"Collie—we're busted. We're done, Chico. I ain't said nothin' to Billy yet. He's got money, anyway. This here only hits you and me."

"What do you mean, Red?"

"I mean that the Rose Girl Mining Company, Incorporated, Jack Summers, President and General Manager, don't belong to us and never did. We been sellin' stock that ain't ours and never was."

"How's that?"

"I was goin' to write. But I ain't no hand to write about business. Writin' po'try is bad enough. You recollec' them papers and that dust Billy tried to find, out there by the track?"

"Yes."

"Well, I found it all. Since the company is workin' the claim now and I didn't have so much to do, I got to thinkin' of them papers. I went out there, paced her off down the track, guessed at about where it was, and found 'em."

"Found them?"

"Yes, sir. There was that little bag almost atop of the sand, account of wind and rain. Then there was a record of the claim, our claim. It's been filed on before. We made a mistake and filed on the wrong section. When me and Billy went to file, I noticed the clerk said something about havin' neighbors on the next claim, but I was scared of answerin' too many questions, so I give him some cigars and beat it."

"Who owns our claim, then?"

"That's the queer part of it. You know the guy we give the water to—the one that died out there. He owns the claim, or he did. It belongs by rights to his girl now. His name was Andre Lacharme."

"Lacharme!"

"Yes, Louise's pa. Recollect your boss tellin' us how the Rose Girl's daddy was missin' out in the Mojave? Then they was a letter—old and 'most wore out—from Walter Stone himself. It was to him—her pa—tellin' him about the little Louise baby and askin' him to come to the Moonstone and take a job and quit prospectin'. That's where we stand."

Louise, breathless, listened and could not believe that she was real, that this was not a dream. Andre Lacharme! Her father!

"I seen a lawyer about it," resumed Overland. "He said it was plain enough that the claim belonged to the dead prospector or his girl, now. You see, we worked the claim and kep' up the work accordin' to law. What we made ain't ours, but I'm mighty glad it's hers. 'Course, we earned what dust we dug, all right. Now I'm leavin' it up to you. Do we tell her or do we say nothin', and go on gettin' rich?"

"Why do you put it up to me?" asked Collie.

"Because, kid, you got the most to lose. Your chance is about gone with the Rose Girl if you let go the gold. Sabe? The little Rose Girl is wise. She don't give two cents for money—but she ain't foolish enough to marry a puncher that's workin' for wages on her uncle's ranch. And when she gets all me and Billy made and your share, she'll be rich That won't be no time for you to go courtin' her. It ain't that you ain't good enough for any girl. But now-'days things is different. You got to have money."

"Do you think Louise would take the money?" asked Collie.

"I don't know. But that ain't it. We either give it up—or we don't. What do you say?"

"Why—to tell Louise, of course. I meant that right along. You ought to know that."

"You givin' it up because you had some fuss with her, or anything like that?"

"No, Red. I say tell her, because it's square. Did she stop to ask questions when I was in trouble? No. She went to work to help me, quick. I guess we care more for her than a whole carload of gold."

"Well, I guess. Once I wouldn't 'a' stopped to worry about whose gold it was. But knowin' the Rose Girl—knowin' what she is—why, it's makin' me soft in me morals."

"What do we do now, Red?"

"I'm goin' to beat it. Back to the dusty for mine."

"You don't have to do that, Red."

"That's just why I'm a-doin' it. I like to do what I like."

"Quitting now seems like saying, 'I'm whipped,'" said Collie. "Quitting after giving up our money to her looks like we were sore—even if we do it and smile. She would feel bad, Red. She'd think she drove us off."

"No, I reckon not. She'll see that I always been a good daddy to you and put you right in this case. It was all right when you had a chance. It ain't now. It ain't fair to her, neither, because she's like to stick to any promises she might 'a' made you."

"Why don't you ask Store for a job?" said Collie.

"What? Me? After bein' President of the Rose Girl Mining Company, in—Say! They's no halfway house for me. It's all or nothin'. Why, I don't even own the Guzzuh. Could you stand it to see her every day, and you just a puncher workin' for the Moonstone? She would smile and treat you fine, and you'd be eatin' your own heart out for her."

"No, I couldn't," said Collie slowly. "Red, I guess you're right."

Collie's perspective was distorted through sudden disappointment. The old life of the road . . . the value tomorrows of indolence . . . the sprightly companionship of Overland Red, inventive, eloquent . . .

"Red, if I come with you, it's because I can't stand seeing her—after everything that has happened. It is square to her, too, I guess."

"I ain't askin' you, Collie, but there's nothin' like ramblin' to make you forget. It's got hard work beat to a mush, because when you're ramblin' you're 'most always hungry. Listen! Love is when you ain't satisfied. So is a empty stomach. A fella's got to eat. Do you get that?"

"Yes. But, Red, you said you loved a woman once. You didn't forget."

"No, kid. I didn't. Once I didn't do nothin' else but remember. I got over that. It's only accidental to circumstances pertainin' to the fact that I remember now. You never seen me cry in my soup, did you?"

"But you're different."

"That's the blat every yearlin' makes till he grows up and finds out he's a cow jest like his ma. I ain't different inside. And bleedin' inside is dangerouser than bleedin' outside. Listen! Remember the little fire beside the track, when we way 'way up in the big hills? Remember the curve, like a snake unwindin' where she run round the hill, and nothin' beyond but space and the sun drippin' red in the ocean? Remember the chicken we swiped and et that night? And then the smokes and lookin' up at the stars? Remember that? Listen!

"It's beat it, bo, while your feet are mates,
And we'll see the whole United States.
With a smoke and a pal and a fire at night,
And up again in the mornin' bright,
With nithin' but road and sky in sight
And nothin' to do but go.

"Then beat it, bo, while the walkin's good;
And the birds on the wires is sawin' wood.
If today ain't the finest for you and me,
There's always tomorrow, that's goin' to be.
And the day after that is a'comin'. See!
And nothin' to do but go.

"I'm the ramblin' son with the nervous feet,
That never was made for a steady beat.
I had many a job for a little spell;
I been on the bum, and I've hit it swell,
But there's only one road to Fare-ye-well,
And nothin' to do but go."

"With nothing to do but go," whispered Collie. "Red, we've always been friends?"

"You bet your return ticket!"

"And we are always going to be," said Collie. "I guess that settles it. I—I wish Saunders—had—finished me."

Louise, numb from sitting still so long, moved slightly.

"What's that?" exclaimed Collie.

"Jest some of your little old ideas changin' cars," replied Overland. "You'll get used to it."

"No; I heard something."

"You'll be seein' things next. Got a match? I'm jest dyin' for a smoke. Remember when she give us the makin's and you got hot at me?"

Overland cupped the flame in his hands and lighted his cigaret. The soft glow of the match spread in the windless air, penetrating the darkness. For an instant, a breath, Overland saw a startled face gazing down at him; the white face of the Rose Girl!"

"Great Snakes!" he cried, stepping back as the flame expired.

"What's the matter, Red?"

"Nothin'. I was just thinkin'. I burned my mitt. Come on, Collie. Brand'll find a bunk for me tonight, I reckon. We'll tell the boss and the Rose Girl all about it tomorrow."

[To be Continued.]

Overland Red.—Copyright, Houghton Mifflin Company.

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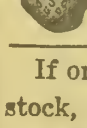

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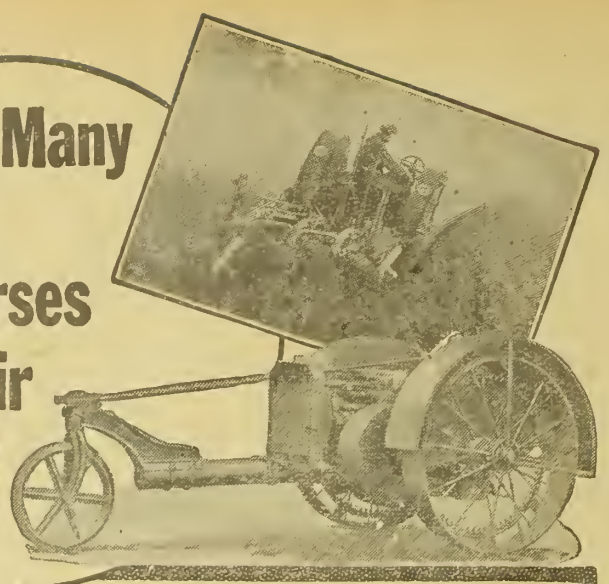

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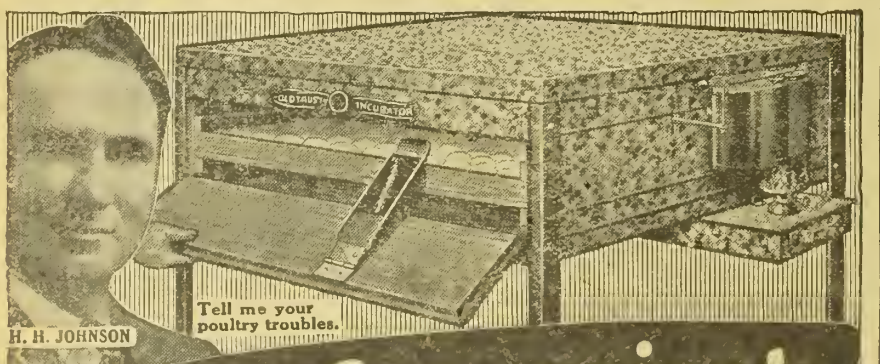
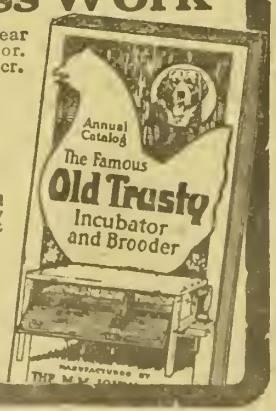


More Convenient —Get Big Hatches With Less Work

Old Trusty always did take the cake as a work saver. This year it's still better. Note the handy thermometer holder on the door. Saves time and stooping. Also note the new big oil drawer. Holds five to six quarts. Saves filling the lamp.

Old Trusty

More unbeatable than ever with these new conveniences. Get an Old Trusty and make more money with poultry this year. Over 700,000 now in use. Quick shipment and safe arrival guaranteed from factory at Clay Center or warehouse at St. Joseph, Mo., or Seattle, Wash.



$9.60 buys our Old Trusty "Special," redwood case, double walls, copper tank, thermometer holder; freight paid east of Rockies.

BOOK FREE
Learn how Old Trusty owners make big money-making hatches in coldest weather. Write today

The M. M. Johnson Co.
Clay Center, Neb.

Join Our MONEY-MAKERS with "Successful" INCUBATORS & BROODERS

Twenty-three years leadership. Poultry lessons *free* to every buyer. Booklet, "How to Raise 48 out of 50 Chicks" 10c. Catalog FREE. Make [illegible] egg-making feed in "Successful" Grain Sprouters.

DES MOINES INCUBATOR CO.
Second St. Des Moines, Ia.





150 EGG INCUBATOR CHICK BROODER
Both for **$11**

Both are made of Calif. Redwood. Incubator is covered with asbestos and galvanized iron; has triplo walls, copper tank, nursery, egg tester, thermometer, ready to use. 30 DAYS' TRIAL—money back if not O. K. Write for FREE Catalog Now.



Ironclad Incubator Co., Box 147 Racine, Wis. (2)



Need Incubator for Early Chicks

AS TO the desirability of owning and running an incubator, there is hardly two opinions these days of progressive policies. If you desire early chicks—and all the breeders of large varieties want them—you must have an incubator wherewith to hatch them. The old hen won't sit and hatch eggs until she gets ready, and that is not until she has laid her clutch of eggs. If your hens are extra good layers it takes them all the longer time before they get ready to hatch chickens, and yet it is chickens from these good layers that you want to perpetuate your strain of good layers. But you can't hatch them without an incubator.

With an incubator you are not forced to depend on the whims and moods of a setting hen as to the time of incubating your chicks. You can start at your own time and quit when you get ready. With a hen you must set her when she says so, and she will oftimes quit before the chicks have broken the shell. You can set an incubator in real cold weather, for you can place it in the house or in the cellar, but the hen must necessarily be set in the poultry house or harn, and the eggs are often chilled and sometimes frozen under her.

Great numbers of chicks are impossible when depending on hens to hatch them, for when you call on the hen to do the hatching you curtail the source of your egg supply. You need the layers to produce the eggs, and if they want to set, you can break them of the habit in a few days and get them to laying again. As to the advantages of a brooder over a hen in raising chicks, nearly all those who have tried both methods will declare in favor of the brooder. One great advantage in a brooder is that you can have quite a large quantity of chicks, all of uniform size and age, whereas with hens the chicks are hatched at different dates and are of all sizes. With brooders you are not troubled with lice as you are with hens, and the percentage of loss is much less with a brooder where the chicks are kept under control, than when they are allowed to roam all over creation with a cranky hen.

We do not mean to imply that those who raise chicks in a brooder have no troubles or trials to perplex them, for they have, and must give the chicks extra good care and attention, but no more than they would be obliged to give in looking after half a dozen setting hens and their broods. If you have never used an incubator or brooder we would advise you to try one this season and see if you do not have better results than with the setting hen.

Raise Turkeys on Wheat Farm

Turkey raising in the Kansas wheat belt is a profitable side line, but taking the state as a whole interest in turkeys has decreased because of the prevalence of black head.

"Turkey raising in maany localities in the eastern part of the state has practically ceased," says N. L. Harris, superintendent of the poultry plant at the Kansas State Agricultural college. "Throughout the wheat belt, however, turkeys can be raised economically because they are good grazers and pick up waste grain. The coyote is the only drawback there."

Mr. Harris has recently made an extended trip through western Kansas. He calls attention to the fact that turkeys find ideal conditions in the wheat growing section of the state.

They do not take at all kindly to confinement. They prefer rather to roam at large, gathering their food from fields. In the late summer and fall when grasshoppers, bugs, and vegetation are plentiful, they demand little or no feed, although it is desirable to scatter a little grain to keep them in the habit of returning to their home roost. Otherwise they may find a new roosting place.

Young turkeys are delicate and require careful attention. If they become damp or chilled they die quickly. For this reason it is necessary to keep them up for the first few weeks until the dew is off the grass.

To Get Fertile Eggs

There can be no success in poultry growing unless the breeding pens produce strongly fertile. In order to insure fertile eggs observe the following points:

Select on the basis of vigor, size and production.

Use only mature stock.

Use males of the large, vigorous type, showing well-developed breast, strength of bone, good-sized comb and wattles, and bright eyes.

Remember the male is half the flock.

It is not necessary to buy new blood every year.

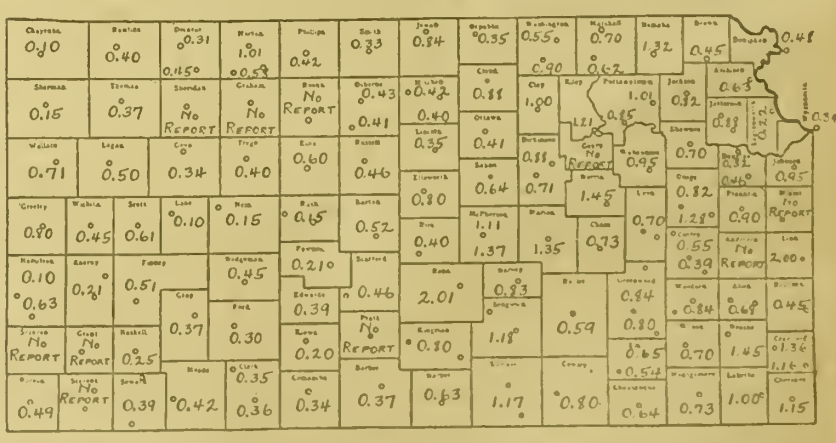
A desirable male should be used for two or three years for best results.

Use the winter laying hens and pullets.

Overfat, nonproducing hens are undesirable.

Rainfall Over Kansas, for December

Reports Furnished by S. D. Flora, Observer, U. S. Weather Bureau.



THE precipitation was deficient over fully nine-tenths of Kansas this month. In the middle third of the state it was the sixth successive month with deficient moisture and in the western third the fourth dry month. Snowfall during the month was comparatively heavy, but varied greatly from one county to another and failed to furnish enough moisture for present needs in most places.

Wheat has been unfavorably affected by the continued dry weather and made little or no growth during the month. Reports indicate, however, that it has suffered no material damage and will make a good growth if plenty of moisture falls soon.

5 New Features That Assure Bigger Hatches!



FIFTEEN new improvements last year! Twenty new improvements in the 1917 X-Ray! Beyond all question the most scientifically *sure* hatching machine ever perfected. In addition to the fact that the X-Ray uses only one gallon oil (one filling) the entire hatch—has the X-Ray Automatic Trip that regulates flame and prevents both cold corners and overheated sides, and all the famous 16 features of the 1916 model, the 1917

X-RAY INCUBATOR

has the new X-Ray Egg Tester, the new X-Ray Nursery Tray, the new X-Ray Gas Arrestor, the New Quick Cooling Egg Tray *and* the new Handy Heighth design at *no increase in price!*



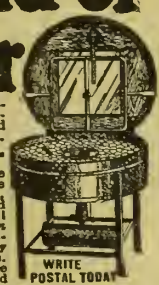
We Prepay Express

to practically all points, too. Post yourself on all the reasons *why* X-Ray Incubators and Brooders *will* increase your poultry profits! Write tonight for Free 1917 Catalog 64.

X-Ray Incubator Co.
Box 64
Des Moines, Iowa

Write for FREE BOOK

New Kind of Incubator



Wonderful new hatching machine discovered. Poultry profits doubled and trebled. Three-fourths the work, time and money saved. *All the worry cut out.*

Radio-Round Incubator

Built ROUND—nature's way—like the hen's nest—NO COLD CORNERS. Triple heating system, wonderful new regulator, COMPLETE CIRCUIT radiators, patented heat diffuser MEAN EVEN HEAT all through egg chamber, and only *one gallon of oil to a hatch.* Radio Vaporizing Moisture Attachment BUILT IN, automatically supplies JUST ENOUGH moisture always. Big oil tank filled ONLY ONCE for entire hatch. Time saving egg tray; hinged cover with glass panels. Send postal today for free new FREE book which describes in detail the 16 wonderful features of the Radio-Round.

WRITE POSTAL TODAY
BOOK FREE

Radio-Round Incubator Co. 154 Main Street, Wayne, Neb.

$8.55 Buys World's Champion Belle City Incubator



140 Egg Size Prize Winning Model—Hot-water—Double-walled—Copper Tank—Thermometer Holder—Deep Nursery—Self-regulating. When ordered with $4.85 Hot-water 140 chick Brooder, both cost only $12.50.

Freight Prepaid East of Rockies

Satisfaction Guaranteed

Over 524,000 Satisfied Users

Save time—Order Now—Share in my

$1,000 Cash Prizes

Conditions easy to get biggest Prize—Free Book "Hatching Facts" tells all—Given short cuts to Poultry Success—Write for it today. Jim Rohan, Pres.



90 Days' Trial

Belle City Incubator Co., Box 18 Racine, Wis.

Lice-Proof Nests



CHICKEN RAISERS



Get My New 1917 Special Offer

Let me send you my new money-saving plan that will help you get a Rayo Incubator at little or no cost to you. Most liberal offer ever made. No canvassing. No soliciting. Just a straight business offer that you will be glad to accept. I want to help you make this your banner year.

RAYO Center Heated INCUBATORS Give Bigger Hatches at Less Cost

Takes just one gallon of oil—1 filling of tank to a hatch. Others require 3 to 6 gallons and as high as 21 fillings of lamp. You can't beat it for big hatches at small operation cost. Saves time, labor and money. Has 4 big special features. Center Heating System. Double Panel Glass Top. Special Ventilation System and Moisture Arrangement. Many others described in our free book. Get it.



Write for FREE Catalog

Just a postal brings it free, postpaid. Chuck full of incubator and poultry raising facts. Get my catalog sure before you buy any other style or make. You want to know more about the Rayo, world's best hatcher. Write today. D. M. Davis, Pres.,

RAYO INCUBATOR COMPANY
U. D. Sta. 4551 Omaha, Neb.

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Don't throw them away. Save them and ship to us. We'll pay you HIGHEST MARKET PRICE. Get your neighbor to ship his bags with yours. Established 1870.

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590 S. Seventh St. St. Louis, Mo.

FARM AND HERD.

Robinson & Shultz, of Independence, Kansas, owners of Albechar Holstein Farm and one of the noted herds of pure-bred Holstein cattle now assembled, recently purchased 134 head of pure-bred Holsteins from noted herds in the East and shipped them to Independence by express. They now have a herd numbering 160 head. Their herd is headed by the great bull, Sir Juliana Grace DeKol, a sire of wonderful individuality and great record breeding. The sire's dam, Queen Juliana Dirkje, was until recently the world's champion three-year-old yearly butter cow. The dam, Grace of Portage DeKol, has a yearly record of 924 pounds butter and 22,087 pounds milk. Their recent purchase includes daughters and granddaughters of the world's best sires.

J. W. Smith, of Courtland, Kansas, announces February 1 as the date of his sale of stallions, jacks and jennets. Mr. Smith has been breeding jacks for over twenty years. The jacks that are catalogued for this sale are a good lot. A number of them are descendants of the famous Limestone Mammoth. The offering includes aged jacks and a lot of well grown two and three-year-olds.

We have just received a catalog of the offering of Holstein cattle to be sold at public sale at Omaha, Neb., February 6. This is Mr. Glissman's tenth annual sale. The offering consists of eighty-five head, including a lot of A. R. O. cows with records up to 22 pounds.

Marketing pure-bred live stock is a difficult problem for the small breeder. Because of this fact the department of animal husbandry in the Kansas State Agricultural College holds breeders' sales at Manhattan with a view to being of service to these men. "Because the small breeders have only a few animals for sale, buyers are not so readily attracted as they are to places where there are large numbers of individuals from which to make selections," commented Dr. C. W. McCampbell, associate professor of animal husbandry. "A representative of the animal husbandry department solicits entries to the sales at the college, checks the pedigrees of the animals, inspects them, and accepts only creditable individuals. No charge is made for personal service, barn room, or for the use of the sale pavilion. This line of work is meeting with hearty approval from the breeders. The Breeders' Hereford sale held last winter was a decided success, and the Breedrs' Percheron sale to be held February 9 promises to be the best Percheron sale ever held in Kansas."

W. B. Wallace, of Bunceton, Mo., will hold his King Joe bred sow sale on Wednesday, February 7, 1917. King Joe sold for $1,250, the highest price ever recorded for a big-type Poland China boar at auction. King Joe sired G. & A.'s King Joe, the world's junior champion boar at the National Swine Show. King Joe pigs sold up to $200 at six months of age and sows bred to him have never averaged below $100 per head. Litters by this great sire will add value and prestige to any herd. His produce is half sold when farrowed.

Carl Miller, of Belvue, Kansas, is claiming February 9 and 10 for his Hereford sale at Alma, Kansas. The list of bulls includes two 4-year-old bulls, one sired by Recorder 228038 and one sired by Beau Belton, son of Beau Brummel 144610, also include 25 bulls right at two years old, three bulls by Beau Anxiety 351368, two bulls by Blanco 369614, one by Onward Lad, one by 5,000 Fred Real, several bulls by Laredo Boy and one by Prince Rupert 50th, one by Sir Paul 387866 and by Discoverer 11th by Disturber. The heifers are mostly sired by his herd bulls, by Belvue Hoxie 446581, a son of Laredo Boy. Several by Beau Belton 144610, a son of Beau Brummel, making the heifers branddaughters of Beau Brummel, Beau Mystic 37, several. Others by Simpson 199-217, several by Hills Pride. There will be about 35 head of bred heifers in the offering, bred to Lord Arthur 499612, by Beau Beauty the Second, Gay Lad 9th 386873. The entire sale offering will consist of 250 head or more. This will be the inaugural sale of the new $4,000 sale pavilion.

A. A. Meyer, of McLouth, Kansas, owner of the noted Lone Cedar Poland China herd, reports a good demand for high class Poland China breeding stock at very satisfactory prices. Mr. Meyer has lately sold a number of hogs to go to good herds and is receiving some very complimentary letters from the breeders who purchased them. Meyer's Orange, the boar that has been in use in this herd, is one of the outstanding sires now in service.

T. R. Maurer, a widely known breeder of Holstein cattle, formerly of Ashland, Ohio, has located at Emporia, Kansas, with his great herd of registered and high grade Holsteins. This herd is noted for production and the registered cows and heifers are from noted sires. Among them are granddaughters of Pontiac Korndyke, all of them from high record dams. At this time there is a number of cows and heifers in the herd bred to one of the best sons of Rag Apple Korndyke 8th, the world's champion bull. There are also several young bulls in the herd by this sire.

Augra's Lillion of the Maples is the name of a three-year-old registered Guernsey cow which has just returned with her baby calf from a tour of the state. She has been used for demonstrating the breed on the Kansas dairy train since November 15. This train is in connection with the extension school sent out by the Kansas Agricultural College, stopping in different towns. On January 1, Margaret De Lubin, an imported cow which dropped a heifer calf on Christmas morning, took the above cow's place and will be out on this train until March 1. These cows are insured for $400 each against accident or death while on trains. Both are owned by R. C. Krueger, Burlington, Kansas.

H. O. Sheldon, manager of the swine department of the Deming Ranch at Oswego, Kansas, writes that they have claimed March 14 for a bred sow sale. The Deming Ranch has on hand about 400 head of Poland China hogs. A large number each year are sold on mail orders but all the culls go to the stock market. The herd under the management of Mr. Sheldon is fast gaining in popularity and is recognized among hog men as one of the good herds in the corn belt. A feature of the herd at this time is 100 fine fall pigs and the choice spring boars.

We have just received Volume 89 of the Shorthorn Herd Book. This volume contains the pedigrees of animals calved before February 2, 1916. It contains the pedigrees of bulls from No. 437001 to 448000; cows from No. 217001 to 236000.

THE MILLER HEREFORDS

Are Ready for Their

THIRD ANNUAL SALE

In the New Sale Pavilion at

Alma, Kansas, February 9-10

SIXTY PROMISING YOUNG FEMALES
THIRTY-FIVE PRIME YOUNG HERD BULLS
Two Carloads Coming Two-Year-Old Range Bulls

Good railway facilities. Outstanding hotel accommodations. Extra large offering of cattle that will give you a pleasant surprise when you see them, and a sale to be held in the new $4,000 heated sale pavilion at Alma, Kansas, on February 9 and 10, right in the heart of the Hereford community of the world, including Kansas.

You are cordially invited. Don't forget the date. Write for catalog today.

CARL MILLER, BELVUE, KANS.

75 Registered Holstein-Friesians 75

At Auction

Rock Brook Farm's Tenth Annual Sale of Registered Holsteins will be held at Union Stock Yards Sale Pavilion

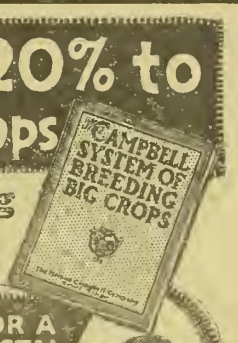
South Omaha, Nebr., Tuesday, February 6th

Included in this offering will be daughters of Sir Pontiac Rag Apple 49334, a 31-pound bull; Kalmuck Skylark Johanna, a son of Katy Gerben; King of the Pontiacs Johanna Lyons 129656, a son of King of the Pontiacs 39037 and King Segis Helen Pontiac, a son of King Segis Pontiac. out of a daughter of Hengerveld DeKol, making him a brother to the $50,000.00 King Segis Pontiac Alcartra, as well as a lot of cows and heifers in calf to above bulls. A lot of the cows will be fresh at time of sale and milking heavy. A lot of A. R. O. cows with records up to 22 pounds. In all a high class offering with every animal over six months old tuberculin tested and every animal guaranteed a breeder.

No better offering of Registered Holsteins will be sold this season.
For catalog, address

HENRY C. GLISSMAN, Sta. B, OMAHA, NEBR.

Add 20% to Your Crops



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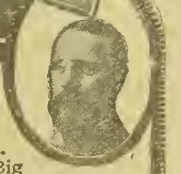

Most amazing farm book ever written. Worth hundreds of dollars to any farmer. Explains wonderful discovery—"The Campbell System of Breeding Big Crops!" Your Wheat, Oats, Corn, Timothy, Clover and other crops increased 20 per cent in a single season! 500,000 farmers use this easy way. Send postal at once for Free Book.

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SEED GRADER AND CLEANER

Also get facts about this wonderful Gas Power or Hand Machine. The Chatham Seed Grader and Cleaner. Cleans, grades, separates and sacks any grain seed! Any grass seed! or, rankest mixtures! All in a single operation! Takes out all dust and trash and wicked weed seed! Separates the poor, sickly seed—sacks big healthy fellows, ready for sowing or market. Handles up to 60 bushels per hour! Beats going to the elevator or bothering neighbor. Thousands in Use! No Money in Advance! 30 Days' Free Trial! Long Time Credit! No Advance in Prices! Send postal for amazing Free Book and Big Offer NOW.

MANSON CAMPBELL CO., Dept. 225 Detroit, Mich.
Dept. 225 Kansas City Dept. 226 Minneapolis

H. T. Hineman & Sons, of Dighton, Kansas, claim March 13 as the date of their annual jack and jennet sale. They are building a large barn with a sale pavilion which will be ready for this sale.

Real Estate For Sale

TO CLOSE ESTATE

One hundred acres rich Kaw Valley farm, no waste, one-half mile to station, two miles to good town and high school; fine improvements. Write or telephone.
B. L. FOWLER, Executor, PERRY, KAN.

Virginia Farms and Homes

Free Catalogue of Splendid Bargains.
R. B. CHAFFIN & CO., Inc., Richmond, Va.

MONTANA LANDS

Free map of Montana and free information regarding the grain and stock land of northern Montana. Write North Montana Immigration Ass'n, Dept. K-F, Havre, Mont.

160 ACRES rich dark loam soil, 5-room house, large barn, crib and other improvements, well and cistern. For immediate sale, $65 per acre. Possession at once. Eighty acres close to town, good 6-room house, number one barn, 1½ acres fine orchard, 25 acres tame grass, well watered. Price $5,200. Possession at once, if wanted.
MANSFIELD LAND CO., Ottawa, Kansas.

40 ACRES, 5 miles McAlester, city 15,000. 23 acres fine bottom, cult; fair improvements. $26 per acre. Terms.
SOUTHERN REALTY CO., McAlester, Okla.

BEST BARGAIN ON THE MAP

112-Acre Farm, near Topeka, only $55 per acre. Terms.
J. E. THOMPSON (The Farmer Land Man)
Tecumseh, Shawnee County, Kansas

40¾ ACRES FINE BOTTOM LAND

Matagorda County, Texas. Will grow corn, alfalfa, cotton, potatoes, any vegetable or fruit. Level and above overflow. Twenty acres cultivated, balance elm, pecan and hickory timber. One mile of railroad switch. $25 per acre if sold at once. Terms.
C. E. MYERS, OWNER, STERLING, KAN.

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BE A GOVERNMENT FARMER. GOOD pay; steady, interesting job. Write Central Institute, 44-F, St. Louis.

BOYS, GIRLS, SEND US THIRTY OR more names of farmers who will need seed corn this spring and we will send you a nice premium free. Seed Corn Armstrong's, Shenandoah, Iowa.

MAN OR WOMAN TO TRAVEL FOR old established firm. No canvassing; $1,170 first year, payable weekly, pursuant to contract. Expenses advanced. G. G. Nichols, Philadelphia, Pa., Pepper Bldg.

WANTED—MEN 18 OR OVER. RAILway mail clerks. $75 to $150 month. Vacations. Chance for farmers. List government positions open, free. Write immediately. Franklin Institute, Dept. T82, Rochester, N. Y.

WANTED — DAIRY AND FARM HAND, February 15. Single. Must be steady and a dry hand milker. Must be willing to feed and care for registered Holsteins so as to develop their best qualities. Steady employment. Give experience, wages expected, age and nationality in first letter. Harry W. Mollhagen, Bushton, Kansas.

AGENTS WANTED.

WE PAY $80 MONTHLY SALARY AND furnish rig and expenses to introduce guaranteed poultry and stock powders. Bigler Company, X 671, Springfield, Ill.

CATTLE.

SEE KRUEGER'S GUERNSEY ADVERtisement in this issue.

REGISTERED HOLSTEIN BULL READY for light service. G. E. Berry, Garnett, Kan.

FOR SALE—TWO REGISTERED SHORThorn bulls. Write for breeding. R. C. Watson, Altoona, Kansas.

POLLED JERSEYS—BREEDERS' NAMES of Chas. S. Hatfield, Secy., Box 40, Route 4, Springfield, Ohio.

FOR SALE — AN EXCELLENT REGISTered Shorthorn bull, of serviceable age. Red in color. C. W. Merriam, Columbian Building, Topeka, Kansas.

TWO FULL BLOOD HOLSTEIN COWS, one four, the other two years old. Both of the King Segis strain. Leland N. McAfee, Route 8, Topeka, Kansas.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $20 apiece. Frank M. Hawes, Whitewater, Wis.

FOR SALE — REGISTERED GUERNSEY females, all ages; also a few males and grade cows, guaranteed right in every particular. Address Clovernook Farm, Whitefish Bay, Wis.

TWO GUERNSEY BULLS FOR SALE— One three years old, the other one year. The older a proven breeder and the other in fine condition for spring service. Both registered. Priced right if taken at once. M. I. Patterson, Victoria, Kansas.

GOATS

FOR SALE—MILCH GOATS. BURR Fleming, Eminence, Kansas.

REAL ESTATE.

TRADES EVERYWHERE — EXCHANGE book free. Bersie Agency, El Dorado, Kan.

CHOICE IMPROVED QUARTER, 100 cultivated. Close to town, church, school. E. Hillyer, Republican City, Neb.

FARMING OUR FERTILE FLORIDA lands means growing crops the year round. Sandy loam with clay subsoil, ideal for early vegetables, oranges and grapefruit, live stock and staple field crops. Tract in prosperous community, close to transportation and Dixie Highway. Our book, "Farming in Florida," points way for right man to make big profits. Write for free copy today. O. P. Swope Land Company, Ovieda, Seminole County, Florida.

YOUR CHANCE IS IN CANADA.—RICH lands and business opportunities offer you independence. Farm lands, $11 to $30 acre; irrigated lands, $35 to $50; twenty years to pay; $2,000 loan in improvements, or ready made farms. Loan of live stock; taxes average under 20 cents an acre; no taxes on improvements, personal property, or live stock. Good markets, churches, schools, roads, telephones; excellent climate — crops and live stock prove it. Special homeseekers' fare certificates. Write for free booklets. Allan Cameron, General Superintendent Land Branch, Canadian Pacific Ry., 234 Ninth Ave., Calgary, Alberta.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431.28 W. Jackson Boulevard, Chicago.

WANTED—TO BUY.

WANTED, A GOOD DOG TO KEEP bums away. O. A. Wiley, Route 1, Florence, Kansas.

HONEY.

PURE ALFALFA HONEY, DELICIOUS flavor; two 60-pound cans, $12.75. Wesley Foster, Producer, Boulder, Colo.

HONEY FOR SALE, BOTH COMB AND extracted. Write for prices. Nelson Overbaugh, Frankfort, Kansas.

MISCELLANEOUS.

FOR SALE—RICE POP CORN, CROP OF 1915; good popper; $3.25 per hundred. Nelson Overbaugh, Frankfort, Kansas.

YOU CAN MAKE A GOOD LIVING IN your back yard raising Belgian hares. Full particulars and price list of all breeds, 10c. W. G. Thorson, Aurora, Colo.

FOR SALE — 16-HORSEPOWER GASOline engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost $480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

TREES, SEEDS AND PLANTS,

SEED CORN—BOONE COUNTY WHITE. Carefully selected. $2.25 per bushel, shelled. J. W. Taylor, Edwardsville, Kansas.

ALFALFA SEED, CHOICE, RECLEANED new crop at $8 per bushel. Write for samples. C. Markley, Belle Plaine, Kansas.

NO. 1 WHITE BLOSSOM SWEET CLOver seed at farmers' prices. John Lewis, Hamilton, Kansas.

BLACK-HULLED WHITE KAFIR SEED, $2.25 for 70 pounds in head. H. W. Chestnut, Kincaid, Kansas.

SWEET CLOVER WANTED. GIVE quality and lowest price. Best propositions accepted. Standard Seed Co., Eureka, Kan.

TEN ELBERTA AND FIVE CHAMPION peach trees, postpaid, $1. Send now. Wellington Nurseries, Dept. C, Wellington, Kan.

ASK US FOR PRICES ON GENUINE Texas red seed oats. We will buy your prairie hay and cane seed. Lewis & Knight, Dallas, Texas.

TIMOTHY SEED—FANCY, NEW CROP, recleaned timothy seed at $2.50 per bushel. Write today for samples. Watson Bros., Seed Merchants, Milan, Mo.

FIFTY CENTS WILL BRING YOU 12 large roots of Mammoth Rhubarb that will give you at least one dollar in value first season. Catalog free. Arkansas Nursery Company, Dept. KF, Fayetteville, Ark.

SITUATION WANTED.

MARRIED MAN, STRICTLY SOBER, wants job on farm by the year where house and garden is furnished. Have had experience. G. I. Bardwell, Vesper, Kansas.

WANTED—WORK ON DAIRY FARM BY man 37 years old, experienced. Jersey farm preferred. Good references. Mark Johnson, Bronson, Kansas.

WANTED—PLACE TO WORK ON FARM by the month, anywhere in U. S., by young man who understands all kinds farm work. A. A. Rieff, Route 1, St. Peter, Minn.

DOGS.

COLLIE PUPS—U. A. GORE, SEWARD, Kansas.

FOX, WOLF AND COON HOUNDS; rabbit dogs. Reasonable. J. P. Tindall, Lees Summit, Mo.

COLLIE PUPS FROM GENUINE STOCK dogs that drive from the heel. Best of breeding. E. L. Dolan, Route 2, Platte City, Missouri.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

FINE BRED SCOTCH COLLIES, SETters, fox hounds, blood hounds, bull terriers, Bostons, spaniels, poodles, fox terriers and toy dogs. Fancy poultry, pheasants, pigeons, parrots, canaries. Pets all kinds. We buy all kinds live animals, birds and pets. Circular free. Detroit Bird Store, Detroit, Mich.

THE STRAY LIST.

TAKEN UP ON THE 20TH DAY OF May, 1916, by A. L. Jasper, Santa Fe, Haskell County, Kansas, one red heifer calf, no brands. A. R. Henage, County Clerk.

TAKEN UP BY H. R. ERDMAN, NORTH Fifth Street, Kansas City, Kansas, on January 8, 1917, one red steer, weight 800 lbs., cross on hip. Appraised at $40. William Beggs, County Clerk, Wyandotte County.

TAKEN UP BY F. A. HEUSTIS, FARMER Township, Wabaunsee County, Kansas, one 4-year-old red steer with white face, scissor brand on right hip, valued at $50. November 13, 1916. L. B. Burt, County Clerk, Wabaunsee County, Alma, Kansas.

HORSES AND MULES.

FOR SALE—REGISTERED PERCHERON stallion, 6 years old. Two Catalonian jennets. W. M. Dice, Tecumseh, Kansas.

SALE OR TRADE FOR YOUNG STOCK, 15-16ths Belgian stallion 9 years old, weight 2,000 pounds; 85 per cent breeder. W. G. Shideler, Silver Lake, Kansas.

SHETLAND AND WELCH SPOTTED stallion, 650 pounds, 4 years, extra stylish driver. Might trade for good young jack. Lewis Cox, Concordia, Kansas.

WISCONSIN LAND FOR SALE

LANDOLOGY, A MAGAZINE GIVING the facts in regard to the land situation. Three months' subscription free. If for a home or as an investment you are thinking of buying good farm lands, simply write me a letter and say, "Mail me Landology and all particulars free." Address Editor Landology, Skidmore Land Co., 301 Skidmore Bldg., Marinette, Wis.

Auld Bros., of Frankfort, Kansas, owners of one of the good herds of Red Polled cattle, report a good demand for Red Polled breeding stock at satisfactory prices. A feature of their herd at this time is the fine lot of 1916 fall calves.

Reliable Poultry Breeders

PLYMOUTH ROCKS.

BARRED ROCK COCKERELS AND PULlets. Nat A. Owens, Traer, Iowa.

BARRED ROCK EGGS—WILL PLEASE. $1 postpaid. Mrs. Geo. Kennedy, Edmond, Okla.

BARRED PLYMOUTH ROCK COCKERels, pure-bred. Just a few at $3 to $5 each. Ben Vigus, Severance, Kansas.

NOTICE, POULTRY BOYS. — WHITE Rock cockerels for sale, $1.25 and up. Frank B. Pfeifer, Hays, Kansas.

WHITE ROCKS, SIZE AND QUALITY. Prices reasonable. Write G. M. Kretz, Clifton, Kansas.

FOR SALE—BUFF ROCK AND BLACK Langshan roosters, good ones, $1.50 each. Newton Coffman, Rosendale, Mo.

WHITE PLYMOUTH ROCKS—ILLINOIS state show winners. Stock for sale. Prices reasonable. Circular free. Wm. Goodwin, Route 32, Chillicothe, Illinois.

PRIZE WINNING BARRED ROCK COCKerels for sale. Eggs for sale in season. F. N. Davis, 508 Fillmore St., Topeka.

CHOICE BARRED PLYMOUTH ROCK cockerels and pullets, $2 to $3 each. E. Leighton, Effingham, Kansas.

A FEW GOOD WHITE PLYMOUTH Rock cockerels for sale. Mrs. J. R. Bowman, Chase, Kansas.

BARRED—FIRST PEN ST. LOUIS SHOW. First cockerel and cock, State Fair exhibition; breeding males. J. K. Thompson, 205 The Drive, Topeka.

FOR SALE — EXTRA FINE BARRED Rock cockerels. Cockerel mating. Pure Thompson strain. Sired by $25 bird. $3.50 to $5 each. G. W. Romberg, Red Oak, Iowa.

PETTIS' BARRED ROCKS — WINNERS Missouri State Show, 1916. Cockerels, $2 to $5. Egg producing. Booking orders. Mrs. P. A. Pettis, Wathena, Kansas.

BARRED PLYMOUTH ROCK COCKERels, Bradley strain. Parks 200-egg strain. $3 to $5 each. Eggs in season. Gem Poultry Farm, Haven, Kansas.

BARRED ROCK COCKERELS, FROM prize winning stock, $1.50 to $3.00. Write today. Satisfaction guaranteed. R. D. Ames, Walton, Kansas.

LINDAMOOD'S BARRED ROCK COCKerels are better than ever. Nicely marked, strong boned. Order now for coming season. Prices, $3 to $5 each. Sent on approval. C. C. Lindamood, Walton, Kansas.

PURE BARRED ROCK COCKERELS— Large, vigorous, well marked birds, heavy laying strain, $1.50 each. Choice large pen birds, $3 each. S. R. Blackwelder, Isabel, Kansas.

BARRED PLYMOUTH ROCKS, RHODE Island Reds. Fine lot of birds now ready for shipment. Prices reasonable. Quality guaranteed. Eggs in season. Tom Leftwich, Winfield, Kansas.

BLUE RIBBON WINNERS, MISSOURI and Kansas state shows. Barred Rocks, Ringlet strain. Eggs and stock for sale. Satisfaction guaranteed. Hartman's, Route 1, Webb City, Missouri.

ORPINGTONS.

S. C. BUFF ORPINGTON COCKERELS, $1, $2 and $5. J. W. Falkner, Belvue, Kan.

BUFF ORPINGTON COCKERELS, $2 TO $5 each. Mrs. J. L. Taylor, Chanute, Kan.

EXTRA GOOD BUFF ORPINGTON cockerels, $1.50. Pullets for sale. Mabel Teagarden, La Cygne, Kansas.

MY BUFF ORPINGTONS STILL WIN, Omaha, December, 1916. Fine cockerels or pullets. H. T. Farrar, Axtell, Kansas.

WHITE ORPINGTON COCKERELS FROM state winners, $2, $3, $5. John Vanamburg, Marysville, Kansas.

A FEW GOOD BUFF ORPINGTON cockerels for sale. Mrs. C. F. Cooper, Nickerson, Kansas.

GOOD BUFF ORPINGTON DRAKES FOR sale, $1.25 to $2.50 each. John A. Huber, La Crosse, Kansas.

TURKEYS.

EXTRA GOOD BOURBON RED TURKEY toms, prices reasonable for immediate sale. Julia Haynes, McDonald, Kansas.

FOR SALE—MAMMOTH PURE BRONZE turkeys. Some two-year-olds. Nora Holmes, Fredonia, Kansas.

GOOD PURE-BRED MAMMOTH BRONZE toms. Eggs in season. Sadie Litton, Peabody, Kansas.

BOURBON RED TURKEYS. LARGE with splendid color and markings. Mrs. Elmer Nicholson, Route 5, Wellington, Kan.

OAK HILL FARM—PURE-BRED M. B. turkeys from high scoring stock. Pure-bred Duroc pigs. Lawson, Missouri, Route 3.

SARVER'S FAMOUS NARRAGANSETT turkeys, large boned stock, unrelated. Sunlight Poultry Farm, Mt. Morlah, Mo.

FOR SALE — M. B. TURKEYS, BIG, growthy fellows. Buff Rock cockerels and White Indian Runner drakes. No better blood anywhere. G. W. Perkins, Newton, Kansas.

MAMMOTH BRONZE TURKEYS, "GOLDbank" strain. Beautifully bronzed, pure white edging, big boned, splendid birds, $6 to $10. Mrs. Iver Christenson, Jamestown, Kansas.

GUINEAS.

PEARL GUINEAS, $1 EACH. CLIFFORD Barrans, Lenox, Iowa.

ANCONAS.

FOR SALE — SINGLE COMB MOTTLED Ancona cockerels, Sheppard strain, from sweepstakes winners; $1 up. Write me your wants. Frank Glenn, Newton, Kansas.

LEGHORNS.

SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

CHOICE R. C. BROWN LEGHORN cockerels, $1.50. Lots of six reduction. Mrs. Griswold, Tecumseh, Kansas.

S. C. W. LEGHORN COCKERELS FROM Young's $20 eggs. Elsie Thompson, Mankato, Kansas.

S. C. BROWN LEGHORN COCKERELS, strictly pure bred, $1.50 each, $15 per dozen. Order early before they are gone. Mrs. L. H. Hastings, Thayer, Kansas.

S. C. W. LEGHORN COCKERELS FROM hens with records over two hundred eggs; one, two, three dollars each. Baby chicks, 12½c each. Eggs, $5 per hundred. Hyperion White Leghorn Farm, Route 1, Des Moines, Iowa.

LANGSHANS.

BIG BLACK LANGSHANS. FANCY AND utility cockerels and pullets. Guaranteed. H. Osterfoss, Hedrick, Iowa.

BLACK LANGSHAN COCKERELS FROM blue ribbon and sweepstakes winners. Mrs. D. A. Swank, Blue Mound, Kansas.

RHODE ISLAND REDS.

CHOICE ROSE COMB RHODE ISLAND Red cockerels. Mrs. C. H. Jordan, Wakarusa, Kansas.

QUALITY SINGLE COMB REDS—BARgains if ordered soon. Mrs. Elmer Nicholson, Route 5, Wellington, Kansas.

COCKERELS, S. C. R. I. REDS, GOOD size, good color. Price $1.50. Mrs. Joseph Greene, Bernard, Iowa.

FOR SALE—EXTRA FINE LARGE SINgle comb Rhode Island Red cockerels, $3.50 to $5 each. A. K. Romberg, Red Oak, Iowa.

FINE ROSE COMB RED COCKERELS, $2. Baby chicks, 10 cents. Order now. Lily Robb, Neal, Kansas.

ROSE COMB REDS EXCLUSIVELY. Cockerels for sale. Bean strain. M. L. Puckett, Puxico, Mo.

BRED TO LAY S. C. REDS, CHOICE large, deep red, hen hatched, farm raised cockerels. Best I ever raised. Satisfaction guaranteed. $1.50 to $3.50. Belmont Farm, Topeka, Kansas.

ONE HUNDRED ROSE COMB RHODE Island Red cocks and cockerels, sired by roosters costing $15 to $35—$2, $3.50, $5 and $7.50 each. A few higher. Order at once. They will go fast. Our pens mated for 1917 are the best we ever had. W. R. Huston, Red Specialist, Americus, Kansas.

WYANDOTTES.

EXTRA CHOICE ROSE COMB SILVER Wyandotte cockerels, $2 each, six for $10. Mrs. Phillip Schuppert, Arrington, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Cockerels, $2, $2.50, $3, $4, $5; hens, $1.50, $2. Mrs. Edwin Shuff, Plevna, Kansas.

FOR SALE—100 PURE-BRED S. L. WYandotte chickens; good laying strain, from best stock obtainable. Write for prices. S. L. Hill, Route 3, Burlington, Kansas.

BRAHMAS.

HIGH SCORING LARGE EARLY hatched Light Brahma cockerels. Geo. Pratt, Wakarusa, Kansas.

LIGHT BRAHMA COCKERELS — 100 good heavy birds, have won prizes at leading shows. Can surely furnish you quality. Schreiber Farm, Sibley, Iowa.

POULTRY WANTED.

OLD PIGEONS, $1; GUINEAS, $5 DOZEN delivered February 3. The Copes, Topeka.

NO. 1 TURKEYS, 24c; HENS, 16c; ducks and geese, 13c. Coops free. The Copes, Topeka.

DUCKS AND GEESE.

WHITE EMBDEN GEESE, EITHER SEX, $2.25 each. Mrs. Wm. Dieter, Fulton, Mo.

GEESE, EMBDEN, TOULOUSE, CHINA; turkeys, ducks. All leading breeds of poultry. Emma Ahlstedt, Roxbury, Kan.

FOR SALE—WHITE CHINA GEESE, $10 a pair. Mrs. James Peterson, Route 1, Hays, Kansas.

CHOICE WHITE EMBDEN GEESE AND White Runner Ducks. Roger Smith, Centertown, Mo.

R. C. Krueger, of Burlington, recently sold to J. E. Pitt, of Hewin, Kansas, a registered Guernsey bull of May Rose breeding. Mr. Pitt was formerly engaged in dairying in Oklahoma and on coming to Kansas brought his entire herd of grade Guernseys along and expects to engage in that line in Chautauqua County. The remarkable part of Mr. Pitt's herd is twenty-eight females that are daughters of one registered bull, but they are not for sale.

R. I. Little, of Des Moines, Iowa, one of the leading horse men of that state, reports his horses doing well and a good demand for high class stallions. Mr. Little has been in the business for years and show horses from his herd have been consistent winners at all the principal fairs since 1871, and some of the greatest prize winners since that time were from his herd.

KING JOE BRED SOW SALE

At Bunceton, Mo., Wed., Feb., 7

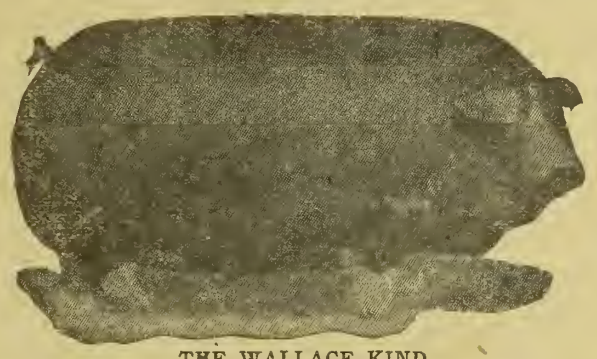
50 . Head of Sows, Fall Yearlings and Spring Gilts . 50

The tops of the produce of my herd, including a number of my best herd sows and the largest growthy yearling and spring gilts I ever sold in a public sale.

All Bred to King Joe No. 70282 for February and March Litters

They represent the blood of the world's champion, Long Big Bone, Black Big Bone 2d, A Wonder, and other noted sires.

BREEDERS SHOULD NOT FAIL TO TAKE ADVANTAGE OF THIS CHANCE TO BUY KING JOE BLOOD.



THE WALLACE KIND

I want to mail you my catalog. It is brim full of hog talk, nicely illustrated, ready to mail on request. Send for one today. Kindly mention Kansas Farmer.

W. B. WALLACE, - - BUNCETON, MISSOURI

O. W. DEVINE WILL REPRESENT KANSAS FARMER AT THIS SALE.

Albechar Farm Holsteins

Herd Headed by Sir Juliana Grace De Kol, of World Record Breeding

We have recently acquired a number of Holstein females so that our herd now numbers 160 head, from which selections may be made. We can offer females from calves up to full age cows, priced singly or by the carload. We have daughters and granddaughters of King Segis Pontiac Parthenea, King Segis Pontiac, King Hengerveld Model Fayne, Pontiac Korndyke, Pontiac Aaggie Korndyke, and Sir Juliana Grace De Kol; twenty-five A. R. O. cows included in the herd. Nine heifers bred to a son of Pontiac Korndyke and Polly Posch. Address

ALBECHAR HOLSTEIN FARM

ROBINSON & SHULTZ, INDEPENDENCE, KANSAS

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

HAMPSHIRE HOGS

ATTEBERRY'S HAMPSHIRE HOGS

Bred sows, $25 to $30 each. July gilts and boars, $10 each for 30 days. Choice individuals. ATTEBERRY & SONS, Lancaster, Mo.



ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE

Twenty-five young bulls, also some good cows and heifers for sale. All registered.

D. J. WHITE, CLEMENTS, KANSAS

Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

P. M. ANDERSON'S

POLAND CHINA SALE

IOWA KING BRED SOW SALE

LATHROP, MO. FEB. 1, 1917

FORTY HEAD, as good as will be sold in Missouri, bred to or carrying the blood of the great Iowa King 67584. Sows sired by such noted boars as Iowa King, Smooth Columbus, Superior Jumbo, Master Orphan, King Jumbo, Long Wonder, Long Jumbo 2d and Long Wonder Boy and bred to four of the best boars I could mate them to—Iowa King, King Jumbo 2d, Anderson's Big Bone by the grand champion Long Big Bone, and Smooth Columbus 2d by Smooth Columbus. Write for catalog. Sale in heated pavilion, no postponement.

P. M. ANDERSON, - - LATHROP, MO.

AUCTIONEERS

Col. H. S. Duncan, Col. J. Zack Wells, Col. J. W. Matthews, Col. N. M. Rogers

JACKS, JENNETS AND STALLIONS



COURTLAND, KANSAS
Thursday, Feb. 1, 1918

Mammoth Jacks and Jennets

The jacks include the herd jack, Solitaro, and the outstanding two-year-old, 16½ hands, Kansas Wonder. The herd jennets include the splendid show and breeder, Dandy, the dam of Kansas Wonder and others bred to Solitaro.

At my farm adjoining Courtland, I will disperse my herd, including seven jacks, six jennets and two stallions. The Percheron stallion, Teddy, is included.

J. W. SMITH, COURTLAND, KANSAS

Auctioneers, L. R. Brady and J. W. Shotwell.

HORSES AND MULES.



Percherons and Belgians

SIXTY-FOUR HEAD REGISTERED STALLIONS AND MARES. THIRTY STALLIONS AND THIRTY-FOUR MARES AND COLTS.

To close up a partnership, the thirty-four mares and colts must be sold by March 1, 1917. I mean business. Come and see me.

J. M. NOLAN, Paola, Kansas

PIONEER STUD FARM

Established 1870

FIFTY REGISTERED STALLIONS AND MARES

JUST ARRIVED—A new shipment of stallions and mares. If you are in the market for a good Percheron stallion or mare, now is the time. We can show you more bone, size, action and conformation than you will find elsewhere. Write or come today.

C. W. LAMER & SON - - - - - SALINA, KANSAS

PRAIRIE VIEW STOCK FARM



Has 40 big, black Mammoth jacks and jennets. Every jack my own raising; two to six years old, 15 to 16 hands high, extra heavy bone, big bodies. I can sell you a better jack for $500 to $600 than most speculators can for a thousand. Come and see for yourself. They must sell.

ED BOEN, LAWSON, MO.
38 MI. E. of K. C. on C. M. & St. P.
40 MI. S. W. of St. Joe, on Santa Fe

40 Head Percheron Stallions - Jacks and Jennets - 40

Two to six years old, heavy bone, right in every way. Imported Spanish jack, weight 1,200 pounds, at head of jennet herd. Come and see us. We mean business. Prices reasonable.

J. P. & M. H. MALONE

CHASE - - - - - KANSAS

SIX BREEDS DRAFT STALLIONS
Pedigree and guarantee with each, $450 and up. Time given.
R. I. LITTLE, Good Block, Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

POLAND CHINAS

Poland China Boars and Gilts

Twenty-five early spring boars and twenty-five gilts. Sired by I Am King of Wonder and Watt's King.

WM. WATT & SON - GREEN CITY, MO.

OWA KING BRED SOW SALE FEB. 1

Will Sell 40 Head of Tops. Am offering now some choice herd boar prospects, June and July pigs. All immune. Send for catalog of sow sale and price on boars.

P. M. ANDERSON, LATHROP, MISSOURI

TOWNVIEW FARM
Big-Type Poland Chinas.
For Sale—25 summer and fall gilts, sired by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 25 summer boars. Come and see my herd.
C. E. GREENE - PEABODY, KANSAS

DEMING RANCH POLANDS
Twenty strictly high class boars, bred the same as our grand champion sow and other prize winners. They are herd headers. Also gilts and bred sows and 150 fall pigs. All immune.
THE DEMING RANCH
H. O. Shelden, Herdsman Oswego, Kansas

Size and Quality Polands

Poland China boars and bred gilts for sale. I have six gilts bred to farrow in March that weigh 275 pounds each. Price, $35 each. Four boars of same weight, $25 each. Lot of summer and fall pigs, $15 and $10 each, the big kind.

OTTO PLAGAMANN, EUREKA, MISSOURI

ARKELL'S BIG POLANDS

April and March bred gilts by Longfellow Again and Chief Big Bone, weight 225 to 275 pounds. They are bred to Arkell's Big Timm. Also a few bred sows. Priced right.

JAS. ARKELL, JUNCTION CITY, KANSAS

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

Lone Cedar Poland China Herd

Good spring boars by Meyer's Orange and out of mature sows, at farmer's prices for thirty days; also fall and spring gilts, bred or open. Weanling pigs cheap. All immune.

A. A. MEYER - McLOUTH, KANSAS

LANGFORD'S SPOTTED POLANDS
Boars — Serviceable age, guaranteed to please. Breeding stock, both sexes.
T. T. LANGFORD & SONS, Jamesport, Mo.

G. W. Overley, of McCune, Kansas, claims February 22 as the date of his sale of jacks, jennets and Percherons. He will also sell a number of drivers and ponies.

HORSES AND MULES.

Home-Bred Draft Stallions, your choice $500 with the exception of two. Also mares for sale. A. Latimer Wilson, Creston, Iowa



PERCHERONS—BELGIANS
Imported and home-grown mature stallions, ton and heavier, 3-year-olds, 2-year-olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. Fred Chandler, R. 7, Charlton, Ia. (Above Kansas City.)

PERCHERONS FOR SALE

Five head pure-bred Percherons — Two mares, one 2-year-old stallion, two last spring colts. All good ones. Low price to the man that takes all.

J. W. BARNHART, BUTLER, MISSOURI



JACKS AND JENNETS

15 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. Fifteen good jennets for sale. Come and see me.

PHIL WALKER,
Moline, Elk County, Kansas

DUROC JERSEYS.

A HERD BOAR

We offer the splendid herd boar, Gold Medal 176231, also spring boars by him and the great boar, Country Gentleman 132541. All double immune. Prices reasonable.

W. R. HUSTON - AMERICUS, KANSAS

TWENTY FIVE SPRING BOARS

Sired by Crimson Wonder Again Jr., first prize boar at Topeka Fair, 1916, and G. M.'s Crimson Wonder. Big rugged fellows ready for service. Immunized and priced to sell.

G. M. SHEPHERD - LYONS, KANSAS

GUARANTEED DUROC BRED GILTS

Immune Duroc gilts with size, bone and stretch. Guaranteed in farrow. Shipped to you before you pay.

F. C. CROCKER, BOX K, FILLEY, NEB.

Wood's Durocs

Gilts bred and open. Boars all sold. A nice bunch of gilts to select from. September pigs of both sexes. Prices reasonable.

W. A. WOOD & SON, ELMDALE, KANSAS

ROSE HILL HERD DUROCS
For Sale — Thirty spring gilts bred for March and April farrow; ten boars for service; a few fall pigs. All immune, eligible to record. Out of prolific sows and by boars of state fair prize blood. S. Y. THORNTON, Blackwater, Missouri, on Missouri Pacific Ry.

FARM AND HERD.

C. M. Albright, of Overbrook, Kansas, owner of one of the high class herds of Polled Durham cattle in Kansas, reports his herd doing well. This year Mr. Albright raised a very fine lot of calves by Belle's Hero by Roan Hero. Belle's Hero is a very fine individual and has proved to be one of the great breeders now in service.

George McAdam, of Holton, Kansas, owner of one of the great herds of Aberdeen Angus cattle in this state, reports his herd doing well. This herd is noted for its richly bred cows, including such cows as Miss Pride, a full sister to Pride Petett, the champion cow last three years; Lena Mc., a half sister to Barbara Woodson, former champion; Blackcap Lndy B, one of the best Blackcap bred cows living. It was her April bull calf that wns selected to head the Texas A. & M. College herd.

Dwight Williams, Omaha, Neb., manager of the Nebraska Holstein Breeders' Sales Company, has claimed February 21 as the date of their next breeders' consignment sale. Eighty head of registered Holsteins from the best herds in the state have been catalogued for this sale. The offering includes twenty cows with Advanced Registry official milk and butter records.

H. B. Cowles, the Topeka Holstein man, writes us that bulls of his Braeburn Herd are rarely left with him long enough to reach breeding age. One such advertised recently in Kansas Farmer brought three orders in four days. He went to Oliver C. Evans, Dawn, Mo. Generally buyers who want Braeburn bulls have to catch them young, and do part of the raising themselves.

HOLSTEIN CATTLE.

Clyde Girod, At the Farm. F. W. Robison, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, Towanda, Kansas

Pure-Bred Holsteins, all ages, strong in the blood of the leading sires of today, headed by Oak De Kol Bessie Ormsby 156789. Special offering of choice young pure-bred bulls, ready for service, from tested dams. Let us furnish you a bull and improve your herd. TWENTY-FIVE pure-bred females, young useful Holsteins with A. R. O. records from 12 to 26 pounds butter in seven days.

BEFORE YOU BUY, TALK WITH US

We have an especially large, choice selection of extra high grade young cows and heifers due to freshen this fall and early winter, all in calf to pure-bred bulls. These females are large, deep bodied, heavy producers, with large udders, all well marked individuals and the right dairy type. Our offerings are at prices that challenge comparison for Holsteins of their breeding and quality. High grade heifer calves, $25. Send draft for number wanted. Let us know what you want in Holsteins, and we will be pleased to send you descriptions and prices. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON -:- -:- TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM



Offers everything in Pure-Bred and High-Grade Holsteins. A number of registered cows and heifers from noted sires such as granddaughters of Pontiac Korndyke, with high record A. R. O. dams. Also a number of cows and heifers bred to one of the best sons of Rag Apple Korndyke 8th, the world's champion bull, and several male calves by the same sire with good record dams, at bargain prices. Write your wants in Holsteins to

T. R. MAURER, EMPORIA, KANSAS

Farm Located Three-Fourths Mile West of Town on Sixth Avenue

HOLSTEINS and GUERNSEYS

Registered and high grade cows and heifers—service bulls. Carload or less. High grade calves, $18.00 each crated. Write us. We have what you want. Address

EDGEWATER STOCK FARM - - - FORT ATKINSON, WISCONSIN



Purebred Registered

HOLSTEIN CATTLE

Fifteen thousand dollars in prize money, for milk and butterfat production, was distributed among breeders of registered Holstein-Friesian cattle during the year ending April 30, 1916. The official supervision, by the Advanced Registry Office of the Holstein-Friesian Association, of all regularly conducted tests, and the award of liberal prize money have proven a mighty stimulus and an educational factor of great value, in the promotion of interest and progress in the breeding of Holstein cattle.

Send for FREE Illustrated Descriptive Booklets.
The Holstein-Friesian Association of America
F. L. Houghton, Sec'y. Box 114, Brattleboro, Vt.

TREDICO FARM HOLSTEINS

Breed 'em from "Tredico Truth Herbert Oak" ancestry; largest type. Champion of "National Dairy Show." Good udders and no extreme angles of hard forcing records.

George C. Tredick, Route 2, Kingman, Kan.

Breeders' Directory

ANGUS CATTLE.
Geo. M. McAdam, Holton, Kan.
Geo. A. Deitrich, Carbondale, Kan.
D. J. White, Clements, Kan.
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
HOLSTEINS.
C. E. Bean, Garnett, Kansas.
DORSET-HORN SHEEP.
H. C. LaTourette, Route 2, Oberlin, Kan.
JERSEY CATTLE.
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FOR SALE—Twelve cows and heifers.

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A few 1916 fall bull calves for sale. Also a few cows and heifers.

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POLLED DURHAM BULLS

Choice bull calves out of Belle's Hero, he by Roan Hero. Reds and roans. Also a few heifers and cows bred to this same bull.

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We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.

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Holstein cows, springers or bred heifers. Very large, good markings, out of best milking strains, bred to pure-bred bulls of the very best blood. Special prices on carload lots. J. C. ROBISON, TOWANDA, KANSAS

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Buy your next bull calf from a herd that won the butter test over all breeds.

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We are now offering some exceptionally good bulls of serviceable ages at very attractive prices. These calves are sired by our 29.4-pound grandson of Pontiac Korndyke.

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High grade and registered cows, some heifers and heifer calves at reasonable prices. Bull calves at $10 and up.

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Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

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At the Great National Swine Show at Omaha, Big Bob Wonder sired the world's champion senior yearling, second prize senior yearling sow, third prize junior yearling sow, second and sixth prize senior sow pigs, and the most valuable prize in any show—FIRST ON GET OF SIRE, FIRST ON PRODUCE OF SOW.

At the KANSAS STATE FAIR at TOPEKA The grand champion boar, the grand champion sow, first and third prize junior yearling sows, first and fourth prize senior sow pigs, third on young herds, FIRST ON GET OF SIRE, FIRST ON PRODUCE OF SOW. KANSAS FUTURITY—Second prize fall boar, fifth prize spring boar, first, second and third prize fall sows.

IN OUR BRED SOW SALE TO BE HELD AT

EFFINGHAM, KANSAS, TUESDAY, FEBRUARY 6, 1917

WE WILL SELL FORTY HEAD

of immuned tried sows and fall gilts, practically all of which will be either sired by or bred to Big Bob Wonder. Five selected sows all bred to him, and thirty fall gilts pronounced by all who have seen them to be the best bunch ever sired by one boar sired by him.

The Big Bob Wonder gilts will be bred to Wonder King, the noted son of Long King's Equal that I selected to cross on these gilts, and Eclipse Model, an outstanding son of Wonder Master by Wonderful out of a Grand Master dam.

A special train will be run from Atchison to the sale and will return in time to make all connections. Write for the catalog, mentioning Kansas Farmer. O. W. Devine will represent this paper at the sale.

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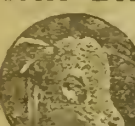
HEREFORD CATTLE.

WALNUT BREEDING FARM



Hereford Cattle, Shropshire and Cotswold Sheep, Berkshire Hogs.
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35 BULLS, 10 MONTHS TO 2 YEARS OLD. 20 COWS AND HEIFERS.

Best breeding families. Bred to an Imported Bridisher bull. Come and see me. Sale barns right in town.

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Guernsey Grade Cows produce butter most economically.

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REGISTERED GUERNSEY BULL CALVES FOR SALE
Grandsons of Imp. Masher's Sequel A. R. out of first class cows. Tuberculin tested.
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FOR SALE--100 BULLS 50 EARLY BULL CALVES, 30 COMING 2-YEAR-OLDS, 20 COMING 3-YEAR-OLDS

Herd headers and range bulls. Ten yearling heifers, twenty heifer calves and a carload of good cows. The very best breeding represented. Come and see me.

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Villager Junior and Curley Dals Head Herd.

For Sale—Twenty coming yearling bulls, 20 yearling bulls, 40 cows and heifers, Scotch and Scotch topped. We have what you want. Come and see our cattle. Three hundred head in herd.

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Choice 2-year-old bull, weight 1,600 lbs.; extra good bull calves. One May calf, weight 600 lbs., outstanding herd header prospect. Two choice yearling Percheron stallions. Priced to sell.

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For Sale—Twenty bulls, 8 to 10 months old, red, white and roan. Can ship over Rock Island, Union Pacific, Missouri Pacific or Santa Fe. Come and see my herd. Address

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FORTY COWS AND THIRTY HEIFERS FOR SALE.

Nothing over five years old. Richly bred Fox Signal and Fern Lad families. All bred to choice registered herd bull. Must reduce herd.

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Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

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From one to a carload of good, young, registered Jersey cows, mostly fresh or soon due. Offered at sacrifice prices because short of feed and cannot winter. Also a few open heifers and young bulls. Write your wants or come and see this stock.

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If interested in getting the best blood of the Jersey breed, write me for descriptive list. Most attractive pedigree.

R. J. LINSCOTT - HOLTON, KANSAS

$50 Noble Stockwell's Torono $50

Sire, Noble Stockwell. Dam, granddaughter of Hood Farm Torono. She milked 32½ pounds milk daily, 2 years old.

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Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

DORNWOOD FARM JERSEYS

Fine young bulls from Register of Merit and imported cows; descendants of Fontaine's Eminent, Pogis 80th of Hood Farm, and Golden Fern's Lad.

DORNWOOD FARM, Route 1, Topeka, Kan.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. BERRY & SON, Jewell City, Kansas

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OHIO IMPROVED CHESTERS

O. I. C. Serviceable Boars—Yearlings sows and gilts bred for March farrow. Summer and fall pigs. G. P. Andrews, Dansville, Mich.

The catalogs are out announcing the bred sow sale of H. B. Walter & Son on February 6, 1917. Forty choice fall yearling gilts sired by Big Bob Wonder will be sold in this sale. They will weigh around 400 pounds and are the real big-type Polands. Twenty tried sows bred to Big Bob Wonder also will be offered.

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Some milk is too rich in butter fats for health—other milk is too lean.

AYRSHIRE MILK

is STANDARD—3.94 per cent grade. It is the RIGHT milk for babies and invalids, just as it comes from the cow. Passes all city and state requirements. Write for information and names of nearest breeders

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C. M. Winslow, Sec'y 33 Park St. Brandon, Vt.

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Age two weeks to two years, priced to move quickly at $40 to $80. Worth double. Bred for high production. All pure-bred and sure to get high producing heifers. Herd of nearly a hundred, established in 1906, located at Linwood, Kansas, near Kansas City. Tuberculin tested yearly, never found a reacter. Milk test over 4 per cent.

Dr. F. S. SCHOENLEBER, Manhattan, Kan.

W. B. Wallace, of Bunceton, Mo., will sell at public auction on February 7, sixty sows and gilts. Twenty-six head of these are sired by Model Big Bone, Grand Mammoth and Big Wonder. One gilt is sired by Caldwell's Big Bob, one by Fessey's Timm, one by Long Big Bone and one by Long Wonder Big Bone. Most all will be bred and safe to King Joe.

The W. C. Kenyon & Sons Farms, Elgin, Illinois, is the home of one of the great Holstein herds in that state. This herd is noted for its heavy producing dams. One feature of the herd at this time is the large number of choice high grade cows and heifers and a number of good service bulls.



The "Plow In Hand"
Your Guide to the Original and Genuine

THE marvelous growth in sales of Case "Plow in Hand" implements has only been possible by building a plow, a corn planter, a disc harrow or whatever kind of a tool that bore the J. I. Case "Plow in Hand" trade mark, just a little bit better than anyone else thought it necessary to make them—by rigidly inspecting every complete implement before it went out of the factory and by giving every user quick and accurate service.

With each and every one of these principles followed out to the letter and backed by sound business and financial management, the J. I. Case "Plow in Hand" line has grown, under my personal guidance, through the past thirty years, into one of the largest independent implement concerns in the world.

What has been said of Plows and Tillage tools applies equally well to Wallis "Cub" Tractors. This premier Tractor now the center of public interest is built under the rigid standards of quality, which I have insisted upon and maintained in the manufacture of Plows and Tillage tools for over a quarter of a century, and, as President of the Wallis Tractor Co., I pledge you a continuance of that policy.

Get acquainted with your local J. I. Case Dealer. He is worthy of your implicit trust and respect.

Faithfully yours,

H. W. Wallis

President { J. I. CASE PLOW WORKS / WALLIS TRACTOR COMPANY

J. I. Case Power Lift TRACTOR PLOWS
And Other Power Equipment

The J. I. Case Heavy Duty Power Lift Tractor Plow pictured above is master of them all for *heavy plowing service* as thousands of satisfied users know.

Tremendous plowing strength is "built in" under the rigid "Plow in Hand" standards.

With this mighty plow heaviest work is donewith remarkable ease! Severest plowing conditions are made simple!

Yet, with all its wonderful strength, this master plow is light of weight and "handles" *easily* from the seat of *any standard tractor!*—a compliment to the skill of the J. I. Case Engineering Department.

The power lift feature is remarkably simple and of usual J. I. Case efficiency.

Simple Power Lift

A mere pull on the rope and the bottoms automatically leave or enter the ground; not one at a time or all at once, but in pairs—just as you want them. Stones and stumps are thus easily avoided! Should you hit one, the J. I. Case "Pin Break" device prevents breaking of share or bending of beams. Bumpers attached to each gang prevent beams from swinging out. Gauge wheels assure *beautiful, uniform* furrows.

In this great J. I. Case achievement finest materials only are used. Frame is of structural steel. Beams are of channel steel. Everything is powerfully riveted and braced for heavy service. All parts must pass the inflexible J. I. Case inspections and strenuous field tests which have set a standard of "plow quality" for the world.

Medium Duty Tractor Plow

Another member of the celebrated "Plow in Hand" line. A High Level Lift Plow that is not only extremely simple and easy to operate—*from any tractor seat*—but, is extremely light draft.

Quick---Simple---Positive---Power Lift!

A mere pull of the rope raises the bottoms—another pull lowers them. All power-lift parts above the frame and easy to reach—and away from dust and trash. Direct chain drive—no loss of power.

Built throughout to "Plow in Hand" standards—backed by the reputation of all J. I. Case Implements for real farm service. Write for catalog.

Other "Plow in Hand" Power Equipment

J. I. Case Power Lift Disc Plows;
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J. I. Case Tractor Tandem Disc Harrows;
J. I. Case Power Smoothing Harrows.

Mail Coupon Now for Catalog

Wallis "CUB" Tractor
Mightiest of Medium Weight Tractors

Great *Reserve Power!* Wonderful *Durability!* Low Upkeep! These things determine the *ultimate* economy of any tractor. And these things the Wallis "Cub," built to the high standards of the "Plow in Hand" line, gives you.

What the "Cub" Will Do

The "Cub" delivers 4000 lbs. *constant pull* at the *draw-bar* on only 80% of its tremendous power, holding 20% in reserve for emergencies. It does heaviest work with amazing ease, without racking its powerful engine.

Working *easily* it will plow 30 acres a day, using 8 bottoms where draw-bar pull is 500 lbs. per bottom or—22 acres using 6 plows where draw-bar pull is 650 lbs per. bottom—or 15 acres a day using four bottoms, where draw-bar pull is 1000 lbs. per bottom. It will disc 40-45 acres a day—run a 32 in. separator with stacker, blower and self-feeder—or haul 20 tons of wagon freight! The "Cub" will handle heaviest pull!—or stiffest belt work on your farm, on only 80% of its power.

Special "Cub" Features

Positive protection from dust; spring mounting-front and rear. Finest materials only; Hyatt Heavy Duty Roller Bearings. Special steels and alloys; Virgin Babbitt Metals. Perfect lubricating system. Turns complete circle in 8½ feet. And many others.

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J. I. CASE COMBINATION COULTER AND JOINTER!



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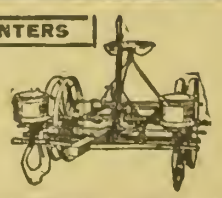
Start this season with "Plow In Hand" implements! Mail coupon for information, NOW!

HARROWS



PLANTERS



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In addition to the Power Equipment mentioned above, the great J. I. Case "Plow in Hand" line of Tillage Tools comprise the following:

J. I. Case Walking Plows
J. I. Case Sulky and Riding Gang Plows
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J. I. Case Single and Double Row Planters (Corn, Cotton, Kaffir Corn, Peas, etc.)
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J. I. Case Walking or Riding Cultivators (Shovel and Disc, single and double row)
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☐ Catalog Power Plows and other Power Equipment.
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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 4. TOPEKA, KANSAS, JANUARY 27, 1917. Established 1863. $1 a Year

COST OF PRODUCING BEEF

Successful Cattleman Must be Good Farmer and Practice Business Methods

W. A. COCHEL, Before American National Live Stock Association

ONE of the most unsatisfactory situations revealed by an analysis of the cattle industry is the lack of accurate and reliable figures relating to the cost of producing meat animals. There are men engaged in this business whose incomes indicate that they are far above the average as business men, yet few are able to state the exact cost of maintaining animals of various ages through a period of twelve months. When pressed for a statement as to costs the question is usually evaded or answered in a general way which indicates an entire absence of accurate information.

The reason for this state of affairs is plainly evident. No two years are exactly alike, the yield per acre as well as the nutritive value of the feeds produced from year to year is variable. The amount of feed required to carry an animal through a winter that is normal may be inadequate during one that is severe, or more than ample during one that is open. Because of general industrial conditions the breeding herd, which can be considered as capital stock, may be greatly reduced or greatly enhanced in value. The percentage of calves weaned from the cows bred annually may vary from fifty to one hundred due to causes over which the cattleman has little if any control. Three years must elapse before any income whatever may be derived from a group of calves purchased for the purpose of developing a breeding herd. During this time the owner must await with an abiding faith, the condition of the market upon which his surplus is to be offered.

The Kansas Experiment Station, during the fall of 1913, purchased 100 head of high grade Hereford heifer calves to be developed as a herd of breeding cows. Accurate data has been assembled as to the kind and amount of feed consumed, losses incurred, and labor involved in their production.

The figures secured during the first winter indicate that a range-bred heifer calf weighing 325 pounds at weaning time, wintered on one pound of cottonseed meal together with all the silage and straw she will eat, will consume slightly more than twenty-five pounds of silage per day for six months, together with one-half pound of wheat straw. During the winter of 1913-14, which was one of high prices for all kinds of feeds, this cost 6.7 cents per day, or a total of $12.17 per calf. Allowing $4 for pasture, $2 for labor and equipment charges, estimating interest at 7 per cent, $2.10 per calf, and taxes at prevailing rates, or 30 cents per calf, and allowing for a 2 per cent loss during the twelve months, the total outlay or cost would be about $51.60 one year from weaning, or when the heifer was eighteen months old.

Table II gives in detail the amounts of feed and other items included in the preceding table with the addition of the service fee, all of which make the total cost of maintenance from the fall after breeding until the calf is weaned amount to $22.14, the cost of carrying a breeding female one year. This amount not only includes interest, labor, taxes, and other charges, but also represents quite a material profit in the production of the crops which were fed to the cows and an excellent market for the by-products of grain farming usually practiced in the Great Plains area.

This cost of $22.14 is based on a 100 per cent calf crop. With a 90 per cent calf crop it will be $24.60; 80 per cent, $27.67; 70 per cent, $31.63; and if the calf crop is but 60 per cent, the cost will be $36.90. These figures indicate the actual cost of producing calves under conditions usually found in the cattle growing sections of the country. No depreciation is charged against the breeding herd except for actual losses because the individuals which proved to be undesirable for any reason, were worth more on the market than their cost of production.

TABLE I—DEVELOPING BEEF COW

Cost of heifer—fall 1914	$51.60
Weight when 18 months old, 642 pounds.	
Cost of wintering—5 months	7.53
Cost of feed per day, $.0502.	
Average daily ration:	
Silage 10.00 pounds	
Stover 10.10 pounds	
Straw 3.00 pounds	
Meal 1.00 pound	
Weight in spring, 723 pounds.	
Pasture rent—7 months	5.00
Labor and equipment charges	2.00
Taxes	.52
Interest, 7 per cent	3.61
	$70.26
Cost of heifer assuming 1 per cent loss	$70.97
Weight, 30 months old, 928 pounds.	

During the second year the cost of wintering was reduced, as rougher feeds, such as stover, were used, the consumption of straw was increased, and the length of the winter feeding period was reduced from six to five months. The cost of wintering was materially reduced due to a greater abundance of feed which affected the prices of feed as well as to the change in the ration. The heifers were bred during the summer of 1915 so as to calve in April and May, 1916.

TABLE II—MAINTAINING BEEF COW

Cost of heifer, fall 1915	$70.97
Weight 30 months old, 928 lbs.	
Cost of wintering—5 months	$ 6.75
Cost of feed per day	$.0449
verage daily ration:	
Alfalfa hay 11.1 pounds	
Stover. 14.8 pounds	
Straw .6 pound	
Weight in spring, 931 pounds.	
Pasture rent, 7 months	6.00
Labor and equipment charges	2.00
Taxes	.71
Interest, 7 per cent	4.97
Loss, 1 per cent	.71
Service fee for calf at side	1.00
	$22.14

It may be noticed that these cattle were kept growing all of the time and that the total amount of feed consumed during the three years, other than that actually produced on the farm, was $5.09 at prices prevailing when fed or $5.75 at present prices. The pasture charge is a little higher than is usually allowed in Western Kansas but probably not more than enough to include maintenance of fences, salt, and other expenses usually incurred in grazing.

The cost is materially influenced by the percentage of calves weaned. This is one item which should be carefully considered by those whose calf crops fall below 80 per cent, as it may mean the difference between profits and losses for a series of years.

These results have been secured under the most practical conditions, although material reductions might have followed from the extensive use of wheat pasture, limiting the feeding to stormy weather, and other economies which the assembling of accurate data prohibited. The farmer or ranchman could have taken advantage of these conditions which the purpose of the experiment made inadvisable.

When cattle have paid for the feed, labor, interest on the investment, and taxes involved in their production, the return to their owner has been adequate. Any further profit must be due to the business ability of the man. In the past when the cost of production was disregarded, the cattle industry was one in which speculation had a large part. In the future, the investment will be considered to the exclusion, for the most part, of huge profits and similar losses.

Agricultural colleges, agricultural journals, and other sources of information have been teaching that live stock should have a large place in the farming sections of the United States because feeding live stock makes farming more productive. That live stock feeding is essential to the maintenance of soil fertility, or that crop production is dependent upon the return to the soil of the plant food which is removed in the growing of crops has become almost a platitude. It is time that the cattlemen begin to look at the other side of the story and to realize that good farming is the basis upon which profitable live stock breeding and feeding industries will be based in the future. We can no longer afford to depend entirely upon the grass which Nature has so abundantly provided, but must of necessity supplement our ranges and pastures with feeds cheaply produced which will prevent loss during the winter or in the summer when climatic conditions are unfavorable.

The most successful cattleman of the future will be he who studies and works out means and methods of increasing the carrying capacity of his grass lands, grows crops which will yield the largest amount of food nutrients per acre, harvests and stores his feed in such manner as to preserve its feeding value, and supplements it with such concentrates as will increase its efficiency. In addition to this ability as a farmer and feeder he will possess a sufficient amount of knowledge of live stock to select the type of cattle which will most economically turn the products of the soil into meat and at the same time be desirable either to the feeder because of their ability to finish into desirable market animals, or to the packer because of their ability to yield attractive carcasses. Another factor which will contribute to success is a study of market conditions so that his product may be cashed at a time when most in demand.

The cattleman who thoroughly masters all phases of the business and changes his methods and ideas as new conditions confront him, will be able to compete successfully with his fellowman who clings to the old ways, and has a most promising future before him. His business is one which demands a large investment of brains as well as capital upon which he will be able to realize if he has both available. The cost of producing beef, although never constant, may be reduced materially by the application of business methods to the problem.



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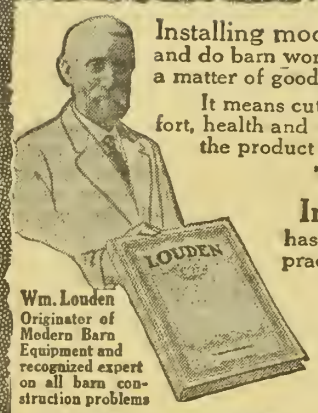

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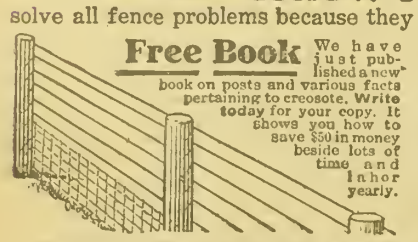

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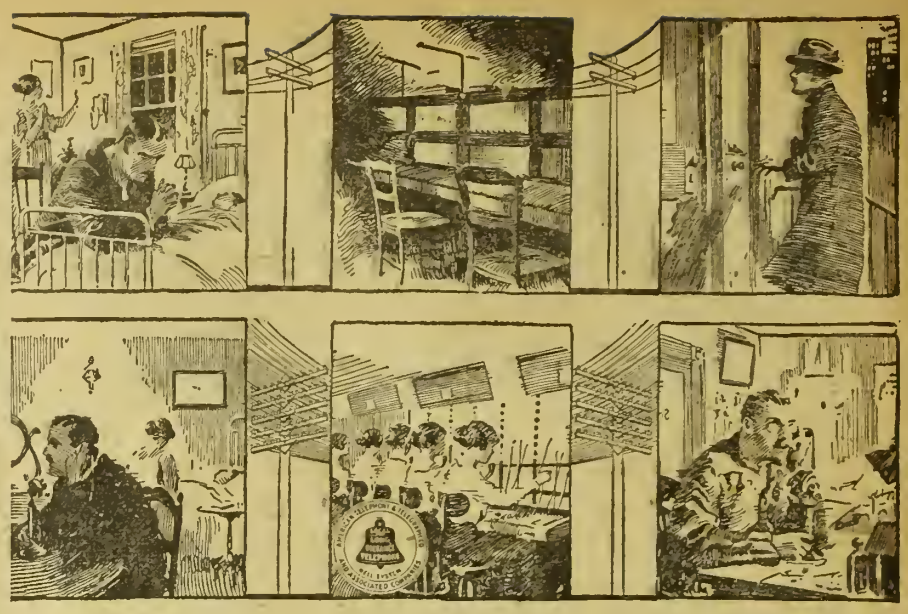

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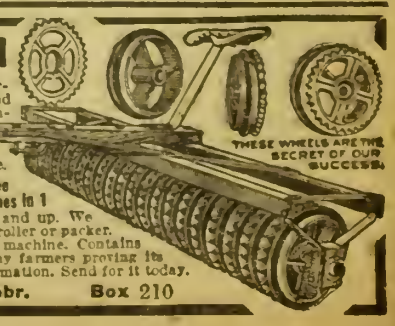

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KANSAS FARMER

THE FARM PAPER OF KANSAS

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HIGHWAY LEGISLATION

No legislation that is being considered at the present session of the Kansas legislature is of greater importance than that having to do with the administration of road and bridge work. Now that the federal government has taken a hand in road building and is allotting funds to the different states to be used in building and maintaining public highways, the need for some modern road legislation becomes almost imperative.

A most comprehensive road bill has been presented and is now in the hands of the committees in the House and Senate. This is legislation affecting every person in the state, and we would urge that readers of KANSAS FARMER thoroughly inform themselves as to the details of this bill before forming their opinions as to its merit. No one needs good roads more than do farmers who must haul everything they produce from the farm to the nearest railway station and many of their supplies from the station to the farm.

The proposed bill, which is known as the Administration Bill, is worked out in the main along the plan of the Iowa highway law. It provides for a state highway commission to consist of the governor, the secretary of the State Board of Agriculture, and the dean of engineering at the State Agricultural College. This commission is to employ a competent state highway engineer and such other help as may be necessary. Advantage will be taken of the engineering laboratory already equipped at the college, for doing such testing of materials as may be necessary. The commission will also have the use of the drafting rooms. The county organization consists of the county commissioners and a county engineer, this engineer to be employed by the commissioners but approved by the state highway engineer. In the townships the trustees employ a road overseer who directs the road work of the township, receiving from the county engineer standardized plans and specifications for the work. Uniform systems of records and accounts are to be provided by the state commission through its engineer.

While the state, county and township organizations are linked together in this manner the state has no authority over county or township funds. The people who pay the bills make their own levies and expend them. The bill also provides for the complete separation of road levies and bridge levies. In the use of the federal money it is required by the national government that it be expended under the direction of the state highway commission.

A separate bridge bill has been presented. The purpose of this bill is to make it certain that people in different sections of the state get what they pay for in the bridges they build. The bridge question has been the cause of a great many complications. In the neighborhood of six million dollars will be spent in this state on bridges during the coming year. A committee of the New York legislature which has been investigating the bridge question, makes the report that Kansas stands second among the states in the amount of money it will expend on bridge work this year.

This is most important legislation and should be worked out solely from the standpoint of the interest of those who pay the bills and use the roads. In the neighborhood of 35 million dollars, all told, will be spent in Kansas on roads and bridges this year, and we certainly should demand that it be used in the most economical manner possible.

The proposed bills may be reported out of the committees by the time this issue of KANSAS FARMER reaches our readers. We would again urge that these bills be studied with open minds as to their effect on the administration of the road and bridge work of the state.

SEEDS FOR SPRING PLANTING

In a very few weeks it will be time to begin spring work in the fields. The first step in crop production is to plant good, clean seed of adapted varieties. Securing this seed is one of the jobs that can be done now. The forehanded farmer will do this and not wait until the rush of spring work is on.

Some seeds should be tested for germination before being planted. Others must be inspected for purity and freedom from seeds of noxious weeds. Such weeds are often introduced as a result of planting seeds from other localities without making sure they are free from seeds of this kind. By having samples in advance of the purchase it is possible to know the purity of the seed. Some kinds of weed seeds can be fanned or screened out, while others are of such character as to make it almost impossible to separate them from the seed of the crop.

Seed dealers will welcome this opportunity to furnish samples and thus be able to do much of their seed business in advance of the planting season. They have their catalogs prepared and are ready to send them out to those needing seed for spring planting.

Some kinds of staple seeds are likely to be very scarce the coming season. Conditions were very unfavorable last year for maturing seed of kafir, milo, and others of the sorghums. Corn, likewise, was not a good crop over much of Kansas, and home-grown seed corn will be none too plentiful. This shortage of staple seeds makes it of more than usual importance to begin the search for seed early in the season. All kinds of grains are high in price and for this reason, if for no other, it will pay to give more than the usual amount of attention to securing seed suitable for planting, as long as possible in advance of the planting season.

* * *

It is now up to the Supreme Court of Kansas to decide whether the constitution prohibits the state from taking any part in road-building or not. A bill was passed as an emergency measure during the first week of the present session, which provided for the state doing such work in co-operation with the counties. Shawnee County had just completed a piece of road work and made application to the state auditor for funds to pay part of the expense. Of course the claim was not allowed and proceedings were at once started which will bring it to the Supreme Court before the present session closes. If the court rules that the commonly accepted interpretation of the constitution is correct, a constitutional amendment will be the only means of permitting the state to take advantage of the federal road funds allotted to this state. This will postpone taking advantage of these funds for at least two years.

* * *

FARM LOAN BANK TO WICHITA

The Farm Loan Bank for the district including Kansas goes to Wichita. This announcement has just been made by the Federal Farm Loan Board. The other states included in this district are Oklahoma, Colorado, and New Mexico.

Each bank will start with a capital of $750,000, and it is expected that these banks will be ready to make loans under the conditions of the new act in the near future.

* * *

Through its State Master, B. Needham, and a committee, the grange organization of Kansas is keeping a watchful eye on proposed legislation as it affects the interests of the farmer. An office headquarters has been established for this work in the State Horticultural Society rooms. Mr. Needham is also looking after routine state grange matters while attending to the work of watching legislation. He has just signed eighteen charters for new local granges.

SHALL WE TAX COLORED OLEO?

The oleomargarine interests are again attempting to have the ten-cent tax on colored oleomargarine removed or lowered to one cent a pound. The argument advanced is that it will help to reduce the high cost of living. The falsity of this argument becomes apparent when it is recalled that several years ago a leading oleo manufacturer testified before the Agricultural Committee in Congress that uncolored oleo was of better quality than the colored, admitting that lower grade oils could be used when the product was colored. The same testimony was brought out in Pennsylvania a few years ago, when the president of the State Federation of Labor stated to the committee of the legislature which was investigating the matter, that the uncolored oleo sold cheaper and was a better grade than the colored.

The real purpose of this demand for a reduction of the federal tax on colored oleo, is to enable the manufacturers of the product to add millions to their profits instead of to reduce the cost of living.

Dairy interests in Kansas are drafting a bill to present to the legislature, its purpose being to prevent oleo from masquerading as butter on the tables of hotels, restaurants, and boarding houses.

Dairymen should be vitally interested in oleo legislation both in Congress and in our own state. Any legislative enactment which makes it easy for the counterfeit product to pass as butter, is touching the pocketbook of the producer of the genuine article and will not have the slightest effect in lowering the cost of living of those who must use oleo because it is cheaper than butter.

Producers of dairy products should watch this legislation closely and write to their legislators in the state and to their members of Congress, urging them to so legislate as to require oleo to sell strictly on its merit and not in competition with butter.

* * *

MACHINERY AND TRACTOR SHOW

The use of machinery is becoming more and more important in farming. Exhibitions of farm machinery are increasing in popularity because they furnish an opportunity for studying the many kinds of equipment being offered for sale. Such an exhibition will be held in Wichita, February 22, 23, and 24. For years this has been held as the threshermen's convention. It has been widened in its scope and is now making an exhibit of power farm machinery a feature of the convention. All the big machinery distributing houses of Wichita join in conducting this show. The Wichita Thresher and Tractor Club, under whose management the show is held, will give an entertainment program to all visitors on two nights of the convention.

A large number of firms have already made entries and the indications are that this display of farm machinery will be one of the biggest ever made in the Southwest.

* * *

A fruit-growers' meeting is to be held in connection with the Farm and Home Week at Manhattan this year. Fruit-growers who attend are to be the guests of the horticultural department of the college at a noonday luncheon, Thursday, February 8, at the fruit packing house. A very practical and instructive program has been prepared. The first day, February 6, will be devoted to the nursery crop and the young orchard, second day to fruit pruning and spraying. The third day there will be a demonstration of grading, packing and storage. Gardening and potato-growing will also be taken up the third day of the program. The growing of fruit and garden produce receives too little attention on many farms in Kansas. This meeting will furnish an excellent opportunity to become familiar with orchard and garden practices.

EUROPEAN FARMING METHODS

In his address at the recent annual meeting of the State Board of Agriculture, W. R. Mellor, of Nebraska, gave an interesting account of his observations of European farming methods. He said:

"The so-called European farms are very small tracts of land, many of them being 50 feet by 300 or 400 feet, which a farmer in this western country would call only a truck garden. The minuteness of the area to be cultivated by the person practically prohibits the use of machinery for the planting or gathering of the crops raised. This has a tendency to make the entire country a veritable garden. This accounts for the rapture of the tourist over the beauty of the country, as not a weed is to be seen. The work is done in nearly every instance by women.

"The tracts for farming being so small cause the people to live in little villages some three or four miles apart, and those who attend to the farm duties walk out from the town to the tract of land farmed, over beautifully macadamized roads, used very little for vehicle travel. Also, the limited size of the so-called farm does away with the neeessity for farm animals as well as machinery.

"In view of these facts, the average condition of the farmers of Europe is restricted as to prosperity in comparison with those of the great agricultural districts of the United States. These European farmers are compelled to be exponents of 'intensified' farming—a sweet idea to many of our speakers—but I am glad that I live in a country where broad prairies are sufficient for the expanse of freedom so necessary for larger development which permits the pursuit of agriculture in its broader sense with greater possibilities for securing returns on industry. Our present situation permits the escape from the conditions of the European restricted peasantry and offers a better opportunity for honor and competency for old age. These deductions lead me to believe that what we want in this section of the country is not 'intensive' but 'better' farming."

The man yield is very low where the type of intensive farming observed by Mr. Mellor is practiced. The American farmer is the best farmer in the world if we consider man yields. The better farming suggested means keeping up the man yields and thus maintaining the high standard of living of the American farm family.

* * *

FARM ENGINEERING PROGRAM

The farm engineering program that will be given at the agricultural college by the division of engineering, Farm and Home Week, February 5 to 10, is of special interest to those who are thinking about building new houses, installing lighting systems, sewage disposal plants, or are the owners of tractors and automobiles.

On Tuesday, February 6, the subject of concrete on the farm, the materials and methods used in concrete construction, and demonstrations with concrete machinery, block machines and post molds will be given. On Wednesday, the water supply for the farm house, and sewage disposal for country homes, will be handled, and afternoon demonstrations given on the manufacture and use of iron and steel, including the welding, hardening and tempering of tool steel.

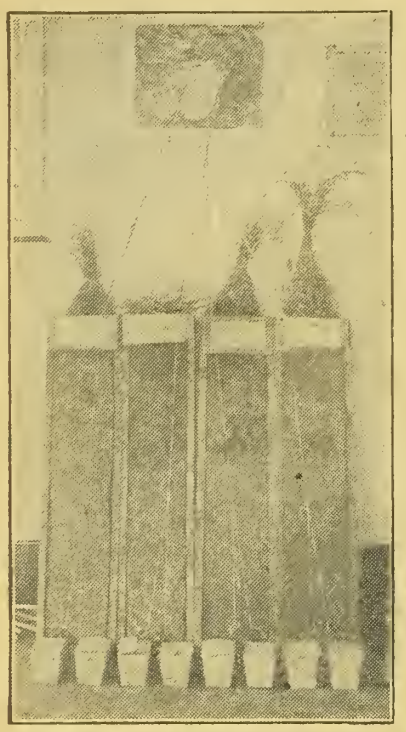
The stationary gas engine, the care and home repair of automobiles and carburetors and ignition apparatus will be fully explained on Thursday and Friday. While the program, which is under the direction of Dean A. A. Potter, will be given largely by members of the division of engineering, representatives of some of the larger manufacturing companies will assist in the demonstrations.

SOIL STUDIES IMPORTANT

Cloud County Farm Bureau Conducts Demonstrations in Soil Fertility

By EDW. C. JOHNSON, K. S. A. C.

ONE of the first three things done by the county agricultural agent in Cloud County, Kansas, was to make a study of the different soil formations. Last April a general soil outline or survey was made of the four principal formations of the county. At the time this study was being made of the soil formations, samples were taken from the principal soil types of the prairie sod and of the land adjoining that had been continuously cropped for thirty-five years. Meetings were held in the school houses in the evenings at the end of each day's work. The aggregate samples of soil were exhibited at each meeting. The general sentiment of the farmers at these meetings was that the soils of Cloud County were not losing fertility but the unfavorable growing seasons were the whole cause for the decrease in crop yields.



SAMPLES OF CULTIVATED AND SOD SOILS OF FOUR SOIL TYPES OF COUNTY

Loss of Organic Matter and Nitrogen

Soil Type	Organic Matter			Nitrogen		
	Sod	Cropped	Loss	Sod	Cropped	Loss
Limestone—Silt loam	106,000	77,600	26.8%	4,100	3,440	16.1%*
Limestone—Clay loam	102,400	70,400	31.3	3,880	2,900	25.3
Wind drift—Silt loam	95,200	68,800	27.8	3,580	2,540	20.6
Sandstone—Sandy loam	89,200	57,600	35.5	3,300	2,200	33.3

*Alfalfa six years five years ago.

The results are given in pounds in one acre seven inches deep. One acre of soil seven inches deep weighs 2,000,000 pounds. The figures are from analyses of Cloud County soils made under the direction of the farm bureau.

To demonstrate the facts in the case composite samples were taken of the top seven inches of the prairie sod and of the cropped soil of the four principal soil types. These samples were sent to the Chemistry Department of the Agricultural College for analysis of the percentage of organic matter and nitrogen. The analyses of the samples showed the prairie sod of the least productive soil to contain 31 per cent more organic matter than the same kind of soil that had been continuously cropped for thirty-five years. The prairie sod of the most productive soil contained 35 per cent more organic matter than the continuously cropped soil.

Cloud County is one of the prosperous Kansas counties that has had a large natural store of soil fertility. The depth to which the decayed roots in the prairie sod extended shows that Nature formed deep soils in this section of Kansas. However, thirty to fifty years of continuous tillage has lessened the depth of these soils and they are now only one-half to two-thirds as deep as in the prairie sod. Then, in addition to this loss, the analyses show that the same quantity of prairie sod contains 21 to 35 per cent more organic matter than the continuously cropped land.

The soil that had only lost 21 per cent of the organic matter had grown alfalfa six years followed by corn the past five years. The other soils had been cropped continuously to corn and wheat for thirty-five years.

The continued high production of the crops in that county in favorable seasons has led many to think that the fertility of the soil was not being lowered. In order to get the facts clearly before the farmers of the county, Karl Knaus, the agricultural agent, arranged another series of farm and school house meetings October 30 to November 3. M. J. Bower, soil specialist of the Extension Division of the Agricultural College, who assisted Mr. Knaus in the April meetings, also assisted with this series of meetings. The soil samples that were collected in the spring, with the analysis of each sample attached, were exhibited at each meeting. The local soil problems were discussed, practical methods of solving them were suggested. The suggestions were followed by field demonstrations to show the points brought out in the discussion.

Those who attended this last series of meetings offered no argument when confronted with the loss of organic matter and nitrogen, but instead asked many questions about the different methods of increasing the organic matter in the soil. There were also a large number of suggestions and experiences given by the several farmers present at each meeting, each session being an open family meeting where everyone expressed his own ideas.

A soil exhibit for Cloud County was prepared during the odd moments between meetings, and placed in the office of the farm bureau. The exhibit consists of four columns of soil placed in wooden cases three feet long, showing the structure and general character of the four principal soil types of the county in their natural state. The soil columns are exhibits of the same soil types of which the analyses were made. The county map showing the areas of the different soil formations hangs above the soil columns with a string attached to each column and to the center of the area to which it belongs. Above the soil map is the chart showing in a graphic manner the total amount of organic matter and nitrogen in the first seven inches of each acre of the prairie sod and of the cropped soil of each soil type. The loss is given in percentages at the top of the chart, and is shown graphically by comparison of the total amounts in the prairie sod and cropped soils. On the floor by the soil columns are boxes containing small samples of the soils which were analyzed. A string connects each pair to the column of the same soil type, thence to the place on the map whence derived, thence to the analysis of that type upon the charts. The cuts on this page show this arrangement of charts and exhibits in the farm bureau office.

The lighter color and the less friable and granular condition of the samples of cultivated soils also plainly show the loss of organic matter. Every man that calls at the office has the soil problems of the county brought to his attention by means of this arrangement of charts and samples.

The soil problems of this county will now be given further consideration by establishing demonstrations on each soil type for the purpose of determining the most practical method of returning organic matter to the soil. These will continue for several years in the different communities.

It is realized by the farmers of this county that the first big problem of the farm bureau is to assist in the conservation of the natural store of wealth in Cloud County soils. By following the plan given, the bureau hopes to bring about some valuable results.

Essentials Of Good Hog House

THERE are some general considerations in hog house construction that should be kept in mind, whatever the type of shelter built.

A hog house must, first of all, be warm. Especially do the newly farrowed pigs require protection from the cold. Without good warm shelter, it would be impossible to make a success of early pigs. Even stock hogs thrive best when they are not compelled to shiver on account of cold and burn up what feed they eat to keep them warm. The wintering sow also makes good use of a warm bed. In fact, all classes of hogs will make good returns for reasonably warm shelter. Sudden changes of temperature should always be avoided.

Hogs will not thrive in damp, musty quarters. The dripping of condensed moisture from the roof or walls of hog houses is always objectionable. The floor should be so built as to keep dry and the roof and walls should be tight.

Sunlight is the universal germ destroyer. It promotes dryness and warmth in the hog house. Direct sunlight has an invigorating effect on young pigs. The sun should shine on every part of the inside of the house at some time during the day. During the farrowing months—February, March and April—it is especially desirable that the farrowing pens be well sunned, and whenever possible advantage should be taken of the forenoon sun. The night is likely to have a weakening and depressing effect on little pigs, and the morning sun will give them new life and vigor at a time when it is most needed.

Hogs need plenty of fresh, pure air, but should not be subjected to cold drafts.

It is imperative that the hog house be cleaned and disinfected thoroughly. Crevices and cracks harbor filth and this encourages disease. The germs causing white scours, contagious sore mouth, cholera, as well as the parasitic troubles such as lice, worms, and mange, are all harbored by the filth which accumulates in a house that cannot be easily and thoroughly cleaned. Freedom from dust is absolutely necessary if hog houses are to be kept in a sanitary condition. Dust is indirectly responsible for many of the ills to which hogs are susceptible. It should always be borne in mind that hogs are more apt to become diseased from insanitary surroundings than any other domestic animal. They are so constructed that they eat, breathe and drink close to the ground where infection in some form is ever present. Regular removal of the litter and manure from the hog house is encouraged by having roof doors and gable windows in the small houses. The easier it is to clean the house the more likely it is to be kept clean.

The safety and comfort of the sow and litter are important points. High door sills over which the sows must climb, frequently cause abortion. Rough, uneven floors cause much discomfort to the heavy brood sow. Slippery floors frequently cause accidents. Narrow or low doorways through which the sows must squeeze or crawl, are objectionable. Properly placed fenders will save the lives of suckling pigs, and should always be used.

The matter of labor is always an item demanding consideration. No set rules can be laid down that will apply to all conditions, but the following points suggested by the authors of Bulletin 152 of the Iowa Experiment Station will be helpful in planning to reduce the labor of caring for the hog to the minimum:

Roof doors in small houses and alleys in large houses for quick and easy feeding, removal of litter or manures, and handling of herd.

Bins for storage of feeds.

Doors and windows which open or close easily and quickly.

Room for supplies and appliances, such as veterinary medicines and instruments, feed cooker, water heater, stove, sleeping cot, and so on.

Abundant water supply for drinking and flushing.

Ventilators, readily adjustable.

Litter carriers for removing manure.

Shade devices, handily managed.

Attached runners, for quick moving of small houses.

Dipping tank, in or near house.

Troughs arranged so as to be filled and cleaned with dispatch without interference from hogs.

Feeding floor, located in or near by the house.

Breeding crate and ringing chute under cover and near at hand, for winter service especially.

Tile drainage for flush water, which may be conserved by running into farm liquid manure tank.

Minor equipment, such as hurdles, automatic waterers, self-feeders, barrel or other storage for slops, and other devices.

In locating the farrowing houses it is a saving of labor to have them near the supply of bedding and water. An open southern or southeastern slope is the most desirable location and it is a distinct advantage if the soil is somewhat sandy, as heavy clay or gumbo soils do not absorb the surface water and are apt to become muddy.

Diversified Farm Pays Best

A well diversified business pays best for the man operating a general farm. It will pay better during a long period to have several main sources of income rather than just one. In some farm surveys recently made in Ohio the average labor income on a number of farms where there was but one or no main source of income was but $227. Where there were two main sources of income, the labor income was $551; where there were three it was $761; and where there were four or more it was $1,029. The labor income is what the farm furnishes the operator for his labor and management after paying all farm expenses and after deducting 5 per cent on capital invested. In addition the family has what the farm contributes toward the living.

In buying prize corn at corn shows be sure that it is adapted to the community where it is to be planted. Otherwise it probably will not prove as good as seed corn selected on the home farm.

Why Breed Draft Horses

The danger of overproduction of horses is remote. It costs more to produce them than any other class of live stock. For that reason many farmers sit back and proclaim that it doesn't pay to raise horses; that there never was a time when the horse market was so dull as now; that the motor truck and tractor have killed the horse business and the horse is a thing of the past. Some people believe all of this, even though the truth of the matter is the opposite. Those who have allowed such thoughts to direct their operations for the past five to ten years will soon see the error of their ways. It takes time to make much headway in the horse business. Five years are needed to grow a horse. At best one should not expect more than two colts from three mares as an average per year. Moreover, not more than 16 per cent of our farmers are raising colts. Not long hence the American farmer will wake up only to learn that a great opportunity has passed. The next ten years is bound to see the greatest demand for horseflesh the world has ever known. It can't be met on short notice. The man who is breeding every mare old enough to the best stallion available and is taking proper care of the offspring, is the man who is sure to be rewarded. There are plenty of men who have bought and paid for farms within the past ten years by their pure-bred draft mares. In the same community there are farmers who are no better off financially than they were a decade ago because they failed to foresee the profits from using the right kind of horses in their farm work. The men who have made money and who are going to reap the fruits of their efforts in the future are those who early saw the undeniable need for heavy draft horses for farm work; who bred that kind and who will continue to do so without a halt.

Why is there a general tendency among farmers to buy their horses rather than to raise them? Farmers say, "I don't want to be bothered with a colt. When I get ready to plant corn or cut wheat, I want horses ready to work; I don't want to have to pay $25 for a little scrub colt and then have all the bother to raise it, besides." Men with such ideas have to buy a horse or two nearly every spring at a cost of $150 to $250 a head. Instead of having a horse or two to buy, better have some to sell. There is no unusual training necessary. Any farmer can raise good horses if he will only use common sense. He can even succeed with pure-bred drafters if he will select good parent stock, take reasonably good care of them and develop the offspring rightly. Therein lies the secret of success.

A careful consideration of the situation cannot fail to convince one that there is no danger of an over-production of heavy draft horses for our farm and city uses. Almost a million horses and mules have been exported from this country in the last twenty-seven months for use in war. These figures show almost one horse or mule taken for every twenty-five left. As surely as this war continues another two years, good farm horses will be at a premium; and even after the war is over, exports will not cease, for thousands of horses will be needed to start European agriculture anew.

It follows, as a necessary consequence, that the demand for pure-bred draft horses for breeding purposes will continue to be good. Importations have been, to all practical purposes, cut off. We are producing only twelve or thirteen thousand pure-bred draft horses eligible to registry. This means, in substance, that we are producing only five or six thousand stallions fit for service per year, when we need at least seven or eight thousand. An excess of demand over supply makes good prices, and the present is no exception.

The farmer who uses heavy draft mares does better farm work, and raises bigger crops, than he who relies on small horses or tractors. Furthermore, he has horses to sell each spring, at a profit. If you don't believe it, go ask any country banker for the name of the most successful farmers in his neighborhood. You will find them to be live stock farmers, and men who keep and use heavy draft mares, either grade or pure-bred, in their farm work.—WAYNE DINSMORE.

If it has not been done, now is a good time to burn the dead and diseased wood in the orchard, as well as waste fruit and other litter which may harbor diseases or insect pests.



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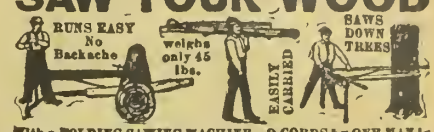

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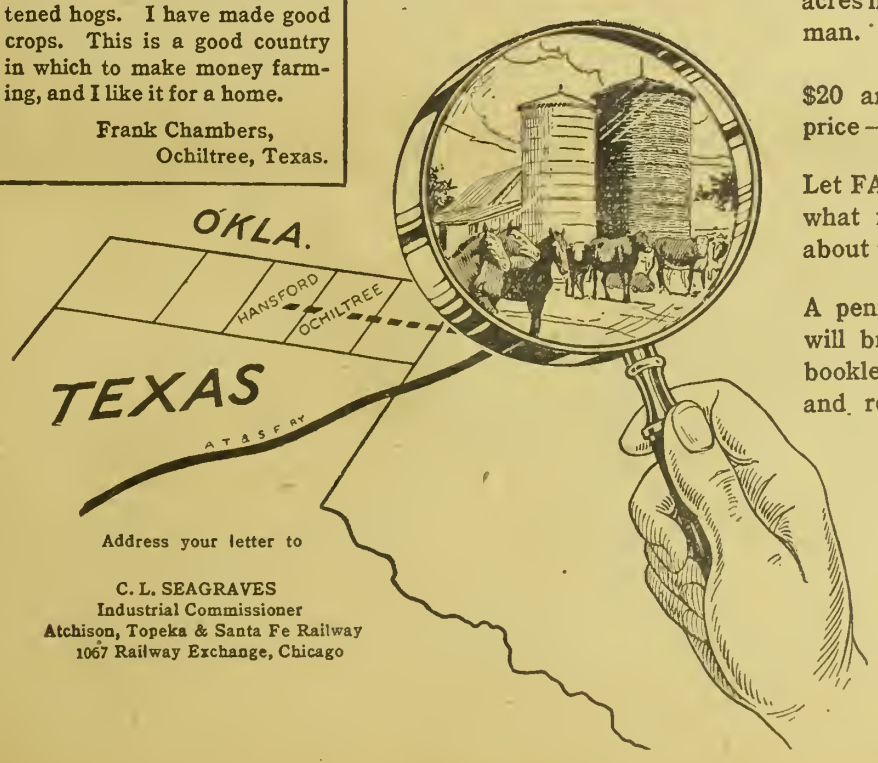

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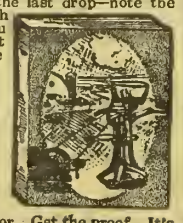

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FRED MUELLER
1413 Larimer Street Denver, Colo.

Kansas Farmer Dairy Club

Fodder and Stover Not Same

SOME of our members do not fully understand the classification of feed as given in the uniform price schedule. Kafir or cane that was planted thick for forage should be listed under the heading "Hay from Sorghums" and given a value of $4 a ton. Forage of this kind has greater feed value than the fodder part of corn or kafir grown for grain. Fodder from which the ears or the heads have been removed is included under the classification "All Stovers". This kind of roughage is given a value of $2 a ton. There is always considerable waste in feeding it. The stalks are large and have little feed value in the dry form. The cows will eat the leaves and fine parts only.

In entering the roughage on the feed record distinguish between the kind of fodder that is of this coarse, poor character, and the kind grown specially for forage purposes. Corn or kafir stover is poor milk cow feed at best and a good cow should not be compelled to depend upon it as the only roughage. The fodder grown as hay or planted so thickly that the stems are fine, is much more nutritious. Cane or kafir hay cut at the right time and properly cured will be eaten with very little waste. This kind of feed is very low in protein but can be used as roughage for milk cows providing enough protein is supplied in the grain ration by feeding some linseed oil meal or cottonseed meal.

The use of the term "stover" is perhaps not generally understood. There is so much difference between the feed left when the ears of corn or the heads of kafir are taken from the stalks, that the term "stover" has been adopted to describe fodder of this kind. The term "fodder" is used when speaking of the whole plant, including the ears or the heads. The term "corn fodder", in the strict sense, thus means corn cut and shocked and fed to stock without husking. When the corn is husked out the stalks become "stover" and the same term applies to shocked kafir after it has been headed.

It is necessary to make a distinction between stover and hay from sorghums because of their different values. As far as we know, none of the club members are feeding corn fodder, using these terms to mean the whole plant including the grain. It would be impossible to fix a uniform price for fodder and grain together as this price would depend entirely on the amount of grain contained in the fodder.

With this explanation we hope you will be able to enter these two classes of rough feed correctly on your feed records.

Remember, if you are feeding corn fodder from which the ears have been removed, you should write in a heading "corn stover" and put down the amount fed each day under it, and figure it at the price of $2 a ton. If you are feeding cane or kafir hay or fine fodder from either of these crops, you should state in one of the blank spaces at the top of the feed record, which you are feeding and figure it at a price of $4 a ton.

Her Cow Met With Accident

Am sorry for not writing sooner, but I was almost too busy. I have started to feed my cow linseed meal. I wanted to feed it long ago but I could not get it. I am feeding her now the way you advised me—six pounds chop, three pounds bran, and one and one-half pounds linseed meal.

In this month's record you will find that for a few days my cow gave only from 26 to 30 pounds of milk a day. The reason for this is that she got one quarter of her udder hurt some way. She is giving bloody milk in that quarter now and we cannot use it. I think it will be all right in a few days.

I wish you and the members of the Dairy Club a Merry Christmas and a Happy New Year.—ELISE REGIER, Butler County.

Has Sold His Pigs

I thought I had better write and tell you that I failed to send my milk sample December 15. I was so busy that I forgot all about it until the next day. As the seventeenth was Sunday, I couldn't send it until Monday, and Monday I missed the mail carrier, so it didn't get off until Tuesday.

I sold my three pigs which I wrote you July 4 I was going to buy, and received $30.24 for them, and deposited it on my cow. I have been keeping account of all my profit so I would know how much she made in the year.

I am feeding my cow six pounds bran, one pound linseed oil meal and about twenty pounds of corn fodder, as we haven't much hay.—PAUL STUDDARD, Leavenworth County.

Effect of Straining on Test

Enclosed you will find my record for November. And I am sending you some pictures I have had taken. They are not very good but maybe you can get a print from one of them.

I am feeding my cow two parts corn and one part oil meal and one part bran. She is running on a timothy and clover meadow and in the stalk fields. We have about ninety acres of stalks. I put my cow on this pasture the first of November.

I saw my letter in KANSAS FARMER received your letter about my cow's milk test. In regard to the meeting in Leav-

AN IMPORTANT REMINDER

AS THE December feed and milk records have been received we have written each one of our Dairy Club members. Some of these letters did not require answers, but many of them should have been answered promptly because they had an important bearing on your December records.

If the letter we wrote you did not call for an answer, or if it did and you have already answered it, this reminder is not intended for you.

If your letter did require an answer, you should look up the information we asked for and write us at once. Remember that when we write you for more information about your records or your work, our only object is to help you do better work in the club and make a better record. If you do not answer our questions they must go unanswered, for no one can answer them but you. When we take the trouble to write you about these matters, we expect to receive an answer from you, and therefore we do not enter your record, but hold it out until we hear from you, so that we can make the correction on the record when you make the explanation to us.

It would be much easier and much more convenient for us to enter all records as they are received, but this we do not do. The figures on each record are verified and if mistakes are found they are corrected at once if we can do this without writing you. When we do have to write you, you should show your interest by giving us the information promptly that will help us to make these corrections.

We are receiving many fine letters from many of you, and we know the rest of you could write good ones and could give us the help we need to enter your records correctly, if you would only do it as soon as you receive our request for your help.

For some of our members we are now holding out records for two or three months back because we cannot enter them until we get some more information from these members. We have written three and four times to some without being able to get a reply.

Won't you all please try to help us just all you can by being sure that all the information needed is given on your records, and if you should overlook anything and we write you, by supplying the needed information as soon after our letter is received as you can get it ready to send to us?

enworth, I will meet you there and I thank you for your invitation.

My cow's milk tested a per cent better this month than it did last month. I did not strain the milk I sent in to be tested in November, but I strained the October milk several times. I read in a paper where it said that straining milk would lower the test, so it proved to me it was true.

I received one of the De Laval Dairy Handbooks not long ago and I found it to be a very valuable book. — ERNEST ASBURY, Leavenworth County.

* * *

Straining the milk will not affect the test. Ordinarily, however, the sample should be taken before the milk is strained. As soon as the cow is milked the milk should be thoroughly mixed by pouring it two or three times from one pail to another, and the sample should be dipped out immediately. If sticks and particles of hay or dirt should have fallen into the milk, they should be strained out as quickly as possible. You need not fear, however, that this straining will lower your test.

Uniform Price for Butter Fat

We wonder if some of you have not forgotten that your product is being figured at a uniform price. In order to give all an equal chance we are using the average Elgin price for butter fat each month, in figuring the total value of your cow's product for the month. Some of you are selling whole milk or butter, and actually get more for your butter fat, but to make it fair for those who do not have a special market the uniform price is being used in figuring the results for the club records.

You who have a chance to sell for the higher price will be able to pay off your notes more quickly and will be better off financially, but if you are not getting as much for your butter fat as is some other member in the club, you will have the same chance so far as the club records go.

Fat in Pound of Butter

One of our Labette County members asks how much butter a pound of butter fat will make.

This matter is controlled by the U. S. Government. A pound of butter represents 100 per cent, and the law states that every pound of butter must contain 80 per cent butter fat, not over 16 per cent moisture, the salt, casein and ash making up the other 4 per cent. That is, in every 100 pounds of butter there must be 80 pounds of butter fat, not more than 16 pounds of water or moisture, and not more than 4 pounds of salt, casein and ash. Those who sell butter not meeting these government requirements are liable to a heavy penalty.

Breed for Fall Calves

Is calving in the fall not only produce more butter fat, but produce the larger part of it at a time when it is most valuable. Probably the most profitable months for cows to freshen are October and the early part of November. In order to do this, they should be bred during January or early in February.

Cows freshening in the winter can be turned out on pasture when the milk flow begins to slacken and needs the stimulation of succulent feed. The calf is carried through the winter on milk and by spring is able to make better use of pasture. On the other hand, a spring calf is carried through the pasture season on milk and has to be put on dry feed during the winter.

At the Ohio Experiment Station some calves born in the fall were raised for about $5 less than others born in the spring. Under average farm conditions this difference would be even greater, as no grain would be fed to fall-born calves on pasture, while those at the station were given grain because of a shortage of pasture that season.

The fall calf must have good shelter and be given a little better care than the spring calf, but there is more time in winter to do the extra chores.

Terry Junkins, of Miami County, says he has always made more profit feeding hogs when feeds were high in price than when they were cheap. The first of December he was feeding 105 hogs a ration made up of 350 pounds of corn, 50 pounds of shorts, and 50 pounds of tankage, and they were making profitable gains. Later he fed all the corn they would eat and enough shorts and tankage to properly balance it.



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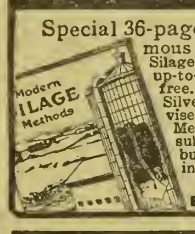

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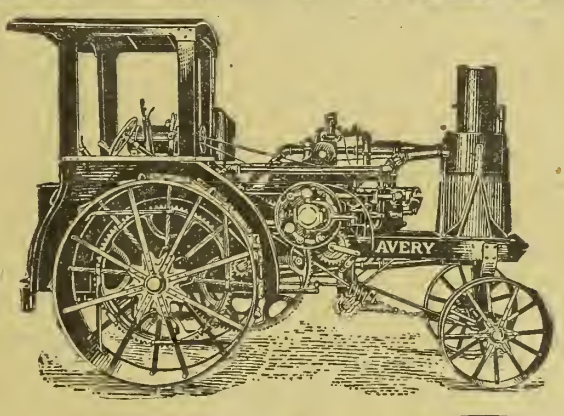

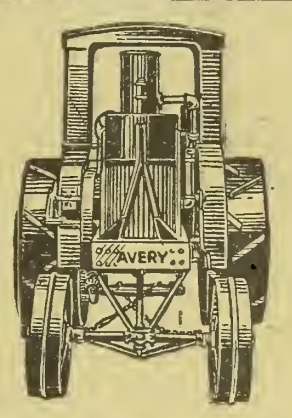

What You DON'T Get in an Avery Tractor

Your success with a tractor depends about as much on what you *don't get* in its construction as on what you do. Here are some of the things you *don't get* when you buy an Avery Tractor: You don't get fuel or water pumps to freeze or leak—you don't get a fan to cause trouble or waste power—you don t get sprocket chains or belts to stretch or break—no outside lubricator with small pipes to choke up—no counterweights on the crankshaft to come loose and tear the motor to pieces—no third bearing on the crankshaft to spring it out of line—and the fewest shafts, the fewest bearings and the fewest gears in the transmission of any 2-speed, double-drive tractor built. You don't have delays or expense with any of these parts when you get an Avery for these trouble makers were eliminated when the Avery Tractor was designed.

WHAT YOU *DO* GET

You get a standardized design—a powerful, low-speed, long-lived, special opposed tractor motor—a crankshaft so strong no owner ever broke one—you get renewable inner cylinder walls, a wonderful and exclusive Avery feature—you get the Avery patented sliding frame, an all spur gear transmission, four wheels and a double drive.

Avery Tractors are the only make built in five sizes (a size for every size farm) all having exactly the same design. When the Avery Company builds one size tractor and after thoroughly testing it out, builds four more sizes, all of exactly the same design, it is unquestionable proof of the success of that design.

INSURE SERVICE *AFTER* YOU BUY

You must get repairs and expert help promptly if you need them. Avery Tractors are built by an established company with its own large factory and many branch houses at convenient points, where we carry complete repair stocks and maintain a force of trained service men.

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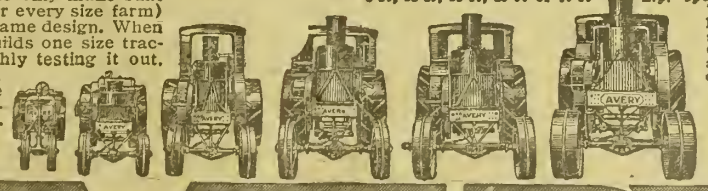
The new 1917 Avery Catalog contains valuable Tractor Farming and Threshing Information and all Facts about the Bull Dog Line—five regular tractors, 8-16, 12-25, 18-36, 25-50 or 40-80 h.p.—special small 5-10 h.p. tractor—"Yellow Kid" and "Yellow Fellow" Threshers—and the new Avery Two-Row Motor Cultivator. Write for free copy and name of the nearest Avery dealer.



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AVERY

Avery Tractors and Plows—Six Sizes—Fit Any Size Farm

Spread Straw and Make This Extra Profit

$7.00 Per Acre More!

No Need to Wait Longer for a Straw Spreader---Read This Liberal Offer

Readers of KANSAS FARMER who have not taken advantage of the very liberal offer made by Mr. C. E. Warner of the Union Foundry & Machine Co., of Ottawa, Kansas, should do so at once.

Mr. Warner recently published an advertisement in this paper offering to send a bran-new Perfection Straw Spreader on 60 days' trial to any responsible farmer—in order to prove to farmers in every community that the Perfection is the one implement every farmer who has spare straw stacks should own.

Your straw stacks are worth $3.00 a ton as fertilizer if properly spread. You can make an additional profit of at least $2.00 per ton for the spreading. Farmers who spread straw have found it increases their crop returns from $5.00 to $7.00 per acre.

Spreading straw is an easy proposition with a "Perfection" Straw Spreader. You can easily cover twenty acres a day. Do you know any easier way to make money—say you have enough straw to cover eighty acres—it is sure to make you at least $5.00 an acre—more likely it will be $7.00 or more an acre.



Farmers who have used the Perfection Spreader know beyond any doubt that it is a money-maker—Ed Morton, Ralph Rudd, Lee Miller are all Kansas farmers who say they have profited at least $500 a year from the Perfection.

Ben McKay and Bob Bruner of Nebraska increased their wheat crops nearly five bushels an acre this year—a profit of nearly $7.00, for they got $1.50 for their wheat.

Lafe Baum of Idaho, C. O. McCain of Oregon, Art Newcastle of Oklahoma, Sid Leaman of Montana, Floyd Newcomb of Missouri all report big gains.

Why do without a straw spreader any longer? Mr. Warner has offered to send you one to use for sixty days to prove it is right.

If you want easy terms he will be glad to see that you get them. Any responsible farmer can get a Perfection Straw Spreader and make it earn him several times its cost before he pays one single cent.

The Perfection Spreader is easily attached to any header barge or hay frame. You don't have to tear up your rack or change your wagon. It can be removed in a few minutes. No farmer can afford to be without a Perfection Spreader—it is a real money-maker.

We most earnestly advise you to write the Union Foundry & Machine Co., 810 King Street, Ottawa, Kansas, today regarding their very liberal offer—ask them to send you Mr. C. E. Warner's new 32-page book, "Straw Spreading Pays." This book will tell you how scores of farmers have made a lot of money spreading straw. It will show you how to increase your profits. Write today, use the above address—they will send the book with other information absolutely free.—[Advertisement.]



Girl Wins Poultry Contest

THE first prize in the annual poultry contest for 1916, open to members of boys' and girls' clubs, was won by Mary E. Griffith, of Lyon County. Helen Spaulding and Harvey Russell, of Scott County, won second and third places respectively. Everett Reed and James P. Evans, of Rice County, won fourth and fifth places. Of the five state prizes awarded last year in the poultry contest, Scott County boys and girls captured four and Lyon County one. This year Scott County got two prizes, Rice County two, and Lyon County one.

Each contestant is required to keep an accurate account of time spent in the enterprise and also of the expense and profit. These records are then considered by the judges in determining awards. The contest is in charge of Otis E. Hall, state leader of boys' and girls' club work, division of extension in the agricultural college.

Mary writes the following story of her work:

"On April 14 mother came into the house and said, 'Mary, there is a Barred Rock hen wanting to sit in the barn and you may set her if you want to.' So I went to one of our neighbors and bought fifteen fine White Wyandotte eggs, made a cozy little nest, and then put my hen and eggs into it. A little later the same day I found in the chicken house two more hens wanting to sit, and as mother didn't care to set them, I thought I would, and so I got two more settings of the same kind of eggs and set them. I paid 50 cents per setting, or $1.50 for all my eggs.

"I never paid much attention to my sitting hens only to water and feed them. On the morning of May 4 imagine my surprise and delight at finding two pretty little chickens in one nest and one in each of the others. The next morning there were fourteen little chicks under the hen in the barn and fifteen under each of the others, or forty-four in all.

"When my chicks were only a few days old, mother received an order for thirty White Wyandotte chicks and she told me I could have the order if I wanted it, as she had none to spare, so I filled it and received $7 for the thirty I sold.

"I left the remaining fourteen with a mother hen, but put them in a little chicken house that wasn't in use. The old mother hen coaxed three other motherless little chicks which were not mine to come to her. One of these chicks which my mother hen stole, died. I didn't count the money made from the other two, for I gave them back to mamma and they afterward were coaxed away by the neighbor's chickens and are now staying at the next door neighbor's house.

"I fed my baby chicks oatmeal the first week and chick feed the next three weeks and kafir after that. I also gave them plenty of fresh water. They were not bothered much with mites and lice.

"At the end of three months I sold my other fourteen on common market at 20 cents a pound and they weighed 2½ pounds apiece. My expenses were $1.50 for eggs and $2.20 for feed, which made a total expense of $3.70. My receipts were $14, which amount less the $3.70 left me a profit of $10.30.

"I think this ten dollars and thirty cents was the easiest money I ever earned and I expect to try my luck in the poultry club again next year."

Poultry at Community Fairs

I would like to offer a few suggestions in connection with the showing of poultry at such local fairs as that held by the Blue Valley Welfare Association of Riley County. This fair is held at the school house in District No. 1, which is a modern building and one of the standard schools of the state.

The first fair was held in September, 1915. We could not expect perfection in the start, and what I am saying is not in a fault-finding spirit, but rather to offer some advice that will be useful and helpful in the future. The poultry exhibition I wish to speak of specially. This did not begin to come up to what it should have been. There were only about seven coops, including chickens, turkeys, ducks and geese. Any kind of an old box was used for a coop and the poultry presented a very poor appearance.

When the second fair was held last fall I found the same condition and thought I would offer a little unasked advice. I wish to commend this neighborhood for the fine work it is doing in building up the community, but when you hold the next fair, why not put up some benches and have suitable coops for the poultry department and make this one of the best features of the show? The poultry produced in the United States would pay off the national debt in a few years. A fine exhibition of poultry should be an outstanding feature of every local show, such as the one held at this school house. —F. E. MARSH.

State Show Successful

The Kansas State Poultry Association held a very successful show in Wichita the second week in January. Over a thousand birds were entered.

Poultry breeders are hoping that the legislature will provide a liberal appropriation for this industry which makes an annual return of almost 12½ million dollars to the state. It would please the poultry interests generally if the annual state show could be alternated between Wichita and Topeka.

A. J. Waddell of Wichita was elected president of the association for the coming year and Thomas Owen of Topeka, secretary and treasurer.

Corn and Meat Scrap for Hens

That a simple ration consisting of corn and a protein supplement is more economical under usual market conditions than a mixture of several different feeds for laying hens in winter is shown by feeding tests at the Ohio Experiment Station.

Corn and meat scrap have given practically as good returns as a ration of corn, wheat, oats, bran, middlings, oilmeal and meat scrap. The hens fed the simple ration had access to self-feeding hoppers containing a dry mash made of eight parts of ground corn and five parts of meat scrap analyzing 50 per cent protein. They received twice as much corn, fed in equal portions in the litter twice daily, as they consumed of the mash, and also had grit and oyster shells.

The hens fed the variety ration laid more eggs, but not enough more to pay for the extra cost of their feed. Tankage and skim milk, as well as meat scrap, are recommended to be fed with corn for laying hens.

To lighten the grain ration for chickens and to keep them in good condition, a green food such as sprouted oats is satisfactory. Soak the oats over night in a pail of water to which has been added a teaspoonful of formalin, to prevent mold. Spread the oats out an inch thick on a tray which is provided with drainage. Sprinkle with warm water twice a day. Stir occasionally until the sprouts start. When three or four inches high, the sprouts will be ready for use. One square inch per hen per day of the mass is the amount usually fed.

Cull the flock rigidly for weak stock.

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The talk of the nation is the

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$100 and $350

FARM TRACTOR

Guaranteed to work or money back. Write us immediately. We shall appoint a reliable agent in every town in Kansas. Thousands all over America are writing for agencies. Get busy today before some one else in your town is appointed. Remember the Ebert-Duryea is guaranteed.

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GALLOWAY'S 1917 MODEL NO. 8 SPREADER



JUST READ THESE IMPROVEMENTS S-24 Rev.

They mean that every Galloway Spreader is BUILT STRONGER AND BETTER THAN BEFORE. The beater bolts are 1-16 in. larger with lock nuts. Beater bar bolts increased in size and strength. Beater teeth longer and stronger than ever which means they now tear the toughest manure finer than ever and spread it easier. Heavier bolts hold the beater bars in the beater head. Rear shaft is increased in strength--higher carbon steel used. Additional bolts strengthen (beyond actual necessity) the beater bracket. Larger drive sprockets, which mean LIGHTER DRAFT THAN EVER. The fifth wheel castings are larger and increased in strength; spreader box STEADIER in turning. Rear conveyor shaft now made of No. 40 carbon steel. All steel tongue. All metal parts thoroughly coated with asphaltum weather-proof paint. Spreader box better finished and painted. Galloway WIDE SPREADING V-RAKE on every machine WORTH $16 on any spreader. COSTS YOU NOTHING EXTRA. INVINCIBLE, IRRESISTIBLE, PATENTED ROLLER FEED--an EXCLUSIVE GALLOWAY FEATURE, makes it SUPERIOR to all other feeds on all other machines--the SECRET OF OUR LIGHT DRAFT. The mechanical principle is the same as MOVING A HOUSE ON ROLLERS. THIS FEATURE ALONE WORTH $25 on any spreader. EXCLUSIVE AGAIN on the Galloway, costs you NOTHING EXTRA. PATENTED AUTOMATIC STOP uniform clean out push board WORTH $10 EXTRA on any spreader. EXCLUSIVE on the Galloway, costs you NOTHING EXTRA. These are a few of the features you will find on the Galloway, which are PROTECTED BY GALLOWAY PATENTS. Don't buy a spreader of any make or kind until you have tried a genuine GALLOWAY 1917 MODEL No. 5, No. 1A or No. 8 at our risk, without obligating yourself in any way. Thirty days' field trial and returnable to us within one year if not perfectly satisfactory. Remember, we manufacture this spreader in our own factories and sell it direct from factory to farm. Do not confuse the Galloway spreader with lower priced machines made to sell for a price, which are all cheap, worthless imitations. Over 60,000 Galloway Spreaders in use. These and other features make the Galloway Spreader more invincible than ever in actual field work. No big, cumbersome, four-horse or three-horse team needed to handle a Galloway. Two average horses can spread with the Galloway anywhere. Complete particulars and details of this 1917 model spreader now ready. Ask for my 1917 catalog. A postal gets it. We are manure spreader manufacturing specialists.



Wm. Galloway, Pres. Wm. Galloway Co.
219 Galloway Sta., Waterloo, Iowa

$8.55 Buys 140-Egg Size

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Hot-water—Double-walled—Copper Tank—a Thermometer Holder—Deep Nursery—Self-regulating, same as used by Uncle Sam and America's most successful Poultry Raisers.—When ordered with my $4.85 Double-walled, Hot-water 140-chick Brooder—Both cost only $12.50.

Freight Prepaid East of Rockies Allowed that far to points beyond

Satisfaction Guaranteed—Handiest machines, ours to please—and you can share in my

$1000 Cash Prizes

Conditions easy to get biggest prize. Start early—order now—anyway write today for my Big Free Book, "Hatching Facts". It gives short cuts to poultry success. Jim Rohan, Pres.

Belle City Incubator Co., Box 18 Racine, Wis.





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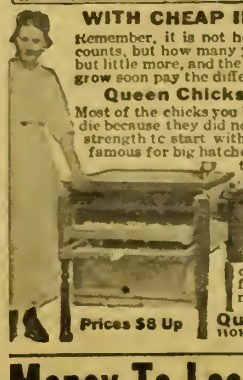
WITH CHEAP INCUBATORS

Remember, it is not how many you hatch that counts, but how many you raise. A Queen costs but little more, and the extra chicks that live and grow soon pay the difference.

Queen Chicks Live and Grow

Most of the chicks you lose in the first two weeks die because they did not have proper vitality or strength to start with. Queen Incubators are famous for big hatches of strong healthy chicks that live and grow. The American Poultry Journal wrote us: "During the many years you have been advertising Queen Incubators in our paper we have not, to the best of our recollection, received a single complaint from one of your customers." Catalog free



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Out of concrete with a Sheldon Batch Mixer. The ideal machine for farm use. Built by a farmer for farmers. Will pay for itself on first small job. Beats hand mixing a mile. And, it's a lot cheaper, too. Takes the backache out of concrete. Makes possible those many small improvements on the farm you wouldn't do without if improvements that save time, labor and money and add many dollars to the value of your land. Just the machine you need.

Make Your Own Concrete Mixer.

At a cost so low you can not afford to mix concrete by the shovel method. Along with our iron parts we send **Free Plans** and permit for making your own machine. Or, we will sell you the complete machine. Two styles, hand or power. Will mix 21-2 cu. ft. a minute. Keeps 1 to 6 men busy. Has chain drive, self-tilting dump, easily moved, and all parts guaranteed. Does work equal to $400 machines, costs less than 1-10 as much. No other machine like it. Patented.

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The cost of all materials is advancing like the price of wheat and corn.

Why not save money by contracting for your silo now. It undoubtedly will cost you more next spring or summer.

Let us send you our proposition—to contract now for your silo and deliver it later.

We still have openings for a limited number of farmer agents.

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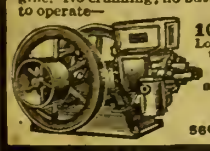
Kerosene Oil, Gasoline, Distillate.

With my Kerosene engine you get more power from a gallon of 6c Kerosene than you can get from a gallon of 20 or 25 cent gasoline in any gasoline engine. No cranking, no batteries, easy to start, easy to operate—



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DAIRY

Difficult Churning

Failure to get butter "to come" by churning is not an uncommon experience during the winter season. The trouble most often occurs on those farms where only a few cows are milked. If the milk of one or two animals is responsible for the difficult churning, other milk when mixed with it will overcome the trouble. Usually when the trouble occurs it is due to one of two causes: an incorrect churning temperature, or the peculiar composition of some milk and cream.

During the cold months of the year cream should be churned at a higher temperature than during the summer months. For this reason a careful regulation of the temperature is necessary. If the temperature at which one churns is not high during the winter months, the cream must be churned a longer time to form butter. One may churn at so low a temperature that butter will not form with a reasonable amount of churning. It very often happens during the winter months that the cream becomes so cold that it will not churn.

Sometimes when cold cream is agitated in the churn it will whip and expand until the churn is nearly fll. In this condition butter will not form because the cream cannot be sufficiently agitated. When a low temperature of the cream is the cause of difficult churning the trouble may be easily corrected by raising the temperature.

As the winter season approaches there is usually a larger number of stripper cows. When a cow is dry the butter fat globules in the milk become very small and collect with great difficulty in the churn. During the winter the feed is such that the fat globules become very much harder and this likewise interferes with ease in churning. The cream also becomes more viscous, or sticky, as the animals advance in their lactation period and this again makes churning more difficult.

Whenever butter granules fail to appear in about thirty to forty minutes' churning, the cream should be raised in temperature. It is well to raise the temperature only a few degrees at a time for if too warm the cream will give butter with a very soft salvy texture. If on raising the temperature a few degrees the butter refuses to gather, a further raise of temperature is necessary. Whenever a raise of temperature does not give satisfactory results, add cold, pure water until the cream is diluted down to about the thickness of milk, reseparate the mixture and discard the skim milk. The cream should then churn easily, but upon failure to produce butter, the cream should again be diluted and reseparated.—L. G. RINKLE, Missouri College of Agriculture.

Success with Milking Machine

In his bulletin on the milking machine, Christian Larsen, of the South Dakota Experiment Station, states that dairy farmers who wish to use milking machines should study their herd from the standpoint of fitness for a milking machine. The reason why some men are successful with milking machines and others are not can be traced in part to the difference in cows. When the milking machine is installed, the owner will have better success if he will cull out the cows that do not readily and completely give down their milk, cows with uneven udders and irregular teats, and cows with very fleshy teats. Some herds may not contain any defective cows, some may contain one or two, and some herds may contain several.

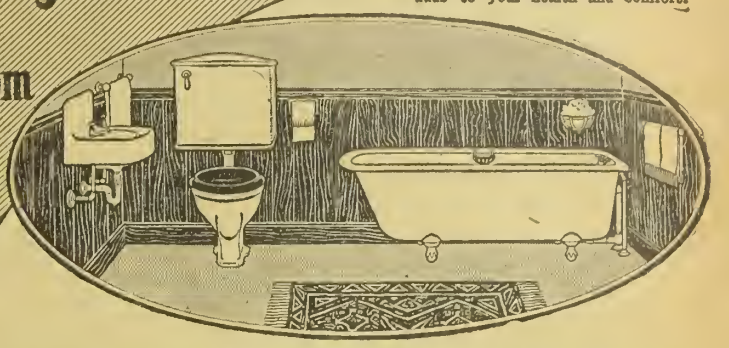
Cows with such defective udders and teats should never be used as foundation cows. The heifer calves from the cows that milk easily by machine should be selected. It is especially important to select a herd bull from a cow having a well formed udder.

Six years of experimenting at the Indiana Experiment Station has shown the necessity of having meat scrap, skim milk or buttermilk in the laying ration for hens of either the Plymouth Rock or the Leghorn breed.

The Board of Governors of the International Dry Farming Congress have just announced that the twelfth annual session will be held in Peoria, Illinois, between the dates of September 15 and October 15, 1917. As usual, the International Soil Products Exposition will be held in conjunction with and under the auspices of the congress.

"Standard" Plumbing Fixtures for Bath Room Kitchen Laundry

A "Standard" bathroom in your home adds to your health and comfort.



"Standard" Plumbing Fixtures have been standard in American homes for many years. They represent a big variety for every use—for bathrooms, kitchens and home laundries.

Installing "Standard" fixtures not only means getting the equipment that is backed by experience and service—it means that your home is fitted with plumbing conveniences that are so well known and highly thought of as to add to the value of any property in which they are placed.

If equipped with running water in your home—or if planning to install a water system—by all means see to it that your plumbing is "Standard"—the line best known, backed by the company best equipped to serve.

WRITE FOR FREE COPIES OF THESE BOOKS



They contain a lot of helpful information for use in putting in plumbing fixtures. Model bathroom installations are shown—all reasonable in cost when superior quality and appearance are considered. Good plumbing is a comfort necessity that should have a place in every home.

"Standard" plumbing leads. Find out about it now—whether you intend to build or remodel today, or whether your plans are still indefinite. Most Plumbers sell "Standard" Plumbing Fixtures. Talk to some nearby Plumber about "Standard"—but by all means let us send you the booklets shown here. Use the coupon—send it today.

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Please send me copies of ""Standard" Plumbing Fixtures for the Home", and Sink Booklet.
Name _____
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Mr. Pollow finds it an easy task now to milk his twenty-two cows alone since installing

HINMAN MILKERS

Produces 500 pounds of milk a day. Mr. Pollow stated that if it was not for the Hinman Milker, he would be compelled to hire another man.

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has simple Vaporizing Moisture Attachment built in, keeps heat moist, mild, even. Big oil tank needs filling only once to a hatch. Double glass in *hinged top* means daylight egg chamber, and only 6 seconds to turn eggs. No lifting of heavy tray. 3 minutes a day all the Radio-Round requires.

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Know all about the Radio-Round before you buy any hatcher at any price. Shipped on 90 days trial, direct from factory, freight prepaid. Three sizes. Brooders too. Mail postal right NOW for beautiful new free book about bigger, easier poultry profits. Address

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Ironclad TRADE MARK **WINS In 2 Biggest HATCHING CONTESTS Ever Held**

Mrs. C. F. Merrick, Lockney, Tex., with her Ironclad Incubator wins in the Mo. Valley Farmer and Nebr. Farm Journal Big Hatching Contest. She placed 148 eggs in the incubator and hatched 145 strong chicks. Think of that. You can now get these famous winners, made of Calif. Redwood.

150 Egg Incubator / Chick Brooder } **BOTH FOR $11.00**

If ordered together. 30 days trial, 10-year Guarantee. Order direct from this advertisement—money back if not satisfactory. Incubator is covered with galvanized iron, triple walls, copper tank, nursery egg tester. Set up ready to run. The Brooder is roomy and well made. Send for free catalogue.

Made of Redwood covered with galvanized iron.

Freight Paid East of Rockies

Ironclad Incubator Co., Box 147 Racine, Wis. (3)

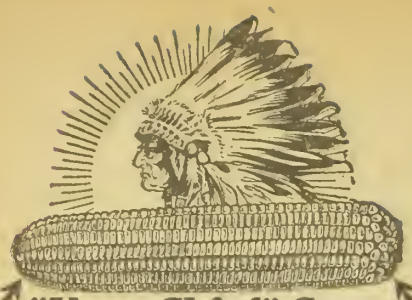


$15.00 Swamp Feed Grinder. | $19.00 Galvanized Steel Wind Mill.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.



CURRIE WIND MILL CO.,
Seventh St., Topeka, Kansas



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For Record Breaking Crops.

Grown on our own Kansas pure seed farm. We have been working on this variety for 32 years, constantly selecting and improving the strain. All the nearly 50 years of our experience selling seeds backs our judgment that KAW CHIEF is our

FINEST YELLOW CORN

Matures in 95 to 100 days. Yields regularly 75 to **80 Bushels to the Acre** with good foliage. Does fine on upland or bottom land. We guarantee highest germinating power. Send for sample and information about **Big Prize Contest.**

BARTELDES SEED CO. *Largest seed house west of the Mississippi.*

207 Massachusett St. Lawrence, Kansas.



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Fresh, Reliable, Pure Guaranteed to Please

Every Gardener and Planter should test the superior merits of Our Northern Grown Seeds.

SPECIAL OFFER

FOR 10 CENTS

we will send postpaid our

FAMOUS COLLECTION

1 pkg. 60 Day Tomato	20c
1 pkg. Princess Radish	10c
1 pkg. Self-Growing Celery	20c
1 pkg. Early Arrow-head Cabbage	15c
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Also 12 Varieties Choice Flower Seeds	25c
	$1.00

Write today! Send 10 cents to help pay postage and packing and receive the above "Famous Collection," together with our New and Instructive Garden Guide.

GREAT NORTHERN SEED CO.

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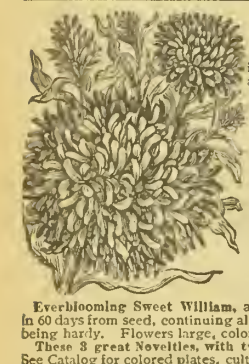

The Chinese Woolflower

introduced by us three years ago is now acknowledged to be the greatest new garden annual. It is a success everywhere, plants growing 2 to 3 feet, a pyramid of color, its many branches bearing great balls of wool-like substance and most intense crimson scarlet.

Flowers develop in June and none fade before frost, ever brilliant and showy beyond belief. Seed per pkt. 10 cts., 3 for 25 cts.

New Mastodon Pansies. For immense size, wonderful colors and vigor they are marvels. Seed 10 cts. per pkt., 3 for 25 cts.

Everblooming Sweet William, a startling novelty, blooming in 60 days from seed, continuing all the season, and every season being hardy. Flowers large, colors exquisite—pkt. 10 cts.

These 3 great Novelties, with two more (5) for only 20 cts. See Catalog for colored plates, culture, etc.

Our Big Catalog of Flower and Veg. Seeds, Bulbs, Plants and rare new fruits free. We are the largest growers in the world of Gladiolus, Cannas, Dahlias, Lilies, Iris, etc.

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Ten Thousand Acres

of irrigated and non-irrigated land, sub-divided into 40, 80 and 160 acre tracts, in the Beaverhead Valley, Montana, are being sold on long time and easy payments. Soil very rich and suitable for diversified farming, live-stock raising, dairying, etc. Excellent markets. Let me tell you about it. Authentic information absolutely FREE.

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GOOD AS CAN BE GROWN
Prices Below All Others

I will give a lot of new sorts free with every order I fill. Buy and test. Return if not O. K.—money refunded.

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Over 700 Illustrations of vegetables and flowers. Send yours and your neighbors' addresses.

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WHITE SWEET CLOVER $3.90 Per Bu.

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The greatest forage plant that grows. Superior to all as a fertilizer. Equal to Alfalfa for hay. Excels for pasture. Builds up worn-out soil quickly and produces immense crops, worth from $30 to $75 per acre. Easy to start, grows everywhere, on all soils. Write today for our Big 100-page free catalog and circular about unhulled and scarified hulled sweet clover. We can save you money on best tested, guaranteed seed. Sample Free.

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A practical school with railroad wires.
Owned and operated by A. T. & S. F. Ry.
EARN FROM $50 TO $100 PER MONTH.
Write for catalogue.
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WHEN WRITING TO ADVERTISERS KINDLY MENTION KANSAS FARMER



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

"One ship drives East, another West,
While the self-same breezes blow;
It's the set of the sails and not the gales,
That bids them where to go.

"Like the winds of the sea are the ways of the fates
As we voyage along through life,
It's the set of the soul that decides the goal
And not the storms or the strife."

Do you know that by putting a thimble over the end of the rod, you can insert it into the starched hem of the sash curtain with ease and speed? Also that a safety pin makes a fine bodkin? You need never lose the tape in the casing if you stick the pin through the end of it before clasping the pin.

When we were children, sometimes our mother would make a big pile of "flapjacks" for supper, or perhaps for dessert at dinner. These we always hailed with delight. They are just as pleasing to children now. Try it some day and see if the members of your family do not pronounce it a treat. Bake large round griddle cakes—using your favorite recipe—spread liberally with butter and sugar, while hot, pile one on top of the other and cut like a pie when serving.

Dietitians tell us that skim milk is the most economical source of protein we can obtain—a fact that people who live on farms and produce their own milk will do well to remember. There are countless ways to use skim milk as will be discovered when one gives it thought. If you have not already done so, write to the Federal Department of Agriculture, Washington, D. C., for Bulletins 363 and 413, which pertain to the uses of milk. There are many other valuable bulletins, especially for the housewife, which may be had for the asking.

Our Eating Needs

Many of us have never had a course in dieteties and are a little bewildered by the scientific terms such as calories and vitamines, but we need not serve badly balanced meals in consequence, for there are a few simple rules which will help us.

We really need five food principles daily. We need protein as found in lean meats, fish, eggs, and milk; starch, in bread, cereals, potatoes, macaroni, etc.; fats, found in butter, fat meats, cream, and oil; minerals, in fresh fruits and vegetables; sweets, found in sugar, honey, jams, etc.

Old Stand-by—Oatmeal

During the summer we enjoy the many varieties of ready-to-eat cereals, but with the advent of cold weather many of us go back, with a relish, to the old stand-by, oatmeal.

We like our cereals cooked a long time, believing the old Indian saying—"Let the heat eat your starch"—and usually start the oatmeal in the double boiler while preparing dinner or supper, allowing it to cook as long as possible and then merely heat it at breakfast time the next morning.

Some cooks add chopped dates, figs, or raisins to oatmeal, thereby giving a pleasant variation.

It is a great improvement to use at least half milk instead of all water when making oatmeal porridge, and the nutritive value is increased by so doing. Some add grated cheese to it shortly before serving, which of course makes it much more complete as a food and it then requires no cream or sugar.

With all our splendid cereals, if the cook will use ingenuity in preparing them, we should not complain of a lack of variety in our breakfasts.

Most Boys Like Puddings

Mothers of those "bottomless pits"—growing boys—are often puzzled about what to fill them with, for they demand such quantities, and in cold weather they want something to furnish heat as well as growth and energy.

Boys usually are not fussy, demanding quantity rather than dainty serving, though they appreciate quality keenly.

We know one mother of boys who seems to have endless varieties of puddings, none of them expensive and all of them palatable, nourishing and satisfying to the hungry boy. The base of some of them is a suet paste, made by rubbing a cup of shredded suet into three cups of flour and one cup of bread crumbs, to which has been added three teaspoonfuls of baking powder, and salt. Wet with milk or water to make dough. Roll to half inch in thickness and spread with fruit, and here is where the variety may come. Rich jam or marmalade, plain canned fruit such as berries, cherries or plums, stewed dried fruit or raisins, or fresh apples may be used. After rolling the paste and sealing the edges, put into a mold and steam two or three hours. Serve with a sauce. This sauce can be made as elaborate as one likes, or can be cream sweetened and flavored.

Steaming the pudding in individual molds makes a pleasant change.

Home and the Children

If you are a mother or a father you must realize that these long winter evenings offer special opportunities for tightening the bonds of family and home. Don't hustle the children off to bed as soon as they have had their supper, because you are tired from doing that day's work which you are expected to do, and want to get rid of them. Fifteen, twenty, or perhaps even fifty years later, when the wind swirls the snow against the windows and whistles wildly as it plunges through the pines, the impressions of childhood, of home and father and mother will come back to them. For every day you and I as parents are making indelible impressions upon those minds that are young and growing. I know from experience—and so do you—what home means and what it meant to you.

I can see my father now, dropping, with what I thought and still think was great skill and dexterity, into the top of the stove a huge hickory chunk that had resisted the onslaughts of the axe. Then he would get his spectacles on, sit in the big armchair, and turn up the lamp-wick, and, with four children squatted around him, and my brother asleep in my little mother's arms, he would read aloud to us. My grandmother—what a wonderfully sweet woman she was!—would be over at one side of the table, just back of a bowl of pippins. She would be knitting, mittens or stockings, or crocheting an afghan or something.

One winter he read aloud "Our Boys in India," two volumes of those famous zigzag journeys, and that truly wonderful tale "Toby Tyler, or Ten Weeks with a Circus." We children did not always keep awake. And sometimes when awake we did not pay attention, taking turns peeking into the three-eyed damper at the fire, and imagining we could see Shadrach, Meshach and Abednego in the fiery furnace. Then, too, when we had eaten too many doughnuts or had chilblains, our minds were not always on the story. But it was a splendid thing for us just the same. And now, though the principal characters in the picture have passed—even the big pippin tree is gone—it is not difficult to find the way back to these hallowed memories.

It isn't much, perhaps, and it may not mean much to you. Times have changed. You aren't burning hickory chunks and many things are different—except children. They come into the world now as pure and sweet as they ever did. They bud and blossom just as they ever did. And I can't help but feel that on these long winter evenings fathers and mothers can help them grow to love their home as they ever did.—Woman's World.

Attract Young People to Farm

We recently heard a public speaker jestingly offer a suggestion for keeping

SUDAN GRASS



Practically every farmer in the West now knows this valuable crop. Withstands dry weather and produces a fine crop of hay that is superior to Millet and equal of Timothy. Under ordinary conditions it yields from two to four tons of hay per acre and under irrigation reaches as high as eight to ten tons per acre.

Plant Barteldes' Sudan Grass

Our seed is pure—cleaned and recleaned. Seed is very scarce and we are fortunate in having a good stock of Sudan seed on hand. Our **FREE CATALOG** of field and garden seeds sent postpaid on request—also special weekly price list. This is our 60th year of success—the result of honest dealing. Lowest quotations on quality seed.

The Barteldes Seed Company,
307 Massachusetts St., Lawrence, Kansas.
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307 Main Street, Oklahoma City, Okla.



Golden Winesap

This is a new apple, but one that gives wonderful promise. Yellow and red, firm texture and fine flavor; crisp and juicy. Small core and a good keeper. Everyone speaks highly of it. Be sure to try some of these. See catalog for prices.

True Delicious apple, 10c each. Large fruit, of a beautiful dark red, in quality unsurpassed, in flavor sweet, slightly touched with acid, coming out of storage in April in perfect condition. It makes an ideal apple for the orchard. **Very hardy.** Other apple trees, **7c each.** Fruit trees, small fruits, and seeds of all kinds at wholesale prices. Reliable, **hardy, western stock.** Garden and flower seeds. Corn, clover, alfalfa and New Kherson **Rust-Proof Oats.** Write for free Tree and Seed Book.

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BUY "ACORN BRAND"

Genuine Kansas Grown Hulled Seed which only few localities can furnish. Kansas climate and season enables us to get the finest quality hulled seed, same as Alfalfa. "Acorn Brand" Sweet Clover is the choicest of the crop, is carefully cleaned and recleaned and tested. Send at once for sample, stating which you wish to sow—Genuine Biennial White Blossom or Genuine Biennial Yellow Blossom. New 1917 Seed Book on request.

Nothing Equals Sweet Clover

As fertilizer for improving worn out soils quickly. Easy to start. Grows everywhere. Feeding value equal to Alfalfa. Good pasture, will not bloat stock.

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Ask now! This beautiful 96-page four-color book describes 1917 varieties vegetables and flowers; handsomely illustrated; beautiful home grounds, flower and vegetable gardens, landscaping, shrubbery, orchards, farms. A dictionary on gardening! Flower lover's delight! Berry grower's book! An orchard-ist's manual! Most wonderful gardening guide catalog ever issued. Better than our famous 10c book. Don't Ask today. A postal will get it.

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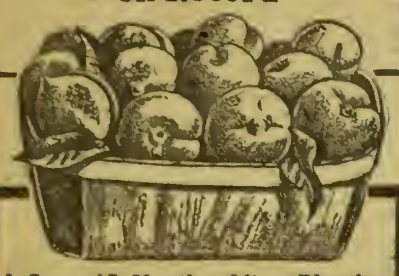

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All who plant Japan Dream, whether for commercial orchard or for home use, are wonderfully surprised. We have thousands of testimonials on file.

JUST READ THESE

Bushel a Tree Third Year—"Got one bushel of peaches from each tree bought of you. They are excellent—blood red to the pit. Bore the next year after I got them."—Mrs. Brockman, Oklahoma.

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Japan Peaches are a Wonder—"They were only about a foot high when we set them out, and they are as full of fruit buds as they can be. I am going to put out about 300 of them on my own hook."—O. L. Goss, Kansas.

Orchard Book FREE Send at once for my de luxe orchard book—tells all about these amazing quick-paying peaches and many other new and better paying strains of fruit. Explains a wonderful, yet simple and never-failing method that will help you grow more and better fruit of all kinds. Fully illustrated. Describes best varieties of fruits, berries, etc. Write now—today for a Free copy.

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Hotfoot Robes are patented by Ede. Easier to get in and out of—exclude drafts—warmest robe ever invented. Made from your hides by Ede process.

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FREE Illustrated Catalog Send for the beautiful **Ede Custom Catalog M.** Shows robes and furs we make from your hides—tells how we save over half the cost—gives our lifetime guarantee. Write today.

Agents Wanted. If no agent in your town, write for our special proposition.

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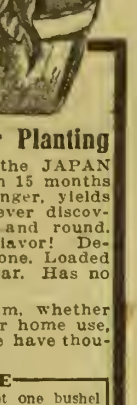

Cattle or Horse hide, Calf, Dog, Deer or any kind of skin with hair or fur on. **We tan and finish them right;** make them into coats (for men and women), robes, rugs or gloves when ordered.

Your fur goods will cost you less than to buy them, and be worth more. **Our illustrated catalog** gives a lot of information which every stock raiser should have, but we never send out this valuable book except upon request.

It tells how to take off and care for hides; how and when **we pay the freight both ways;** about our safe dyeing process which is a tremendous advantage to the customer, especially on **horse hides and calf skins;** about the fur goods and game trophies we sell, taxidermy, etc. If you want a copy send us your correct address.

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the boys on the farm. It was that a strain of dairy cows not requiring milking Sunday evening, be found, and that these growing boys be not called back when on their way to bed at night, to commence the morning chores. And this speaker stated he had a right to offer suggestions along this line as he had once been one of the boys eager to leave the farm for the city life of greater ease and more privileges. He admitted he had not been in the city long before he found it necessary to apply himself closely if he would "make good," but he could do this more cheerfully than he had on the farm for he knew there were some hours each day which he might call his own and which might be used as he chose.

We believe there are two sides to the question of unrest and dissatisfaction among young people in the country. A part of it is due to lack of appreciation of the things about them, which it is possible to make as interesting as the city amusements. But too often the conditions still fresh in this speaker's memory, prevail, and the young people slip away to the city before it is realized why they are not content to work on in the home and community which need them so much.

It is as unreasonable to expect that all farm-born children will want to farm, as it is to think that all children of ministers and doctors will follow their fathers in their professions. There is no question in our mind, however, that many more might be kept on the farm for life—and willingly—if greater effort were spent in making farm life more attractive. Those who stay on the farm should do so from choice—because they consider the farm offers the most satisfying life and the greatest opportunities. If they stay feeling this way, their lives cannot be failures.

There are many things which contribute toward creating an atmosphere of satisfaction and usefulness and part of these must necessarily be determined in each community. However, several of the most important are home comforts, school advantages, community social life, and good roads. It is quite improbable that any of these will be overdone and anything that we can do to promote these worthy causes will stand to our credit and to the credit of our community. The very young people whom we seek to interest and hold, will become active in their own cause, and once made to feel their responsibility in community work the tendency cityward will be greatly lessened.

Country Literary Developed

Many communities are doing quite effective work along the line of community activity, and in some instances only by chance do they become recognized. Such a neighborhood is located between Michigan Valley and Lyndon, Kansas. This district is really three communities, but the spirit of unity is so great that the three unite in their social life. In this way competition is overcome by the spirit of co-operation. For some time the three districts had a country literary. Out of this grew the organization now called the Country Club. This is a permanent organization and thus far they have handled the social life of the neighborhood.

Recently a trainer was engaged for one week to train twenty of the young people in the drama, "Josh Jones' Second Sight." This was the first drama that had been presented in the community for eighteen years. It is needless to say that those taking part in it were enthusiastic. The people of the countryside also responded well.

The people of this community have also made arrangements for the KANSAS FARMER lecture course. The Country Club members believe that the community is now ready to take up more definite lines of community building, and some plans are already under way for carrying out such a program.

Have you tried kafir pancakes? They are delicious and healthful.

Griddle Cakes or Waffles

1½ cupfuls flour
1 tablespoonful bran, graham, or cornmeal
½ teaspoonful salt
2 teaspoonfuls baking powder
2 eggs
1 pint milk
2 tablespoonfuls melted butter

Can be made with sour milk and one teaspoonful soda. Beat eggs separately for waffles, stirring whites in last.

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Send us dimensions or blueprint of any room or rooms and we will draw up beautiful, distinctive Panel Suggestions for you, *free.* You will not be obligated in the least. We will also send sample, views and complete information. On special request we will send plans for use of Cornell in a Model Dairy Barn, 31 x 72 feet. Use the Coupon.

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Apple trees $7.00 per 100; Peach $7.00 per 100; Cherries $11.00 per 100; Concord Grapes $2.00 per 100; Dunlap Strawberries $2.25 per 1000; Everbearing Strawberries $2.50 per 100. Everything in Fruit trees, Plants and Ornamentals at money saving prices. Send for our **FREE CATALOG**

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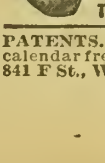

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WHITE WYANDOTTE COCKERELS. U. A. Gore, Seward, Kansas.

PARTRIDGE WYANDOTTE EGGS, $3.00 per fifteen; $5.50 per thirty. Mrs. O. E. Collins, Drexel, Mo.

ROSE COMB SILVER LACED WYANdotte cockerels, $1.50 each. Mrs. H. R. Young, Stella, Neb.

EXTRA CHOICE ROSE COMB SILVER Wyandotte cockerels, $2 each, six for $10. Mrs. Phillip Schuppert, Arrington, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Cockerels, $2, $2.50, $3, $4, $5; hens, $1.50, $2. Mrs. Edwin Shuff, Plevna, Kansas.

FOR SALE—100 PURE-BRED S. L. WYandotte chickens; good laying strain, from best stock obtainable. Write for prices. S. L. Hill, Route 3, Burlington, Kansas.

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HIGH SCORING LARGE EARLY hatched Light Brahma cockerels. Geo. Pratt, Wakarusa, Kansas.

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LIGHT BRAHMA COCKERELS — 100 good heavy birds, have won prizes at leading shows. Can surely furnish you quality. Schreiber Farm, Sibley, Iowa.

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GEESE, EMBDEN, TOULOUSE, CHINA; turkeys, ducks. All leading breeds of poultry. Emma Ahlstedt, Roxbury, Kan.

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PIGEONS—OLD, $1 DOZEN DELIVERED before February 5. Guineas, $5 dozen. No. 1 capons, 21c. Turkeys, 24c. Hens, 16c. Coops loaned free. The Copes, Topeka, Kan.

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BLACK LANGSHAN COCKERELS hatched from my San Francisco winning strain, at bargain prices if taken soon. H. M. Palmer, Florence, Kansas.

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PERSONALLY SELECTED

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THIRTY-SIX HEAD

Twelve Tried Sows and Twenty-four Head of Yearlings and Spring Gilts, including daughters of King Alexander, Orange Wonder, Trusty King, B. Wonder, Jumbo Prospect, Big Bob Wonder 2d, and Missouri King.

Aside from the ones mentioned above, breeders will find attractive buys in a spring gilt by Fesey's Timm out of a GIANT WONDER DAM, second dam by BIG JOE. This gilt sold in the Head sale for $110 and is selling as an attraction in this auction. A fine yearling daughter of TRUSTY KING, one of the top sows in the W. B. WALLACE August sale, sells bred to KING ALEXANDER and is worthy of consideration.

OFFERING IS IMMUNE AND IS BRED AND SAFE TO

King Alexander

By King's Equal out of an Expansion-Tecumseh bred dam. Senior boar in this herd and a proven sire.

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By Head and Leonard's Model Big Bob out of a dam by Long Jumbo 2d, a line of breeding second to none.

Robinette

By Robidoux and a litter brother to Robin Hood, a prize winner last year wherever shown, including the National Swine Show.

THOS. F. STRICKLER, CRAIG, MISSOURI, will consign ten head of top sows to this sale, equal in every way to the offering listed above.

The catalogs are ready and will be sent upon application by mentioning Kansas Farmer. Send today for catalog and arrange to come to my sale. Sale right in town, under cover.

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THIRD ANNUAL SALE

In the New Sale Pavilion at

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THIRTY-FIVE PRIME YOUNG HERD BULLS
Two Carloads Coming Two-Year-Old Range Bulls

Good railway facilities. Outstanding hotel accommodations. Extra large offering of cattle that will give you a pleasant surprise when you see them, and a sale to be held in the new $4,000 heated sale pavilion at Alma, Kansas, on February 9 and 10, right in the heart of the Hereford community of the world, including Kansas.

You are cordially invited. Don't forget the date. Write for catalog today.

CARL MILLER, BELVUE, KANS.

JACKS, JENNETS AND STALLIONS



COURTLAND, KANSAS
Thursday, Feb. 1, 1918

Mammoth Jacks and Jennets

The jacks include the herd jack, Solitaro, and the outstanding two-year-old, 16½ hands, Kansas Wonder.

The herd jennets include the splendid show and breeder, Dandy, the dam of Kansas Wonder and others bred to Solitaro.

At my farm adjoining Courtland, I will disperse my herd, including seven jacks, six jennets and two stallions. The Percheron stallion, Teddy, is included.

J. W. SMITH, COURTLAND, KANSAS

Auctioneers, L. R. Brady and J. W. Shotwell.

FARM AND HERD.

We have just received the catalog of the Holstein offering to be sold in the consignment sale to be held by the Nebraska Holstein Breeders' Sales Company at South Omaha, February 21. Eighty head of Holsteins have been catalogued for this sale and the lot includes a lot of A. R. O. cows, and all of the cows in the sale are bred to 30 to 35-pound bulls.

The world's butter record has again been broken by the Holstein cow, Segis Fayne Johanna, who in seven days produced 50.68 pounds of butter. This cow is a sister to the sire of twenty of the cows and heifers in the great Albechar Holstein Herd owned by Robinson & Shultz, of Independence, Kansas.

G. C. Roan, the well known breeder of high-class jacks and jennets, announces March 19, 1917, as the date of his annual jack and jennet sale. The sale will be held in Mr. Roan's modern sale pavilion in La Plata, Missouri.

I. W. Poulton, of Medora, Kansas, owner of one of the choice herds of Red Polled cattle now assembled, writes that the demand for Red Polled breeding stock is good. Among the recent sales reported by Mr. Poulton are to J. H. Ferguson, Gypsum, Kansas, four choice coming two-year-old heifers; B. C. Waters, Towanda, Kansas, six fine yearling heifers; Frank W. Terry, Haven, Kansas, a choice young bull. This stock was all purchased as foundation stock for pure-bred herds.

Walter B. Brown, of Perry, Kansas, owns one of the choice big-type Poland China herds in Kansas. Mr. Brown keeps his herd immune at all times and always has a healthy, growthy lot of hogs. The head of his herd is the great boar, Chief Miami, said to be the largest boned boar of the breed now in service. Mr. Brown's herd is noted for the fine lot of 600 to 700-pound sows. A feature of his herd at this time is the choice lot of young stock of July and August farrow.

Otto Plagamann, of Eureka, Missouri, owner of one of the good herds of big smooth Polands, reports his herd doing well. A feature of his herd at this time is the choice lot of gilts bred for early farrow and the good lot of summer and fall pigs.

E. E. Heacock & Son, of Hartford, Kansas, owners of Lowemont Herd of Shorthorns, report their herd doing well this winter. They have succeeded in building up a Shorthorn herd of the profitable type and a feature of their herd at this time is the choice lot of young bulls and the fine lot of young cows and heifers.

Glrod & Robison, of the Holstein-Friesian Farm, Towanda, Kansas, report that the heavy demand for high-class Holsteins, both pure-bred and high grades, continues. This firm has placed a large number of Holsteins in Kansas and the Southwest during the past year.

The Bisonte Farm herd of Jerseys at Lawrence ranks high among the quality herds of the state. Although they have individuals strong in the blood of the show yard winners, Noble of Oaklands and Financial Countess Lad, their energies are directed toward breeding large, rugged, practical cows of high producing power. To this end they have at the head of the herd two grandsons of Financial Countess, test 935 pounds 10 ounces butter in one year. Both are out of Register of Merit dams. Their last two-year-old heifers to freshen milked 103 pounds 14 ounces milk in three days on ordinary farm care and dry feed.

F. W. Poos, of Potter, Kansas, reports his herd of jacks and jennets doing well. A feature of the herd at this time is the good lot of young jacks by a son of the famous Limestone Mammoth.

HORSES AND MULES.

PIONEER STUD FARM

Established 1870

FIFTY REGISTERED STALLIONS AND MARES

JUST ARRIVED—A new shipment of stallions and mares. If you are in the market for a good Percheron stallion or mare, now is the time. We can show you more bone, size, action and conformation than you will find elsewhere. Write or come today.

C. W. LAMER & SON - - - - - SALINA, KANSAS

PRAIRIE VIEW STOCK FARM



Has 40 big, black Mammoth jacks and jennets. Every jack my own raising; two to six years old, 15 to 16 hands high, extra heavy bone, big bodies. I can sell you a better jack for $500 to $600 than most speculators can for a thousand. Come and see for yourself. They must sell.

ED BOEN, LAWSON, MO.
38 Mi. E. of K. C. on C. M. & St. P.
40 Mi. S. W. of St. Joe, on Santa Fe

MARES AND FILLIES ABOUT ALL SOLD

A few good ones left. Fifty head of stallions and mares. Thirty head of stallions, including Percherons, Belgians and Coach stallions, 2 to 6 years old. All for sale at hard times prices. Come and see me.

J. M. NOLAN - - PAOLA, KANSAS

40 Head Percheron Stallions - Jacks and Jennets - 40

Two to six years old, heavy bone, right in every way. Imported Spanish jack, weight 1,200 pounds, at head of jennet herd. Come and see us. We mean business. Prices reasonable.

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Pedigree and guarantee with each, $450 and up. Time given.
R. I. LITTLE, Good Block, Des Moines, Ia.

Home-Bred Draft Stallions, your choice $500 with the exception of two. Also mares for sale. A. Latimer Wilson, Creston, Iowa



PERCHERONS—BELGIANS
Imported and home-grown mature stallions, ton and heavier, 3-year-olds, 2-year-olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. Fred Chandler, R. 7, Charlton, Ia. (Above Kansas City.)

PERCHERONS FOR SALE

Five head pure-bred Percherons — Two mares, one 2-year-old stallion, two last spring colts. All good ones. Low price to the man that takes all.

J. W. BARNHART, BUTLER, MISSOURI

FOUR BIG JACKS FOR SALE

Also three jennets. Jacks are all blacks, 4 and 5 years old, 15½ to 16¼ hands, standard. All grandsons of Limestone Mammoth. Barns 3 blocks north of depot.

F. W. POOS - - POTTER, KANSAS



JACKS AND JENNETS

15 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. Fifteen good jennets for sale. Come and see me.

PHIL WALKER,
Moline, Elk County, Kansas

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

POLAND CHINAS

Poland China Boars and Gilts

Twenty-five early spring boars and twenty-five gilts. Sired by I Am King of Wonder and Watt's King.

WM. WATT & SON - GREEN CITY, MO.

OWA KING BRED SOW SALE FEB. 1

Will Sell 40 Head of Tops. Am offering now some choice herd boar prospects, June and July pigs. All immune. Send for catalog of sow sale and price on boars.

P. M. ANDERSON, LATHROP, MISSOURI

TOWNVIEW FARM
Big-Type Poland Chinas.
For Sale—25 summer and fall gilts, sired by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 25 summer boars. Come and see my herd.
C. E. GREENE - PEABODY, KANSAS

BIG-BONED IMMUNE POLANDS
Both sexes, July and August farrow. Best big-type breeding. Choice individuals. Also bred gilts. All sired by that great boar, Chief Miami. Dams 600 to 700 pounds. Remember this is the home of largest boned boar of the breed.

WALTER B. BROWN, PERRY, KANSAS.

Size and Quality Polands

Five big-type gilts, weight 150 pounds each, bred for February, March and April farrow. $35 each. Two good tried sows, priced to sell. Choice lot of summer sow pigs, weight 150 pounds and over, $18 each or two for $35. Fall pigs, $15 each, two for $25, sired by 1,000-pound boars, out of extra large sows.

OTTO PLAGAMANN, EUREKA, MISSOURI

DEMING RANCH POLANDS
Twenty strictly high class boars, bred the same as our grand champion sow and other prize winners. They are herd headers. Also gilts and bred sows and 150 fall pigs. All immune.

THE DEMING RANCH
H. O. Shelden, Herdsman Oswego, Kansas

ARKELL'S BIG POLANDS

April and March bred gilts by Longfellow Again and Chief Big Bone, weight 225 to 275 pounds. They are bred to Arkell's Big Timm. Also a few bred sows. Priced right.

JAS. ARKELL, JUNCTION CITY, KANSAS

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

Lone Cedar Poland China Herd

Good spring boars by Meyer's Orange and out of mature sows, at farmer's prices for thirty days; also fall and spring gilts, bred or open. Weanling pigs cheap. All immune.

A. A. MEYER - McLOUTH, KANSAS

LANGFORD'S SPOTTED POLANDS
Boars — Serviceable age, guaranteed to please. Breeding stock, both sexes.
T. T. LANGFORD & SONS, Jamesport, Mo.

DUROC JERSEYS.

A HERD BOAR

We offer the splendid herd boar, Gold Medal 176234, also spring boars by him and the great boar, Country Gentleman 132541. All double immune. Prices reasonable.

W. R. HUSTON - AMERICUS, KANSAS

TWENTY FIVE SPRING BOARS

Sired by Crimson Wonder Again Jr., first prize boar at Topeka Fair, 1916, and G. M.'s Crimson Wonder. Big rugged fellows ready for service. Immunized and priced to sell.

G. M. SHEPHERD - LYONS, KANSAS

GUARANTEED DUROC BRED GILTS

Immune Duroc gilts with size, bone and stretch. Guaranteed in farrow. Shipped to you before you pay.

F. C. CROCKER, BOX K, FILLEY, NEB.

Wood's Durocs

Gilts bred and open. Boars all sold. A nice bunch of gilts to select from. September pigs of both sexes. Prices reasonable.

W. A. WOOD & SON, ELMDALE, KANSAS

ROSE HILL HERD DUROCS
For Sale — Thirty spring gilts bred for March and April farrow; ten boars for service; a few fall pigs. All immune, eligible to record. Out of prolific sows and by boars of state fair prize stock. S. Y. THORNTON, Blackwater, Missouri, on Missouri Pacific Ry.

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

HAMPSHIRE HOGS

ATTEBERRY'S HAMPSHIRE HOGS
Bred sows, $25 to $30 each. July gilts and boars, $10 each for 30 days. Choice individuals. ATTEBERRY & SONS, Lancaster, Mo.



POLLED DURHAM CATTLE.

POLLED DURHAM BULLS

Choice bull calves out of Belle's Hero, he by Roan Hero. Reds and roans. Also a few heifers and cows bred to this same bull.

C. M. ALBRIGHT, OVERBROOK, KANSAS

ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE
Twenty-five young bulls, also some good cows and heifers for sale. All registered.
D. J. WHITE, CLEMENTS, KANSAS
Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

HOLSTEIN CATTLE.

MAURER'S HOLSTEIN FARM



Offers everything in Pure-Bred and High-Grade Holsteins. A number of registered cows and heifers from noted sires such as granddaughters of Pontiac Korndyke, with high record A. R. O. dams. Also a number of cows and heifers bred to one of the best sons of Rag Apple Korndyke 8th, the world's champion bull, and several male calves by the same sire with good record dams, at bargain prices. Write your wants in Holsteins to

T. R. MAURER, EMPORIA, KANSAS
Farm Located Three-Fourths Mile West of Town on Sixth Avenue

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN-FRIESIAN FARM, TOWANDA, KANSAS

Breeders of pure-bred Holsteins. Special attractions in choice young bulls ready for service, with fashionable breeding. Write for pedigrees and prices. We maintain a breeding herd of pure-bred females and offer a grand lot of young springing heifers and cows, a number with A. R. O. records at prices within reason.

IT WILL PAY YOU TO SEE OUR OFFERING

Of choice extra high grade young cows and heifers, all springers in calf to pure-bred sires; large developed females, good udders, well marked and the right dairy type at prices that will challenge comparison for Holsteins of their breeding and quality. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone.

GIROD & ROBISON

HOLSTEINS and GUERNSEYS

Registered and high grade cows and heifers—service bulls. Carload or less. High grade calves, $18.00 each crated. Write us. We have what you want. Address

EDGEWATER STOCK FARM - - - FORT ATKINSON, WISCONSIN

HOLSTEIN CATTLE

We offer for sale 200 choice, high grade Holstein cows, heifers and service bulls of various ages; well marked and in good condition. Also can furnish a few choice, beautifully marked, 15/16ths pure-bred heifer or male calves, 1 to 2 weeks old, out of heavy milk-producing dams, at $15 each, crated f. o. b. cars. First draft takes them. Write

W. C. KENYON & SONS, ELGIN, ILLINOIS

REGISTERED HOLSTEINS

We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.

M. E. MOORE & CO. - CAMERON, MO.

HOLSTEIN COWS

Holstein cows, springers or bred heifers. Very large, good markings, out of best milking strains, bred to pure-bred bulls of the very best blood. Special prices on carload lots. J. C. ROBISON, TOWANDA, KANSAS

CORYDALE FARM HERD

Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.

L. F. CORY & SON, BELLEVILLE, KAN.

Braeburn Holsteins A. R. O. BULL CALVES
H. B. Cowles, 608 Kansas Av., Topeka, Kan.

Real Estate For Sale

TO CLOSE ESTATE

One hundred acres rich Kaw Valley farm, no waste, one-half mile to station, two miles to good town and high school; fine improvements. Write or telephone.

B. L. FOWLER, Executor, PERRY, KAN.

40 ACRES, 5 miles McAlester, city 15,000. 23 acres fine bottom, cult.; fair improvements. $26 per acre. Terms.

SOUTHERN REALTY CO., McAlester, Okla.

WANTED---TO RENT

A good farm for one year or longer. One that the owner wants his farm kept up. Must have good improvements, near good town, good schools, not river bottom, 80 to 160 acres. Am a breeder of registered Holstein cattle. Want possession March 1, 1917.

S. E. ROSS
Route 4 Mountain Grove, Missouri

160 ACRES, 6 miles Adrian, Mo. All smooth land, 25 acres in wheat, 40 acres in tame hay, remainder cultivation; 95 acres fenced hog-tight; fair improvements. Price right, easy terms for immediate sale.

MANSFIELD LAND CO., Ottawa, Kansas.

BROWN COUNTY FARM BARGAIN—Near Hiawatha, Kansas. Write for full description and price. Terms if desired.

MANSFIELD LAND CO., Ottawa, Kansas.

EIGHTY ACRES close to town, good improvements, fine property, a bargain at $5,000. Possession on short notice. Easy terms. Come at once or write for full description of just what you want.

MANSFIELD LAND CO., Ottawa, Kansas.

If Sold by March First

A good home for sale cheap by owner; no agents. 320 acres in Anderson Co., six miles east of Garnett, four miles south of Greeley. Two improvements. Price $7,000, half down, balance time from three to seven years, 6 per cent. payable any time desired, or will sell a part, 180 acres of it, for $4,000; 65 acres in cultivation. 20 acres of mow land, 20 acres of timber, balance bluegrass pasture; everlasting water. The other 140 acres is mostly fine timber, about 25 acres cleared off. This will make a fine sheep ranch. Fenced and cross fenced, about 8 miles of fence. Good 6-room house, barn 40x60, implement shed, granary, hen house and other buildings.

JOE FOX - - GREELEY, KANSAS

HOLSTEIN CATTLE.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

The Cedar Lane Holstein Herd

We are now offering some exceptionally good bulls of serviceable ages at very attractive prices. These calves are sired by our 29.4-pound grandson of Pontiac Korndyke.

T. M. EWING, INDEPENDENCE, KANSAS

Wichita Holstein Herd

High grade and registered cows, some heifers and heifer calves at reasonable prices. Bull calves at $10 and up.

Wichita Holstein Herd, R. 4, Wichita, Kan.

BONNIE BRAE HOLSTEINS

Registered bulls from calves to 5 months old. Best breeding and good individuals.

IRA ROMIG - - TOPEKA, KANSAS

LILAC DAIRY FARM

Route No. 2, Topeka, Kansas.
BREEDERS OF PURE-BRED HOLSTEINS
Bulls from A. R. O. cows, all ages, for sale.

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

REGIER'S HOLSTEINS

Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.

G. REGIER & SONS, WHITEWATER, KAN.

HOLSTEIN CALVES—Ten heifers and two bulls, 15-16ths pure, beautifully marked, 5 weeks old, from heavy milkers. $20 each, crated for shipment anywhere. EDGEWOOD FARM, Whitewater, Wis.

FARM HOLSTEINS

Breed 'em from "Tredico Truth Herbert Oak" ancestry; largest type. Champion of "National Dairy Show." Good udders and no extreme angles of hard forcing records.

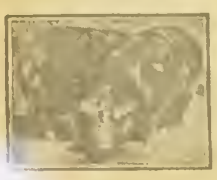
George C. Tredick, Route 2, Kingman, Kan.

FARM AND HERD.

Charles Green, of Peabody, Kansas, is making a success in the live stock business. He owns one of the good herds of Poland Chinas. At the head of this herd is the great breeding boar, King Wonder Giant, by King of Wonders. This hog is a half brother in blood to the famous King Joe that now heads the herd of W. B. Wallace at Bunceton, Mo., and sold in the Cook & Potter sale for $1,200. Mr. Green now has about 100 head in his herd. A feature of the herd at this time are the gilts sired by Miller's Sioux Chief and the fall and summer boars. The gilts are bred for late spring litters and all immuned.

At the meeting of the Standard Poland China Record Association held at Maryville, Missouri, January 3, John B. Lawson, of Clarinda, Iowa, was elected president of the association, and L. V. Garrett, of Maryville, secretary. Walter W. Head, of St. Joseph; O. E. Wade, Rising Sun, Nebraska, and S. McKelvie, Fairfield, Nebraska, were elected as the three new directors for three years. The other members of the board are William Gex, Graham, Missouri; N. I. Staples, Burlington Junction, Missouri; L. R. McLarnon, Braddyville, Iowa; T. J. Dawe, Troy, Kansas; and T. J. Meisner, Sabetha, Kansas. The report of the secretary shows the affairs of the association to be in a flourishing condition.

The National Spotted Poland China Record Association held its annual meeting at the Hotel English, Indianapolis, Ind., January 2, 1917, with some 200 members present. The officers elected for 1917 were Charles E. Kurtz, president, North Salem, Ind.; J. W. Troy, vice-president, Rose Hill, Iowa; Fred L. Obenchain, secretary-treasurer, Bainbridge, Ind.; directors, J. H. Book, Kempton, Ind.; A. S. Booco, Jeffersonville, Ohio; J. D. Gates, Ravenswood, Mo.; Ray Crum, Modesto, Ill.; George W. Reeve, Rushville, Ind., and E. G. Perrigo, Donovan, Ill. The auditor's report showed a balance for the year of $1,156.04 and that 115 new members had been added to the Association. 3,537 pedigrees recorded. Twenty-six hogs were consigned to the Association sale to be held at Crawfordsville, Ind., October 19, 1917.



FAULKNER'S FAMOUS SPOTTED POLANDS

THE WORLD'S GREATEST PORK HOG.

ANNUAL BROOD SOW SALE, WEDNESDAY, FEBRUARY 14, 1917

Sixty big spotted tried sows and yearlings bred for February, March and April farrow. You know the kind. Catalog tells all. Ask for it. Address

H. L. FAULKNER, BOX K, JAMESPORT, MISSOURI

BIG BOB WONDER BRED SOW SALE FEB. 6, 1917

At the Great National Swine Show at Omaha, Big Bob Wonder sired the world's champion senior yearling, second prize senior yearling sow, third prize junior yearling sow, second and sixth prize senior sow pigs, and the most valuable prize in any show—FIRST ON GET OF SIRE, FIRST ON PRODUCE OF SOW.

At the KANSAS STATE FAIR at TOPEKA The grand champion boar, the grand champion sow, first and third prize junior yearling sows, first and fourth prize senior sow pigs, third on young herds, FIRST ON GET OF SIRE, FIRST ON PRODUCE OF SOW. KANSAS FUTURITY—Second prize fall boar, fifth prize spring boar, first, second and third prize fall sows.

IN OUR BRED SOW SALE TO BE HELD AT

EFFINGHAM, KANSAS, TUESDAY, FEBRUARY 6, 1917

WE WILL SELL FORTY HEAD

of immuned tried sows and fall gilts, practically all of which will be either sired by or bred to Big Bob Wonder. Five selected sows all bred to him, and thirty fall gilts pronounced by all who have seen them to be the best bunch ever sired by one boar sired by him.

The Big Bob Wonder gilts will be bred to Wonder King, the noted son of Long King's Equal that I selected to cross on these gilts, and Eclipse Model, an outstanding son of Wonder Master by Wonderful out of a Grand Master dam.

A special train will be run from Atchison to the sale and will return in time to make all connections. Write for the catalog, mentioning Kansas Farmer. O. W. Devine will represent this paper at the sale.

H. B. WALTER & SON, Effingham, Kan.

HEREFORD CATTLE.

WALNUT BREEDING FARM



Hereford Cattle, Shropshire and Cotswold Sheep, Berkshire Hogs. Thirty-five grandsons and granddaughters of Beau Brummel 10th for sale. Some extra herd headers at reasonable prices, breeding considered. Come and see my herd. Satisfaction guaranteed.

LEON A. WAITE, WINFIELD, KANSAS

HEREFORD CATTLE.



HEREFORD CATTLE FOR SALE

35 BULLS, 10 MONTHS TO 2 YEARS OLD. 20 COWS AND HEIFERS.

Best breeding families. Bred to an Imported Bridisher bull. Come and see me. Sale barns right in town.

T. I. WOODDALL, HOWARD, KANSAS

STAR BREEDING FARM---HEREFORD PLACE



FOR SALE--100 BULLS. 50 EARLY BULL CALVES, 30 COMING 2-YEAR-OLDS, 20 COMING 3-YEAR-OLDS

Herd headers and range bulls. Ten yearling heifers, twenty heifer calves and a carload of good cows. The very best breeding represented. Come and see me.

SAMUEL DRYBREAD, ELK CITY, KANSAS

HEREFORD CATTLE

150 Head in Herd. A few cows and heifers for sale. Also a lot of farm and range bulls. Priced reasonable.

B. M. BROWN, FALL RIVER, KANSAS

HEREFORDS AND PERCHERONS

Choice 2-year-old bull, weight 1,600 lbs.; extra good bull calves. One May calf, weight 600 lbs., outstanding herd header prospect. Two choice yearling Percheron stallions. Priced to sell.

M. E. GIDEON - EMMETT, KANSAS

JERSEY CATTLE.



SEVENTY HEAD REGISTERED JERSEYS

FORTY COWS AND THIRTY HEIFERS FOR SALE.

Nothing over five years old. Richly bred Fox Signal and Fern Lad families. All bred to choice registered herd bull. Must reduce herd.

N. L. DUCHESNE - GREAT BEND, KANSAS

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. BERRY & SON, Jewell City, Kansas

THE STRAY LIST.

TAKEN UP ON THE 20TH DAY OF May, 1916, by A. L. Jasper, Santa Fe, Haskell County, Kansas, one red heifer calf, no brands. A. R. Henage, County Clerk.

TAKEN UP BY H. R. ERDMAN, NORTH Fifth Street, Kansas City, Kansas, on January 8, 1917, one red steer, weight 800 lbs., cross on hip. Appraised at $40. William Beggs, County Clerk, Wyandotte County.

TAKEN UP BY F. A. HEUSTIS, FARMER Township, Wabaunsee County, Kansas, one 4-year-old red steer with white face, scissor brand on right hip, valued at $50. November 13, 1916. L. B. Burt, County Clerk, Wabaunsee County, Alma, Kansas.

NOTICE IS HEREBY GIVEN THAT ON December 28, 1915, one red steer with horns, three years old, was taken up by W. E. Kimel in Ninnescah Township in Sedgwick County, Kansas. Said animal was appraised December 28, 1916, at $50. H. M. Barrett, County Clerk, Wichita, Kansas.

FARM AND HERD.

J. S. Turner, of Fairfax, Mo., is claiming February 10 for his annual Poland China bred sow sale. Mr. Turner has the real big kind. They have been bred along the big-type blood lines and grown in a way that they have made big sows and gilts. There are a number of yearling gilts consigned to this sale that will weigh over 400 pounds at a year old. The offering is one of as clean lots as will be sold in North Missouri this spring. Thomas F. Strickler, of Craig, Mo., is consigning to this sale ten high-class brood sows.

JERSEY CATTLE.

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

REDMAN & SON - TIPTON, MISSOURI

Bargains in Jersey Cows

From one to a carload of good, young, registered Jersey cows, mostly fresh or soon due. Offered at sacrifice prices because short of feed and cannot winter. Also a few open heifers and young bulls. Write your wants or come and see this stock.

The Ennis Stock & Dairy Farm, Horine, Mo.

(Just South of St. Louis.)

LINSCOTT JERSEYS

Kansas First Register of Merit, Estab. 1878. If interested in getting the best blood of the Jersey breed, write me for descriptive list. Most attractive pedigree.

R. J. LINSCOTT - HOLTON, KANSAS

$50 Noble Stockwell's Torono $50

Sire, Noble Stockwell. Dam, granddaughter of Hood Farm Torono. She milked 32½ pounds milk daily, 2 years old.

BISONTE FARM - LAWRENCE, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

DORNWOOD FARM JERSEYS

Fine young bulls from Register of Merit and imported cows; descendants of Fontaine's Eminent, Pogis 80th of Hood Farm, and Golden Fern's Lad.

DORNWOOD FARM, Route 1, Topeka, Kan.

PLEASE MENTION KANSAS FARMER WHEN WRITING TO ADVERTISERS

75 Registered Holstein-Friesians 75

At Auction

Rock Brook Farm's Tenth Annual Sale of Registered Holsteins will be held at Union Stock Yards Sale Pavilion

South Omaha, Nebr., Tuesday, February 6th

Included in this offering will be daughters of Sir Pontiac Rag Apple 49334, a 31-pound bull; Kalmuek Skylark Johanna, a son of Katy Gerben; King of the Pontiacs Johanna Lyons 129656, a son of King of the Pontiacs 39037 and King Segis Helen Pontiac, a son of King Segis Pontiac, out of a daughter of Hengerveld DeKol, making him a brother to the $50,000.00 King Segis Pontiac Alcartra, as well as a lot of cows and heifers in calf to above bulls. A lot of the cows will be fresh at time of sale and milking heavy. A lot of A. R. O. cows with records up to 22 pounds. In all a high class offering with every animal over six months old tuberculin tested and every animal guaranteed a breeder.

No better offering of Registered Holsteins will be sold this season.

For catalog, address

HENRY C. GLISSMAN, Sta. B, OMAHA, NEBR.

SHORTHORN CATTLE.

Barber Shorthorns

Villager Junior and Curley Dals Head Herd.

For Sale—Twenty coming yearling bulls, 20 yearling bulls, 40 cows and heifers, Scotch and Scotch topped. We have what you want. Come and see our cattle. Three hundred head in herd.

F. C. Barber & Sons

SKIDMORE - - - - - MISSOURI

OUR HERD BULL

Abbotsford Lad 2d 395841, pure Scotch, deep red and a good breder, three years old, priced to sell quick. We are keeping every heifer calf sired by him, also some young bulls six to ten months.

CHESTER A. CHAPMAN, Ellsworth, Kan.

CEDAR HEIGHTS SHORTHORNS

For Sale—Ten herd bulls from seven to eighteen months old. Scotch and Scotch-topped. Priced reasonable. Come and see my herd. HARRY T. FORBES, Bell Phone 59-N-1, Route 8, Topeka, Kansas.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

H. M. HILL - LAFONTAINE, KANSAS

RIVERSIDE SHORTHORNS

Headed by Prince Valentine 4th 342179.

Families represented, Orange Blossoms, Butterflies, Queen of Beauty and Violets.

H. H. HOLMES, Route 1, Great Bend, Kan.

Lowemont Shorthorns — Bulls, including white 2-yr.-old; 18 cows and heigers; priced right. E. E. Heacock & Son, Hartford, Kansas.

RED POLLED CATTLE.

Red Polled Cattle

A few 1916 fall bull calves for sale. Also a few cows and heifers.

AULD BROS. - FRANKFORT, KANSAS

RED POLLED BULLS

FORTY yearling bulls, big rugged fellows, sired by ton sires; all registered and priced reasonably. Will sell a few females.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

AUCTIONEERS.

Live Stock and Farm Auctioneer

Write or wire for date. I can please you.

LAFE BURGER, WELLINGTON, KANSAS

FRANK J. ZAUN Live Stock Auctioneer. Write or wire for date. Independence, Missouri

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

AYRSHIRE CATTLE.



BEEF

As a rule, dairy cows when through milking, do not make good beef.

AYRSHIRES

when through milking fatten quickly, thus making the beef tender and delicious. Cut up to good advantage; bones are small; meat is red and well flecked with tallow. Calves bring highest prices for veal. Write for information and list of breeders.

AYRSHIRE BREEDERS' ASS'N

C. M. Winslow, Sec'y 33 Park St. Brandon, Vt.

Breeders' Directory

ANGUS CATTLE.
Geo. M. McAdam, Holton, Kan.
Geo. A. Deitrich, Carbondale, Kan.
D. J. White, Clements, Kan.

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

HOLSTEINS.
C. E. Bean, Garnett, Kansas.

DORSET-HORN SHEEP.
H. C. LaTourette, Route 2, Oberlin, Kan.

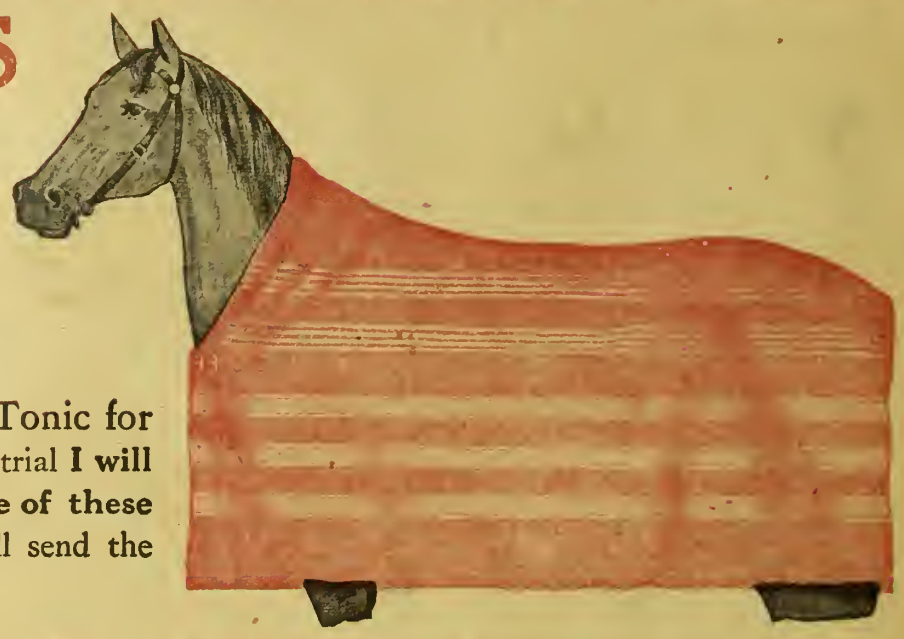
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.

OHIO IMPROVED CHESTERS.

O. I. C. Serviceable Boars—Yearlings sows and gilts bred for March farrow. Summer and fall pigs. G. P. Andrews, Dansville, Mich.

Feed Your Cattle 60 Days-At My Risk

And Get One of These $5.00 Wool Horse Blankets FREE



I want every reader of this paper to try my Stock Tonic for two whole months at my risk, and to pay for making the trial **I will give away to each one** who sends in the coupon below **one of these Magnificent Wool Blankets—Absolutely Free.** I will send the Blanket at once and also a good trial feeding of

WILBUR'S STOCK TONIC the Greatest of All Live Stock Conditioners

I will send you this Stock Tonic with the **distinct understanding** that it is to be used for **two whole months at my risk**—that if at the end of two months feeding the Stock Tonic has not been entirely satisfactory **no charge is to be made.** I simply want you to make a two months trial of my Stock Tonic with the understanding that **if it does not fatten up your live stock—kill the worms—that if it has not paid you to feed it**—no charge is to be made. Then as a special inducement and to pay you for the trouble in making the test I will give you—Absolutely Free—one of the $5.00 Wool Horse Blankets shown above.

I Will Prove to You

that my Stock Tonic will positively **rid your live stock of worms, fatten them up and keep them in the pink of condition.** I will prove to you that you will actually get **more milk from your cows,** that you will **fatten your hogs, steers, sheep and poultry** for market in less time, that you will **save grain, prevent disease** and **make more money from each animal you own.** I have such absolute faith in Wilbur's Stock Tonic that **I take all the risk** in this trial feeding.

There is No Secret About This Tonic

It is composed of twelve separate ingredients—plainly printed on every package. These ingredients are acknowledged by veterinarians everywhere to be the **finest tonics, appetizers, digestive aids and worm expellers** known to medical science. Each one has a special purpose. When all these herbs, roots, etc., are mixed with the regular feed they act directly on the digestive organs of the animal—they create an appetite, help the animal digest the food and then turn the food into good, rich flesh and blood. They **kill the worms, keep the blood clear** and **tone up the entire system.** This Tonic is not a patent medicine. It merely supplies to an animal what is lacking in ordinary feed. It is nature's own remedy for all troubles arising from indigestion, over-feeding, etc. That is why **it is absolutely sure to put all your animals in such perfect condition that you will be bound to make more money from every one of them.** I have made and sold this Tonic for over thirty years and over a million of the best stock raisers in America are feeding it every day. I have thousands upon thousands of the finest kind of letters from all parts of the country telling me of the wonderful results from feeding it. You would feed it, too—if you only knew that it would make money for you. **That's what I want to prove with this trial feeding.** And as a special inducement, just to get you to make this trial—at my risk—**I am going to send you one of the handsome Wool Blankets.**

The Blanket is Yours---Free

It never costs you a cent. It is yours—forever—to keep and use every day—**whether you ever pay for the trial feeding of Tonic or not.** It is a big, warm, soft, wool blanket—84 x 90 inches—never sold for less than $5.00 to $6.00 anywhere. It's a blanket you will be proud to own, and **remember, it's free.**

There are No Strings to This Offer

It's a sincere, straight forward effort to get you to use my Tonic. I am taking all the risk. I could not print this offer in this paper unless I made good every promise. In addition I refer you to any bank or Commercial Agency anywhere. I mean every word I say and you are taking no risk in accepting my offer and sending for this trial feeding with the Blanket Free.

Simply Fill Out the Coupon

SEND NO MONEY. Just find out by actual test on your own stock that **my tonic will make money for you.** I have a blanket all ready for you if you send that coupon right away. **You can't possibly lose anything**—you have everything to gain. **Isn't it worth a postage stamp? Do it now—at my risk—fill out the coupon and mail it to me at once.**

E B Marshall President.

WILBUR STOCK FOOD CO., 172 Huron St., Milwaukee, Wis.

APPLICATION FOR FREE BLANKET

52

E. B. MARSHALL, President
Wilbur Stock Food Co., 172 Huron St., Milwaukee, Wis.

Please send me at once one of your **beautiful $5.00 Wool Horse Blankets.** Also send me 100 pounds of Wilbur's Stock Tonic. I agree to feed the Tonic for two months, and if it does what you claim, I will send you only $2.00 at the end of the two months' test and then $4.00 a month for three months. If it fails and I so report in 60 days, **you are to cancel the charge and I will owe you nothing.** You are also to ship me—Free—enough **Wilbur's Poultry Tonic**—your guaranteed egg producer—to offset all freight charges on the shipment. **It is understood that the $5.00 Horse Blanket and this pail of Poultry Tonic are to be mine—Absolutely Free—whether I pay for the Stock Tonic or not.**

Name.....

P. O.....State.....

F. O.....County.....State.....

I own.....cattle.....horses.....hogs.....sheep.....poultry.

I own.....acres of land. I rent.....acres of land. I am.....years of age.

NOTE—This liberal offer only open to responsible farmers and stock raisers over 21 years of age.

30.5
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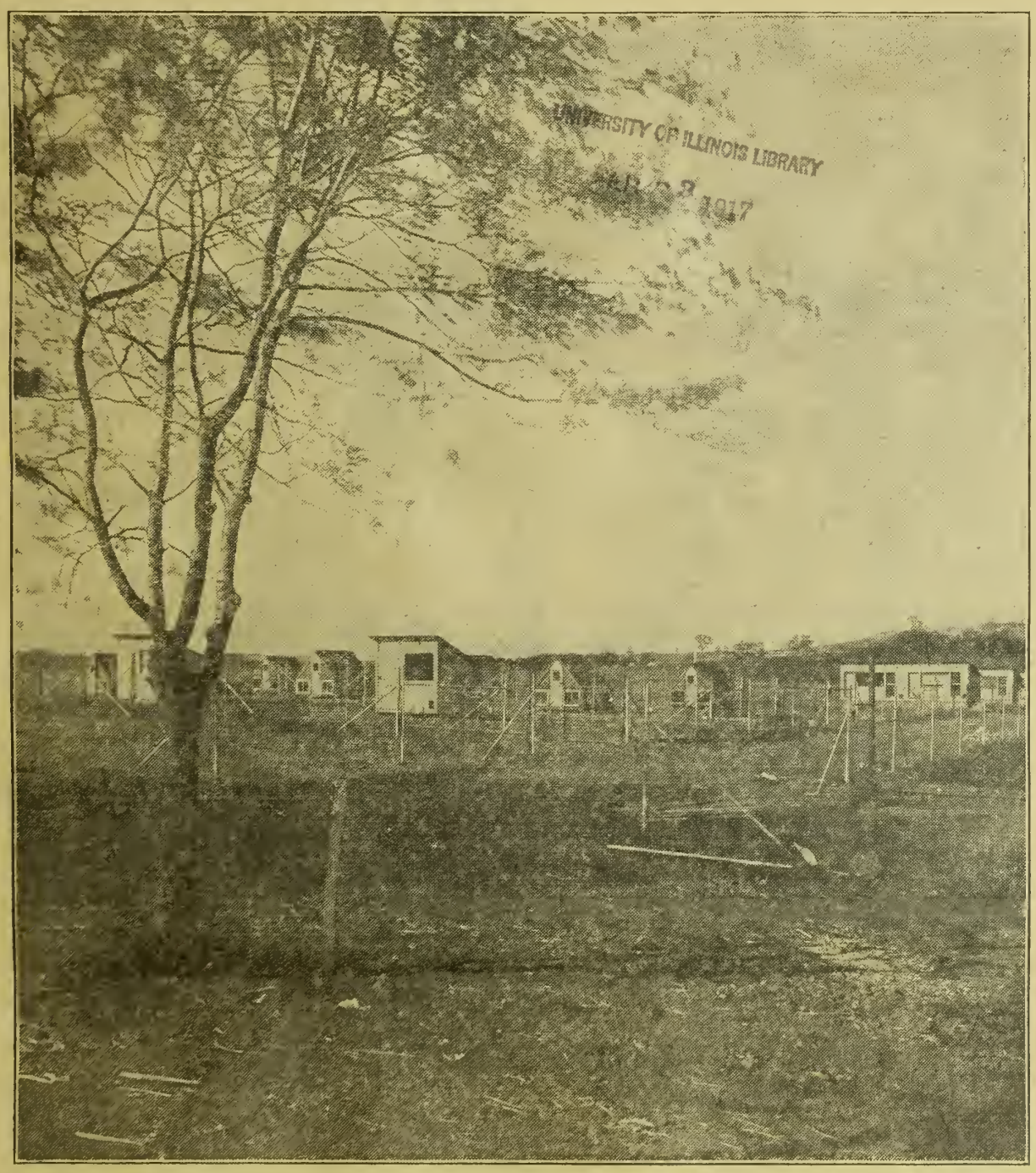
KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 5. TOPEKA, KANSAS, FEBRUARY 3, 1917. Established 1863. $1 a Year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1917

A Portion of the Kansas Agricultural College Poultry Plant is Here Shown. Valuable Work in Poultry Production is Being Done by This Institution

THE NEW DE LAVAL

A Bigger and Better Cream Separator for the Same Money



THE FARMER who buys a De Laval this year will get bigger and better value for his money than ever before.

Not only will he get a better machine, a simpler machine, a machine that will skim even closer than any previous De Laval, but he will get a machine of larger capacity.

And the price has not been increased one cent.

Just think what that means to cow owners in the face of rising prices on almost everything else the farmer has to buy, including other cream separators.

Only the tremendous volume of De Laval sales makes it possible to give the farmer more for his money when others are giving less.

The NEW De Laval is the culmination of nearly forty years of experience and development by the largest and oldest cream separator concern in the world. It represents

The greatest improvement in separator construction in the last thirty years

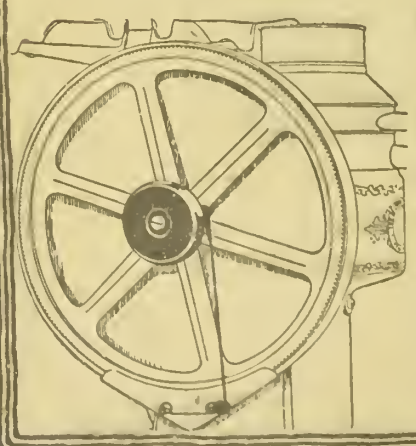
If you are trying to get along without a cream separator, or with a half-worn-out or unreliable machine, why not get a NEW De Laval NOW and stop your cream waste? You don't need to count the cost, because the De Laval will soon pay for itself.

There is a De Laval agent near you who will be glad to explain all the improvements and advantages of the NEW De Laval, and who will set and start a machine for you on your farm and let you try it for yourself.

If you haven't the spare cash right now, that need not stand in the way of your having the use of a NEW De Laval the rest of the winter. We have an arrangement with De Laval agents which makes it possible for any reputable farmer to secure a De Laval on the partial payment plan—a small payment at the time of purchase and the balance in several installments—so that your De Laval will actually pay for itself while you are using it and getting the benefit from it.

Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for any desired information.

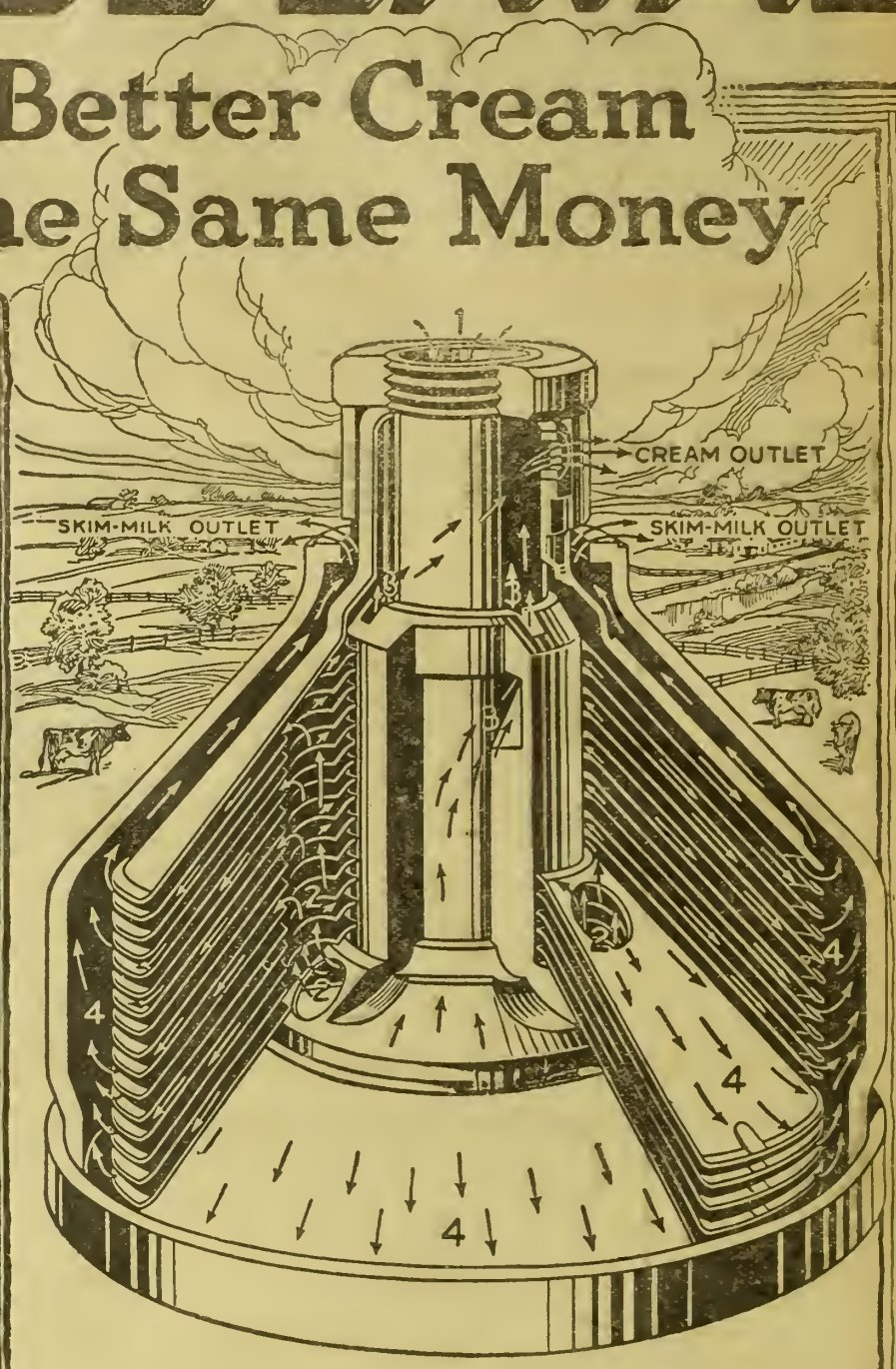
Every NEW DE LAVAL is now equipped with a Bell Speed-Indicator



The "Warning Signal" which insures proper speed and uniform cream

Because nine people out of ten turn the separator handle too slowly and because this always means loss of cream and cream of uneven thickness, every cream separator should be equipped with a reliable speed indicator.

Every NEW De Laval is now so equipped. The De Laval Bell Speed-Indicator is simple. It is accurate. It is reliable. There is nothing to wear out or get out of order. No matter who runs your De Laval, the "warning signal" will tell you when the speed is not right. You hear it and do not need to see it.



THE NEW SELF CENTERING DE LAVAL BOWL

Some of the points of superiorty of the NEW DE LAVAL

The New De Laval bowl design and the new method of delivering the milk into the discs give increased capacity without increasing the weight or size of the bowl or increasing its speed. The incoming whole milk is delivered beyond the cream wall, and this, in conjunction with the improved design of the bowl, makes possible closer skimming than ever before, especially under the more difficult conditions of separation, such as skimming a very heavy cream or separating milk below usual temperature.

The much lower speed of the De Laval than other cream separators (in most cases from one-half to one-third less) insures minimum wear of gears and much longer life of the machine.

The New De Laval concave-bottom, self-centering bowl is so designed and so supported by the detached spindle that it will run true and do perfect work even after long wear, the great importance of which every separator user will appreciate.

There are fewer discs in the New De Laval bowl, and all discs are unnumbered and are interchangeable.

By reason of its simpler construction and the fewer number of discs, the New De Laval bowl is more easily washed and cleansed.

All New De Lavals are automatically oiled, every moving part of the machine being bathed in a constant film of oil. There are no oil holes anywhere on the machine, and the sight feed oil cup on the top of the frame provides for a constant supply of fresh oil.

The gears, pinions and other moving parts of the De Laval are exceedingly simple in arrangement, substantial in dimensions and always interchangeable.

The De Laval tinware is sturdy and heavily tinned, well suited for long and hard wear, and easy to clean.

The low speed of the De Laval bowl, in combination with greater capacity for a given size and weight of bowl than is found in other separators, and the automatic De Laval oiling system, make the De Laval the easiest cream separator to turn.

New Catalog will be mailed upon request

THE DE LAVAL SEPARATOR COMPANY

165 Broadway, New York 29 E. Madison St., Chicago

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Editorial, Advertising and Business Offices, Topeka, Kansas

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KANSAS FARMER

THE FARM PAPER OF KANSAS

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WHY NOT TORRENS SYSTEM?

Under our present system of recording land titles in Kansas, it is impossible to go through any sort of a real estate transaction without being annoyed and aggravated almost to the limit by our cumbersome, antiquated method of recording and transferring titles. By the Torrens System a title to land may be investigated once for all, and if sound, registered and guaranteed by the state. It does away absolutely with the necessity of paying fees for having the same ancient records searched over and over again. This system of title registration has so many advantages that it, or a modified form of it, at least, is almost sure to be ultimately adopted by all the states. The State Grange of Kansas went on record last fall as favoring the adoption of the Torrens System.

A simple method of guaranteeing land titles would be a big step in making it easier to liquidate farm securities. The Federal Farm Loan Board has placed its official approval on the Torrens method. Eugene S. Massey of Richmond, Virginia, who has long championed the Torrens System of land title registration and who has written a book on the subject, took the matter up with the Federal Farm Loan Board, and writes as follows:

"As matters now stand, every farmer must show to the board, or the Federal land bank, that he has a good title, which can only be done by having his title examined at his expense by the attorneys of the bank; and this must be done every time a loan is desired. But any farmer who once has his title registered under the Torrens System will have his certificate of title accepted for every loan desired in future without further examination of title."

This system is bitterly attacked by those who make their living by performing the unnecessary and complicated work of the present method of guaranteeing titles, but abstractors and guarantee companies cannot stand out against a principle that has so much of merit and justice back of it.

PURE-BRED PIGS WIN

In the 1916 pig-feeding contest conducted by Otis E. Hall, State Leader of Boys' and Girls' Club Work, it is a significant fact that the winners all fed pure-bred pigs. The boys enrolling in the pig club were not required by the rules to feed pure-bred pigs, but the results show the folly of trying to compete with anything but a pure-bred.

Walter E. Delfelder of Atchison County, who won first prize in the state contest, fed a Poland China, the pig weighing eighty pounds at twelve weeks of age. He fed it for 132 days, the final weight being 355 pounds, thus making a gain of 2.08 pounds daily. Every pound of feed, even house slop, is charged to the pigs in this contest, and the gain made by Walter's pig cost at the rate of $5.60 a hundred pounds. With present high prices of feed, this is a record of which any hog might be proud. Walter made a net gain of $11.89, this being based on uniform feed prices and a price of 10 cents a pound on the pig at the beginning of the contest and the same price at the end.

The second prize was won on a pure-bred Duroc Jersey, the third on a Poland China, and the fourth, fifth and sixth on Duroc Jerseys.

Two of the boys showed their Duroc Jersey pigs at the Hutchinson fair and sold them for breeding purposes, one receiving $50 and the other $45.

The detailed figures of these prize-winners are given on another page of this issue.

It requires special skill in pig-feeding to produce pork as successfully and as profitably as these boys have done, and we wish to commend them for their work. The point we would like to emphasize just now is the great advantage of feeding pure-breds instead of "scrubs" or grades. In this contest the pure-breds easily outstripped the grades. But there is another reason why boys who join next year's pig club should feed pure-breds. Mr. Hall says that a considerable sum of prize money could not be claimed because so few pure-bred pigs were fed last year. Four of the national hog record associations offered $50 each, but with a proviso that at least seven pigs of the respective breeds should finish. This requirement was not met and as a result the money could not be claimed.

Mr. Hall is urging all the boys to get into the game this year with pure-bred pigs. It is just as easy to feed a pure-bred as it is to feed a grade or a "scrub." Not only are the pure-breds more profitable and more apt to win, but there will be more prize money if enough of the boys feed pure-breds. "We want our whole family of pig club boys back," said Mr. Hall, "and let's all choose pure-bred pigs and see that no prize money goes unclaimed next fall."

FRUIT ON THE FARM

Farmers ought to plant orchards for the production of fruit for their own use. There is also a place for the commercial orchard, for there will always be a wide demand for fruit. This demand is increasing and even in our own state where fruit production could be greatly increased, we ship in vast quantities of apples and other fruit that could be grown at home. Kansas should not be classed as one of the great fruit-consuming states. We could easily produce much more fruit in commercial orchards, and there is a place on nearly every farm for a small fruit plantation.

The argument is frequently made that fruit can be bought cheaper than it can be grown, but as a matter of fact even well-to-do farmers use less fruit than they should because it is not grown at home. The farm orchard may not always be practical, but in very few instances is this the case. It of course requires more knowledge now to succeed with fruit than in the early days, but with the store of information being accumulated by our experiment station and freely given out through the extension division, the farm press, and in other ways, this is not a legitimate excuse for failing to grow at least a portion of the fruit needed in the farm home.

If you do not already have a farm orchard, plan for one this year. The stock should be ordered at once. Nursery advertisers in KANSAS FARMER will be glad to furnish advice as to varieties best adapted to various local conditions. Do not plan to put out more fruit than can be cared for properly. The small orchard given real orchard care will be a source of profit on the general farm, whereas a larger orchard that must of necessity be neglected might result in loss and discouragement.

The extension division of the agricultural college keeps a trained orchard man traveling all the time. He will gladly make suggestions relative to planting and caring for fruit. If you desire to avail yourself of this help, write George O. Greene, Extension Division, Kansas Agricultural College, Manhattan.

More Profits From Poultry

EGGS and other poultry products have gone up in price like everything else. Poultry has always been a profitable side line on the farm, but with present conditions, giving the farm flock reasonable care and attention is more certain than ever to bring big returns for the effort put forth. In 1900 federal statistics showed that the per capita consumption of eggs in the United States was 207, the cost being $1.86. In 1910, ten years later, the average consumption was 200 eggs per person and the cost $3.40. We have no similar statistics to show present conditions, but we know eggs and poultry are higher now than they have ever been before. With such market conditions, poultry will be profitable even though in many cases the chickens are looked upon as beneath the notice of the owner or manager of the farm.

For the money invested the hens return a larger income, even, than does the dairy cow. They are affected even less than the cow by dry weather and crop failures. In the dry-land sections the hens have often paid the grocery bills following a crop failure and thus enabled the family to "hang on" and become permanently and prosperously established.

If poultry can yield such profitable returns as the statistics show when cared for in the haphazard manner so common on many farms, it is reasonable to expect that placing it on an equality with other farm animals in the matter of care and attention will make it return far greater profits.

In this we are not advocating or urging that the farm poultry business should be enlarged beyond the ability of the farm workers to care for the hens and chickens properly. We print in this issue and in other issues, figures showing unusual profits from small flocks of hens given the best of care. It is not to be expected that what can be done with a dozen hens can be duplicated with a thousand. The farm flock of a size that permits its being given the right kind of care is the profitable flock.

There is nothing like keeping some accounts for putting an enterprise on a business basis. As long as no records are kept of the returns from the poultry it is not likely to be credited with what it is doing. If you do not believe this, try keeping a strict business account with your flock and see if it does not reveal some surprises. As a result of keeping a record, better equipment will in all probability be provided for the poultry.

A farm woman tells in this issue of her first efforts with poultry and how she kept strict account of the eggs produced and sold. It was a very ordinary record, but it resulted in the poultry being given a good house and as the business has grown she has been able to greatly increase the profits until now it is one of the most profitable enterprises of the farm.

To succeed with poultry it is necessary to have good stock, give it the right kind of feed, and provide suitable quarters. It is not necessary to house poultry expensively, but it will pay good returns for the money put into comfortable well-planned shelter. There are a good many details connected with the care of poultry that must be observed, but with a little encouragement in the way of proper equipment, the farm woman can be trusted to work out the details of poultry care and management and make it pay many an item of family expense.

STARTING A PURE-BRED FLOCK

There are many reasons why pure-bred chickens are more profitable than those of mixed or mongrel breeding. We have never heard of any striking results being secured with mongrel stock. Some of our fanciers perhaps have over-estimated the feathers at the expense of utility qualities, but in the main every breed of poultry that has endured has done so because of its utility qualities. J. E. Rice, poultryman at Cornell University, summarizes the advantages of pure-bred stock as follows:

"Pure-bred fowls lay eggs that are more uniform in size, shape, color, and texture of shell. Uniform eggs sell for a higher price.

"They are more likely to breed true, that is, the chickens will grow up to be like their parents.

"They are more uniform in shape and size of body and in color of skin and shanks, therefore more attractive and more profitable when placed on sale.

"They are more attractive as a flock, because they are similar in appearance. It is worth while to keep poultry that looks well.

"They furnish a larger income because eggs for hatching and stock for breeding can be sold at prices considerably higher than for market purposes.

"They are more satisfactory, because, other things being equal, they may be expected to give better results in feeding, hatching, and rearing, due to the fact that they are more nearly alike as to rate of growth, size, temperament, activity, and the like."

It is so easy to get started with pure-bred stock that there is little excuse for clinging to the mongrels. A cockerel and a few hens can be purchased from some one who has a good strain of the breed desired. The cheapest way to start is by getting some eggs from a flock of known standing. Some breeders now offer day-old chicks. These can be shipped as easily and as safely as can eggs, and in some ways it is better to get the chicks than to buy eggs for hatching. Then there is the grading-up system so profitably followed with cattle and other farm live stock. By putting some good pure-bred males of the chosen breed with the mixed flock, the poultry raised will have half the blood of the pure-bred and in appearance will seem to have even more. The old hens can be sold in the fall and breeding stock for the next year selected from the half-bloods.

The initial expense of getting some eggs, baby chicks, or a pen of pure-breds, is so small that few will find it necessary to practice this slow grading-up method of improving the farm flock.

We have just received a letter from the Animal Husbandry Department of the Kansas Agricultural College in which they extend a most cordial invitation to live stock breeders to make Professor Cochel's office, Room 10 Agricultural Building, their headquarters during Farm and Home Week. Facilities will be provided for holding conferences or transacting any business that may be necessary during their stay. The program this year is unusually strong in its live stock features and we hope nothing will prevent the live stock men among our readers from spending at least a part of the week in attending these live stock meetings.

So far, the legislature seems to be going about its work in a most business-like manner. These seems to be a disposition to get down to the real business of legislation and we trust this will continue through the whole session. This is as it should be, and the people of the state will appreciate a continuation of this serious effort on the part of the legislators to do their work in the most efficient and expeditious manner possible.

PROFIT FROM FARM POULTRY

Income of $1800 From Flock of 365 Hens on This Missouri Farm

By MRS. G. L. RUSSELL

ON MOST of the six million farms of the United States the women care for the poultry along with the household duties. A farm poultry flock well cared for will be the best paying "crop" on the farm and yet they are often greatly neglected because the women are furnished such poor equipment.

My mother-in-law gave me some two hundred hens when I was married. I was delighted with them and tried in every conceivable manner to make them lay the first winter. I fed them hot mashes, read all the poultry articles I could find and tried to follow all instructions. The hens didn't lay. I soon found out that if I wanted to get winter eggs I must expect them from my pullets. Now I knew well enough that not one of those pullets would lay until spring—they were not well enough matured. However, they laid well enough when spring came, (it is a poor hen, indeed, that won't lay then) and I raised several hundred chicks. We were living with my father-in-law at that time and he thought I was doing wonderfully well with the flock. At the end of the year I had sold a little over $100 worth of produce. He declared it was more eggs than they had sold in forty years. I am sure he must have been mistaken, but it showed to me the value of keeping record of what the hens were paying me.

Our hen house was a worn out leaky affair and in the fall my husband built me another, for had not the hens earned it? That one hundred dollars that they had paid in made the whole family have more respect for them.

Every farmer's wife should keep account of what her chickens are paying her, for in no other way can she get her husband sufficiently interested to build suitable houses and coops as they are needed.

I am sure I would never have made much of a success with my chickens if I had not had Mr. Russell's co-operation. When new houses have been needed the hens have supplied the money and he the labor.

I worked with my flock for several years and still I could not get winter eggs, although in the meantime I had bought an incubator, so as to hatch chicks early enough for the pullets to lay in fall. Some way I just couldn't get my farm flock of big chickens laying in the fall and winter. I wonder if many farmers are not troubled the same way? They surely must be or else egg prices would not be soaring so now, and in fact every winter. I know I don't hear of any of my neighbors selling eggs in large quantities now, while we are sending a thirty-dozen case to New York City every week and receiving 52 cents a dozen for them.

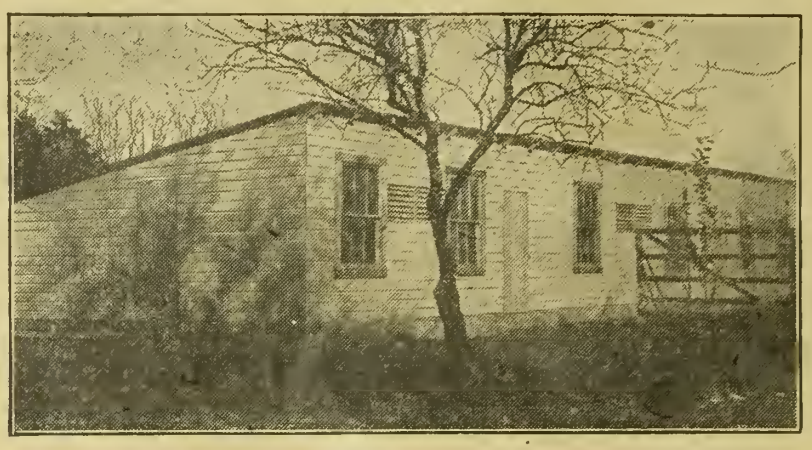
I am a long ways ahead of my story though — almost seven years. To go back. After I found out I could not get the chickens to lay in winter I bought five Brown Leghorn hens and a rooster. These did so well for me I decided I wanted these only, so raised nothing but Brown Leghorns and gradually sold off my other flock.

For six years now we have had only this breed, and we like them better each year. They are money makers for us. The pullets if hatched in March or April will, if fed well commence laying in the fall and winter, keep it up all spring, summer and fall, and then we let them rest their second winter. You see we have another crop of pullets ready for the laying house then, and the yearling hens after their rest in winter are ready by spring to lay again. We never keep hens over three years old.

The cut on this page shows our new laying house. It is 20x60 feet and is divided into two rooms, so I do not need to feed the whole flock for egg production.

Our method of feeding for eggs is as follows. In the morning they are given a feed of small grain, a pint to every ten hens. Oats, wheat or barley are good, or better still a combination of the three. At night they are given a pint and one half of shelled corn to every ten hens. All grain is fed in a deep litter, thus compelling them to work and not be lazy, but who ever heard of a lazy Leghorn hen?

In addition to their grain feed they have a dry mash before them all the time, which is composed of two parts bran, one part shorts, one part corn meal and two-fifths part meat scraps. A little salt and fine charcoal is added to this and the whole is thoroughly mixed and then put in self feeders. The laying hens have access to this the year round.



FIVE HUNDRED HENS KEPT IN THIS LAYING HOUSE ON THE RUSSELL FARM, CHILLICOWEE, MISSOURI

They also have some kind of green feed. Personally, I like sprouted oats best, as it is easy to prepare and makes an abundance of crisp green feed in a very short while. One square inch per hen per day is required of this. The water is an important factor all day long. So many farmers will supply all these materials and then forget to give the hens anything to make an egg shell with. Oyster shell should be purchased by the 100 pounds on every farm and kept before the hens all the time.

A house that is well ventilated and free from draught is not such a problem as many consider. You will note from the picture that the house is supplied with shutter-like ventilators. These are excellent as fresh air is admitted day and night and still there is no draught. There is also a ventilator over the roosts that ventilates without a draft.

Such a house as this is well supplied with sunshine. Ours has a dry concrete floor. A concrete floor is certainly a success if built right, but it must have a good foundation of fine rock, gravel or cinders for drainage, so it will not become damp.

The two factors that so many farmers neglect when trying to feed for winter eggs are the meat scraps and green feed. Meat scraps may be purchased in any city from a packing firm at a cost of about $3.25 per 100 pounds, while the green feed may be supplied in various ways: cabbage, beets, silage, steamed clover leaves, all are good. I do not like them as well as sprouted oats, but have had fairly good results feeding them.

For several years we have been selling eggs for hatching. This greatly increases the profit. I don't see why more farmers wives do not do this. In a few years time one can have a nice flock of all purebreds and sell off all the culls, and sell hatching eggs. It is necessary to advertise, though for you can't expect to sell many eggs around home. A few dollars spent with a good farm paper with a large circulation will sell a surprisingly number of eggs. In a short time quite a business can be built up if good business methods are used, and good stock is sold.

If you do not care to go to the trouble of selling hatching eggs, you can, with a flock of purebred chickens, that lay a uniform color of eggs secure a fresh egg market in some near by city. Last summer when eggs were selling for ten and twelve cents per dozen on our home market we were shipping our eggs to Kansas City to Union Station restaurant and receiving from twenty to twenty-two cents per dozen.

As proof of the industry of my 365 Brown Leghorn hens, I will append the following report of egg sales for the year 1916.

January, $56.54; February, $125.19; March, $290.94; April, $501.07; May, $222.70; June, $112.26; July, $108.93; August, $39.00; September, $48.38; October, $70.32; November, $134.42; December, $73.06; Total, $1,782.91.

Incubator on the Farm

As a rule, the absence of facilities for hatching the chicks early when they are wanted is the greatest drawback to poultry profit on the farm. Yet these facilities may be readily provided and at a cost that can be very easily and quickly made up from the increased profits from the poultry when these methods are applied.

It is stated in the Poultry Tribune that thousands of farm poultry raisers have not as yet come to realize the increase in revenue from this branch of the farm operations which may be had by adopting up-to-date methods.

Every farm where poultry is raised should be provided with at least one incubator and brooder of a capacity according to the size of the flock kept on the farm. There is nothing mysterious nor difficult about hatching chicks with the incubator and properly raising them in brooders. Dozens of good machines are now offered to the public which in the hands of any fairly intelligent operator will do good and satisfactory work.

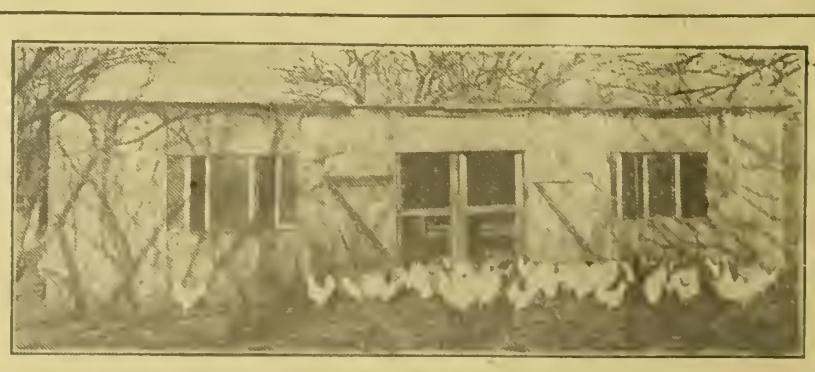
In order to derive the best return from the farm flock at least a goodly portion of the chicks should be hatched during late February and March. Then the cockerels may be sold in May at around two pounds weight at 25 to 35 cents a pound, actually bringing in as much real money as they would if held and fed for three or four months longer and then sold at a much lower price per pound. When the male chicks are thus disposed of early in the summer, more space and attention may be given to the pullets of these early hatches and they may be brought to the laying age early in the fall and will with fair care and attention produce high priced eggs during the winter.

Then there is real economy also in the use of an incubator to do the hatching. A 200-egg machine will take the place of at least fifteen hens during the hatching period of three weeks. It will also take at least three or four weeks to get the fifteen hens back to laying form which means that in order to hatch 200 eggs, the time of fifteen hens must be lost for seven weeks of the heaviest laying season. During this period each hen should and no doubt would produce at a low estimate two dozen eggs each, or a total of thirty dozen for the fifteen hens. Even at low prices usually prevailing during the spring months these eggs would sell for at least $6. On the average farm and to keep up the supply of layers for the average farm flock, three such hatches would be made each season. Hence it is not difficult to figure that a good incubator will pay for itself each season in the saving of "hen time" alone, to say nothing of the advantage of being able to hatch at any time desired and thus get out the chicks early enough to obtain high prices for the cockerels and have early-hatched pullets to lay the high-priced fall and winter eggs.

Now is the time to think it over. Get the literature issued by the manufacturers of incubators and brooders now advertising in KANSAS FARMER, and decide which machines will suit you best. For early-hatched chicks the machines should be running soon.

Eggs and poultry are higher than they have been for years. Every indication points toward the greatest demand for all kinds of produce that is food for man or beast the coming season that has been known for a long time. Already great quantities of eggs have been exported, and this demand is bound to continue.

The poultry business is not a small business. According to our State Board of Agriculture figures, the return from poultry in Kansas last year amounted to almost twelve and a half million dollars.



THIS LAYING HOUSE IS ON A SHAWNEE COUNTY FARM WHERE EIGHTEEN HUNDRED HENS ARE KEPT

Hatch Early for Winter Layers

A high water mark has been reached this winter in price of poultry products, especially eggs. This phenomenal price has caused hundreds of poultrymen to put forth an extra effort to increase their egg production. In the majority of cases this effort has not brought the desired result, and here is the one big reason—the pullets being forced did not have the maturity and age necessary for winter laying. Their feed, care and housing may have been above question, but their handicap of being hatched late could not be overcome.

The spring is the normal season of the year for hens to lay, and if they lay liberally, then they cannot be forced to heavy production in the winter. The fall and winter is Nature's natural resting period. For this reason world-breaking records can never be expected from yearling hens.

Pullets will always be the main force in producing winter eggs. As in the case of the hen, however, winter laying is not natural, and their tendency toward spring laying must be offset by hatching them early enough to reach the degree of growth and maturity necessary for egg production in the fall. Pullets that have not sufficient development to begin laying before the severe winter weather starts will almost invariably not lay before February or March.

Many of the puzzling problems that confronted the poultrymen this winter will be avoided next year if the hatching is done three weeks to a month earlier. It should be remembered that the time of the year the eggs are laid is far more important than the number laid.—C. S. ANDERSON, Colorado Agricultural College.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

WE ARE frequently asked to give rules for measuring hay. A recent circular entitled, "Measuring Hay in Ricks and Stacks", by the Federal Department of Agriculture, will be found most helpful to those having hay to measure. The rules given are the result of considerable careful field work covering a period of several years. The authors believe that the methods suggested for determining the number of cubic feet in a rick of hay, are quite accurate. To secure a copy of this circular, address Division of Publications, Department of Agriculture, Washington, D. C.

Silo Capacity Problem

C. P. T., Osage County, asks for information that will help him in settling with the man who filled his silo for him last fall. The filling was to be paid for at the rate of thirty cents a ton. The man who filled the silo furnished the power and the cutter. It is a 12x28 silo and they filled it within two feet of the top in eight hours time. Two men were inside handling the distributor and tramping. With the extra foot at the bottom below the top of the foundation, it contained twenty-seven tons of silage when they stopped work at night. The actual inside diameter is eleven feet eight inches, and it settled four feet before it was opened for feeding.

Our correspondent said he figured that it held fifty-eight tons, using a table giving the capacity of a 12x28 silo as sixty-one tons. He wants to pay for what is right and asks our advice as to the proper table for figuring the amount of silage put into this silo.

The only figures on silo capacity we have based on actual investigations, are those of the late Professor F. H. King of Wisconsin University. These figures give the mean weight for a cubic foot of well matured corn silage in a silo containing twenty-three feet of settled silage, as 35.3 pounds. The greater the depth of the settled silage the greater will be its mean weight. For thirty-six feet of settled silage it is given as 42.8 pounds per cubic foot; thirty-two feet, 40.7 pounds; thirty-one feet, 40.1; thirty feet, 39.6; twenty-nine feet, 39; twenty-eight feet, 38.4; twenty-seven, 37.8; twenty-six, 37.2; twenty-five, 36.5; twenty-four, 35.9 pounds. Because of this great variation in the mean weight of silage in silos containing different depths of silage, it is impossible to have a general rule that will apply to all conditions. The character of the crop also affects the weight of the silage. A poor crop of corn containing little or no grain, will weigh less than a crop containing a large amount of corn.

In coming to agreements on filling work, it is necessary to take into consideration the possible variations.

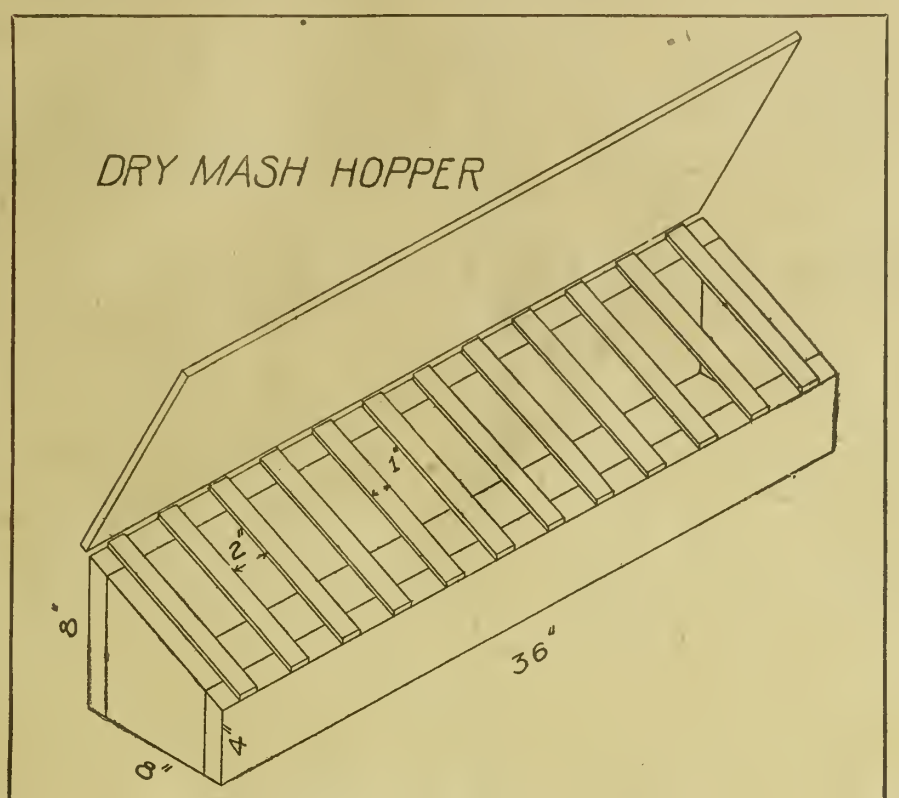
Figuring the cubical contents is purely a matter of arithmetic. The inside diameter of the silo should be used. The rule is to square this diameter, multiply the result by .7854 and multiply this by the height or depth of the silage in feet. In this particular instance the diameter is 11-2-3 feet and the square of this is 136-1-9. Multiplying this by .7851, gives 106.9, which is the number of square feet in a circle 11 feet 8 inches in diameter.

After settling, this silo contained twenty-three feet of silage, and multiplying 106-9-10 square feet by 23, gives 2485.7 cubic feet. According to Professor King's figures, which are generally accepted in figuring the capacity of silos, the mean weight of a cubic foot of silage in a silo containing 23 feet of settled silage from well matured corn, is 35.3 pounds. Multiplying the cubical contents, 2458.7 feet, by 35.3, gives 86, 792.11 pounds, or 43.4 tons.

The capacity of silos is almost invariably given on a basis of their being filled to the top with settled silage. Figured in this way, a 12x28 foot silo would hold 61 tons. Of course all users of silos know it is almost impossible to get the full capacity of a silo because after the silage has settled it will lack from four to six feet of coming to the top.

Wet or Dry Feed for Hogs

A. J. L., Finney County, asks which is the better way to feed shorts to hogs, wet or dry. If wet, how much better?



HOME-MADE DEVICE FOR FEEDING DRY MASH TO HENS

He says they have a lot of stock to feed, including steers, hogs and mules, and want to keep the labor of feeding down to a minimum.

In Bulletin 192 Kansas Experiment Station, is reported a comparison between wet and dry feed. The ration fed was as follows: Six parts corn meal, three parts shorts, one part meat meal. There were seven shoats in each lot. They were fed forty-two days. At the beginning the average weight per hog was 117 pounds. In one lot the grain mixture was fed dry in troughs. In the other enough water was added at feeding time to form a thick slop.

During this test the hogs fed the dry feed gained at the rate of 1.95 pounds daily, and the grain consumed for each pound of gain they made was 3.6 pounds. The hogs in the other lot gained at the rate of 2.31 pounds daily, and the grain consumed for each pound of gain made was 3.61 pounds.

Almost the only noticeable difference in the results was that the hogs getting the wet feed consumed more feed daily and made larger daily gains. As much pork had been made from a given amount of feed in one lot as in the other. The hogs fed the wet feed had simply converted a larger amount of feed into pork in a given time because more had been eaten.

Labor is frequently a very important item in feeding stock and in many cases it would be impractical to wet feed because of the extra amount of labor required.

The self-feeder is coming into favor for hog feeding wherever it is important to keep the labor of feeding down to a minimum. In our issue of September 2 we gave a detailed plan for making self-feeders such as are used very successfully at the Iowa Experiment Station. The Kansas Experiment Station conducted a comprehensive experiment in hog feeding last summer and fall, in which several lots were fed by the use of self-feeders. A very satisfactory type of self-feeder was used.

Treatment for Pink Eye

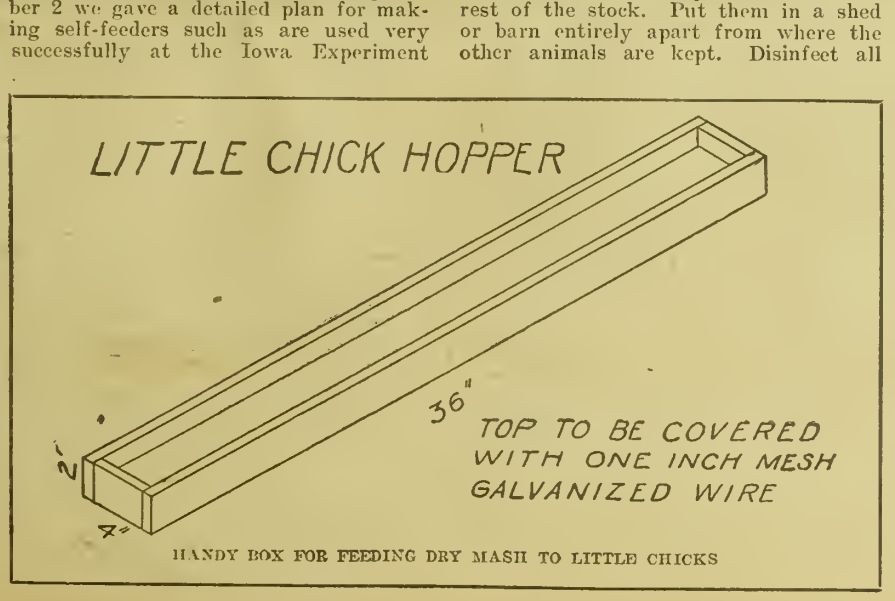
J. M. S., Ottawa County, asks how to treat his calves for pink eye. He says they have it almost as soon as they are born.

As this subscriber needed this information promptly, we answered him by return mail. This disease often gets into herds and causes considerable trouble. Occasionally it is so severe as to result in the total loss of sight. The case described is without doubt the contagious form. Local irritations caused by chaff or dust sometimes produce the same general symptoms, but when it goes from animal to animal in a herd it is safe to assume that it is contagious pink eye.

The calves affected should be put into clean, dark stalls, and their eyes should be washed with a wash consisting of one dram of boracic acid dissolved by pouring four ounces of boiling water over it. Use this wash frequently, applying it with a small syringe or a medicine dropper. In the absence of these the wash may be dashed in the eye by using the palm of the hand. In most cases there will be quite an improvement noticed after this treatment and in the course of ten days or two weeks the eyes will usually clear up and be free from any inflamation.

Since it is contagious the affected animals should be seperated from the rest of the stock. Put them in a shed or barn entirely apart from where the other animals are kept. Disinfect all the stalls and sheds by spraying with some good disinfectant dip.

The disease has a debilitating effect on the animals and they should be given the best of care during the treatment.



HANDY BOX FOR FEEDING DRY MASH TO LITTLE CHICKS

Stacking Kafir and Cane Green

Last fall we published a letter from V. V. Akin of Riley County, in which he advocated stacking cane and kafir green, and gave some of his experiences along this line. The method in reality is nothing more or less than making silage without using a silo.

S. S. K., Sedgewick County, asks if anyone else has tried it. He wants to know at what stage rye should be cut for stacking green to feed to horses and milk cows. Also whether or not stock will eat cane and kafir stacked green as clean as when stored as silage.

Mr. Akin has been asked this winter as to the condition of the cane and kafir when it came out of the stack. His answer was follows: "If cane or kafir is stacked while it is sappy and green, the sides of the stack built perpendicular, and the top covered with anything to exclude the air, the bundles will come out of the stack just like silage. The extreme outside of the stack is cured out dry and right next to that is a small space of bundles that are moldy and spoiled. I have not tried stacking mowed cane in this way, but believe it would be all right. My objection to stacking alfalfa green is that it is hard to get out of the stack as it packs so solidly. The objection to stacking oats green is that they seem to develope a highly acid condition although they are relished by stock. The oats we stacked green in 1915 came out almost as green as they were the day they were put into the stack. Last year it was so dry that we were afraid to attempt the green stacks. Some that we stacked in 1915 in an over-ripe and half-dry condition did not keep well, but wherever it was green and sappy it made fine feed. We handle nothing but steers, so that is our viewpoint."

While we feel sure Mr. Akin has successfully practiced this method of stacking feed green, we would hesitate to recommend the method for general adoption. It is never safe to feed horses moldy feed of any kind. We would not expect rye stacked green to be a very good feed. It is difficult to make good silage of rye or oats even when they are carefully tramped in the silo.

It is our opinion that as a general proposition it is safer to depend on a good silo for making good silage.

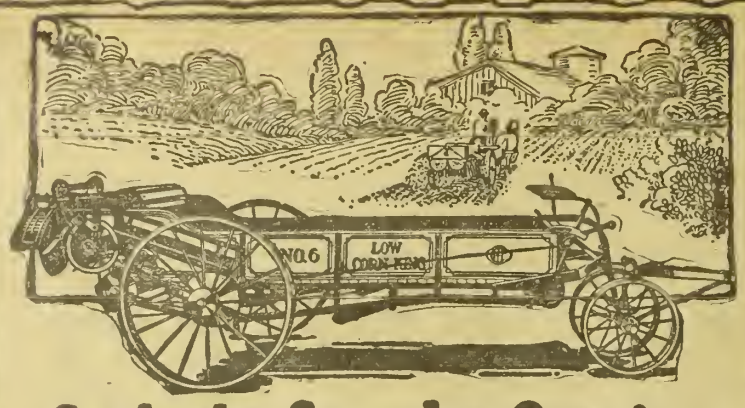
Rural Lecture Course

As Chaplain of the Kansas State Grange, I wish to say a few words in behalf of the rural lecture course. I believe it is one of the best things we can do for community welfare. We all know that our young people must have amusement and entertainment. If we do not provide it for them, they will find it for themselves.

If we can develope in them a taste for the clean, pure, and moral forms of entertainment, we have done a great deal towards moulding their characters, so that they may develope into good citizens.

In these days of automobiles, if we do not have some form of entertainment in the country our young people will go to the towns for it. And, too often the kind of entertainments they attend there are not the best. In the cities, on account of the large numbers of people, it is possible to have both the good and the bad forms of entertainment. In the country, on account of the small number of people, it is possible to have only one kind of entertainment, which shall it be? The good or the evil. It is up to you, brothers and sisters to decide this question.

I wish that every rural community might have a lecture course. Let the grange or the Sunday School take this matter under consideration. Or, in communities where both organization exist, they might unite and call it a community lecture course. Our boys and girls are the most important crop we raise. Let us do all in our power to develope them into happy, good and useful citizens.—MRS. MABEL POMEROY, Chaplain, Kansas State Grange.



Settle the Spreader Question

THE farmer who uses a **Low Cloverleaf, Low Corn King or Low 20th Century** spreader these days is the man who makes the most money. His land increases in value when regularly fertilized. His crops grow better in quality and larger in yield when supplied with available plant food. Of all the spreaders on the market, the **Low Cloverleaf, Low Corn King** and **Low 20th Century** come nearest to doing this work as it should be done.

It is a long jump from the ordinary machine to the modern low spreader with its double beater and wide spread. Every farmer who knows the value of good spreading is buying one of these wide spread machines. As a matter of fact, no farmer can afford to buy any other kind, because the saving of time and labor and the better job of spreading done by a **Low Cloverleaf, Low Corn King** or **Low 20th Century** makes them worth more than ordinary spreaders.

Complete information about these machines is worth money to you. Drop us a line at the address below and we will show you very plainly why it will pay you to buy a **Low Cloverleaf, Low Corn King** or **Low 20th Century** spreader.

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Military service is not compulsory in Canada, but there is an extra demand for farm labor to replace the many young men who have volunteered for the war. The Government is urging farmers to put extra acreage into grain. Write for literature and particulars as to reduced railway rates to Supt. of Immigration, Ottawa, Canada, or

GEO. A. COOK
2012 Main St., Kansas City, Mo. Canadian Gov't Agt.



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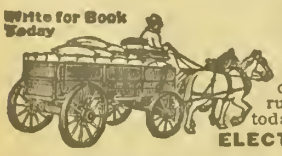

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In cool weather 10 to 13 chicks are sufficient for one hen, while in warmer weather 15 to 20 can be cared for successfully. Never mix chicks of different ages.

Start the brooder a day or two before putting in the chicks, to see that the heating apparatus is working properly.

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Given the same care and feed, pure-bred fowls will make a greater profit than mongrels.

Kansas Farmer Dairy Club

Cottonseed Meal Not Good For Calf

MAX HOLLISTER of Harvey County, writes that he has been feeding his cow a little cottonseed meal for a few days and she is giving more milk than she did. He feeds alfalfa hay and silage for roughage and for grain has been feeding ground wheat and oats, the wheat and oats having grown together. This makes a good grain ration but we advised him to try a little cottonseed meal so as to supply his cow more protein and in this letter he reports the result.

He asks some calf-feeding questions, the answers to which will interest every member of the club. On his fathers farm the calves are now being fed some of the ground wheat and oats. Hot water is poured over this grain and a quart of skimmilk is added for each calf. He asks if it would be a good plan to put a little cottonseed meal in with the grain, and if so, how much?

This inquiry raises two very important questions in calf-feeding. Success in raising calves with skimmilk is one of the tests of a dairyman's ability. Unless he can so feed and manage the calves as to grow them out into big, strong, thrifty cows, he cannot successfully build up his dairy herd. For this reason you should study very carefully the feeding of your calves.

The father of one of the club members told us last fall that his boy had been more successful in feeding the calf from his cow than they had ever been in feeding calves in the past. The reason was that he had studied very carefully how to feed his calf according to the most approved methods.

One of the important points in feeding skimmilk to calves is to make farm-grown grains take the place of butterfat. Grain at two cents a pound is cheaper than butterfat at thirty-five or forty cents a pound. Starch is the part of grain that takes the place of the fat which is taken out of the milk in the cream. In order to be used in this way the starch must go through a more complicated process of digestion than does the fat in the milk. Part of this digestion takes place in the mouth. There are some juices in the mouth that must be mixed with the grain before it is swallowed or the starch will be very poorly digested and may even cause serious digestive trouble.

In order to be sure and have the grain well mixed with these juices of the mouth, it should be fed dry so the calf will have to chew it before he can swallow it. Finely ground grain mixed with milk will be swallowed and go direct to the stomach without getting any of these juices of the mouth mixed with it and therefore will be poorly digested and will not do the things in the body that the fat of the milk would do.

This is point No. 1—teach your calf to eat dry grain and give the skimmilk separately. Ordinarily the best order of feeding is to give the milk and as soon as the calf gets through drinking it, give him his grain in the same bucket or in a box. This helps to break up the bad habit calves sometimes form of sucking each other's ears after drinking their milk.

The second point has to do with balancing the ration. Milk as it comes from the cow is balanced perfectly for the needs of the calf. It contains the protein, the mineral matter, and the fat in the right proportions. Because butter fat is the product that makes dairying profitable, we separate the cream and feed the calves the skimmilk. This contains all the protein or growing material of the milk, but is lacking in that part which furnishes heat and energy to the body. To correct this we do not need a feed rich in protein, but one that has starch and fat. Feeds that contain a lot of protein like cottonseed meal or linseed oil meal are always expensive, and since the calf does not need extra protein while being fed skimmilk, it is wasteful to feed either cottonseed meal or linseed oil meal. Of course, as the calf gets older and is fed less of the skimmilk or weaned from it entirely, it will need protein for making growth. But on farms where there is alfalfa, the cheapest way to supply this needed protein is to give the calf plenty of alfalfa hay. This is also rich in mineral matter. Keep giving the calf some grain rich in starch, like corn, kafir, milo, oats or wheat.

This is a long preachment on calf feeding, but these are two points in calf-feeding that every member of the club should understand.

Dairy Club Prizes

The following is a partial list of the prizes that have been offered to encourage the members of the Dairy Club in their work. We have had letters from quite a number of other firms stating that they are interested in this club and will probably offer prizes later.

Beatrice Creamery Company offers a Hinge-Door, one-piece stave, Oregon fir silo.

R. J. Linscott, Holton, Kansas, offers a purebred Jersey bull calf from his Register of Merit herd. This calf is sired by his chief herd bull, Gamboa's Knight, a bull that now has forty-two officially tested daughters in the Register of Merit. Gamboa's Knight's dam is a Register of Merit cow, granddaughter of the famous Flying Fox, the sire of thirty-nine tested cows and forty-four sons that have sired Register of Merit cows.

Empire Cream Separator Company, one cream separator.

Beatrice Creamery Company, one cream separator.

Hunt-Helm-Ferris & Company, Harvard, Ill., a complete cow stall.

N. A. Kennedy Supply Company, Kansas City, Mo., one 12-bottle Facile Babcock milk tester, complete with glassware.

Additional prizes will be announced in this department later.

Can You Meet Us At Manhattan?

YOU know February 5 to 10 will be Farm and Home Week at the Kansas Agricultural College at Manhattan. This is the annual state-wide farmers' meeting and a good program has been arranged for every day. There will be meetings for men, women, boys and girls, and general meetings for all together.

We have just received a letter from one of our Dairy Club members, Harvey Russell of Scott County, saying he will be in Manhattan during Farm and Home Week and that he hopes to see us there.

We are wondering if others of you will be there. If so, we would like to meet you, too. We will be in Manhattan Thursday and Friday and we invite all of our Dairy Club members who will be there, to be our guests at supper Thursday evening. Meet us at Prof. O. E. Reed's office in the Dairy Building of the agricultural college, at fifteen minutes before four—3:45—Thursday afternoon. We will go together to see the big live stock parade at four o'clock and after that is over we will see some other interesting things about the college until supper time. Then we will have supper at the college cafeteria and a little talk together about the Dairy Club work.

We wish all of you might attend these meetings, for the programs arranged for the boys and girls by Otis E. Hall, State Club Leader, will be full of good things for you and you would learn many helpful things by visiting the state's agricultural institution.

If you do go, be sure to meet us at Prof. O. E. Reed's office in the Dairy Building at 3:45 Thursday afternoon, February 8. Ask for G. C. Wheeler, associate editor of KANSAS FARMER.

Cut out this article and take it with you so you will not forget where to meet us.

Are *You* Living on the Chickens?

By H. H. Johnson



H. H. Johnson
"The Incubator Man"

AN odd confession came to light the other day. One of our nearby customers came into the office and among other things said, "Do you know it just dawned on me that during the five years we lived in Texas the wife kept me and the children? She raised chickens and always seemed to have money. The children were never without good clothes, and grocery and meat bills were always paid. I cannot recall of having taken care of these things, and I really believe that her poultry kept us while I kept myself busy farming."

I wouldn't doubt this. I have received many letters from farmers who admitted that their wives made more dollars from poultry than they made dimes farming. This is no reflection on grain and stock raising but it shows what poultry can do when put to the test.

Of late years, more farmers are taking to poultry raising. Instead of leaving it all to the women folks and cussing every time the hens roost on the buggy or farm machinery, they are providing for poultry houses and giving the chickens a place to stay. They find that it pays. Maybe the chickens require a little grain. But so do the hogs. And what farmer couldn't raise a few hundred chickens for the time and expense put in on raising half a dozen hogs?

The old order of things is changing. The poultry farmer has found it profitable to look at his chickens in the same light that the dairy farmer looks at his



You Can Live Well on Poultry Profits

cows. That is so far as the money-making possibilities are concerned. But instead of having to buy feed for his poultry, the chickens can be fed the scraps from the table, and the waste from the feed bins and feeding that cattle and hogs tramp into the mud.

No one is too poor to raise poultry profitably. And it takes less expense, less work, and less management to make farm poultry pay than any other kind of poultry. By farm poultry I do not necessarily mean mongrels. I am of the opinion that most poultry is now pure or cross breeds of two pure varieties which should not be classed as mongrels.

There is not much capital needed for starting. Some unused shed can do for the chicken house, hence no expense in that direction. About the only equipment needed is a good incubator, a brooder and the eggs. If the incubator is built right, no special room or cave is needed for it. It supplies its own protection from the weather. The same can be said for the brooder, although it is always well to set the brooder in a big box, such as a piano box, so that the little chicks can run around with comfort.

The best farm incubator is the one that runs itself and that can be depended upon to hold the heat even in cold weather. Lots of times argument is made on one or two special advantages. Usually these are real advantages but they are played up to make the reader overlook defects in some vital point which cannot be corrected because others hold exclusive patents, as for example our Old Trusty heating system. We have exclusive patents on this system.

This year as eggs and poultry are high, there is a tendency on the part of small town folks to get into the business. We make an Old Trusty in 100 to 120 size with a California redwood case that is adaptable for such folks. Also it's less expensive. With 120 eggs and this little Old Trusty "Special" you can start in the poultry business and in seven months time have a good sized flock of layers. The cost would be about $16 to $17 for pure bred eggs and the incubator.

A flock of only 50 laying pullets this fall should be worth $50.00 at $1.00 each, or if kept for layers should bring twice the amount in income. In most families, some member makes the incubator their special care and it does not interfere with the work. The spring fries are welcome to the family table or bring big market prices.

It has been our experience that an investment of a few dollars to start early hatching means 200 to 400% profit. On a bigger scale it wouldn't do it, of course. In fact the money in poultry is in carrying it on in a small way. I am not, you see, offering you a proposition that means a fortune or bankruptcy, but just a plain business proposition and it makes me less than $1.00 and you from $40.00 up according to the attention you want to give it.

At this writing we have a little over 700,000 customers. We have dealt with more poultry raisers and sold three or four times as many incubators as any other concern that I know of. I believe this success is due, first to our practical common sense incubators and brooders; second to our knowledge of poultry raising as 95 per cent of the people have to raise it; third to our plan of facing the proposition fairly, striking the average without playing head lines of sensational and unusual successes, of which we have our share; and fourth to our settling down to business here in Clay Center, Neb., among the people who bought our first machines.

We built from the ground up, and have grown year by year. We stuck hard and fast to making incubators and brooders, built with a construction that was right in the first place and that did not call for changes every year, or new faddish frills to help them sell.

We have always tried to give a well-rounded value, a proposition with meat on the bone, so to speak. Yet we do not sell anything for less than it costs. Our profit is a fair one, about seven per cent, so that it is not necessary to ask two profits to make up losses somewhere else.



Are You Selling Eggs or Buying Them?

Now, Reader, it would not be good business for me to urge you to take up something that you could not make money on. So whether you decide to do business with us or not, let me give you this one point. There's good money to be made in poultry raising. This year is a year of opportunity—meat prices are high and it looks as though they will be higher. With the increasing cost of living everywhere, poultry could prove more than handy to help square off the table expenses.

Our new annual catalog deals with profitable poultry raising and we are always glad to send a copy free. Also we like to write letters. If you have any poultry troubles, tell us and maybe we can offer a suggestion or two that would fit. Write for our book anyway and let's get acquainted.



No incubator is better than its heating system, H. H. Johnson, "the Incubator Man."



Big oil drawer can be removed instantly but does not require removing to be filled. Holds 5 to 6 quarts.

1917 Conveniences

Make Big Hatches Easier Than Ever

Old Trusty



M. M. Johnson
Inventor of "Old Trusty"

EASIER hatches, but not *bigger* hatches, because no feature could improve Old Trusty's present record for higher average hatches year in and out, even in coldest winter weather. I call these new conveniences work savers. And they are big work savers, too.

Note the big oil drawer. It slides away in under the case—big enough to hold five or six quarts. Saves filling the lamp bowl every day.

Next, note the handy thermometer holder on the door. I don't want to be accused of saying this would make bigger hatches, but if easier watching means better watching and correct temperature then this device helps for bigger hatches. Open the door and the thermometer comes out. Instantly in view. No fumbling over the eggs—saves stooping and delay.



Write for Catalog



Only

$9.60

Buys this redwood cover Old Trusty —freight paid east of Rocky Mountains—a trifle more farther west.

Quick shipment from factory at Clay Center or warehouse at St. Joseph, Mo., or Seattle, Wash.

Here's the money-saving sensation of 1917. It's Old Trusty through and through—same as we sold in 1908, which machines are still in good service. This is 120 egg size.

Of course these new work savers are not the big things to look at in Old Trusty. No one part of Old Trusty is any more important than another. We make *each* part of Old Trusty as though your entire hatch depended on that one part.

For example, note the heating system, the part I am holding in my hand. I won't attempt to describe it, except to say that it's all copper and lock jointed and built on a plan that puts even heat all over the eggs. Note the shape of the discharge pipe in center and return pipes on the outside. Allows no cold corners nor hot centers.

Quick Shipment—Mail the Coupon

In spite of OLD TRUSTY'S unbeatable construction it is not expensive. It's made in the largest exclusive incubator and brooder factory in the world. That's why we can give you such a big value for your dollar in OLD TRUSTY Incubators and Brooders. Write for our catalog telling all about them and giving you the "know how" on poultry raising.

Have fat broilers to sell at high prices in June and July and laying pullets in October and November. It's easy—thousands are doing it—let me show you how. Write today for our book if convenient, and tell us your poultry troubles. Yours truly, H. H. Johnson.

The M. M. Johnson Company
Clay Center, Neb.

The M. M. Johnson Company
Clay Center, Neb.

Please send me copy of your 1917 OLD TRUSTY Book.

Name _____

Address _____

Town _____ State _____

Write a letter if convenient and tell us your poultry troubles. Mention how many chickens you keep, whether hens lay in fall and winter, whether you have used an incubator and have been successful.



Get a Powerful Tractor at a Popular Price

HERE is the tractor that any farmer can afford to own. Low in price, yet built right up to the highest ideals in powerful construction. A wonderful motor—and mounted so that it gives the fullest measure of its power in pull at the draw bar or on belt work. Simple construction—has only two-thirds of the parts used in most other tractors. Self-guiding in furrow. Low in upkeep cost, easy to operate. Backed by many years of manufacturing experience.

La Crosse HAPPY FARMER Tractor

Two models—Model "A" has won its way into popular favor by its really remarkable performance in the field and for general farm power purposes. "Seeing is believing" and doubters have been converted by seeing the tractor at work in their neighbors' fields, and then purchased *La Crosse HAPPY FARMER Tractors* in preference to other makes and types. From the hard, dry, tough virgin sod of Montana to the "squashy" rice fields of Arkansas, the *La Crosse HAPPY FARMER Model "A"* has made good. And it costs only $585.00 f. o. b. factory at La Crosse, Wis.

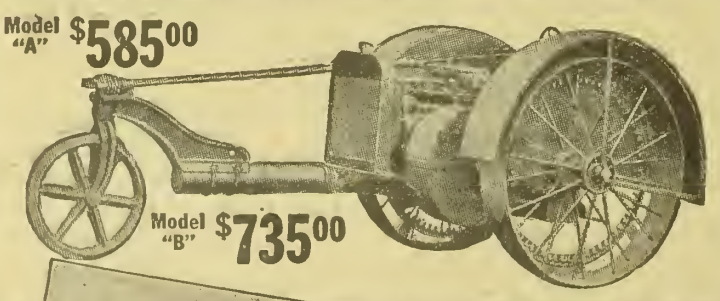
The *La Crosse HAPPY FARMER Model "B"* is our new and successful kerosene burning tractor of 12-24 h. p.; price only $735.00 f. o. b. factory. Equipped with twin-cylinder motor, *Hyatt Roller Bearings* throughout—our successful universal hitch. It is by far the lightest, simplest and most powerful tractor of its class. Contains many important original features which are fully described in our catalog. You'll buy a *La Crosse HAPPY FARMER Tractor*—or you'll wish you had. Write us and let us help you save money both on *first cost and upkeep, and on work.*

La Crosse HAPPY FARMER Tractor-Drawn implements embody the latest correct ideas and are carefully designed for both quality and service. Send for catalog. **Live Dealer Agents Wanted.**

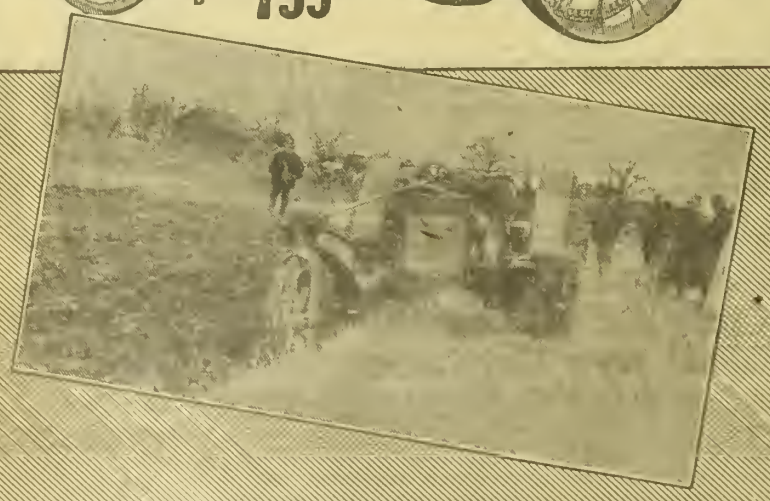
Address LA CROSSE TRACTOR CO.
Dept. 6 Minneapolis, Minn.

We have a Distributor in your territory for prompt service

Model "A" $585.00



Model "B" $735.00



$15.00 Sweep Feed Grinder. | $19.00 Galvanized Steel Wind Mill.



We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

CURRIE WIND MILL CO.,
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"How To Feed Silage" FREE

Send for 36-page birds-eye on handling silage—a chapter from "Modern Silage Methods." 1917 edition of this book 25c. 264 pages. Answers all silage or silo questions. Ohio Silo Filler Catalog FREE.



The Silver Mfg. Co., Box 352 Salem, Ohio

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

"THE best advice I can give to you farmers is to stop working so hard, and do some playing. Buy an automobile, and use it for a plaything, not merely for farm work."

This was the advice that came unexpectedly in the course of an address before the Missouri farmers in the farmers' week conferences of the University of Missouri, from R. S. Kellogg, secretary of the National Lumber Manufacturers' Association, in his talk on farm structures. In prefacing his subject he said that the farmer was the greatest user of building material in the United States, the total value of all farm buildings being in excess of four billion dollars.

His argument in favor of the automobile as a farmer's plaything was:

"A prominent physician says that notwithstanding the supposed healthiness of farm life, a very large proportion of the farmers have altogether too high blood pressure, and are easily subject to diseases which men in a normal condition can resist. He says that this is due chiefly to the fact that the farmer's life has been all work and no play, and for this reason the advent of the automobile has been the greatest health-producing factor in farm life. Since the plaything is rather an expensive one, it demands good care. An automobile should have a house of its own, and not simply be run into the barn wherever handy, or put under a shed. Garage construction is so simple that the farmer and his boys can build a garage themselves, if so disposed, and the total outlay need not be more than that required to purchase 2,000 or 3,000 feet of lumber and a few shingles."

Electric Light Improvements

With scarcely an exception, the cost of production and distribution of every commodity has markedly increased, in recent years, save in the case of the electric light. This has as steadily decreased. It is now entirely possible to obtain electric lighting, as for instance, with an ordinary 60-watt Mazda lamp, at the cost of one watt of energy consumption per candle power. Besides this remarkable increase in the efficiency of the lamp, the cost of the electricity supplied shows a similar reduction. In fact, it seems very probable that the latter trend will continue rather than the former, inasmuch as further improvements in the lamp itself become increasingly difficult to put into commercial use.

For the automobile driver this means enhanced pleasure and greater safety. His old-style 9-volt headlights, for example, if replaced by the new Mazda B and Mazda C lamps, will give approximately 18 and 27 candle power, respectively. That is an increase of about 20 per cent in candle power, at the same usual rating of two amperes of current and nine volts. Some clear idea of the lighting effects may also be had by comparing with the illumination from an old style carbon filament lamp, of 16 candle power consumption from 56 to 60 watts. In point of expense this is at a cost of three and one-half watts per candle power, compared to the watt per candle power of the above Mazda automobile lamp.—W. S. ALDRICH, Colorado Agricultural College.

Conveniences on Farm

One of the chief factors working against the back-to-the-farm movement is the drudgery usually connected with farm life and the tendency of people to seek city employment because of the conveniences and labor-saving devices there enjoyed.

In contemplation of a move to the country it is possible to count on having practically all of these conveniences. In many cases the lighting, heating, water supply, and rapid transportation of the city are being introduced on the farm.

The old kerosene lamp is being displaced by the modern acetylene lamp or other improved type for each individual room, or in many instances the acetylene plant which lights all the farm buildings. A farm electric light plant is another possibility. Central heating plants, artificial gas plants, and even electricity can sometimes be used to advantage in heating farm homes.

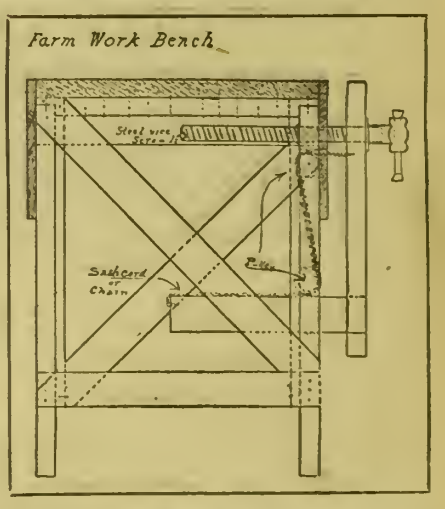
One of the cheapest and most popular labor-saving machines is the gasoline engine, which not only does the plowing, hauling, feed grinding, and separating for the farmer, but also furnishes a motive power for washing and churning for his wife. The gasoline engine, which does practically all laborious work on the farm, is one of the most important contributions to the back-to-the-farm movement.

By means of the compression water system, drawing, pumping, and carrying water can be eliminated. Scrubbing and washing windows can be done by the hose, which also makes possible an attractive lawn and fresh vegetables from a well watered garden. The inaccessibility to town is overcome by good roads and slow transportation by the automobile and the gasoline truck. The daily paper is brought to the farmer's door by the rural mail carrier, and the telephone keeps him in touch with news, business, and professional services.

As a result of these city devices and comfort being taken to the rural districts, a social center is made possible where the members of the farm home receive practically all the culture and enjoyments of the city family.—E. V. FLOYD, K. S. A. C.

Handy Bench Device

The device here illustrated is a simple one requiring twenty or thirty minutes' extra time to install. It will save many times its cost. Cut out a slot under the vise screw on the inner jaw or bench leg and attach a sash cord or



chain as shown in the drawing. The operation of the vise screw makes the lower end of the jaw travel in and out just as the upper part of the jaw travels. Being always parallel, it requires no reaching down to adjust by putting a pin through the traveler.—CLARENCE J. SMITH, Hays Normal School.

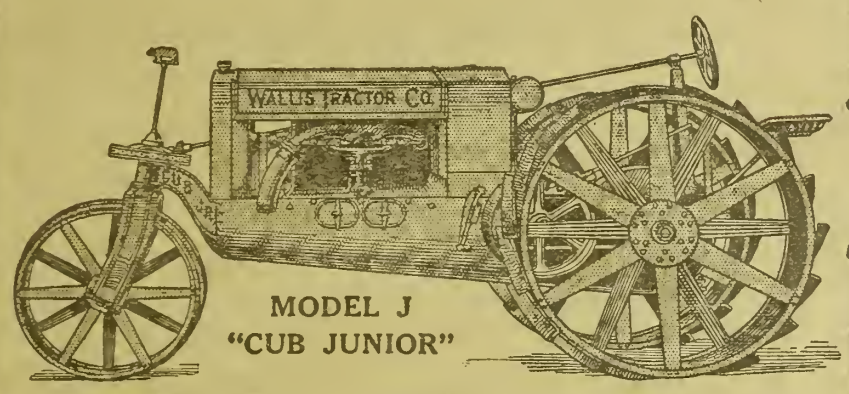
At this time of year much damage is done to automobile engines, and other engines as well, by the pistons seizing the cylinder. This causes the cylinder walls to be scored, and in many cases they are practically ruined. The reason for this is that in cold weather cylinders and water jackets warm slowly, while pistons and rings get hot and expand with the first few explosions. Therefore, if the engine is allowed to run at a high rate of speed before the whole engine is warmed up, damage is apt to occur, especially with comparatively new cases which have pistons fitted very tightly. This condition is aggravated because oil does not run freely in cold weather. There is nothing to be gained by allowing the engine to race, while there is considerable to lose. There is no harm in allowing it to run idle at a fair rate of speed until it is warmed.

The work of the storage battery is harder in winter than in summer, as the engine is cold and hard to start. You can save the energy of the battery by priming the cylinders so the motor will start more easily. The battery is much more apt to freeze when its gravity is low.

WALLIS TRACTORS
CASE PLOWS

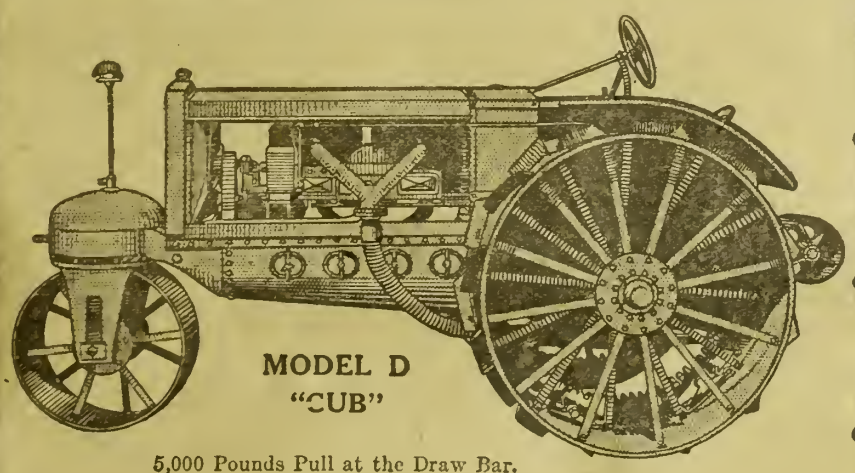


—are made for the discriminating farmer who makes his purchase, not on the basis of first cost, but upon the continual daily service the epuipment will render over a period of years. The first essential of our machinery is Quality. We make good in our slogan "Quality goes in before the name goes on," by trained designers, engineers, workmen and countless tests and inspections under the most rigid supervision.



MODEL J
"CUB JUNIOR"

2,600 Pounds Pull at the Draw Bar.



MODEL D
"CUB"

5,000 Pounds Pull at the Draw Bar.

A Strong Combination

Five years ago we said we would build the best Tractor made, regardless of price—and the now famous "Cub" was the sensation of the Tractor world when it first came out. Since then its past daily performances, world's plowing records, 1,000 mile durability runs and hundreds of enthusiastic owners are constant testimonials of its supremacy.

We now announce its little brother the "Cub, Jr.", which we are placing on the market only after having built and tried out three different small Tractors of various designs and types. It marks an epoch in Tractor building. Engineers the world over have ever striven to produce a Tractor developing a draw bar pull equal to its weight. The "Cub, Jr.", weighs 3,000 pounds and has a guaranteed D.B.P. of 2,600 pounds.

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J·I·Case Plow Works
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Manufacturers of "Plow-in-Hand" line of plows and tillage tools.



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I MAKE engines only, and I specialize in the following sizes: 2, 3, 4, 6, 8, 12, 16 and 22 H-P., either Gasoline or Kerosene. A few years ago, any one of my high-grade engines would have cost you approximately double what I can sell you the same engine for **today.** Nothing has changed, except that my method of **selling** is different. Now I deal direct with the user, making it possible for you to buy at **lowest factory prices** for cash or on any reasonable terms you wish.

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Kerosene, Gasoline, Distillate, Gas

Guaranteed for Five Years

Cities, Counties, States, the U. S. Government, and thousands of individuals in every state in the union are using my engines on farm and in shop—pumping — grinding — sawing and operating machinery. My factory capacity is 12,000 perfect engines yearly, and I am able to ship **at once,** any size wanted—no delay or waiting. **Select Your Own Terms.**

If you need an engine for any purpose, pumping, grinding, sawing, or to operate machinery, I can save you $25 to $100. The reason is because of my better factory equipment, superior methods, fair dealing, and big value. Be sure to get my prices, before you buy any engine.

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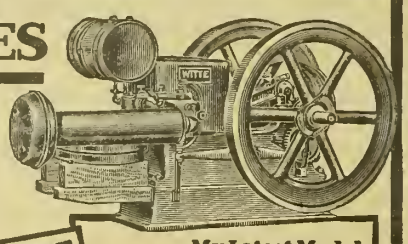

My Latest Model 6 H-P, Kerosene Engine



MY FREE BOOK

Write for my book, Mailed Free, "How to Judge Engines," if you are interested in dependable, low-cost power, direct from the man who designs his own engines, and has made and sold nothing but engines for over 30 years.
—ED. H. WITTE.

Rust Proof Steel
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Sunshine Windows

FOR HOG HOUSES AND ALL FARM BUILDINGS

The **right** windows for your farm buildings. Made of permanent material—heavy galvanized steel. Embody all the new improvements that mean service and satisfaction. Pay for themselves over and over in saving repairs and replacements. Don't rot out or rust out—cannot warp, shrink or swell. Last a lifetime for satisfactory service.



500,000 NOW IN USE



Wm. Lindsay, Helena, Mont. "Sunshine Windows save pigs."



S. O. Kolsto, Newhall, Ia. "They are right."

Chief Sunshine Windows are found in every community. Look for the man who makes a **big success** of hog raising — he'll be a Chief Sunshine Window enthusiast and will attribute his success to the fact that his winter pigs had sunshine in their pens and plenty of it. On request we will send you pictures of the finest hog houses in this country—all Chief equipped. We'll show you sample letters from thousands of users.

GIVE YOUR PIGS A CHANCE

It's the Winter pigs that make the money and Winter pigs need sunshine—it makes them healthy, strong, quick-growing. Equip your hog house with the famous Chief Sunshine Windows—give the pigs a chance. Most popular—most satisfactory windows you can buy. Rust and rot-proof. Cannot leak. Need no paint—no repairs. Not going to wear out. Worth 3 times as much as wooden windows—cost no more.

FREE To Hog Raisers—New Swine Record and Four Blue Prints of Modern Hog Houses

Our gift to you—no strings attached. We'll send you absolutely free our Swine Record System so that you can keep absolute track of your herd day by day. A wonderful help to any hog raiser. We'll also send you our portfolio of 4 complete blue prints for constructing modern, up-to-the-minute hog houses. Write today.

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Learn all about this big school. Let me send you free our big new 1916 catalog and a copy of the "NEW ERA." Write for them now.

L. L. TUCKER, Pres., Kansas Wesleyan Business College
SALINA, KANSAS

State Pig Club Winners

THE third annual Kansas Pig Club promoted by the Kansas Agricultural College and the Federal Department of Agriculture, closed with December, 1916.

Since the judges could not see the pigs but had to depend entirely upon the papers sent in by the contestants, a credit of 40 per cent was allowed for records and story, including accuracy, neatness, completeness, and certified statements as to the important weights and figures submitted.

Standard prices for all feeds were agreed upon by the judges so that all contestants would be given an equal chance as to the items of cost. The first cost and the selling price of each pig were both figured at 10 cents per pound.

The five winners in this pig-feeding contest and the figures showing the different points upon which the awards were based, are as follows:

Walter Earl Delfelder, Atchison County, first prize: Pig's age in days when contest began, 84; pig's weight when contest began, 80 pounds; total cost of all feeds, pasture, etc., $15.61; total cost of all feeds and first cost of pig at 10 cents per pound, $23.61; weight of pig at close of contest, 355 pounds; final value of pig at 10 cents per pound, $35.50; net profit, $11.89; number of days pig was fed, 132; average daily gain, 2.08 pounds; total gain, 275 pounds; cost per pound of gain, .0567 cents; grade given for records and story, 38; final grade given by judges, 92.



WALTER AND HAROLD DELFELDER, ATCHISON COUNTY, AND THE FOUR PIGS WITH WHICH THEY STARTED

Melvin Jung, Rice County, second: Pig's age in days at start, 60; weight at start, 29 pounds; total cost all feeds, $15.33; total cost all feeds and first cost of pig at 10 cents per pound, $18.23; weight of pig at close of contest, 330 pounds; final value of pig at 10 cents per pound, $33; net profit, $14.77; number of days fed, 168; average daily gain, 1.79 pounds; total gain, 301 pounds; cost per pound gain, .0509 cents; grade for records and story, 37; final grade of judges, 88.3.

George Harold Delfelder, Atchison County, third: Pig's age in days at start, 84; weight at start, 70 pounds; total cost all feeds, $15.61; total cost all feeds and first cost of pig at 10 cents per pound, $22.61; weight of pig at close of contest, 321 pounds; final value of pig at 10 cents per pound, $32.10; net profit, $8.49; number of days fed, 132; average daily gain, 1.9 pounds; total gain, 251 pounds; cost per pound gain, .0621 cents; grade for records and story, 38; final grade by judges, 85.2.

John W. Reed, Rice County, fourth: Pig's age in days at start, 56; weight at start, 45 pounds; total cost all feeds, 12.56; total cost all feeds and first cost of pig at 10 cents per pound, $17.06; weight of pig at close of contest, 275 pounds; final value of pig at 10 cents per pound, $27.50; net profit, $10.44; number of days fed, 163; average daily gain, 1.41 pounds; total gain, 230 pounds; cost per pound gain, .0546 cents; grade for records and story, 36.5; final grade of judges, 84.2.

Orville Caldwell, Lyon County, fifth; Pig's age in days at start, 84; weight at start, 46; total cost all feeds, $12.81; total cost all feeds and first cost of pig at 10 cents per pound, $17.41; weight of pig at close of contest, 295 pounds; final value of pig at 10 cents per pound, $29.50; net profit, $12.09; number of days fed, 153; average daily gain, 1.63 pounds; total gain, 249 pounds; cost per pound gain, .0514 cents; grade for records and story, 32; final grade of judges, 84.

The same problems confront these young feeders as must be overcome by their fathers in their pig-feeding operations. To be successful they must keep the cost of the feeding operations as low as possible, yet the pig must be kept in a thrifty, growing condition, and must have all the feed he will use in making a steady daily gain.

The following letter written by Walter Earl Delfelder, who won the state championship honors in the above contest, gives some of the details of his work in feeding his pig:

"To be a successful pig feeder you must have the right type of hog, or at least the one that I had my success with is the long smooth kind, called the large type Poland China. I became interested in this contest because I had read where boys and girls had raised pigs and I could not see why I could not do just as well.

"I weaned my pig at ten weeks old and began feeding him. At the age of twelve weeks I vaccinated my pig. I used double vaccination because single vaccination lasts only six weeks and I wanted mine vaccinated for life. For fourteen days after vaccination I gave him all the fresh water he wanted. I gave him some skimmilk and some corn, but not very much was fed.

"I fed my pig corn, shorts, and skimmilk. Corn was fed to make him fat; shorts and skimmilk were fed to make him grow. When he did not eat all of his feed out of his trough, I knew I was feeding him too much and I did not give him so much next time. I fed him twice a day.

"The shed I gave my pig was open on the south to admit sunlight and to let in fresh air. I kept the lice from him, because lice stunt a pig's growth.

"I have enjoyed this contest very much and have learned how to feed hogs and care for them.

"In 5 months and three days the total amount of corn fed my pig was 596 pounds; shorts, 220 pounds; skimmilk, 1,360 pounds. The value of corn was $8.20; of shorts, $3.25; of milk, $3.40; of pasture, $1.69. making a total of $16.54. I won $10.00 premiums at the Atchison County Fair. My hog was sold for $35.00.

"I began feeding my pig for the contest when he weighed 80 pounds; at closing time he weighed 355 pounds, making a total gain of 275 pounds. The cost I have estimated here is not the total cost but only the cost of feed and pasture; interest, risk, vaccination, and labor are not included."

While a large number of the pigs entered in this contest were grades, it may be of interest to know that the five champions were all purebred pigs and all but one registered—a strong recommendation for purebred stock.

A comparison of Walter's cost figures and those shown in the detailed statement of his results given at the beginning of this article, will show a difference. As stated in the second paragraph, standard prices for all feeds were agreed upon by the judges, as this is the only fair way to do in a contest, and this explains the difference between the two sets of figures. Walter gave his actual cost figures, while the other figures are based on the uniform feed prices used in determining each boy's profit.

Agricultural club work for boys and girls is well worthy of encouragement. It not only provides remunerative employment for the idle hours, but through this work the children learn valuable lessons. They learn to apply themselves and to work intelligently, which is a good business experience for them.

It is usually best to separate the ram from the pregnant ewes during the winter. If he is allowed to remain, he will greatly annoy them. He will also fret more and become run down in condition. A mixture of oats and bran, as a grain ration, and clover or alfalfa as roughage, will keep the ram in splendid shape throughout the winter. It may be well to feed him sparingly on corn silage of good quality, if available.

B. Needham of Rantoul is the newly elected State Master of the Grange. Secretary A. E. Wedd was re-elected. The usual committees were elected and are at work to make a good year.

When wet mashes are fed, be sure they are crumbly and not sticky.

The Only Way to Buy Trees
Direct From Grower to Planter

Why pay three or four profits to wholesaler, retail dealer, and agent when you can order trees, vines and plants DIRECT FROM MY BIG NURSERY at lowest grower's prices? I deal with **you** instead of through three or four other people who must have their share before the stock reaches you—the planter.

Just suppose you give an agent $20.00 for trees. He turns $12 over to the retailer who in turn counts off $5 for himself and hands over $7 to the wholesaler. The wholesaler has sticky fingers, too, so he hangs onto $2 and passes on exactly $5 to the grower. In other words—the grower gets $5 to fill your $20 order and you simply donate $15 in hard cash to three strangers. That's the OLD way—the money wasting way of buying nursery stock.

Now, my way is entirely different. You simply order from this page or my complete 1917 Catalog and you send me just enough to cover my low grower's prices—not a red cent more. You save all middlemen's profits and expenses—you are sure of getting fresh stock.

Look where you will, you can't get better bargains in trees than I offer you right here. Compare my 'way down prices—compare the quality I offer and **absolutely guarantee** and remember that I save you all middle profits and I'm sure and certain that you'll say "Dunbar has the right idea—he gets my orders from now on."

Trees By the Million From Nursery to You—Saving All Middle Profits

APPLES

	Each	10	100	1,000
2 yr. 5-6 ft.	$0.20	$1.80	$17.00	$160.00
2 yr. 4-5 ft.	.15	1.40	13.00	120.00
1 yr. 3-5 ft.	.16	1.40	13.00	110.00
1 yr. 2-3 ft.	.12	1.00	9.00	80.00

Yellow Transparent, Grimes Golden, Delicious, Winesap, Liveland Raspberry, Early Harvest, Cooper's Early White, Jonathan, Rome Beauty, Gano, many others.

PEARS
Keiffer and Garber.

	Each	10	100	1,000
2 yr. 5-6 ft.	$0.30	$2.40	$20.00	$160.00
2 yr. 4-5 ft.	.24	2.00	17.00	140.00

PEARS—15 LEADING VARIETIES

	Each	10	100	1,000
2 yr. 5-6 ft.	$0.32	$3.00	$25.00	$210.00
2 yr. 4-5 ft.	.25	2.25	20.00	170.00

CHERRY

	Each	10	100	1,000
2 yr. 5-6 ft.	$0.40	$3.75	$33.00	$280.00
2 yr. 4-5 ft.	.35	3.25	27.00	226.00
Extra 1 yr 4-5 ft.	.36	3.50	28.00	230.00
Large 1 yr 3-5 ft.	.34	3.30	26.00	220.00
Med. 1 yr 2-3 ft.	.25	2.20	19.00	170.00

Early Richmond, English Morello, Montmorency, Wragg, and other standard sorts.

COMPASS CHERRY PLUM

	Each	10	100	1,000
4-5 ft.	$0.25	$2.30	$22.00	.....
3-4 ft.	.20	1.90	18.00	.....

PEACH

	Each	10	100	1,000
1st class 4-5 ft.	$0.20	$1.80	$15.00	$140.00
1st class 3-4 ft.	.13	1.20	11.00	90.00
1st class 2-3 ft.	.10	.90	8.00	75.00

Mamie Ross, Alton, Elberta, Crawford's Late, Krummel's October, Red Bird Cling, Carman, Champion, Chinese Cling, Heath Cling, Belle of Georgia, Elberta Cling, Late Elberta, and many others.

EARLY WONDER PEACH

	Each	10	100	1,000
3-4 ft.	$0.40	$3.50	$30.00	.....
2-3 ft.	.35	3.00	25.00	.....

PLUMS

	Each	10	100	1,000
Extra 5-6 ft.	$0.32	$3.00	$24.00	$200.00
Large 4-5 ft.	.27	2.50	20.00	170.00
Medium 3-4 ft.	.21	1.90	17.00	130.00
Stocky 2-3 ft.	.15	1.40	13.00	110.00

Red June, Abundance, Burbank, Wickson, Wild Goose, German Prune, Lombard, Damson, Gold, and other standard sorts.

Note These Wonderful Bargains

10 Select Apple Trees—2 yr. 5 to 6 ft. trees. 1 Delicious, 2 Stayman, 1 Black Ben, 2 King David, 1 Jonathan, 3 Winesap. Agents ask $5.00. Collection No. 1. **$1.50**

20 Select Apple Trees, extra size—2 year, 5 to 6 foot, Stayman, Black Ben, Winesap and other best varieties. Fine, big, extra heavy trees. Agents ask $8.00. Collection No. 2..... **$2.50**

10 Select Peach Trees—4 to 5 foot trees. 5 Elberta, 1 Chinese Cling, 1 Belle of Georgia, 2 Champion, 1 Carman. Agents ask at least $3.00. Collection No. 3... **$1.25**

20 Select Peach Trees—3 to 4 foot. 10 Elberta, 3 Champion, 2 Mamie Ross, 5 Belle of Georgia, the cream of good varieties. Agents ask $5.00. Collection No. 4... **$2.00**

20 Peach Complete Family Orchard 2 to 3 foot stock, well rooted. 2 Early Wonder, 2 Mamie Ross, 2 Champion, 7 Elberta, 3 Belle of Georgia, 2 Heath Cling, 2 Late Elberta. Covers all season latest to earliest. Agents ask $4.50. Collection No. 5..... **$1.60**

5 Apricot Trees—3 to 4 foot. 5 Moorpark or 5 Royal. Hardiest and best. Agents ask $2.50. Collection No. 6..... **$1.10**

10 Select Pear Trees—2 yr. 5 to 6 ft. 8 Keiffer, 2 Garber, biggest money-makers for middle west. Agts. ask $5.00. Collection No. 7..... **$1.60**

10 Select Plum Trees—4 to 6 foot. Burbank, Abundance, Red June and Wickson, all fine, quick bearing varieties. Agents ask $5.00. Collection No. 8.... **$2.00**

10 Select Cherry Trees—4 to 5 foot. 4 Montmorency, 4 Early Richmond, 1 English Morello, 1 Wragg. Agents ask $6.50. Collection No. 9..... **$2.90**

10 Choice Grape Vines—2 year. 1 Catawba, red; 3 Concord, black; 2 Niagara, white; 1 Moore's Early, black; 3 Worden, black. Agents ask $2.00 Collection No. 10..... **$ .75**

25 Concord Grape Big Vines—Most widely planted black grape. Easily cultivated. Agents ask $2.50. Collection No. 11 **$ .90**

100 Everbearing Strawberries—Best variety Progressive. Bear till snow flies. Hardy, vigorous. Agts. get $5. Col. 12 **$2.00**

300 Everbearing Strawberries—200 Progressive, 100 Superb. Bear till frost. A wonderful bargain. Agents ask $15.00. Collection No. 13..... **$4.50**

RASPBERRIES

	Each	25	100	1,000
Cumberland and Plum Farmer	$0.07	$0.80	$2.50	$18.00
Kansas and Cuthbert.	.06	.70	2.10	15.00
St. Regis Everbearing	.10	1.00	3.00	20.00

STRAWBERRY PLANTS

	By mail postpaid. 25	50	100	By express, charges collect, f.o.b. Ark. 250	500	1,000
Excelsior	$.30	$.65	$.80	$1.50	$2.25	$4.00
Klondyke	.30	.65	.80	1.50	2.25	4.00
Senator Dunlap	.35	.70	.85	1.80	2.50	4.50
Warfield	.30	.65	.80	1.50	2.25	4.00
Aroma	.30	.65	.80	1.50	2.25	4.00
Gandy	.30	.65	.80	1.50	2.25	4.00

3,000 to 5,000 plants 5% discount.
5,000 to 10,000 plants 10% discount.
10,000 to 25,000 plants 15% discount.
25,000 to 50,000 plants 20% discount.

EVERBEARING STRAWBERRY

	Prices Postpaid 25	50	100	Prices f.o.b. Kansas and Iowa Farms charges collect 250	500	1,000
Progressive	$1.00	$1.50	$2.50	$4.00	$8.00	$15.00
Superb	1.00	1.50	2.50	4.00	8.00	15.00

GRAPES

	Each	20	100	1,000
No. 1 Heavy Vines Concord	$0.06	$1.00	$3.75	.....
Moore's Early, Worden, Niagara, Agawam and other good varieties	.08	1.50	5.50	.....

BLACKBERRY AND DEWBERRY

	Each	25	100	1,000
Early Harvest, Eldorado and Dewberry	$0.05	$0.90	$2.75	$ 18.00
Mercereau	.06	1.00	3.00	20.00
Ward and Blower	.08	1.25	4.00	25.00

GOOSEBERRIES

	Each	10	100	1000
One year	$0.15	$1.00	$8.00	$70.00
Two year	.25	1.75	11.50	90.00

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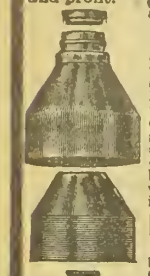

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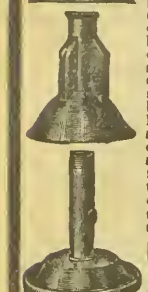

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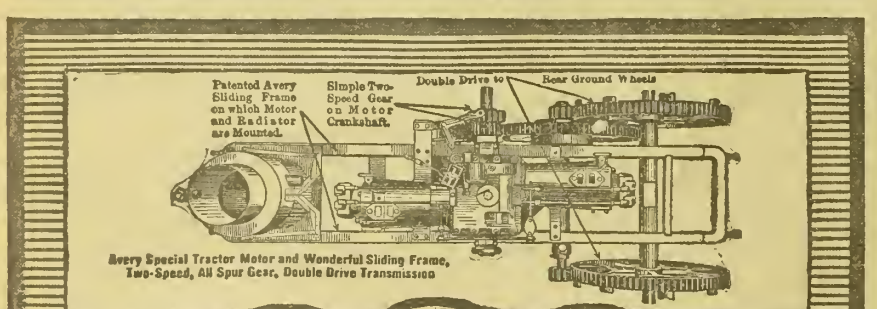

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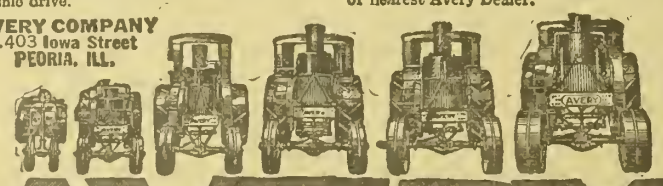

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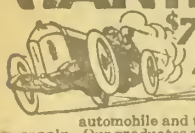

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WE MAKE a better profit from pure-bred poultry with quicker returns than from anything else raised on the farm. This last year we sold poultry as breeders, eggs for hatching, and fries and broilers, and counting what we have on hand and that consumed at home, we made $800 from our poultry business in 1916.

We have built up our poultry business largely through farm paper advertising. Two-thirds of our sales were the result of using the classified columns of general farm papers. Every successful farmer or poultryman must use plenty of advertising space in order to sell his product to the best advantage. There is no other way to let the public know that we have surplus poultry and eggs for sale. Advertising has done a great deal to advance the poultry industry.

We have always had better results from the farm papers than from special poultry papers or journals. It is farmers that do the buying of stock we have to offer, and they watch closely the advertising columns of their farm papers during the season when they need stock or eggs. I have had some unpleasant experiences in dealing with some of the large display advertisers in poultry journals. Some of them advertise and describe high class stock, which is in reality low grade stock. Last November I saw a large advertisement in a poultry journal of high class, show-winning cockerels. I was needing a good male to head one of my pens of Single Comb White Leghorns. I wrote to this advertiser, giving description in full of the kind of bird I wanted. He answered that he had exactly what I wanted in a ten-dollar cockerel that had won first at a certain state show. I sent my check for the bird and when he came I considered him only fit for the dinner pot, worth perhaps about fifty cents. I looked up the show records of the show where it was claimed he had won first, and found this prize had gone to another person. I immediately sent this bird back to his owner and got my money back. I then ordered a cockerel from the classified columns of a farm paper and got a bird worth at least twice what I paid for it.

We are in the poultry business to stay and patronize the farm papers because they furnish the best means of disposing of our surplus stock and eggs. We have been breeding the Single Comb White Leghorns for four years and have been very successful in the show room, but we consider their laying qualities worth far more to us than their winnings in the show room.—Mrs. S. A. HEFNER, Grady County, Okla.

Strongest Chicks Hatch First

The baby chick season is at hand. It will be but a few days until many poultrymen will begin to make preparations to hatch baby chicks to renew at least a portion of their flocks. The purpose of this article is to call their attention to some things which should be given some consideration, especially when the price of feed is as high as at present. Unprofitable drones that are hatched are a source of considerable loss to the average poultryman, and incubators are a necessity and must be used if chicks are to be hatched in large numbers and if you expect to succeed.

From what experience I have had, from what tests I have made and from what experiments I have conducted, I feel safe in saying that the first half of the chickens which hatch in an incubator contain 90 per cent of the profit makers in that batch. Ninety per cent of the last half of the chicks hatched will lose you money if kept to maturity. Our experience has been that the first ones hatched mature quicker, grow more rapidly; lay first; lay most eggs; make the best use of their food; and are more robust and healthy. The last half hatched contains most of the chicks lowest in vitality and those which are a menace to your flock. You will find most of the unprofitable ones in the last half of the eggs which hatch in any setting. A very small per cent of the last half of any hatch will ever pay you to keep beyond the broiler or frying age. If you can mark them and thus dispose of the tailenders, you will be breeding from the best in your flock and will soon have a flock that is full of pep, vitality and profit making ability.

The fact that a chick grows rapidly in the shell and makes good use of the food which nature has placed there for its use during the first 20 days of its growth and development, and then hatches and beats another chick out of the shell from six to twenty-four hours is an almost sure sign that the first will beat the last in the race of life and at every stage of its existence. There are exceptions, but this is the rule. Mark the first one-third or one-half of your chicks that hatch and try this out. It is an almost certain indicator of the profitable and unprofitable chicks. If you have to raise and carry half of your flock at a loss, you can readily see what a saving could be made by this plan.

If you don't own a good incubator, you had better purchase one at once. It is utterly impossible to batch and rear a large number of chicks by the hen method. You can batch just as large a percentage in a good machine as you can under hens, in fact larger in most cases. The chicks are just as strong and healthy if you use any judgment in operating the incubator. Many people imagine that you have to sit up with them at night, which is not a fact. The largest and best farms use them, and they are in the business for the money that there is in it, and if any other method paid better, they would use it.

By using incubators you are able to batch early chickens and batch them when you want them. You can keep your best hens busy laying. You do not need so much surplus stock and thus save enough feed in one year to pay for a good incubator. You can pedigree some of the chickens from your best stock. You are saved the trouble with fussy hens, broken eggs, lice, and many other disagreeable features of the hatching business. Clean up your machine and if it is out of repair so that it is not safe to use it, buy a new one. Get it now, so that it will be ready when you need it.—T. E. QUISENBERRY, Leavenworth.

Frozen Combs and Wattles

We have been asked how to treat frozen combs and wattles.

Freezing of the combs and wattles of poultry greatly reduces egg production, decreases their show qualities and may injure them for breeding purposes. The large upright-combed birds are most susceptible. The wattles are likely to freeze first, since they are apt to dip in the water when the birds are drinking, and freeze while wet. This can be partially prevented by annointing the wattles with vaseline, thus keeping the water from adhering.

The following is a treatment for frozen parts, recommended by C. S. Anderson of the Colorado Agricultural College: Place the bird in a cool but not cold room. Immerse the frozen parts in snow or cold water for ten minutes. This will take out the frost. To restore complete circulation, the parts should be manipulated twice a day with a mixture of five parts vaseline, two parts of glycerine and one part of turpentine.

Breeding Early Layers

The first thing to consider in getting chickens to lay early is the selection of



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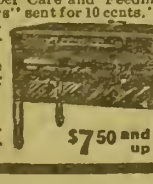

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the stock. Select those chickens that have breeding back of them. High egg-producing qualities in the parent stock, early hatching, careful and considerate feeding, and proper housing are all factors which tend to produce early layers.

In an experiment at the Kansas Experiment Station two pens of April-hatched pullets were used. In one of these the pullets had been bred to lay while the others were common pullets. Ten eggs were gathered from the first pen in November, 337 in December, 296 in January, and 176 in February. In the pen of common pullets no eggs were laid in November, 66 in December, 190 in January, and 132 in February. The value of getting the hens to lay early is seen readily, as this is the time of the year when the eggs are of the greatest value.—Ross M. SHERWOOD, Kansas Agricultural College.

Eggs Are Scarce—Why?

We have asked this question many times as we have met farmers. The men have not explained it. But, several farm women have told me that the reason their hens are not laying now is because of the scarcity of grain on the farms.

These women say that the chickens usually pick up enough feed to keep them in good condition. Now there is no grain on the farm for the hens.

As nearly all the eggs produced in the country come from farms where hens are kept only to pick up the waste, the hens which are kept by people who make a business of poultry raising cannot supply the market fully when the country hen goes on a "strike" because she cannot produce eggs without feed.—J. E. PAYNE, Oklahoma.

Seasonable Poultry Hints

This should not be a dull month for progressive poultrymen. Now that the surplus breeding and market stock have been disposed of, the pens of the coming season can be made up. Matings should be make at least two weeks previous to saving eggs for hatching.

Only the strongest pullets or yearling hens should be selected and mated with a male bird of equal vitality and thrift. If egg-production has been backward through the early winter, a slight stimulant can be given. If sprouted oats, alfalfa leaves, or vegetables are available, they will make valuable feed. Too much concentrated protein feed, such as meat meal, should be avoided, as it is likely to impair fertility.

Before the matings are made, all the houses and pens should be cleaned and well disinfected. No matter how strong individuals they are, hens cannot do their best when infested with parasites. The brooders and incubators should be cleaned and repaired. It may be advisable to build additional runs or another house.

Why not install a few trap nests and next year at this time know the actual production of each hen in your breeding pens? It is the one certain way of eliminating the low producer and building up the flock.

Have you considered any addition to your poultry yard? Poultry of all kinds has been paying this year, and is bound to be more so in the future. Perhaps a small trial with turkeys, ducks, geese, pigeons or capons will prove profitable.

If you intend to have hatching eggs, or day-old chicks for sale in the season, start now with a good ad in some real live poultry paper.—C. S. ANDERSON, Colorado Agricultural College.

J. P. Farnsworth of Shawnee Co., furnishes accurate records of a pen of eleven Barred Plymouth Rock hens kept on a city lot. During the year 1916 they laid 1,927 eggs. During the hatching season he sold several hundred for hatching. He received for eggs during the year $62.34, from sale of cockerels, $44; pullets, $46.00; or a total of $152.34. Feed and other expenses amounted to $55.79 leaving a net profit of $96.55. Of course this is exceptional from the standpoint of the farmer but shows how profitable a few hens can be.

For the first three days chicks may be fed a mixture of equal parts hard-boiled eggs and stale bread, or stale bread soaked in milk. When bread and milk are used, care should be exercised to squeeze all milk out of the bread. From the third or fourth day until the chicks can eat wheat and cracked corn, commercial chick feed is a good ration.

Bran or middlings and beef scraps should be kept in receptacles to which the fowls have access at all times.

Radiator heating makes farm life ideal



The people who heat their homes with IDEAL Boilers and AMERICAN Radiators prove to themselves and to their friends, that winter in the country can be made most comfortable, enjoyable and profitable.

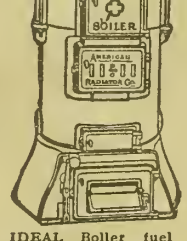
AMERICAN RADIATORS & IDEAL BOILERS

***You* can have complete comfort in *your* own home, whether it is an *old* or *new* building.**

A basement or cellar is not necessary, as the IDEAL Boiler can be put in side room or lean-to.

It is not necessary to have running water—the IDEAL Boiler uses the same water over and over for years, and the small loss from evaporation is easily refilled with a bucket.

It is not necessary to have special kinds of fuel—IDEAL Boilers will burn almost anything, wood, lignite, screening, slack, soft coal, etc., and best of all—*It is not necessary* to have a mint of money before you can purchase an IDEAL Boiler and AMERICAN Radiators for your building!



IDEAL Boiler fuel pots mix the air and coal gases as in a modern gas mantle, extracting ALL the heat from the fuel.

Easily put in even in mid-winter without tearing up or disturbing present heating arrangements until ready to put fire in the IDEAL Boiler.



A No. 5-19-W IDEAL Boiler and 450 ft. of 38-in. AMERICAN Radiators, costing the owner $200, were used to heat this farm house. At this price the goods can be bought of any reputable, competent Fitter. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions.

Send for book "Ideal Heating" (free)

We want you to know why an IDEAL heating outfit will give you most heat at least cost, and why it is the best for years of daily service without repairs or attention. Write today for our free book. You ought to read it.

Sold by all dealers
No exclusive agents

AMERICAN RADIATOR COMPANY

Write to Dept. F-14
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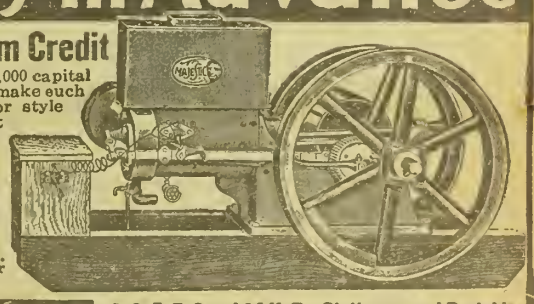
No Money In Advance

Hartman's Special Farm Credit

Only Hartman's with their $12,000,000 capital and over two million customers can make such an offer as this. Order any size or style Majestic engine you want—no deposit—no C. O. D., or security. When the engine comes, work it 30 days, and if you are not fully satisfied with it, send it back at our expense and you will not be out one cent. If you are completely convinced that the "Majestic" is a wonderful bargain and just the engine you want, then keep it and pay one-tenth in 30 days, or one-sixth in 60 days, and balance in equal payments monthly or every two months—giving 10 months or



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SEND FOR FREE BOOK and note the sensationally low bargain price put on each engine. Book also tells how to judge an engine, how much to pay, how to pick out size and style engine best suited to your needs, and explains the Famous Farm Credit Plan. Get this valuable engine book at once. Send the coupon or a postal today.



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4025 La Salle Street,
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2, 3, 5, 7, 9 and 14 H. P.—Stationary and Portable

The Great Majestic Engine

Most economical to operate. Fewer number of working parts. Perfectly balanced—just the right weight for its H. P. rating. Big improvements. Gives everlastingly good service without trouble or bother. Absolutely guaranteed by The Hartman Co., backed by its $12,000,000 capital and resources. Fully described in our Book. Send for it.

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Without obligating me, send your Engine Catalog and particulars of selling plan.

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Address P. O. Box..... or R. F. D. .....
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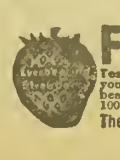
Tells about large assortment of best trees and plants at lowest prices. Ask for Preferred Customer's Discount. No obligation. Book is Free. Send for it now. Address
WELLINGTON NURSERIES, Desk G, Wellington, Kans.



FREE A pair of Mated Everbearing Strawberry plants, large pkt. of new Cereal Feterite, Sudan Grass and Silk Leaf Poppy seed, all Free for Testing. Send 10c for mailing expense, or not, as you please. We offer genuine Progressive Everbearing plants at 50c per doz.; 80c for 50; $1.75 for 100; $5.00 for 325, all postpaid. CATALOG FREE.
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Biggest Hatches Strongest Chicks

That's what you'll get with my World's Champion Belle City Incubator — and I can prove it.

$8.55 buys 140 Egg Size

I Ship Quick from Buffalo, Kansas City, Minneapolis or Racine

The whole story is in my big Book "Hatching Facts" sent free—write for it — gives short cuts to successful poultry raising—what to do and how to do it. Start one of these wonderful Prize Winning Hatching Outfits making money for you. 90 days' trial at my risk—money refunded if not satisfied—guaranteed for 10 years. — Can anyone do more?—Over 524,000 satisfied users.

World's Champion Belle City Incubator

The Incubator that is Double-walled—Self Regulating—Self Ventilating—equipped with Copper Hot Water Tank, Thermometer Holder—Deep Nursery—big Safety Lamp—the handiest incubator made—used by Uncle Sam—leading Agricultural Colleges and America's most successful Poultry Raisers.

The Book also shows my $4.85 World Famous Belle City 140-chick Double-walled — Hot-water Brooder — guaranteed to raise healthiest chicks,— When ordered with 140-egg World's Champion Belle City Incubator — both cost only $12.50.





"Tycoa" Cup

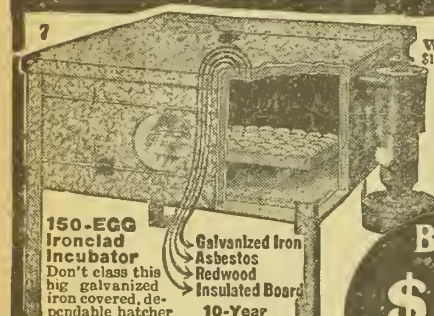
Remember, I Prepay Freight East of Rockies and allow it that far to points beyond—With this Hatching Outfit and my complete guide book for setting up, you can't go wrong.—You can also share in

My $1000 in Cash Prizes Conditions so easy you can make big extra money the first season you own my Hatching Outfit. And you are perfectly safe in ordering direct from this Advertisement—the earlier you start, the better your chance to share in the Gold.—Anyway write for my big Free Book today. Jim Rohan, Pres.

Belle City Incubator Co., Box 18 Racine, Wis.

Ironclad TRADE MARK

Wins in the Two BIGGEST HATCHING Contests Ever Held



Why take chances with untried machines when for only $11 we guarantee to deliver safely, all freight charges paid (East of Rockies) BOTH of these big prize winning machines full equipped, set up ready for use? Why not own an Ironclad—the incubator that has for two years in succession won in the greatest hatching contests ever held. In the last contest conducted by Missouri Valley former and Nebraska Farm Journal, 2000 machines were entered, including practically every make, style and price. With the Ironclad—the same machine we offer with Brooder, freight paid, for only $11, Mrs. C. F. Merrick, Lockney, Texas, hatched 143 chicks from 143 eggs in the last contest.

150-EGG Ironclad Incubator Don't class this big galvanized iron covered, dependable hatcher with cheaply constructed machines. Ironclads are not covered with cheap, thin metal and painted like some do to cover up poor quality of material. Ironclads are shipped in the natural color—you can see exactly what you are getting. Don't buy any incubator until you know what it is made of. Note these Ironclad specifications. Genuine California Redwood, triple walls, asbestos lining, galvanized iron covering. Large egg tray, extra deep chick nursery—hot water top heat, COPPER tanks and boiler, self regulator, Tycos Thermometer, glass in door and many other special advantages fully explained in Free Catalogue. Write for it TODAY or order direct from this advertisement.

Galvanized Iron
Asbestos
Redwood
Insulated Board

10-Year Guarantee

30 DAYS' FREE TRIAL
Money back if not satisfied.

Both for $11 Freight Paid East of Rockies

MADE OF CALIFORNIA REDWOOD

150 Chick Brooder

IRONCLAD INCUBATOR COMPANY, Box 147 , RACINE, WIS.

This 13 year-old Boy built his own Peerless Incubator



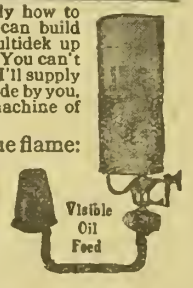
Has double walls, roomy chick tray. Tall strong legs make it convenient.

My Free Incubator Plan Book tells you exactly how to build the best incubator that can be built. You can build any capacity incubator, single 150-egg size, or Multidek up to 1200 egg capacity—hot air or hot water heated. You can't go wrong and it means a big cash saving to you. I'll supply all the necessary mechanical parts, not easily made by you, at low cost. They insure you a troubleproof machine of highest efficiency at lowest operating expense.

My Sol-Hot Wickless Lamp makes a clear blue flame: smokeless, sootless, odorless—intensely hot. Easily attached to any incubator.

My Peerless, all-metal, 60 egg hatcher is inexpensive and insures big hatches.

Write at once for my Free Incubator and Brooder Plan Book and Catalog.



Visible Oil Feed

H. M. SHEER CO., Dept. 27 Quincy, Ill.

Get More EGGS

WITH KNUDSON LICE-PROOF NESTS—Galvanized Steel

Customers report 10 to 100% egg increase. Sanitary & comfortable. Cheaper than wood (No. 1 Set 6-Nest, 6 ft.



Special Low Prices This Month

descriptive literature Write Knudson Mfg. Co., Box 524, St. Joseph, Mo.

Get our FREE

WHY CHICKS DIE IN THE SHELL

We want to tell you how to prevent chicks from dying in the shell just at hatching time, how to save them from White Diarrhoea or Bowel Trouble, how to build the best Home Made Brooder in the world from an ordinary box or change your old one.

Above information absolutely free, for names of five to eight of your friends that use Incubators. Send names today.

RAISALL REMEDY COMPANY, - BLACKWELL, OKLAHOMA

HARLEY-DAVIDSON SERVICE STATION

PARTS For Kansas REPAIRING

SHAWNEE CYCLE CO. TOPEKA KANSAS

A well-ventilated cellar is the best place to operate the incubator. The machine should be operated according to the manufacturer's directions.

J. W. Anders, Liberal, Kansas, raises about 100 head of turkeys each year. He says: "Turkeys do exceptionally well on these western prairies. Kafir, milo and wheat are the best feeds and turkeys get the advantage of grasshoppers each season."

Home Circle

Industry is in itself, and when properly chosen, delightful and profitable to the worker; and when your toil has been a pleasure you have not earned money merely, but money, health, delight and moral profit all in one.—Robert Louis Stevenson.

Are You Going to Manhattan?

The annual Farm and Home Week at the Kansas Agricultural College, which will this year be held February 5 to 10, offers a Home Economics program which will be of practical value to every homemaker and housekeeper who attends. It is a full four-days program and some of the vital questions which will be discussed are as follows:

Tuesday, February 6: "The Business of Being a Homemaker"; "The Ideals of the Home"; "Standardized Household Operations"; "Scheduling of Household Tasks"; "What the Government and State are Doing to Help the Housekeeper"; "Desirability of a System of Keeping Reliable Household Records"; "Laundry Hints and Helps."

Wednesday: "The Principles of Human Nutrition"; "The War and the Food Question"; "Diet for Children"; "The Housewife as a Purchasing Agent"; "Uses of Paper in the Home"; "A Woman and Her Clothing"; "Clothing for the Children"; "My Greatest Aid in Sewing"; "The Development of Judgment in Buying of Clothing Materials"; "The Place of Domestic Art in a Girl's Education"; "The Essentials of Success in Homemaking."

Thursday: "Child Life in Relation to Community Life"; "The House of Moderate Cost"; "The Glenwood Canning Club"; Canning demonstration by two Mother-Daughter teams from the Glenwood Club.

Friday: "Safety and Beauty for the Family"; "Sanitation as Applied to Living Conditions"; "The Home Nurse"; "Principles of Color and Design Applied to Clothing and House Furnishings"; "The Home as a Social and Civic Factor"; "The Home as a Social Center"; "Woman's Responsibility Towards Civic Affairs"; "Training the Child for Citizenship"; "How Far is Home Responsible for the School?"

All these subjects will be handled by capable people and there will be opportunity for discussion at each session.

In addition to the above program designed specially for the women, there will be interesting general sessions and sessions for the state club boys and girls, at any of which all will be welcome.

1917 Boys' and Girls' Clubs

The 1916 boys' and girls' agricultural club work conducted by the Kansas Agricultural College and the U. S. Department of Agriculture, closed with many good records in all lines. Each year shows increased interest in the club work and better results. There are corn clubs, pig clubs, poultry clubs, square-rod garden clubs, sewing clubs, canning clubs, and a number of other kinds. The details of the club work are supervised by Otis E. Hall, State Club Leader, and his county and community leaders.

It is now time to enroll for the 1917 clubs and boys and girls should be encouraged to select the club the work of which they think they would like best, and send in their names to Mr. Hall or the county club leader. In counties having agricultural agents, these men can answer all questions about the different clubs. If your county does not have an agricultural agent and you do not know who the county agricultural club leader is, a card of inquiry addressed to Otis E. Hall, State Club Leader, Kansas Agricultural College, Manhattan, will bring full particulars regarding the club work.

Last week we told of the poultry club winners, and other club winnings will be reported. There could be no better recommendation for the club work than the members' own stories about it, each of which shows a development possible to bring about in few other ways. The more boys and girls we can interest in these clubs, the more contented, happy children will there be in our state.

Federal Bird Poster

The Federal Department has recently issued a poster headed "Feed the Birds This Winter." The following are extracts from this poster:

"Every local bird you keep from starving, when cold weather, snow, and

FERTILE KANSAS LAND CHEAP

Those who located in Central Kansas 20 years ago are the big farmers today. Their land has made them independent.

Your chance *now* is in the five Southwestern Kansas counties adjacent to the Santa Fe's new line, where good land is still cheap.

With railroad facilities this country is developing fast. Farmers are making goor profits on small investments. It is the place today for the man of moderate means.

Wheat, oats, barley, speltz, kaffir and broom corn, milo and feterita grow abundantly in the Southwest counties referred to. Chickens, hogs, dairy cows and beef cattle increase your profits.

You can get 160 acres for $200 to $300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6 per cent—price $10 to $15 an acre.

Write for our book of letters from farmers who are making good there now, also illustrated folder with particulars of our easy-purchase contract. Address

E. T. Cartlidge,
Santa Fe Land Improvement Co.,
1892 Santa Fe Bldg., Topeka, Kansas.



Alfalfa Get our prices on hardy western field seeds of all kinds. **Clover** **Oats** Kherson Oats, rust proof, ripen earlier, make stiffer straw. Yielded 65 bushels to acre and only costs that did well in West last season. Also Potatoes, Garden and Flower Seeds, Trees, etc. Apple Trees 7c. Seed and Nursery Book mailed free.

German Nurseries and Seed House 60 Court St., Beatrice, Nebr.

Seeds and Trees That Grow



GOOD SEEDS

GOOD AS CAN BE GROWN
Prices Below All Others

I will give a lot of new sorts free with every order I fill. Buy and test. Return if not O. K.—money refunded.

Big Catalog FREE

Over 700 illustrations of vegetables and flowers. Send yours and your neighbors' addresses.

R. H. SHUMWAY, Rockford, Ill.

Such Beautiful Flowers!

Asters, Calliopsis, Calla, Clematis, Chrysanthemum—all these beauties and hundreds more pictured, described and attractively priced in Barteldes' Big New 1917 Catalog of Field and Garden Seeds—just off the press. Drop post card for free copy. Plant Barteldes' luxuriant flowers—the kind that grow, bloom and delight. Write Today.

THE BARTELDES SEED COMPANY,
(Over 50 Years of Honest Dealing.)

1007 Massachusetts St., Lawrence, Kansas.
1007 Sixteenth Street, Denver, Colorado.
1007 Main Street, Oklahoma City, Okla.

Buy Trees At Wholesale

and Save Agents' and Dealers' Profits.

Apple trees $3.00 per 100; Peach $7.00 per 100; Cherries $11.00 per 100; Concord Grapes $2.00 per 100; Dunlap Strawberries $2.25 per 1000; Everbearing Strawberries $2.50 per 100. Everything in Fruit trees, Plants and Ornamentals at money saving prices. Send for our FREE CATALOG

HOLSINGER BROTHERS NURSERY,
BOX 109 ROSEDALE, KANSAS.

MILO MAIZE

Barteldes' Milo Maize is a great drought resistant. Yields as high as 60 bushel per acre. Several varieties. Dwarf Straight-neck Milo, White Milo, Yellow Milo, etc. Get the best—our seed is pure and high in germination. 50 years of success back every item in our catalog. FREE CATALOG. Send for it at once—filled to overflowing with descriptions and quotations of field and garden seeds. Get our special pink price list giving lowest price on field seeds in quantities.

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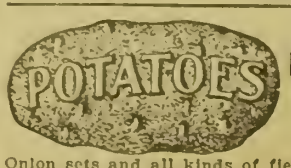

SEED Potatoes Seed Corn

Onion sets and all kinds of field and garden seed. Send for our catalog. It is free.

HAYES SEED HOUSE, TOPEKA, KANSAS.



Daylight at Night

on the farm with the best and most economical light in the world, the

Coleman GAS LANTERN

Gives strong, 300 candle power light without flicker. No Dirt, No Smoke, No Grease, No Soot. No wicks to trim—no globes to wash. Nothing to get out of order. More powerful than 20 ordinary lanterns, and only a tenth the cost of kerosene lighting.

A Fool Proof Light

Can't be filled while burning. Can't spill—Can't explode. Absolutely safe anywhere. No denger if rolled around in straw. Won't blow out. Can't be jarred out. Nothing to break or get out of order.

Makes and Burns Its Own Gas

Guaranteed Five Years Lasts a lifetime. Awarded The Gold Medal at San Francisco. Ask your dealer, or if not for sale in your town, write for new catalog.

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SEED CORN

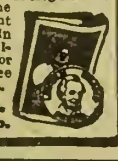
Gold Mine and Other Varieties



Come to headquarters for your seed corn. Take your choice of any of the best leading western grown varieties. Get seed that is tested for 90 per cent or better fertility. Get seed that is carefully hand picked, tipped, butted and cleaned, so that you pay for only the perfect kernels and not a lot of nubbins and trash. That's the kind of seed you want and that's the kind we sell you. It pays to buy the right kind at the start, so buy the Lincoln Brand.

Write for Our New 1917 Annual

A postal will bring it free, postpaid. It's chock full of Garden and Field Seed bargains. A book worth having. This year we list some splendid new varieties, such as our Shrock's Kaffir Corn, White Kherson Oats, White Wonder Millet, Marquis Spring Wheat, etc. We are headquarters also for Alfalfa, as we are the largest alfalfa seed dealers in the country. Our Corn Saver Beet for feeders of dairy cattle, our Hog Pasture Mixture and many other specialties in the seed line are worth investigating. We want you to get better acquainted with Lincoln Brand Seeds, the new trade name for well-known Griswold Quality Seeds. So write for our new Seed Book today. Get our Special Bee Supply Catalog if you are interested in bees.



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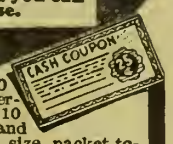
Dept. N-141 Lincoln, Neb.

Try This Wonderful

SUPERLATIVE TOMATO

Best flavored, most productive, large size, beautiful purple color, solid meat, strong grower. The supreme test of seven years' selection. It is being distributed free to our customers this year, and **you can try it at our expense.**



Let Us Send You A packet of 100 seeds of "Superlative" Tomato. Send only 10 cents for cost of mailing and we'll forward a regular 25c size packet together with a copy of our 130-page illustrated catalog containing hundreds of seed and plant bargains and a **cash coupon worth 25 cents** in part payment of your first order.

IOWA SEED CO., Dept. 15 Des Moines, Iowa

SEEDS

Reliable and Full of Life

SPECIAL OFFER

Made to build New Business. A trial will make you our permanent customer.

PRIZE COLLECTION Radish, 17 Varieties, worth 15c; Lettuce, 12 kinds, worth 15c; Tomatoes, 11 the finest, worth 20c; Turnip, 7 splendid, worth 10c; Onion, 8 best varieties, worth 15c; 10 Spring Flowering Bulbs, worth 25c—65 varieties in all; worth $1.00.

GUARANTEED TO PLEASE.

Write today; mention this paper.

SEND 10 CENTS

to cover postage and packing and receive this valuable collection of seeds postpaid, together with my big instructive, beautiful Seed and Plant Book, tells all about Buckbee's "Full of Life" Seeds, Plants, etc.

H.W. BUCKBEE
Rockford Seed Farms
Farm 153 Rockford, Ill.

FREE **1917 PLANTING GUIDE AND PURE SEED BOOK**



Ask now! This beautiful 96-page four-color book describes 1917 varieties vegetables and flowers; handsomely illustrated; beautiful home grounds, flower and vegetable gardens, landscaping, shrubbery, orchards, farms. A dictionary on gardening! Flower lover's delight! Berry grower's book! An orchardist's manual! Most wonderful gardening guide catalog ever published. Better than our famous 1916 book. Don't miss it. Ask today. A postal gets it.

Calloway Bros. & Co., DJ215 Waterloo, Ia.

ice shut off its natural food supply, will repay you by destroying hundreds of caterpillars, grubs, borers, beetles, and insects that would prey on your flowers, vegetables, fruit, foliage, or field crops. Birds more than pay for their keep. It is better to feed birds a little now than to grow crops for insects later."

* * *

"Every destructive insect is on the bill of fare of one or more of our native birds."

* * *

Encourage all kinds of birds, as the various species prey on different kinds of insects. For example, the hairy and downy woodpeckers render a special service in the protection of trees. They glean pests from beneath the bark and from within the wood. They account yearly for many a scale insect, bark beetle, borer, caterpillar, and ant. The bobwhite, one of the most important of our game birds, renders particular service in cultivated fields by destroying large numbers of potato beetles, wireworms, clover weevils, bollworms, cutworms, army worms, and other crop pests. The bobwhite suffers particularly from hard winters. A little suet or a little cracked corn and grain will keep these valuable feathered servants in your employ."

Cleaning Silver

An easy and effective method of cleaning tarnished silverware has been worked out by the Federal Department of Agriculture. The necessary materials for this work are a graniteware pan deep enough to allow the silverware to be covered by the solution, a clean piece of aluminum or zinc—preferably aluminum—and baking or washing soda. The solution, consisting of a teaspoonful of baking or washing soda and a like amount of table salt to each quart of water, should be brought to a boil in a graniteware or enameled pan. A piece of aluminum or zinc should then be dropped in. Immerse the tarnished silverware in this solution so that it is in contact with the aluminum or zinc. The tarnish should disappear in a few seconds. Then remove the silver from the solution, rinse, and dry with a soft cloth.

Aluminum is much more satisfactory than is zinc for this purpose since it does not become coated with a layer of carbonates which would interfere with the chemical reaction. Zinc does form carbonates and if used must be cleaned frequently in dilute hydrochloric acid.

Sheet aluminum can be purchased at some hardware stores. A piece of a worn-out aluminum pan may be used, but should first be well cleaned. Do not use for this process of cleaning silver, aluminum utensils which will later be used for cooking.

If very large pieces of silver are to be cleaned and a container larger than can be placed conveniently on the stove, is required, the hot solution may be poured into this vessel and the silver object then immersed. The method is most effective, however, when the solution boils during the cleaning process, and efficiency is rapidly lowered as the temperature of the solution falls below the boiling point.

The above method of cleaning gives the silver a satiny finish after several cleanings. If a burnished surface is desired, the silver must from time to time be cleaned lightly with a polish such as powdered whiting. In the study made, it was found that when whiting paste was used for cleaning, spoons lost almost one-hundredth of a gram of silver each, or about twenty-five times as much as when the above method was used for cleaning them.

"Pon Hause"—Meat Pudding

Since the butchering season is at hand it may be well to call to mind an old-fashioned recipe for "Pon Hause."

All meat not used for sausage—hams, shoulders and side meat—may be placed in a kettle to be cooked for "meat pudding." This includes the head, with tongue, heart, liver and all clean skins after lard has been stripped from them. To these trimmings add water and cook slowly until very done. Remove bones and largest pieces of meat, cut the meat into small pieces and place again in the kettle. Add water and thicken with corn meal and buckwheat flour, about equal portions. Cook slowly, stirring constantly, season to taste with salt, pepper and sage. When done pour in dripping pans. When firm, slice down. Serve cold or fry as mush. — "News Notes," Colorado Agricultural College.



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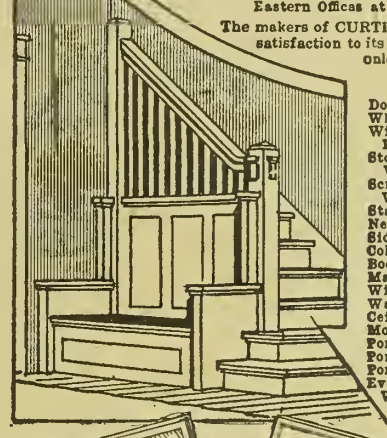

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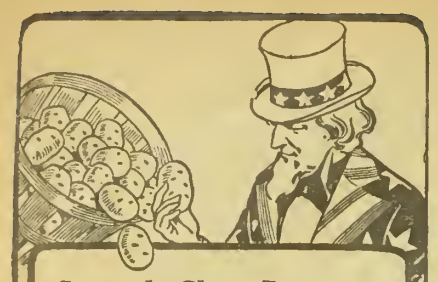

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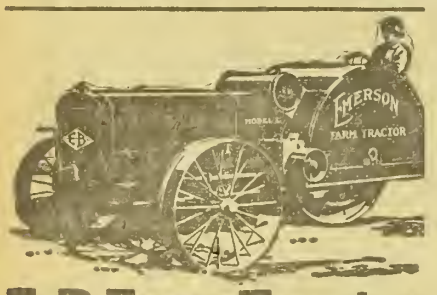

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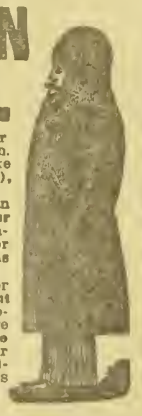

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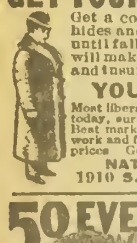

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OVERLAND RED

A Romance of The Moonstone Canon Trail

CHAPTER XXXII
MORNING

"Something's goin' to happen," stated Brand Williams.

"How'a that?" querled Bud Light.

"See them two hosses—the Yuma colt and Boyar—?"

"Uhuh."

"Well, Boyar's been standin' there since daylight, saddled. Nobody rides him but Miss Louise."

"It's mighty early, but I don't see nothin' atrange about the rest of it."

"Wait a minute, Bud. Did you see Collie this mornin'? Was he all fixed up with his hair jest so, and his bandanna jest so, and hia new sombrero and his silver spurs, and them new chaps, lookin' mighty important? He saddlea Yuma and ties here over there. While he was eatin', the Boyar hoss trails his bridle over to where Yuma is tied. There they stand visitin' like two old soldiers on crutches instead of two mighty quick-actin' cayuses. Now that Yuma hoss has kicked the fancy linin' out of every cayuse that dast come nigh her. They're all scared of her. She's makin' an exception this mornin'. She'a plumb friendly with Boyar. That signifies! Hosses can see farther in the dark than folks."

"Signifies what?"

"Well, after all the talk I jest wasted on you, it signifies that you're too thick-headed, Buddy, to waste any more on. I can learn you to spell if you wanta take lessons."

"You're dreamin', Brand. Wake up! As to spellin'—I'm spellin' right now while the fo'man is entertainin' me."

"Thanks for callin' my attention to it. You can take your hoss and ride over to the Three Oaks. There's some fence down, over at the North Spring. I ain't dreamin' about that."

Bud Light departed, swearing to himself. He disliked mending fence. Williams knew it. The cheerful Bud, "Reckoned he ought to 'a' known better than to try to ride the old man into the fence. Next time he would listen—and mebby learn something."

Louise, drawing on her gauntlets, came down the broad steps of the ranch-house. The November air was crisp with the tang of early morning.

She was puzzled at finding Boyar and Yuma together. She noticed Boyar had trailed his bridle across the yard—an unusual thing for him to do, considering his training. Louise spoke to the Yuma colt, who sniffed at her gloved hand. The girl wondered why Collie had saddled Yuma. He usually rode one of the ranch horses to work. She wanted to talk with him—to reason with him; for her knowledge of the previous night's disclosures worried and distressed her. She thought Collie's half promise to Overland Red to turn to their old life had been too easily made. Her pride in him was touched. She was hurt, and not a little angry. She saw the flaw in his ultimate decision to sacrifice himself and his prospects through a too stringent and quixotic interpretation of his duty. To go back to the old life again—a tramp!

But Collie was not to be seen. However, Louise never hesitated long. Deliberately she untied the Yuma colt and swung into the saddle. Black Boyar seemed to realize something unusual in her preference. He fretted as the roan pony leaped sideways toward the gate.

Louise knew that Collie would follow her. She was riding his pony, the Yuma colt, and he would be fearful for the rider's safety.

Collie, coming from the bunk-house, glanced up and saw Black Boyar standing alone where his own pony had stood. This was not an invitation; this was daring him to follow.

He rode into the canon, half conscious of Yuma's tracks ahead of him. He rode past the tracks as they swerved toward a grassy level near the stream.

"Collie!"

Louise stood beside the sweating Yuma, patting the pony's neck. Collie raised his sombrero formally.

Louise was bareheaded. The clear morning sunlight enhanced her rich coloring. Against the misty gray of the canon wall, her head in profile, as she stood beside the horse, was as delicately beautiful as that vision that imagination knows full well but may seldom realize.

"Yes, ma'am."

"Collie, don't! Say anything but that. You look awfully glum. Surely not because I took Yuma."

"No. Only I was afraid for you."

"So you followed at break-neck speed to rescue the timorous, the despairing, and so-forth?"

"I can't joke like that this morning."

"Why? I'm here, safe enough. Had breakfast?

"Yes. I wanted to see you about something, Louise."

"All right. But you are so unnaturally tall and severe and judicial sitting there on Boyar. You look almost funereal. Please get down. Roll a cigaret and act natural. I'm not going to scold you, sir."

"I wish you would."

"Why? What have you been doing that makes you look so ashamed of yourself? Tell me!"

"I didn't know I was."

"You don't act naturally. Is there something about me that is different Ia that it?"

"No. I wish you was different, sometimes."

"You do?"

"No," he said gently. "I don't wish you were different. I want to remember you like you are."

"To remember me?"

"Yes," he whispered, "to remember you."

He seemed to see regret, astonishment, questioning, gentle reproof, even a hint of amusement in her eyes. But her expression changed instantly. "I think you have something to remember me by; something you asked me for once, long ago. I sent it to you. You have never spoken of it—acknowledged it. I can't quite forgive that."

"Your glove, I know. I got it here." And he touched his breast. "I thought you would understand."

"I do. But, Collie, a girl always likes to be told that she is understood, even when she knows it."

"I was going to write about getting your glove, at the hospital. I guess I was too tired."

"At the hospital?"

"Yes. Red sent it to me. Brand gave it to him to give to me—that time."

"Oh!" And Louise felt like retracting a little; but sweetly perverse, she obeyed sheer instinct. "Collie, do you realize that I have already asked you to dismount? Shall I have to ask you again? Do you realize that I am standing while you are sitting your horse?"

"I am begging your pardon, Louise."

The girl nodded brightly, smiling as she noticed the little scar on his chin—a wound that she had made him blush for when she had admonished him for fighting with Dick Tenlow.

She watched the rise and fall of the muscles of his arm, beneath his flannel shirt, as he lighted his cigaret. How broad-chested and strong and wholesome he seemed in the morning sunlight! There was an untamed grace about his movements, his gestures, which, together with his absolute unconsciousness of self, pleased and attracted her.

"Yuma is a little wild, but she is a fine saddle-pony. I'm really jealous for Boyar'a prestige."

"I was afraid for you to ride her," said Collie.

"She behaves beautifully."

"Would you take her as a kind of present from me?" he asked.

"Give Yuma to me? I thought you loved her?"

"I do. That's why I want you to have her."

"He would give you away," said Louise, stroking Yuma's neck. "Give you away just as you're learning to trust him and perhaps even like him a little—and he says he loves you! Let's run away from him, Hummingbird!"

"I think I could stand it if you would just be mean once," said Collie.

"Stand what, Collie?"

He had been watching her shapely hand and supple, rounded wrist as she stroked the pony'a neck. Swiftly she turned from the horse and faced him. "What, Collie?" There was laughter in her eyes, a laughter that challenged more than his serious mood. Her lips were smiling. Her chin was tilted provokingly.

His eyes grew wide with unspoken love, unuttered longing. He delighted in the delicious curve of her cheek, and of her arm resting on the saddle. Her poise had an inexplicable suggestion of royal courage, as though she were battling for more than her lips could utter. In her absence he had adored her. Now he forgot all that he had meant to tell her in the sensuous delight of her mere presence. But even that was not enough. He dropped the pony's reins and strode toward her. Louise paled even as he drew near, but he saw nothing but her eyes and her lips, lips that curved wistfully, provoking tenderness and love. For an instant Louise held her heart aloof.

"Let me just worship you—a little while—a little while," he whispered.

"Only a little while?" she breathed; and the soft rose glowed in her cheeks.

"Just forever," he said.

And Louise Lacharme, more beautiful than the morning, Louise, his most gracious senorita, his Madonna of the Rose, lifted her arms to him. Her lips quivered like a child's, tremulous with longing to tell him silently, as his lips found hers, all that her heart was giving and all the wealth of love it yet should give.

Gently his hands clasped her golden head. His whole being thrilled as he touched her hair, her cheeks, her lips. "Oh, Collie! Collie! Love me always," she whispered. And she drew him down to her breast and caressed his cheek, sighing and murmuring little endearments and sweet, broken words of love.

. . . . . .

Moonstone Canon, coldly beautiful, echoed the hoof-beats of the ponies as they walked homeward.

Louise turned in the saddle. "Collie," she said with an indescribable gesture of appeal, "you will always take care of me, won't you?"

"My Rose Girl! Why do you say that?"

"I was thinking of my father."

Louise saw his lips stiffen and his chin lift. "Louise, I had no right, just now—I haven't any right—I'm poor. The claim wasn't ours."

"I didn't mean that," she said, smiling wistfully. "But you will always care for me, won't you? I don't care one bit about the claim. It has made trouble and sorrow enough. I can't remember my father. I can hardly think of him as my father. Because it is horrible to think of his dying for water because he cared so much for gold."

"But how did you know?"

"I know," she answered gravely. "And I know that you are a very, very foolish boy, not to trust your friends more than you do. Did you suppose you would be happier or better in leaving Moonstone Rancho? Did you suppose I would be happier? Collie, you have so much to learn."

"I guess that'a so," he sighed. Then his eyes brightened with his old-time mischief. "Couldn't you begin now to teach me a little—like back there in the canon?"

And being of a decisive habit of mind, he rode close to Louise and claimed immediate and delicious instruction.

"But how did you know?" he asked again—"about the claim and your father and me?"

"A secret that I share with Overland," she replied.

"So he told you! When? Not last night. He was asleep when I came away this morning."

"So he is here, then?"

"Louise, you're joking. Didn't Red talk to you?"

"No."

"And you know all about it already?" He looked at her curiously for a moment. "Did you know that I said I was going to leave the Moonstone?"

"Why?"

(To Be Concluded)

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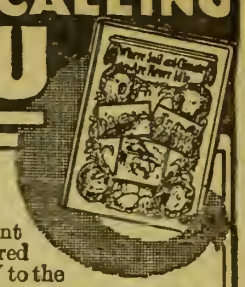

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C. E. B., Nemaha County, asks the following questions: "Is it practical to pump water 500 feet with about 40 feet elevation to the reservoir, using an ordinary windmill? I plan a single pipe line from mill to reservoir and will tap this at right angles with laterals for distributing water to tanks."

These inquiries are answered as follows by H. B. Walker, drainage and irrigation engineer at the Kansas Agricultural College:

"It is logical to pump water 500 feet with a total elevation of 40 feet. I take it from your inquiry that the lift of 40 feet is the difference in elevation of the water in your well and the elevation of the water in the reservoir. A 500-foot pipe line would add considerably to your pumping head due to friction in the pipe line. The amount of this friction will depend upon the quantity of water pumped and the size of the pipe. For a 1-inch pipe, which I would recommend you to use, you would have 10 feet of friction in the 500-foot pipe line when pumping 5 gallons per minute. If you should use a 3-4 inch pipe you would have nearly 40 feet of friction.

"By using the 1-inch pipe line your total lift would thus be equivalent to 50 to 60 feet, and the ordinary 8-foot back geared windmill operating a 2-12 inch cylinder should be able to pump the water into your reservoir.

"By using lateral lines 3-4 inch or less in diameter and arranging so that you can have a gravity flow from your reservoir you should have no difficulty in the operation of your plant. However it would be best to have an air chamber in the pipe line near the pump in order to overcome the water hammer in the pipe line."

Farm and Home Week

We have just received a copy of the complete program for Farm and Home Week at the Agricultural College, February 5 to 10. It is the strongest in the history of this annual event, which brings hundreds of persons to Manhattan, both young and old, and gives them a chance to attend college for a week. The boy or girl of 16 and the man or woman of 60 are equally welcome. An attendance of between 1,600 and 2,000 persons from the farms of the state is expected.

Lectures and demonstrations in agriculture, farm engineering, and home economics will be given throughout the entire week, while such entertainment features as music, readings, get-together meetings and receptions will serve as a means of relaxation.

Charles E. Lobdell, of the Federal Farm Loan Board, will be present to discuss "The Federal Farm Loan Act and Its Application," and Dr. Henry J. Waters, president of the Kansas Agricultural College, will speak on "The Landlord and His Tenant."

Special conferences for county agents, farm bureau officers, county commissioners, institute officers, and other groups will be held. A Percheron sale will be conducted Friday afternoon, February 9. The State Apple Show, the Glenwood Mother-Daughter Canning Club exhibit, boys' and girls' exhibits of farm and home products, and the exhibition of the Kansas Crop Improvement Association will be features of the week. At all the general assemblies and for the evening meetings music will be provided by the college band, the college orchestra, the Apollo Club, and members of the department of music.

A copy of the program can be obtained by addressing Edw. C. Johnson, Dean of Extension Division, Kansas Agricultural College, Manhattan, Kansas.

Chicks Dying in the Shell

Mrs. Frank Bain, an Idaho reader of KANSAS FARMER, writes of her experience in hatching eggs both with incubators and with hens. She says:

"I hear many people complain of chicks dying in the shell after the eggs pip. I always sprinkle the eggs twice a day when turning them in my incubator in addition to having a moisture pan. The air is very dry here and I find by hygrometer test that we seldom have any moisture to spare. By supplying moisture in this way I always succeed in hatching every hatchable egg and I have big, fluffy, lively chicks. Some of my neighbors claimed they could always tell an incubator chick from a hen-hatched chick and they came over to show me. I had hens come off with chicks at the same time the incubator hatch came off, and had divided the chicks into four coops. They tried to guess which were the incubator chicks but were unable to do so.

"When I set hens I also test the eggs on the seventh and the fourteenth days. I can then take out the infertile eggs and by setting several hens at once I can quite often re-set a hen or two and save the time of the hen besides making a better showing of chicks at hatching time. In this hot, dry climate I always sprinkle the eggs under the hens and the chicks come out more easily."

J. A. Denslow, Meade, Kansas, keeps from 150 to 200 chickens on a 320-acre farm. Averaged $10 worth of eggs per week, besides what they keep for their own use.

"Keep as many hens as you can take care of," is the advice which the Colorado Experiment Station gives to new settlers. Investment in poultry yields quick results, and the new settler who follows this advice finds his poultry is one of the biggest items in helping to tide him over until his other live stock and his crops begin to bring in returns.

Feed the chickens about five times daily and only what they will eat up clean in a few minutes, except at night, when they should receive all they want.

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We want *you* to give Pratts Preparations a rigid, working test, right on *your own farm* with *your own poultry and live stock.* Thus we can prove to you, finally and conclusively, that it will *pay* YOU to use them regularly. If we did not have *full confidence* in our preparations, did not *know* that they *would* give satisfactory results IN YOUR HANDS, we would not dare make this offer.

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Pratts Standard Preparations
For Poultry and Live Stock

you will be convinced because you will have the evidence right before you. The results of the test will carry conviction better than all the arguments or promises we might present. If you really wish to know how to *increase your profits,* just try this plan now.

Take the signed coupon and 50c to any Pratt dealer—there is one near you—and he will give you your choice of either assortment of Pratts Preparations as stated in the coupon.

Each assortment has a retail value of $1.85, but now costs you but 50c. We stand the greater part of the cost, since we credit the dealer with $1.35 for each coupon returned to us.

This Offer Good Only During February 1917

and each household is entitled to use but one coupon. Good only in the United States and Canada.

The goods you will receive are *standard packages taken directly from the dealer's stock.*

We have been in business nearly fifty years and have never before made such an offer. It may never be made again. Your big opportunity is NOW! See your dealer at once.

434

PRATT FOOD COMPANY, Philadelphia Chicago Los Angeles Toronto
America's Pioneer Manufacturers of Guaranteed Poultry and Stock Regulators and Remedies

THIS COUPON IS WORTH $1.35 TO YOU

Assortment No. 1		Assortment No. 2	
Poultry Regulator	50c	Animal Regulator	50c
Disinfectant	35c	Poultry Regulator	50c
Powdered Lice Killer	50c	Disinfectant	35c
Roup Remedy	25c	Powdered Lice Killer	25c
White Diarrhea Remedy	25c	Roup Remedy	25c
Total retail value	$1.85	Total retail value	$1.85

NOTE: Pratts Preparations are put up in packages of many different sizes. The larger are more economical. The "best buy" in Poultry and Animal Regulators is 25 lb. pails or 100 lb. bags.

To Any Dealer in Pratt Food Co. Products— 35

This is your authority to deliver to bearer, upon receipt of this coupon properly signed and 50c in cash, Pratts Preparations—either assortment No. 1 or No. 2 as listed herewith—to the value of $1.85. This offer is good only during February, 1917, and but one assortment is to be furnished each household. Forward the signed coupon to our Philadelphia office and we will credit you $1.35. Good only in the United States and Canada.

Assortment No._____ Goods received (date)_____

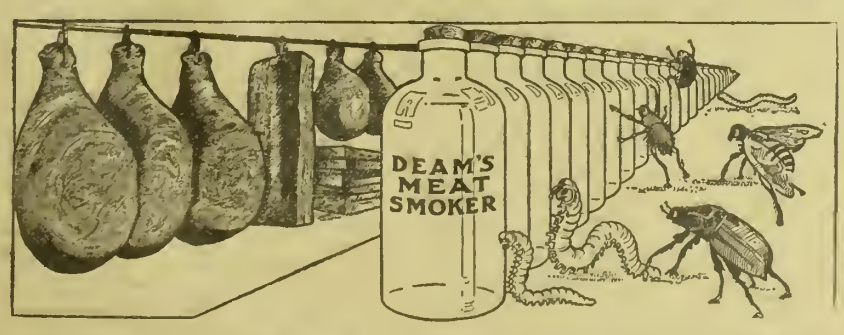
Buyer's Name_____

Address_____

Dealer's Name_____

Address_____

DEAM'S MEAT SMOKER



Takes the place of the Smoke House. No fire, no danger. Imparts the fine smoky flavor, protects meat from skippers and mould. Sold for 18 years, guaranteed satisfactory or money back. Put up in quart bottles and sells for 75 cents. Ask your dealer for Deam's Meat Smoker. If he should not have it, write us.

Bluffton Chemical Co.
BLUFFTON, INDIANA

RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

BARRED ROCK COCKERELS AND PULlets. Nat A. Owens, Traer, Iowa.

BARRED ROCK EGGS—WILL PLEASE. $1 postpaid. Mrs. Geo. Kennedy, Edmond, Okla.

WHITE ROCKS, SIZE AND QUALITY. Prices reasonable. Write G. M. Kretz, Clifton, Kansas.

FOR SALE—BUFF ROCK AND BLACK Langshan roosters, good ones, $1.50 each. Newton Coffman, Rosendale, Mo.

FOR SALE—BARRED ROCK COCKERels, $2 each. Agnes D. Wilson, Phone 400, Grantville, Kansas.

BARRED ROCK COCKERELS, BETTER than ever. Fifteen years breeder. Florence Belle Ziller, Hiawatha, Kansas.

CHOICE BARRED PLYMOUTH ROCK cockereis and pullets, $2 to $3 each. E. Leighton, Effingham, Kansas.

BARRED PLYMOUTH ROCKS — FARMbred beauties. Eggs for hatching, 5c each. Mrs. W. C. Bocker, Solomon, Kan.

FINE BARRED ROCK COCKERELS, $1.50. White Pekin Drakes, $1. Mrs. Bryant Wells, Belmont, Kan.

FOR SALE—BARRED ROCK EGGS, C. A. Hawk strain, $1.50 per setting. Mrs. Wm. L. Sheily, Route 1, Atchison, Kansas.

PARTRIDGE ROCK COCKERELS — Noftzger strain. Clarence Hoffman, Preston, Kansas.

BARRED ROCK EGGS, $1 PER SETting, $4 per hundred. Mrs. Lille Hirt, Parkerville, Kansas.

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RINGLET BARRED ROCKS, BUFF Minorcas. Stock and eggs. Free catalog. R. A. Ogden, Wichita, Kansas.

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BARRED PLYMOUTH ROCKS — FARMbred beauties. Eggs for hatching, 5c each. Mrs. W. C. Bocker, Solomon, Kansas.

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ARISTOCRAT AND BRADLEY STRAIN Barred Rock cockerels, good size, bone and barring. Mrs. Bert McTaggart, Pawnee, Ill.

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BLUE RIBBON BARRED ROCKS — Twenty-eight years' experience; 110 premiums. Cockereis, $3, $8; eggs, fifteen, $3. Mrs. Chris Bearman, Ottawa, Kansas.

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BARRED ROCKS, HENS AVERAGED 175 eggs, 1916. Trap-nest males and their pullets mated with fine cockereis. Eggs, 10c; fifty, $4. Farnsworth, 224 Tyler St., Topeka.

FOR SALE — EXTRA FINE BARRED Rock cockereis. Cockerel mating. Pure Thompson strain. Sired by $25 bird. $3.50 to $5 each. G. W. Romberg, Red Oak, Iowa.

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FORTY FINE BARRED PLYMOUTH Rocks for sale for $50. Several $5 birds in this bunch. Colwell Hatchery, Smith Center, Kan.

PARTRIDGE PLYMOUTH ROCKS, FIRST prize winners Greater Omaha Poultry Show. Eggs for sale. Prices reasonable. Jno. W. Norton, Talmage, Neb.

FANCY NARROW BARRED ROCK EGGS from winter layers, $1.25 setting. Reserve your orders now. Clyde Karel, Clarkson, Neb.

BUFF ROCKS—WILL CLOSE OUT REmaining utility cockerels from my New York, Chicago and St. Louis winners at $3 each. Pullets, $1.50 up. T. H. Lucas, Pattonville, Mo.

BARRED PLYMOUTH ROCKS, RHODE Island Reds. Fine lot of birds now ready for shipment. Prices reasonable. Quality guaranteed. Eggs in season. Tom Leftwich, Winfield, Kansas.

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WHITE WYANDOTTE COCKERELS. U. A. Gore, Seward, Kansas.

WHITE WYANDOTTE COCKERELS, $1.50. Mrs. R. T. Wright, Grantville, Kan.

R. C. BUFF WYANDOTTE EGGS, $1.50 for fifteen. G. G. Wright, Langdon, Kan.

PARTRIDGE WYANDOTTE EGGS, $3.00 per fifteen; $5.50 per thirty. Mrs. O. E. Collins, Drexel, Mo.

ROSE COMB SILVER LACED WYANdotte cockerels, $1.50 each. Mrs. H. R. Young, Stella, Neb.

FOR SALE — WHITE WYANDOTTE eggs, $4 per hundred. Vida Hume, Tecumseh, Kansas.

EXTRA CHOICE ROSE COMB SILVER Wyandotte cockerels, $2 each, six for $10. Mrs. Phillip Schuppert, Arrington, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Cockerels, $2, $2.50, $3, $4, $5; hens, $1.50, $2. Mrs. Edwin Shuff, Plevna, Kansas.

ROSE COMB WHITE WYANDOTTES — Pullets, $1.50 each; eggs, per fifteen, $2; flock, fifteen, $1; 100, $4.75. Mrs. Effie Acheson, Palco, Kansas.

COLUMBIAN WYANDOTTES—WINNERS at Kansas State Fair, Hutchinson. Choice cockereis. Stock for sale. Eggs in season. Fancy pigeons. John J. Pauls, Hillsboro, Kansas.

EXTRA FINE PURE-BRED PARTRIDGE Wyandotte cockereis. Doolittle-Trolverine strain, for sale, $2 each. Selected eggs for hatching, $2 for 24. Orders booked now. R. F. Ayres, Route 5, Box 196, Independence, Missouri.

SILVER LACED WYANDOTTES, WON first, second, third cockerel; first, second, third pullet, first pen, Northwest Missouri Poultry Association. Eggs in season, $1.25 per fifteen, $3.50 for fifty, $6.00 per hundred, postpaid. Mrs. Arthur Wiley, Route 5, Maryville, Mo.

TURKEYS.

FOR SALE—MAMMOTH PURE BRONZE turkeys. Some two-year-olds. Nora Holmes, Fredonia, Kansas.

BOURBON RED TURKEYS, LARGE with splendid color and markings. Mrs. Elmer Nicholson, Route 5, Wellington, Kan.

SARVER'S FAMOUS NARRAGANSETT turkeys, large boned stock, unrelated. Sunlight Poultry Farm, Mt. Moriah, Mo.

BOURBON RED TURKEY EGGS. 30c each, two and three-year-old laying stock. Orders booked now, shipped when wanted. W. H. Oliver, Reger, Mo.

FOR SALE — M. B. TURKEYS, BIG, growthy fellows. Buff Rock cockereis and White Indian Runner drakes. No better blood anywhere. G. W. Perkins, Newton, Kansas.

WHITE HOLLAND TURKEYS, SINGLE Comb White Leghorns, Single Comb Buff Orpington eggs. Baby chicks. Mrs. S. A. Warren, Reger, Mo.

BOURBON TOMS, TOULOUSE GANDERS, Partridge Rock cockereis, Buff Orpington cockereis and drakes. Eggs in season. Mrs. Frank Neel, Beverly, Kansas.

FIFTY MAMMOTH BRONZE TURKEYS. Toms, $7.50, $10, $15; pullets, $5, $10; hens, $10, $15. Eggs—Yard 1, $1 each; second, 50 cents. Black Langshans, Barred Plymouth Rocks, show record. Order direct from ad Order early. Jas. W. Anders, Unionville, Mo.

ORPINGTONS.

S. C. BUFF ORPINGTON COCKERELS, $1, $2 and $5. J. W. Falkner, Belvue, Kan.

MY BUFF ORPINGTONS STILL WIN, Omaha, December, 1916. Fine cockereis or pullets. H. T. Farrar, Axtell, Kansas.

EXHIBITION BUFF ORPINGTON EGGS, state, county winners. Bourbon Red turkeys. Prices reasonable. Write for catalog. Mrs. Rees Barton, Amoret, Mo.

ST. JOHN, KANSAS, November 24, 1916.
Please stop my ad, as I am sold out of White Rock cockerels. KANSAS FARMER is certainly a good puller. W. H. BEAVER.

JAMESTOWN, KANSAS, January 19, 1917.
Am having wonderful success from the ad I have been running in KANSAS FARMER the past four weeks. Am sending ad for special issue, to be continued until I notify you. MRS. IVER CHRISTENSON.

LANGSHANS.

BLACK LANGSHANS—EGGS, $1.25 FOR fifteen. Young hens and cockerels, $1.50 each J. Medford, Wheatland, Okla.

WHITE LANGSHANS, PRIZE WINNERS. Eggs, $1.50 per fifteen, $4 per fifty, $7.50 per hundred, postpaid. Mrs. Arthur Wiley, Route 5, Maryville, Mo.

BLACK LANGSHAN COCKERELS hatched from my San Francisco winning strain, at bargain prices if taken soon. H. M. Palmer, Florence, Kansas.

BLACK LANGSHANS, BRED FROM first prize birds, Iowa and Nebraska State Shows. Choice cockereis, $3; eggs, $1.50 per fifteen. Mrs. S. D. Marsh, Juanita, Neb.

BABY CHICKS.

BABY CHICKS —REDS, ROCKS, LEGhorns, 12½c. Eggs also. Request circular. McCune Hatchery, Dept. M, Ottawa, Kan.

YOU BUY THE BEST BABY CHICKS for least money at the Colwell Hatchery, Smith Center, Kansas.

SEVERAL BREEDS.

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EGGS AND BABY TURKS OF PUREbred prize winning Bourbon Red turkeys, S. C. Reds, fine laying strain. Eggs and baby chicks. Booking orders now. Mrs. A. G. Fricsz, Keytesville, Mo.

FREE—1917 PRICE LIST OF EGGS. ALL leading breeds of chickens, turkeys, ducks, geese and guineas. Monroe Poultry Yards, Monroe, Iowa.

EGGS FOR SALE—BUFF AND WHITE Orpingtons; Buff and Brown Leghorns, all single comb, $1 per setting. Mammoth Pekin and Fawn and White Indian Runner duck eggs. C. C. Haller Poultry Plant, Fremont, Neb.

COCKERELS, $2; PULLETS, $1.50 EACH. Can make up some good pens at very reasonable prices. All the leading breeds. Now is the time to order eggs for early spring delivery, $1.50 per setting, $6 per hundred. J. L. Keating, Box 357, Kansas City, Mo.

QUALITY EGGS FOR HATCHING FROM the much wanted Imperial 'Ringlet" Barred Plymouth Rock. "Goldbank" Mammoth Bronze turkeys; Golden and Chinese Ringneck Pheasants. Orders booked for small deposit. Thank you. Harper Lake Poultry Farm, Jamestown, Kansas.

FOR SALE, EGGS—EGGS FROM PUREbreds, and cockereis, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minoreas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

A FEW GOOD BUFF ORPINGTON cockereis for sale. Mrs. C. F. Cooper, Nickerson, Kansas.

BUFF ORPINGTON EGGS FROM PRIZE winners, $1.25 per fifteen. Mrs. Vall, 3610 Ida, Omaha.

GOOD BUFF ORPINGTON DRAKES FOR sale, $1.25 to $2.50 each. John A. Huber, La Crosse, Kansas.

SINGLE COMB BUFF ORPINGTON eggs from silver cup winners. Prices reasonable. Mrs. J. N. McDaniel, Arbela, Mo.

EGGS FROM S. C. WHITE ORPINGTONS reasonable. Write me. John Vanamburg, Marysville, Kansas.

BUFF ORPINGTONS, EGGS AND CHICKS Bred for eggs 16 years. Circular free. Will Schadt, Box 1055, Goshen, Indiana.

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SINGLE COMB BUFF ORPINGTON eggs from prize winners. Also some choice cockerels left. Mrs. Earle King, Raymore, Missouri.

BUFF ORPINGTONS—SOME GOOD HENS and pullets yet for sale. Eggs from winners, $1.50 and $3 per fifteen. L. S. Weller, Salina, Kansas.

LIMITED NUMBER WHITE ORPINGton cockerels, bred from Aldrich best 1916 mating. Eggs from three fine pens. Satisfaction guaranteed. H. M. Goodrich, 712 Topeka Ave., Topeka, Kansas.

S. C. BUFF ORPINGTON COCKERELS and pullets whose grandsire was first prize winner at Madison Square Garden, New York. Price, $2 to $5. Guaranteed to please. Thos. D. Marshall, Sylvia, Kansas.

SINGLE COMB PRIZE WINNING GOLden Buff Orpingtons, fine layers, won first best pair, sweepstakes cockerel, all breeds competing, at Mountain Grove, Mo., 1916. Eggs, $4.50 per hundred. Mrs. Mary Knotwell, Norwood, Mo.

DAMON'S ORPINGTONS—MY S. C. BUFF and White Orpingtons win in all classes of competition. Five splendid matings in buffs and whites. Imported blood. Write for mating list. Few white cockerels for sale cheap. J. E. Damon, Caldwell, Kansas.

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ROYAL BLUE STRAIN ROUEN DUCKS, $1.75 each. James Cassell, Fremont, Neb.

GEESE, EMBDEN, TOULOUSE, CHINA; turkeys, ducks. All leading breeds of poultry. Emma Ahlstedt, Roxbury, Kan.

FAWN INDIAN RUNNER DUCKS BY the hundred, 95c; smaller lots, $1 each. Mrs. E. C. Wagner, Holton, Kansas.

POULTRY WANTED.

PAYING FOR NO. 1 POULTRY—TURkeys, 24c; hens, 17c; capons, 21c; ducks, 14c; guineas, dozen, $5. Coops free. The Copes, Topeka.

LEGHORNS.

ROSE COMB BROWN LEGHORNS. MRS. Ida Standiford, Reading, Kansas.

S. C. W. LEGHORN EGGS. STATE WINner. Mrs. W. R. Hildreth, Oswego, Kansas.

ROSE COMB LEGHORN COCKERELS—Eggs in season. Mrs. John Holzhey, Bendena, Kansas.

PURE-BRED BUFF LEGHORN COCKereis, $1; choice, $1.50. P. A. Wempe, Seneca, Kansas.

SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

SINGLE COMB WHITE LEGHORN cockereis. Dave Baker, Conway Springs, Kansas.

PURE-BRED S. C. WHITE LEGHORN cockerels. Mrs. D. Christmann, Oswego, Kansas.

SINGLE COMB WHITE LEGHORNS—Cockerels, $1. Eggs, chicks. Mrs. C. C. Cole, Levant, Kansas.

281 EGG STRAIN BUFF LEGHORNS—Settings, $3. Mrs. Charles Hume, Anadarko, Okla.

S. C. B. LEGHORN COCKERELS—FINE birds for sale, $1.50 and $2. J. J. Staider, Meade, Kansas.

FOR SALE—SINGLE COMB BROWN Leghorn cockerels. $1.50 each. Hurry. Chas. M. Steil, Scribner, Neb.

SINGLE COMB WHITE LEGHORN eggs, $4 per hundred. Mrs. H. A. Ketter, Seneca, Kansas.

ENGLISH WHITE LEGHORN EGGS, cheap. Write for prices. I. M. Fisher, El Dorado Springs, Mo.

FOR SALE—S. C. W. LEGHORN COCKereis, raised from prize winning stock and extra good laying strain, $1, $2 and $3 each. I. H. Gnagy, Pretty Prairie, Kansas.

PRIZE WINNING SINGLE COMB BUFF Leghorns and Single Comb Reds. Extra winter layers. Eggs for hatching. C. B. Hinchliff, Hamilton, Mo.

S. C. BUFF LEGHORNS, HATCHING eggs. The quality kind from my winners at Omaha and Lincoln. Otto Timm, Bennington, Neb.

ROSE COMB WHITE LEGHORN COCKereis, scored birds. Write for prices. Eggs for hatching, $5 per hundred. Mrs. Joe Streeter, Route 5, Hamilton, Mo.

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BROWN LEGHORNS — ROSE. SINGLE Comb. Bred to lay strain breeding. Eggs, fifteen, $2; fifty, $3; hundred, $6. Plainview Poultry Farm, Lebo, Kansas.

S. C. BUFF LEGHORN COCKERELS, $2 to $5 each. Bred to lay stock. Winners at state show. Eggs in season. Pearl Haines, Rosalia, Kansas.

SINGLE COMB BROWN LEGHORNS — Thirty-one prizes at Kansas State Show, 1917, including eight firsts. W. J. Roof, Maize, Kansas.

SINGLE COMB BROWN LEGHORNS — Pullet line only, forty years with this breed. Eggs, $1.50 per fifteen, $7 per 100, prepaid. Tiff Moore, Osage City, Kan.

POSTPAID, EGGS — PRIZE WINNING stock. Young and Tom Barron strains. Single Comb White Leghorns, $5 per hundred, $1 per setting. Maple Hill Farm, Thos. Gaston, Prop., Bosworth, Mo.

RUSSELL'S FAMOUS BROWN LEGhorns, single comb, prize winners, heavy layers. Write for catalog. Satisfaction guaranteed. Mrs. Geo. Russell, Chilhowee, Missouri.

S. C. WHITE LEGHORNS. I AGAIN have state show prize winners, exhibition and utility cockerels for sale. Eggs. Eggs. Eggs. Mrs. Terry Junkins, Osawatomie, Kansas.

PRIZE WINNING S. C. WHITE LEGhorns at two state shows. Eggs, $2, $3 and $5 per fifteen. Eggs from flock, $5 per 100. Chicks. Send for free mating list. C. G. Cook, Box F, Lyons, Kansas.

SINGLE COMB WHITE LEGHORNS, Columbian Wyandottes, Muscovy ducks, fancy pigeons. Catalog. Southdown sheep, Berkshire swine. J. A. Leland, Springfield, Illinois.

SINGLE COMB BROWN LEGHORNS—Fine winter laying utility and beauty strain. Eggs from trap nests. Pullets in Leavenworth contest. Eggs, per hundred, $4.50 and $6; baby chicks, 12½ cents apiece. Paradise Poultry Farm, Carona, Kansas.

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S. C. W. LEGHORN COCKERELS FROM hens with records over two hundred eggs; one, two, three dollars each. Baby chicks, 12½c each. Eggs, $5 per hundred. Hyperion White Leghorn Farm, Route 1, Des Moines, Iowa.

YOU WANT GOOD LAYERS. MOORE'S strain of S. C. Brown Leghorns are prize winners and winter layers. Eggs, $1 for fifteen and $4 for 100 postpaid. John W. Moore, R. R. No. 1, Poplar Bluff, Mo., formerly of Hendrickson, Mo.

S. C. W. LEGHORNS, BRED TO LAY. Hens, $1.50 to $2 each; pullets, $1 to $1.50 each; less by the dozen. A few cockereis for sale. Also White Embden Geese, either sex, $2.50 to $3 each. I. P. Myers, Box 26, Haysville, Kan.

(Continued on Next Page)

Classified Advertising

RHODE ISLAND REDS.

CHOICE ROSE COMB RHODE ISLAND Red cockerels. Mrs. C. H. Jordan, Wakarusa, Kansas.

QUALITY SINGLE COMB REDS—BARgains if ordered soon. Mrs. Elmer Nicholson, Route 5, Wellington, Kansas.

DARK RED ROSE COMB RHODE ISLand Red cockerels, $3 and $4 each. Mrs. F. A. McGuire, Paradise, Kansas.

COCKERELS, S. C. R. I. REDS, GOOD size, good color. Price $1.50. Mrs. Joseph Greene, Bernard, Iowa.

EGGS FROM PRIZE WINNING ROSE Comb Rhode Island Reds. Catalog free. M. L. Puckett, Puxico, Mo.

ROSE COMB RHODE ISLAND RED cocks and cockerels, $1.50, $3 and $5. Mrs. W. A. Gill, Larned, Kansas.

R. C. RHODE ISLAND RED COCKERels, extra fine, $3 each, two for $5; eggs, $5 per hundred. Redview, Irving, Kansas.

FINE ROSE COMB RED COCKERELS, $2. Baby chicks, 10 cents. Order now. Lily Robb, Neal, Kansas.

S. C. R. I. RED MALE BIRDS—WINnings for last three years, 12 firsts, 8 seconds, 5 thirds, 4 fourths, and 7 specials. James Sisters, Olathe, Kansas.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Mating list. L. E. Castle, Wichita, Kansas.

S. C. RHODE ISLAND RED COCKERELS and cocks, all excellent breeders. Deep red in color and large. $5 to $10 each. H. J. Booth, Park Ridge, Illinois.

S. C. REDS—BLUE RIBBON WINNERS; few choice cockerels and eggs for sale. Price reasonable. Finch's Rhode Island Red Farm, Springfield, Mo.

S. C. REDS — CONTINUOUS WINNERS at the big shows. Eggs now from winter layers. Exhibition matings, settings $3. Sumerwell's Hillside Farm, 3218 North 28th, Kansas City, Kansas.

SINGLE COMB RHODE ISLAND RED cockerels, large husky dark red fellows that will improve your flock, $3 to $15 each. Write for price on hatching eggs. Nels W. Peterson, Mason City, Neb.

EGGS FOR SALE—S. C. R. I. REDS.—Breeder for twelve years. $1.50 per setting of fifteen; $5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

ONE HUNDRED ROSE COMB RHODE Island Red cocks and cockerels, sired by roosters costing $15 to $35—$2, $3.50, $5 and $7.50 each. A few higher. Order at once. They will go fast. Our pens mated for 1917 are the best we ever had. W. R. Huston, Red Specialist, Americus, Kansas.

BRAHMAS.

LIGHT BRAHMAS—EGGS FOR HATCHing after February 1. Geo. W. Craig, 2031 N. Water St., Wichita, Kansas.

LIGHT BRAHMA COCKERELS — 100 good heavy birds, have won prizes at leading shows. Can surely furnish you quality. Schreiber Farm, Sibley, Iowa.

LIGHT BRAHMAS, FELCH STRAIN—Twelve premiums, fourteen entries in Kansas State Show; stock and eggs. Satisfaction or money back. Mrs. J. R. Kenworthy, Wichita, Kansas.

RHODE ISLAND WHITES.

ROSE COMB RHODE ISLAND WHITES, prize winning stock, size of Reds, mature earlier, better layers. Eggs, 100, $8; 50, $4; 15, $1.50; cockerels, $2, $3 and $5. Catalog. Col. Warren Russell, Route 4, Winfield, Kansas.

ANCONAS.

ANCONA EGGS, SIXTEEN, $1; 100, $5. W. G. Shaw, Cherokee, Okla.

SINGLE COMB ANCONA COCKERELS for sale, $1.50 each. Louella Blosser, Route 7, Independence, Kansas.

MOTTLED ANCONA COCKERELS, $2; three, $5. Eggs in season. Mrs. Mary Bates, Dighton, Kansas.

SINGLE COMB ANCONAS—EGGS, FIFteen for $1.25 or $6 per hundred delivered. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

ANCONA EGGS FROM HEALTHY FARM range birds. Prices reasonable. A few cockerels left. Mrs. Will Torgeson, White City, Kansas.

ANCONA WINNERS KANSAS CITY shows, 1916 and 1917. Orders taken. Send for photos. Dr. Ferdinand Schreiman & Son, Concordia, Mo.

CORNISH FOWLS

DARK CORNISH CHICKENS. SUNNYslope Farm, Stillwater, Okla.

PIGEONS.

DARK CORNISH FANTAIL PIGEONS—See them at the shows. Dr. Weed Tibbits & Sons, Richland, Kansas.

FARM AND HERD.

Catalogs are out for Fred B. Caldwell's Poland China bred sow sale to be held at Howard, Kansas. Forty head of choice sows have been catalogued for this sale. Thirty-five of the lot are either sired by or bred to Caldwell's Big Bob, the sensational boar weighing 1,065 pounds at nineteen months of age. Among the lot catalogued are daughters of some of the most noted Poland China boars bred to Caldwell's Big Bob.

W. W. Finney, of Emporia, Kansas, recently purchased ten choice pure-bred cows and heifers from one of the good northern herds. His purchase included six daughters of Leo Altje. One of them recently made a seven-day butter record of 25.76 pounds as a three-year-old. His purchase includes daughters of White Oak Ormsby and Sir Korndyke Hengerveld DeKol.

H. E. Anderson, owner of Clover Valley Holstein farm, Whitewater, Wis., writes that his herd is making a good record this winter and that the demand for choice registered and high grade Holsteins is very heavy. Clover Valley Farm is the home of one of Wisconsin's great Holstein herds. There are now 150 head in the herd, headed by one of the good sires in service. His dam has a record of over 100 pounds milk per day for thirty days, and a seven-day butter record of 35.43 pounds.

S. Y. Thornton, of Blackwater, Mo., reports his great herds of Durocs doing well. This is one of the oldest herds of Durocs in existence. It was founded by A. F. Collins before the American Duroc Record Association was organized, and Mr. Collins was one of the charter members of the association. The herd was purchased by Mr. Thornton in 1887 and he has built up a herd of the popular, easy-feeding and profitable type. He keeps his herd immune at all times and the result is that he always has a healthy lot of hogs. This year he has bred a large number of outstanding spring gilts for March and April farrow.

HELP WANTED.

BE A GOVERNMENT FARMER. GOOD pay; steady, interesting job. Write Central Institute, 44-F, St. Louis.

FARM HAND FOR THE SUMMER. House, wood and garden. Give wages wanted. F. G. Houghton, Dunlap, Kan.

GOOD MAN TO TAKE ORDERS, GET own clothes free, make big money. Knickerbocker Tailoring Co., Dept. 594, Chicago.

MAN OR WOMAN TO TRAVEL FOR old established firm. No canvassing; $1,170 first year, payable weekly, pursuant to contract. Expenses advanced. G. G. Nichols, Philadelphia, Pa., Pepper Bldg.

FARMERS 18 OR OVER—GET GOVERNment jobs, $75 to $150 month. Vacations with full pay. Spring examinations everywhere. Education unnecessary. Sample questions free. Write immediately. Franklin Institute, Dept. W-82, Rochester, N. Y.

AGENTS WANTED.

WE PAY $80 MONTHLY SALARY AND furnish rig and expenses to introduce guaranteed poultry and stock powders. Bigler Company, X 671, Springfield, Ill.

REAL ESTATE.

TRADES EVERYWHERE — EXCHANGE book free. Bersie Agency, El Dorado, Kan.

CHOICE IMPROVED QUARTER, 100 cultivated. Close to town, church, school. E. Hillyer, Republican City, Neb.

GEORGIA, $7.00 ACRE UP, RICH SOIL, ranches, farms. Investigate. H. Lee Davis, Aiken, S. C.

WANTED—TO HEAR FROM OWNER OF good farm for sale. Send cash price and description. D. F. Bush, Minneapolis, Minn.

IF YOU WANT TO SELL OR EXchange your property, write me. John J. Black, Desk C, Chippewa Falls, Wis.

FOUR HUNDRED ACRES IMPROVED ranch, Elk County, Kansas; $800 rent; immediate possession. Write owner, 407 Jackson Ave., Kansas City, Mo.

WANTED — TO RENT A FARM FURnished with stock and implements. Will share with landlord as pay or will accept position as manager on share basis. Dairying preferred. References furnished. Address Kansas Farmer or John W. Judah, Hiattville, Kan.

SUCCEED IN FLORIDA. GET BIG prices for winter vegetables, oranges, grapefruit. Staple crops yield enormously. Live stock cheap to raise, brings fine prices. Rich sandy loam, clay subsoil. Delightful year-round climate on our lands. Good community. Close to transportation. Abundant artesian water, ample drainage. Capable men with reasonable funds to start can make big money rapidly. Write for free book. Swope Land Company, Oviedo, Fla.

YOUR CHANCE IS IN CANADA.—RICH lands and business opportunities offer you independence. Farm lands, $11 to $30 acre; irrigated lands, $35 to $50; twenty years to pay; $2,000 loan in improvements, or ready made farms. Loan of live stock; taxes average under 20 cents an acre; no taxes on improvements, personal property, or live stock. Good markets, churches, schools, roads, telephones; excellent climate — crops and live stock prove it. Special homeseekers' fare certificates. Write for free booklets. Allan Cameron, General Superintendent Land Branch, Canadian Pacific Ry., 234 Ninth Ave., Calgary, Alberta.

NEW FARM OPPORTUNITY IN ONE OF the greatest states in the Union. A new line of the Santa Fe is tapping a rich and fertile prairie section of Northwest Texas, where already many farmers have made good in a big way with wheat, hogs and live stock. Here, if you act now, you can get first choice—get in on the ground floor of a great opportunity. You can get in ahead of the railway—ahead of the people whom the railway will bring—ahead of those who act more slowly than you do. This is the chance of a lifetime for a man of moderate means. A certain number of thrifty, far-seeing farmers can acquire good land at an astonishingly low figure and on long, easy terms. If you have confidence that a great railroad, like the Santa Fe, would only recommend what it considers a good thing, and because it wants to see new territory developed and wants newcomers to prosper and produce—then write me today for particulars about this district. Mild climate, social advantages, schools, churches, telephones, good roads. Everything there but enough men with their families. Will you be one of the fortunate first comers to reap the advantages of a section that has been minutely inspected by a Santa Fe agricultural agent and pronounced right? Write me now and let me send you a copy of the special illustrated circular we are getting out. C. L. Seagraves, Industrial Commissioner, A. T. & S. F. Ry., 931 Railway Exchange, Chicago.

MISCELLANEOUS.

FOR SALE CHEAP, RUG FACTORY outfit. J. F. Thomas, Webber, Kan.

YOU CAN MAKE A GOOD LIVING IN your back yard raising Belgian hares. Full particulars and price list of all breeds, 10c. W. G. Thorson, Aurora, Colo.

FOR SALE — 16-HORSEPOWER GASOline engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost $480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

WANTED — MEN AND WOMEN, CAN have furnished them brief of the laws of their state, explained in manuscript, compiled by expert attorney, explaining provisions which interest life, business and estate. You may also ask questions. Price $1.00. Charles Vance, Attorney, 301 Farmers Trust, South Bend, Indiana.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

TREES, SEEDS AND PLANTS.

SEED CORN—BOONE COUNTY WHITE. Carefully selected. $2.50 per bushel, shelled. J. W. Taylor, Edwardsville, Kansas.

ALFALFA SEED, CHOICE, RECLEANED new crop at $8 per bushel. Write for samples. C. Markley, Belle Plaine, Kansas.

DAIRYMEN—WE HAVE SEVERAL CARS No. 1 second cutting alfalfa for sale. Shimer & Son, 1815 Kansas Ave., Topeka.

RHUBARB ROOTS, $1.75 HUNDRED. Large variety; other plants. Price list. Fayetteville Plant Co., Fayetteville, Ark.

PURE GRADED FETERITA SEED, $4.00 per 100 pounds. Fred Hothan, Scranton, Kansas.

BLACK-HULLED WHITE KAFIR SEED, $2.25 for 70 pounds in head. H. W. Chestnut, Kincaid, Kansas.

SWEET CLOVER WANTED. GIVE quality and lowest price. Best propositions accepted. Standard Seed Co., Eureka, Kan.

BOW CREEK FARM SEEDS—ALFALFA, feterita, kafir, Sudan grass, corn. (Sudan, sweet clover wanted.) Logan, Kansas.

TEN ELBERTA AND FIVE CHAMPION peach trees, postpaid, $1. Send now. Wellington Nurseries, Dept. C, Wellington, Kan.

TIMOTHY SEED—FANCY, NEW CROP, recleaned timothy seed at $2.50 per bushel. Write today for samples. Watson Bros., Seed Merchants, Milan, Mo.

SEED CORN — DIAMOND JOE WHITE, excellent drouth resister, and Reid's Yellow Dent. Graded, $2.50 bushel. D. D. Denver, Milford, Kansas.

NO. 1 WHITE SWEET CLOVER SEED for sale. New crop, hulled, recleaned and graded Forty bushels. Write for samples and prices. J. J. Getz, Atlanta, Kan.

IOWA GOLD MINE AND BOONE CO. White seed corn, selected, shelled, graded, $2 per. Choice alfalfa seed, $7.50 per. Samples free. J. F. Felgley, Enterprise, Kan.

REID'S YELLOW DENT, BOONE COUNTY White seed corn. Genuine Red Texas seed oats, clover, timothy and alfalfa seed. S. G. Trent, Hiawatha, Kansas.

SEED CORN — JOHNSON CO. WHITE, Boone County White, Reid's Yellow Dent, Hiawatha Yellow Dent. Won first and sweepstakes at state show. Write George R. Manville, Faucett, Mo.

RED TEXAS RUST-PROOF SEED OATS, recleaned and carefully graded. You buy nothing but oats. Grown here one year. They are fine. Let me send you a sample and price. Warren Watts, Clay Center, Kan.

KAFIR SEED — WE HAVE TWO CARS fine white kafir seed testing over 90 per cent germination, which we will sell while it last in 2-bushel sacks at $1.85 per bushel. Sacks free. It is going to be hard to find good kafir like this this year. If you will need kafir, better order quick. Brooks Wholesale Co., Ft. Scott, Kan.

When Writing to Advertisers, Please Mention Kansas Farmer

DOGS.

FOX, WOLF AND COON HOUNDS; rabbit dogs. Reasonable. J. P. Tindall, Lees Summit, Mo.

FOR SALE—PAIR GUARANTEED COON hounds. Send 2 cents for prices. John Rash, Centerville, Kansas.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

WISCONSIN LAND FOR SALE

LANDOLOGY, A MAGAZINE GIVING the facts in regard to the land situation. Three months' subscription free. If for a home or as an investment you are thinking of buying good farm lands, simply write me a letter and say, "Mail me Landology and all particulars free." Address Editor Landology, Skidmore Land Co., 301 Skidmore Bldg., Marinette, Wis.

GOATS

FOR SALE—MILCH GOATS. BURR Fleming, Eminence, Kansas.

BEE SUPPLIES.

FORTY-FIVE HIVES BEES — BEST grade Manf hives, well painted, all in good condition. Make offer. Bees are within 20 miles Topeka. Address Box 27, Kansas Farmer, Topeka, Kansas.

HONEY.

PURE ALFALFA HONEY, DELICIOUS flavor; two 60-pound cans, $12.75. Wesley Foster, Producer, Boulder, Colo.

PURE HONEY—TWO 60-POUND CANS, $9.50, f. o. b. Las Animas, Colorado. W. P. Morley.

WANTED—TO BUY.

WANTED, A GOOD DOG TO KEEP bums away. O. A. Wiley, Route 1, Florence, Kansas.

SITUATION WANTED.

WANTED—EXPERIENCED MAN WANTS work on farm. Good references. James Wood, 2215 S. 61st ave., Benson, Neb.

MARRIED MAN WANTS JOB ON FARM. House furnished. Small family. R. C. Samuels, Garnett, Kansas.

SITUATIONS WANTED BY TWO YOUNG experienced Germans. General farm hands. If you appreciate a reliable man, address G, care Kansas Farmer.

THE STRAY LIST.

TAKEN UP ON THE 20TH DAY OF May, 1916, by A. L. Jasper, Santa Fe, Haskell County, Kansas, one red heifer calf, no brands. A. R. Henage, County Clerk.

TAKEN UP BY H. R. ERDMAN, NORTH Fifth Street, Kansas City, Kansas, on January 8, 1917, one red steer, weight 800 lbs., cross on hip. Appraised at $40. William Beggs, County Clerk, Wyandotte County.

TAKEN UP — BY OWEN O'NEIL, OF Windom, McPherson County, Kansas, on the twentieth day of December, 1916, one heifer coming two years old, color deep red, no marks or brands. W. E. Rostine, County Clerk, McPherson, Kansas.

NOTICE IS HEREBY GIVEN THAT ON December 28, 1915, one red steer with horns, three years old, was taken up by W. E. Kimel in Ninnescah Township in Sedgwick County, Kansas. Said animal was appraised December 28, 1916, at $50. H. M. Barrett, County Clerk, Wichita, Kansas.

TAKEN UP — ON THE 15TH DAY OF March, 1916, by C. S. Heath, whose residence is eight miles north and 3½ miles east of Leoti, East Edwards Township, Wichita County, one mare pony about 4½ feet high, weight 750 pounds, color sorrel, age nine years, brand "C" on left hip, white stripe in face, appraised at $30. Dean Trueblood, County Clerk, Wichita.

HORSES AND MULES.

FOR SALE CHEAP—TWELVE JENNETS, good breeding. Geo. S. Stullken, Bazine, Kansas.

SALE OR TRADE FOR YOUNG STOCK, 15-16th Belgian stallion 9 years old, weight 2,000 pounds; 65 per cent breeder. W. G. Shideler, Silver Lake, Kansas.

WANTED — TO TRADE 1,000-POUND registered blue ribbon jack, 7 years old, black, for good draft stallion. J. E. Itschner, Box 122, Sayre, Okla.

ONE REGISTERED PERCHERON STALlion, 4 years old, weight 1,950 pounds, black with small star, Reg. No. 89169. One road stallion, "Ben Weaver," track record 2:18. One mammoth black jack, 4 years old, heavy boned, 14 hands. All good breeders and colts to show. Emern H. Stedd, County Clerk, Lyons, Kansas.

CATTLE.

FOR SALE—TWO REGISTERED SHORThorn bulls. Write for breeding. R. C. Watson, Altoona, Kansas.

POLLED JERSEYS—BREEDERS' NAMES of Chas. S. Hatfield, Secy., Box 40, Route 4, Springfield, Ohio.

FOR SALE — REGISTERED GUERNSEY bull, serviceable age; May Rose-Glenwood breeding. For description and price write W. E. Evans, Jewell, Kansas.

300HEAD OF REGISTERED AND HIGH grade cows and heifers for sale, headed by the great 40-pound bull, Johanna King Segis. Neal Houslett, Oxford, Wis.

FOR SALE — AN EXCELLENT REGISTered Shorthorn bull, of serviceable age. Red in color. C. W. Merriam, Columbian Building, Topeka, Kansas.

FOR SALE—FOUR REGISTERED JERsey bull calves, Financial breeding, good enough for any herd. Priced cheap. Must sell. Earl Eager, Beaver Crossing, Neb.

FOR SALE—SIX PURE-BRED SHORThorn bulls from six to ten months old. Good lusty calves at the right price. Warren Watts, Clay Center, Kansas.

HOLSTEINS FOR SALE — ONE PUREbred heifer calf and four grades, nicely marked and colored. Arthur Findlay, Whitewater, Wis.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $20 apiece. Frank M. Hawes, Whitewater, Wis.

FOR SALE — REGISTERED GUERNSEY females, all ages; also a few males and grade cows, guaranteed right in every particular. Address Clovernook Farm, Whitefish Bay, Wis.

FOR SALE — REGISTERED HOLSTEIN male, five months old. His dam produced under official test, 16½ pounds of butter in seven days. Largely black but splendid individual. Price, crated, $100. Also full-blood male not registered, ten months old, nicely marked and from good producing dam. Large enough for light service. Price, crated, $50. F. E. Proctor, Oswego, Kan.

TRACTOR SHOW!

Second Annual Exhibit

Union Station Plaza

Kansas City, February 12th to 17th

Greatest display ever made. Seventy different models of Tractors; Tractor attachments for Automobiles, Power Cultivators, Power-Lift Plows, Special Binder Hitches and all kinds of new power-lift machinery. Beautiful decorations. Fine Orchestra. Show given under direction of the Kansas City Tractor Club.

SAME WEEK AS AUTOMOBILE SHOW

Come and Select Your Tractor During This Show.

THE MILLER HEREFORDS

Are Ready for Their

THIRD ANNUAL SALE

In the New Sale Pavilion at

Alma, Kansas, February 9-10

SIXTY PROMISING YOUNG FEMALES

THIRTY-FIVE PRIME YOUNG HERD BULLS

Two Carloads Coming Two-Year-Old Range Bulls

Good railway facilities. Outstanding hotel accommodations. Extra large offering of cattle that will give you a pleasant surprise when you see them, and a sale to be held in the new $4,000 heated sale pavilion at Alma, Kansas, on February 9 and 10, right in the heart of the Hereford community of the world, including Kansas.

You are cordially invited. Don't forget the date. Write for catalog today.

CARL MILLER, BELVUE, KANS.

Erhart & Sons' Poland China Sale

Hutchinson State Fair Pavilion

Hutchinson, Kansas, Thursday, February 22

63 Head - The Greatest Lot of Large-Type Hogs I Ever Offered. Every Sow and Gilt Bred to Our Great Herd Boars.

Fifteen tried sows, twenty fall yearling gilts, twenty-five spring gilts, three boars—herd headers. Included will be a large part of our last season's show herd. Five of these fall gilts are the best we ever raised; a number of our best sows also go in this sale.

They are sired by or bred to such sires as the grand champion Big Hadley Jr., Orphan Big Gun, Young Orphan, King Price Wonder, Big Bob Jr., and other sires of like large-type note. If you want larger and better Poland Chinas you cannot afford to miss this sale. Hourly interurban cars Wichita to Hutchinson and return. Write today for catalog. Address

A. J. Erhart & Sons, - Ness City, Kansas

Auctioneers—Snyder, Price, Burger, Groff.

O. W. Devine will represent Kansas Farmer at this sale.

FARM AND HERD.

C. M. Howard, of Hammond, Kansas, is one of the very successful breeders of pure-bred Polled Durham cattle. His herd was established twenty years ago and he has always used the best sires he could buy. He now has a herd of sixty head, headed by Sultan by Sultan's Creek, a noted bull of the breed which sold for $2,200 at public auction. A feature of his herd at this time is the choice lot of young stock, including a fine lot of young bulls sired by Milton, one of the big high-class sires of the breed and a great breeder.

PLEASE MENTION KANSAS FARMER WHEN WRITING TO ADVERTISERS

POLAND CHINA BRED SOW SALE



The above are fair samples of the many attractive things to be sold in the J. S. Turner Sale to be held at

FAIRFAX, MISSOURI, SATURDAY, FEB. 10

THIRTY-SIX HEAD

Twelve Tried Sows and Twenty-four Head of Yearlings and Spring Gilts, including daughters of King Alexander, Orange Wonder, Trusty King, B. Wonder, Jumbo Prospect, Big Bob Wonder 2d, and Missouri King.

Aside from the ones mentioned above, breeders will find attractive buys in a spring gilt by Fesey's Timm out of a GIANT WONDER DAM, second dam by BIG JOE. This gilt sold in the Head sale for $110 and is selling as an attraction in this auction. A fine yearling daughter of TRUSTY KING, one of the top sows in the W. B. WALLACE August sale, sells bred to KING ALEXANDER and is worthy of consideration.

OFFERING IS IMMUNE AND IS BRED AND SAFE TO

King Alexander

By King's Equal out of an Expansion-Tecumseh bred dam. Senior boar in this herd and a proven sire.

Model Big Bob Jr.

By Head and Leonard's Model Big Bob out of a dam by Long Jumbo 2d, a line of breeding second to none.

Robinette

By Robidoux and a litter brother to Robin Hood, a prize winner last year wherever shown, including the National Swine Show.

THOS. F. STRICKLER, CRAIG, MISSOURI, will consign ten head of top sows to this sale, equal in every way to the offering listed above.

The catalogs are ready and will be sent upon application by mentioning Kansas Farmer. Send today for catalog and arrange to come to my sale. Sale right in town, under cover.

J. S. TURNER, FAIRFAX, MISSOURI

20 Head - JACKS & JENNETS 20 Head

AT McCUNE, KAN., THURSDAY, FEB. 22



12 HEAD OF JACKS

From two years to aged jacks; 14 to 15½ hands high. Black with white points. Good bone, body, head and ears. These jacks are my own raising. Sired by Bradley's Sunlight and Kentucky Yelberton, both big Kentucky jacks. Kentucky Yelberton's dam took fourth premium at the St. Louis world's fair in a bunch of thirty and his sire took first premium at the Lexington, Kentucky, state fair for the best jack, and first premium for best jack with three colts, and his grand sire sired the champion yearling jack at the St. Louis world's fair.

8 HEAD OF JENNETS

Eight head of jennets from yearlings up to aged jennets. Aged jennets from 14 to 15 hands. Black with white points.

Will sell two driving mares and two good ponies. Will offer for sale one registered Percheron mare coming four years old; registered Percheron stud colt coming two years old, an extra good one.

TERMS: Cash or 12 months' time on bankable notes drawing 6% interest from date.

G. W. OVERLEY, McCUNE, KANS.

HOLSTEIN CONSIGNMENT SALE

at the

UNION STOCK YARDS SALE PAVILION

South Omaha, February 21, 1917, by the

Nebraska Holstein Breeders' Consignment Sales Company

(Incorporated under the laws of the State of Nebraska)

THIS IS A QUALITY SALE

80 HEAD of pure-bred registered Holsteins from the breeder's own herds, chosen to please the purchaser who desires to buy good breeding and quality. Seventy-one females, nine bulls. Among them are:

Forty-seven cows and heifers bred to 30 to 35-pound bulls, 10 daughters of 30-pound sires; 20 cows with advanced registry official milk and butter records; 3 cows with yearly records of over 16,000 lbs. milk; a 27-lb. cow; a 26-lb. cow; a 25-lb. cow; a 24-lb. cow, and a 23-lb 3-year-old.

BULLS—King Segis Lyons, one of the greatest proven sires in the West, and who will have over 30 A. R. O. daughters in 1917; a 6 months old son of Big Apple Korndyke Boon (a 35-pound bull), from a 31.33-pound dam, a son of that wonderful producing cow, Katy Gerben, consigned by the University of Nebraska.

Everything over 6 months old tested by reliable veterinarians.

SALE BEGINS AT 10 A. M. SHARP

The consignors are: University of Nebraska, Lincoln; S. B. Davis, Superintendent Indian School, Genoa; D. E. C. Brown, Fullerton; LeRoy Ball, Albion; W. J. Jenkinson, Monroe; D. M. Hildebrand, Seward; J. F. Bunte, Cortland; B. B. Davis, Omaha; Nelson Bros., Stromsburg; W. M. Condon, Humphrey; Badger & Frost, Central City; Little & Little, Clarks; C. J. Furry, Franklin; Dwight Williams, Omaha; E. C. Swanson, Stromsburg.

If interested, write for Sale Catalog.

DWIGHT WILLIAMS

103 Bee Building. Sales Manager OMAHA, NEB.

GUERNSEY CATTLE.

GUERNSEY CATTLE.

IMPROVE YOUR GRADE HERD

Use a Guernsey Bull



GUERNSEY DAIRY PRODUCTS are the most in demand in every market. They are noted for HIGHEST NATURAL COLOR, and PLEASING FLAVOR.

Write for our Booklets

THE AMERICAN GUERNSEY CATTLE CLUB
Box R-K Peterboro, N. H.

REGISTERED GUERNSEY BULL CALVES FOR SALE
Grandsons of Imp. Masher's Sequel A. R. out of first class cows. Tuberculin tested.
R. C. KRUEGER - - - BURLINGTON, KANSAS

HEREFORD CATTLE.

HEREFORD CATTLE.

WALNUT BREEDING FARM



Hereford Cattle, Shropshire and Cotswold Sheep, Berkshire Hogs.
Thirty-five grandsons and granddaughters of Beau Brummel 10th for sale. Some extra herd headers at reasonable prices, breeding considered. Come and see my herd. Satisfaction guaranteed.

LEON A. WAITE, WINFIELD, KANSAS



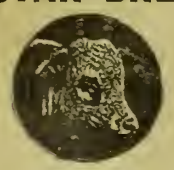
HEREFORD CATTLE

FOR SALE 35 BULLS, 10 MONTHS TO 2 YEARS OLD. 20 COWS AND HEIFERS.

Best breeding families. Bred to an Imported Bridisher bull. Come and see me. Sale barns right in town.

T. I. WOODDALL, HOWARD, KANSAS

STAR BREEDING FARM---HEREFORD PLACE



FOR SALE--100 BULLS 50 EARLY BULL CALVES 30 COMING 2-YEAR-OLDS 20 COMING 3-YEAR-OLDS

Herd headers and range bulls. Ten yearling heifers, twenty heifer calves and a carload of good cows. The very best breeding represented. Come and see me.

SAMUEL DRYBREAD, ELK CITY, KANSAS

HEREFORD CATTLE

150 Head in Herd. A few cows and heifers for sale. Also a lot of farm and range bulls. Priced reasonable.

B. M. BROWN, FALL RIVER, KANSAS

HEREFORDS AND PERCHERONS

Choice 2-year-old bull, weight 1,600 lbs.; extra good bull calves. One May calf, weight 600 lbs., outstanding herd header prospect. Two choice yearling Percheron stallions. Priced to sell.

M. E. GIDEON - EMMETT, KANSAS

JERSEY CATTLE.

JERSEY CATTLE.



SEVENTY HEAD REGISTERED JERSEYS

FORTY COWS AND THIRTY HEIFERS FOR SALE.

Nothing over five years old. Richly bred Fox Signal and Fern Lad families. All bred to choice registered herd bull. Must reduce herd.

N. L. DUCHESNE .- GREAT BEND, KANSAS

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. BERRY & SON, Jewell City, Kansas



She's The Money Cow

She makes use of every ounce of feed. Her milk is the richest of all the breeds in butter fat and solids. She is rugged and vigorous — will thrive in any climate. She milks steadily. She is beautiful and gentle. She's the mortgage lifter. She's the cow for the everyday farmer, yet she's the rich man's *pride*, too. And she's the cow for the family.

Our free book, "About Jersey Cattle," proves these things. Send for it now—a postal will do —it's interesting and instructive.

The American Jersey Cattle Club
375 West 23rd Street • New York City

DORNWOOD FARM JERSEYS

Fine young bulls from Register of Merit and imported cows; descendants of Fontaine's Eminent, Pogis 80th of Hood Farm, and Golden Fern's Lad.

DORNWOOD FARM, Route 1, Topeka, Kan.

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

JERSEY CATTLE.

JERSEY CATTLE.

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

REDMAN & SON - TIPTON, MISSOURI

Bargains in Jersey Cows

From one to a carload of good, young, registered Jersey cows, mostly fresh or soon due. Offered at sacrifice prices because short of feed and cannot winter. Also a few open heifers and young bulls. Write your wants or come and see this stock.

The Ennis Stock & Dairy Farm, Horine, Mo.
(Just South of St. Louis.)

LINSCOTT JERSEYS

Kansas First Register of Merit, Estab. 1878.
If interested in getting the best blood of the Jersey breed, write me for descriptive list. Most attractive pedigree.

R. J. LINSCOTT - HOLTON, KANSAS

$50 Noble Stockwell's Torono $50

Sire, Noble Stockwell. Dam, granddaughter of Hood Farm Torono. She milked 32½ pounds milk daily, 2 years old.

BISONTE FARM - LAWRENCE, KANSAS

FARM AND HERD.

E. E. Carver & Son, of Guilford, Mo., held a very successful Poland China sale on January 16. The twenty-six head of Polands averaged $46.63. The top price of $77.50 was paid for No. 1 sow by Fred B. Caldwell, Howard, Kansas. The average was very satisfactory to Garver & Son.

Atteberry & Son, Lancaster, Mo., owners of one of the choice herds of purc-bred Hampshire hogs, report a heavy demand for breeding stock. A feature of their herd at present is the outstanding lot of well grown July boars.

The date of the 1917 National Swine Show has been set, and it will be held at Omaha from Wednesday, October 3, to Wednesday, October 10, inclusive. The arrangements for the show are similar to those of the 1916 show. The same buildings will house it in 1917 as were used in 1916, with such additional room as is necessary to properly care for the exhibits. Extra show ring facilities will be provided and everything possible will be done looking toward the proper handling of the exhibition.

FIFTH ANNUAL BRED SOW SALE

THE KANSAS STATE AGRICULTURAL COLLEGE will sell Poland Chinas and Duroc Jerseys, Friday, February 16, Manhattan, Kansas.

WRITE FOR CATALOG.

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

Address All Communications to Kansas Farmer, and Not to Individuals

Personal mail may have to be held for several days, or be delayed in forwarding, and Kansas Farmer cannot assume any responsibility for mistakes occurring thereby

CLAIM SALE DATES.

Percheron Horses.
Feb. 9—Breeders' Combination Sale, Manhattan, Kan. C. W. McCampbell, Mgr.

Jacks and Jennets.
Feb. 22, 1917—W. H. Roller & Son, Circleville, Kan., and Bruce Saunders, Holton.
March 15—L. M. Monsees & Sons, Smithton, Mo. Sale at State Fair Grounds, Sedalia, Missouri.
March 19—G. C. Roan, La Plata, Mo.

Jersey Cattle.
Feb. 22—G. W. Overley, McCune, Kansas.
March 13—H. T. Hineman & Sons, Dighton, Kansas.
March 8—F. J. Scherman, Topeka, Kansas.

Holsteins.
Feb. 6—H. C. Glissman, Omaha, Neb.
Feb. 21—Dwight Williams, Omaha, Neb.

Shorthorn Cattle.
March 30, 1917 — Combination Sale, South Omaha, Neb. H. C. McKelvie, Lincoln, Neb., Manager.
April 4-5, 1917—Central Shorthorn Association at Stock Yards Pavilion, Kansas City, Mo.

Hereford Cattle.
Feb. 9-10—Carl Miller, Belvue, Kansas. Sale in new sale pavilion, Alma, Kansas.
Feb. 26—Combination sale at Hays, Kan. Prof. W. A. Cochel, Manhattan, Mgr.
March 3—W. A. Cochel, Manhattan, Kansas.
March 6—Moses Bros. & Clayton, Great Bend, Kansas. Combination sale.

Polled Durhams.
March 29, 1917 — Combination sale, South Omaha, Neb. H. C. McKelvie, Lincoln, Neb., Manager.

Poland Chinas.
Feb. 1—P. M. Anderson, Lathrop, Mo.
Feb. 6—H. B. Walter & Son, Effingham, Kansas.
Feb. 7—W. B. Wallace, Bunceton, Mo.
Feb. 20—Fred B. Caldwell, Howard, Kan.
Feb. 22—A. J. Erhart & Son, Ness City, Kan. Sale at Hutchinson, Kan.
Feb. 23—F. Ollvier & Sons, Danville, Kan.
Feb. 28—Clarence Dean, Weston, Mo. Sale at Dearborn, Mo.

Durocs and Polands.
April 25—Fred G. Laptad, Lawrence, Kan.

Polands and Durocs.
Feb. 16—Kansas State Agricultural College, Manhattan, Kansas.

Durocs.
Feb. 10—W. W. Jones, Clay Center, Kan.
March 6—Richard Rothgeb, Pleasant Green, Mo.
March 15—W. T. McBride, Parker, Kan.

O. I. C. Hogs.
March 8—F. J. Scherman, Topeka, Kansas.

A. H. Seymour, of Great Bend, Kansas, is one of the live workers for better draft horses in Kansas. His specialty is high-class Percherons of the real draft horse type, the kind that will be profitable on any farm.

A. S. Neale, Manhattan, Kansas, has a Holstein heifer in his herd with her second calf, that is completing her yearly semi-official record. When fully completed her record will be practically 15,500 pounds of milk and 510 pounds fat. Her butter fat record for January, the eleventh month, will be practically 40 pounds. This record was made on dry feed, no pasture, and most of the year she was milked only twice a day. Mr. Neale is breeding Holsteins for production. The record of this heifer is proof of his success, and demonstrates that breeding backed by records results in profit producers instead of boarders.

John D. Henry, of Lecompton, Kansas, owner of one of the choice herds of big-type Polands in Kansas, reports his herd doing fine. This herd is headed by Mammoth Orange, one of the great sires now in service. A feature of Mr. Henry's herd at this time is the fine lot of big growthy fall pigs sired by Mammoth Orange.

We have just received a catalog of the Poland Chin abred sow offering of F. Olivier & Sons, to be sold at Danville, Kansas, February 23. They have catalogued a very useful offering of the type that are profitable feeders. Most of their offering is bred to the great sires, A Wonderful King and Logan Price. A Wonderful King was grand champion at Kansas State Fair, Hutchinson, and at Dallas and Muskogee, and first in aged boar class at Topeka, 1916. Logan Price was third in class at the Topeka State Fair and second to A Wonderful King at Dallas and Muskogee.

G. W. Overley, of McCune, Kansas, announces February 22 for a public sale of jacks and jennets. Mr. Overley has rented his farm and will move to town and will sell most all of his jack stock, including a number of young jacks and jennets. One registered Percheron, a four-year-old mare, and one two-year-old Percheron stud will be offered at this sale. Also a number of grade horses and mules.

AYRSHIRE CATTLE.

AYRSHIRE — THE PERFECT COW

The late JAMES J. HILL was an enthusiastic friend of AYRSHIRES.

He maintained a large herd on his stock farm at Gladstone, Minn., and to encourage the breeding of PROFITABLE DAIRY CATTLE, he gave many bulls to farmers along his railroad lines. If a man of his ability saw the PROFIT in AYRSHIRES, isn't the breed at least worth your investigation?

AYRSHIRE BREEDERS' ASSOCIATION
C. M. Winslow, Sec'y 33 Park St., Brandon, Vt.

SHORTHORN CATTLE.

Barber Shorthorns

Villager Junior and Curley Dale Head Herd.

For Sale—Twenty coming yearling bulls, 20 yearling bulls, 40 cows and heifers, Scotch and Scotch topped. We have what you want. Come and see our cattle. Three hundred head in herd.

F. C. Barber & Sons
SKIDMORE - - - - - MISSOURI

OUR HERD BULL

Abbotsford Lad 2d 395841, pure Scotch, deep red and a good breder, three years old, priced to sell quick. We are keeping every heifer calf sired by him, also some young bulls six to ten months.

CHESTER A. CHAPMAN, Ellsworth, Kan.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

H. M. HILL - LAFONTAINE, KANSAS

CEDAR HEIGHTS SHORTHORNS

For Sale—One Lavender bull, 14 months old; one Orange Blossom, 10 months old; one Golden Drop, 10 months old.

HARRY T. FORBES
Bell Phone 59 N-1, Route 8, Topeka, Kansas

Lowemont Shorthorns — Bulls, including white 2-yr.-o'd, 18 cows and heigers; priced right. E. E. Heacock & Son, Hartford, Kansas.

RED POLLED CATTLE.

Red Polled Cattle

A few 1916 fall bull calves for sale. Also a few cows and heifers.

AULD BROS. - FRANKFORT, KANSAS

RED POLLED BULLS

FORTY yearling bulls, big rugged fellows, sired by ton sires; all registered and priced reasonably. Will sell a few females.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

AUCTIONEERS.

Live Stock and Farm Auctioneer

Write or wire for date. I can please you.

LAFE BURGER, WELLINGTON, KANSAS

FRANK J. ZAUN Live Stock Anctioneer. Write or wire for date.
Independence, Missouri

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.



P. M. GROSS
MACON, MISSOURI
LIVE STOCK AUCTIONEER
Pure Bred Sales a Specialty
"Twelve Years on the Block"
Sales Made Anywhere

Breeders' Directory

ANGUS CATTLE.
Geo. M. McAdam, Holton, Kan.
Geo. A. Deitrich, Carbondale, Kan.
D. J. White, Clements, Kan.

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

HOLSTEINS.
C. E. Bean, Carnett, Kansas.

DORSET-HORN SHEEP.
H. C. LaTourette, Route 2, Oberlin, Kan.

JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.

HORSES AND MULES.

PIONEER STUD FARM

Established 1870

FIFTY REGISTERED STALLIONS AND MARES

JUST ARRIVED—A new shipment of stallions and mares. If you are in the market for a good Percheron stallion or mare, now is the time. We can show you more bone, size, action and conformation than you will find elsewhere. Write or come today.

C. W. LAMER & SON - - - - - SALINA, KANSAS

PRAIRIE VIEW STOCK FARM



Has 40 big, black Mammoth jacks and jennets. Every jack my own raising; two to six years old, 15 to 16 hands high, extra heavy bone, big bodies. I can sell you a better jack for $500 to $600 than most speculators can for a thousand. Come and see for yourself. They must sell.

ED BOEN, LAWSON, MO.
38 Mi. E. of K. C. on C. M. & St. P.
40 Mi. S. W. of St. Jos, on Santa Fe

MARES AND FILLIES ABOUT ALL SOLD

A few good ones left. Fifty head of stallions and mares. Thirty head of stallions, including Percherons, Belgians and Coach stallions, 2 to 6 years old. All for sale at hard times prices. Come and see me.

J. M. NOLAN - - PAOLA, KANSAS

40 Head Percheron Stallions - Jacks and Jennets - 40

Two to six years old, heavy bone, right in every way. Imported Spanish jack, weight 1,200 pounds, at head of jennet herd. Come and see us. We mean business. Prices reasonable.

J. P. & M. H. MALONE

CHASE - - - - KANSAS

SIX BREEDS DRAFT STALLIONS
Pedigree and guarantee with each, $450 and up. Time given.
R. I. LITTLE, Good Block, Des Moines, Ia.

POLAND CHINAS

Poland China Boars and Gilts

Twenty-five early spring boars and twenty-five gilts. Sired by I Am King of Wonder and Watt's King.

WM. WATT & SON - GREEN CITY, MO.

IOWA KING BRED SOW SALE FEB. 1

Will Sell 40 Head of Tops. Am offering now some choice herd boar prospects, June and July pigs. All immune. Send for catalog of sow sale and price on boars.

P. M. ANDERSON, LATHROP, MISSOURI

Henry's Big-Type Polands

Fall pigs, either sex, sired by Mammoth Orange. Special price of $15 each to make room for spring litters.

JOHN D. HENRY, LECOMPTON, KANSAS

TOWNVIEW FARM
Big-Type Poland Chinas.
For Sale—25 summer and fall gilts, sired by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 25 summer boars. Come and see my herd.
C. E. GREENE - PEABODY, KANSAS

BIG-BONED IMMUNE POLANDS
Both sexes, July and August farrow. Best big-type breeding. Choice individuals. Also bred gilts. All sired by that great boar, Chief Miami. Dams 600 to 700 pounds. Remember this is the home of largest boned boar of the breed.

WALTER B. BROWN, PERRY, KANSAS.

Size and Quality Polands

Five big-type gilts, weight 150 pounds each, bred for February, March and April farrow. $35 each. Two good tried sows, priced to sell. Choice lot of summer sow pigs, weight 150 pounds and over, $18 each or two for $35. Fall pigs, $15 each, two for $25, sired by 1,000-pound boars, out of extra large sows.

OTTO PLAGAMANN, EUREKA, MISSOURI

ARKELL'S BIG POLANDS

April and March bred gilts by Longfellow Again and Chief Big Bone, weight 225 to 275 pounds. They are bred to Arkell's Big Timm. Also a few bred sows. Priced right.

JAS. ARKELL, JUNCTION CITY, KANSAS

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

Lone Cedar Poland China Herd

Good spring boars by Meyer's Orange and out of mature sows, at farmer's prices for thirty days; also fall and spring gilts, bred or open. Weanling pigs cheap. All immune.

A. A. MEYER - McLOUTH, KANSAS

LANGFORD'S SPOTTED POLANDS
Boars — Serviceable age, guaranteed to please. Breeding stock, both sexes.
T. T. LANGFORD & SONS, Jamesport, Mo.

HORSES AND MULES.

Home-Bred Draft Stallions, your choice $500 with the exception of two. Also mares for sale. A. Latimer Wilson, Creston, Iowa



PERCHERONS—BELGIANS
Imported and home-grown 4 and 5 yr. old stallions, too sod heavier, 3 yr. olds, 2 yr. olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. Fred Chandler, R. 7, Charlton, Iowa. (Above Kansas City.)

PERCHERONS FOR SALE

Five head pure-bred Percherons — Two mares, one 2-year-old stallion, two last spring colts. All good ones. Low price to the man that takes all.

J. W. BARNHART, BUTLER, MISSOURI

FOUR BIG JACKS FOR SALE

Also three jennets. Jacks are all blacks, 4 and 5 years old, 15½ to 16¼ hands, standard. All grandsons of Limestone Mammoth. Barns 3 blocks north of depot.

F. W. POOS - - POTTER, KANSAS



JACKS AND JENNETS

15 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. Fifteen good jennets for sale. Come and see me.

PHIL WALKER,
Moline, Elk County, Kansas

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

REGISTERED PERCHERON STALLIONS for sale at their actual cash value. Barn in town.
A. H. SEYMOUR, GREAT BEND, KANSAS

DUROC JERSEYS.

TWENTY FIVE SPRING BOARS

Sired by Crimson Wonder Again Jr., first prize boar at Topeka Fair, 1916, and G. M.'s Crimson Wonder. Big rugged fellows ready for service. Immunized and priced to sell.

G. M. SHEPHERD - LYONS, KANSAS

GUARANTEED DUROC BRED GILTS

Immune Duroc gilts with size, bone and stretch. Guaranteed in farrow. Shipped to you before you pay.

F. C. CROCKER, BOX K, FILLEY, NEB.

ROSE HILL HERD DUROCS
For Sale — Thirty spring gilts bred for March and April farrow; ten boars for service; a few fall pigs. All immune, eligible to record. Out of prolific sows and by boars of state fair prize blood. S. Y. THORNTON, Blackwater, Missouri, on Missouri Pacific Ry.

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

HAMPSHIRE HOGS

ATTEBERRY'S HAMPSHIRE HOGS
Choice July boars, best breeding, $12.50 each. They are bargains.



ATTEBERRY & SONS
Lancaster - Missouri

POLLED DURHAM CATTLE.

POLLED DURHAM BULLS

Choice bull calves out of Belle's Hero, he by Roan Hero. Reds and roans. Also a few heifers and cows bred to this same bull.

C. M. ALBRIGHT, OVERBROOK, KANSAS

DOUBLE STANDARD POLLED DURHAMS
Bulls for sale. "Forest Sultan" at head of herd. C. M. HOWARD, Hammond, Kansas.

ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE
Twenty-five young bulls, also some good cows and heifers for sale. All registered.
D. J. WHITE, CLEMENTS, KANSAS
Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

MULEFOOT HOGS.

Buy Big-Type Mulefoot Hogs from America's champion herd. Low cash prices. Big catalog free. Jno. Dunlap, Williamsport, O.

DEMING RANCH POLANDS

We will not hold a spring sale. Our show herd will be at Wichita, Kansas, Oklahoma City, and Fort Worth, Texas. We have for sale forty bred sows and gilts bred to our four herd boars, also 125 high class fall pigs, boars and gilts.

H. O. SHELDEN, HERDSMAN

THE DEMING RANCH, - - OSWEGO, KANSAS

HOLSTEIN CATTLE.

MAURER'S HOLSTEIN FARM

Offers a number of pure-bred cows and heifers from noted sires with high record A. R. O. dams; a number of nicely marked heifer and bull calves also having high record A. R. O. dams and well known sires, and high grade heifers and cows, all at reasonable prices. Before you buy, write, wire or call.

T. R. MAURER & COMPANY, - - EMPORIA, KANSAS

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN-FRIESIAN FARM, TOWANDA, KANSAS

Breeders of pure-bred Holsteins. Special attractions in choice young bulls ready for service, with fashionable breeding. Write for pedigrees and prices. We maintain a breeding herd of pure-bred females and offer a grand lot of young springing heifers and cows, a number with A. R. O. records at prices within reason.

IT WILL PAY YOU TO SEE OUR OFFERING

Of choice extra high grade young cows and heifers, all springers in calf to pure-bred sires; large developed females, good udders, well marked and the right dairy type at prices that will challenge comparison for Holsteins of their breeding and quality. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone.

GIROD & ROBISON



This splendid registered Holstein bull calf for sale. His individuality is practically faultless and his breeding just as good. Priced right.

A. S. NEALE - MANHATTAN, KANSAS

Bonnie View Stock Farm

Duroc Jerseys and Holsteins

PUBLIC SALE FEBRUARY 19.

20 Holsteins and 15 bred sows. Write for sale bill.

Searle & Cottle, . Berryton, Kansas

Braeburn Holsteins A. R. O. BULL CALVES
H. B. Cowles, 608 Kansas Av., Topeka, Kan.

Real Estate For Sale

TO CLOSE ESTATE

One hundred acres rich Kaw Valley farm, no waste, one-half mile to station, two miles to good town and high school; fine improvements. Write or telephone.

B. L. FOWLER, Executor, PERRY, KAN.

40 ACRES, 5 miles McAlester, city 15,000. 23 acres fine bottom, cult.; fair improvements. $26 per acre. Terms.
SOUTHERN REALTY CO., McAlester, Okla.

Virginia Farms and Homes

Free Catalogue of Splendid Bargains.
R. B. CHAFFIN & CO., Inc., Richmond, Va.

280-ACRE FARM located 3 miles good town, Franklin County, in proven oil field; fair improvements, 30 acres tame grass, 140 acres native meadow and pasture, remainder in cultivation; good orchard, well watered. A big bargain for immediate sale at $50 per acre. Possession at once. Write for full description of this or any size farm you may want. Mansfield Land Co., Ottawa, Kansas.

160 ACRES, 6 miles Adrian, Mo. All smooth land, 25 acres in wheat, 40 acres in tame hay, remainder cultivation; 95 acres fenced hog-tight; fair improvements. Price right, easy terms for immediate sale.
MANSFIELD LAND CO., Ottawa, Kansas.

FARM AND HERD.

Catalogs are out for the J. S. Turner Poland China bred sow sale to be held at Fairfax, Mo., February 10, 1917. This year Mr. Turner has catalogued thirty-six head, twelve tried sows and twenty-four fall yearling gilts bred for March and April litters. The sows and gilts will be bred to the three great boars, King Alexander by King's Equal and out of an Expansion-Tecumseh bred dam; Model Big Bob Jr. by Head & Leonard's Model Big Bob and out of a dam by Long Jumbo 2d, now at head of U. S. Byrne's herd; Robinette by Robidoux, a litter brother to Robin Hood, is also used in the herd. The offering is a very useful lot and the kind that is profitable to farmers and breeders.

Catalogs are out for A. J. Erhart & Son's Poland China bred sow sale to be held at Hutchinson, Kansas, February 22. This year they have catalogued sixty-three head of sows and gilts by such boars as the grand champion Big Hadley Jr., Orphan Big Gun, Young Orphan, King Price Wonder, and Big Bob Jr. They are all bred to the great herd boars of the Erhart herd.

T. R. Maurer, of Maurer's Holstein Farm, Emporia, Kansas, reports his herd doing well. Mr. Maurer has a two-year-old heifer in his herd that is a niece of the new world's record cow, Segis Fayne Johannah, and a five-weeks-old bull calf that is a nephew of the champion.

F. J. Searle, of Oskaloosa, Kansas, owner of the famous Sunflower Herd of Holsteins, announces that he will hold his fifth annual sale some time during the coming spring, probably in April. He expects to have an offering that will surpass any ever sold in his sales, and it will include thirty-five and forty-pound breeding and a number of A. R. O. cows. He expects to catalog 150 head of cows, heifers and bulls.

HOLSTEIN CATTLE.



Purebred Registered
HOLSTEIN CATTLE

The undeniable facts that the Holstein-Friesian Association of America is the largest and most prosperous dairy cattle association in America, that its membership is over 7,000 more than the combined memberships of the other dairy cattle associations, and that it increased its membership by 1,260 during the fiscal year ending April 30, 1916, are primarily a fitting testimonial to the superior merits of the pure-bred Holstein-Friesian cow, that yields more milk for a day, for a year, for a life-time and for profit than any other cow. There is big money in the big "Black and White" Holsteins.

Send for FREE Illustrated Descriptive Booklets.
The Holstein-Friesian Association of America
F. L. Houghton, Sec'y. Box 114, Brattleboro, Vt.

REGISTERED HOLSTEINS

We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.

M. E. MOORE & CO. - CAMERON, MO.

HOLSTEIN COWS

Holstein cows, springers or bred heifers. Very large, good markings, out of best milking strains, bred to pure-bred bulls of the very best blood. Special prices on carload lots. J. C. ROBISON, TOWANDA, KANSAS

CORYDALE FARM HERD

Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.

L. F. CORY & SON, BELLEVILLE, KAN.

Sunflower Herd Holsteins

Watch for Date of Big Public Sale.
150 head bred for production. Get catalog early.

F. J. SEARLE - OSKALOOSA, KANSAS

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

The Cedar Lane Holstein Herd

We are now offering some exceptionally good bulls of serviceable ages at very attractive prices. These calves are sired by our 29.4-pound grandson of Pontiac Korndyke.

T. M. EWING, INDEPENDENCE, KANSAS

Wichita Holstein Herd

High grade and registered cows, some heifers and heifer calves at reasonable prices. Bull calves at $10 and up.

Wichita Holstein Herd, R. 4, Wichita, Kan.

BONNIE BRAE HOLSTEINS

Registered bulls from calves to 5 months old. Best breeding and good individuals.

IRA ROMIG - - TOPEKA, KANSAS

LILAC DAIRY FARM

Route No. 2, Topeka, Kansas.
BREEDERS OF PURE-BRED HOLSTEINS
Bulls from A. R. O. cows, all ages, for sale.

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

REGIER'S HOLSTEINS

Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.

G. REGIER & SONS, WHITEWATER, KAN.

HOLSTEIN CALVES—Ten heifers and two bulls, 15-16ths pure, beautifully marked, 5 weeks old, from heavy milkers. $20 each, crated for shipment anywhere. Write EDGEWOOD FARM, Whitewater, Wis.

TREDICO BULLS
C. C. T.
Kingman, Kansas

HOLSTEIN CALVES.
Very high grade heifer calves, five weeks old, nicely marked, $20 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

Poland China Bred Sow Sale



CALDWELL'S BIG BOB 76436—WORLD'S CHAMPION SENIOR YEARLING AND SENSATION OF 1916 SHOWS

Is the Topliner in the First Sale of the Southern Kansas Circuit at

Howard, Kansas, Tuesday, February 20, 1917

40 Head - 25 Sows and Gilts Bred to Him---15 Head of Gilts Sired by Him - 40 Head

Daughters of Caldwell's Big Bob are bred to EXPANSION BUD 82486, an outstanding spring prospect by Expansion Sure.

FRED B. CALDWELL, - HOWARD, KANSAS

EVERYTHING IMMUNE. — Watch for further announcements—Send for the catalog. Attend this sale if possible.

O. W. Devine will represent Kansas Farmer.

Poland China Bred Sow Sale

At Danville, Kansas, Friday, February 23, 1917

A SUPERB OFFERING OF SIXTY HEAD OF TRIED SOWS, YEARLINGS AND SPRING GILTS

Right as to individuality and breeding. All immune. Offering bred to A Wonderful King, Logan Price, and Smooth Jumbo by Quality Hutch.

OUR 1916 WINNINGS:

TOPEKA.

First and third aged boars; second senior yearling boar; third junior yearling boar; third junior boar pig; first and third senior yearling sow; first on aged herd and aged herd bred by exhibitor.

KANSAS FUTURITY.

Third spring boar; third and fourth fall boars; seventh spring sows; fifth and sixth fall sows; sixth and seventh spring litters.

MUSKOGEE.

Grand champion boar; first and second aged boars; second senior yearling boar; first junior yearling boar; second and third senior boar pigs; fourth senior yearling sow; second aged herd and aged herd bred by exhibitor; third young herd and young herd bred by exhibitor.

HUTCHINSON.

Grand champion boar; junior champion boar; first and second aged boars; first senior yearling boar; first junior yearling boar; first and second senior yearling sows; first aged herd; second young herd; second on produce of sow.

DALLAS.

Grand champion boar; first and second aged boars; first, second and third junior yearling boars; second senior boar pig; third aged sow; second, third and fourth senior yearling sows; third and fourth junior yearling sows; first and junior champion on senior sow pig; first on aged herd and aged herd bred by exhibitor; first on get of boar.

We Breed the Kind That Win the Ribbons

And make money for the farmers. Grow quick and fatten easy. Remember our sale. Send in your name for the catalog, and plan to attend this sale.

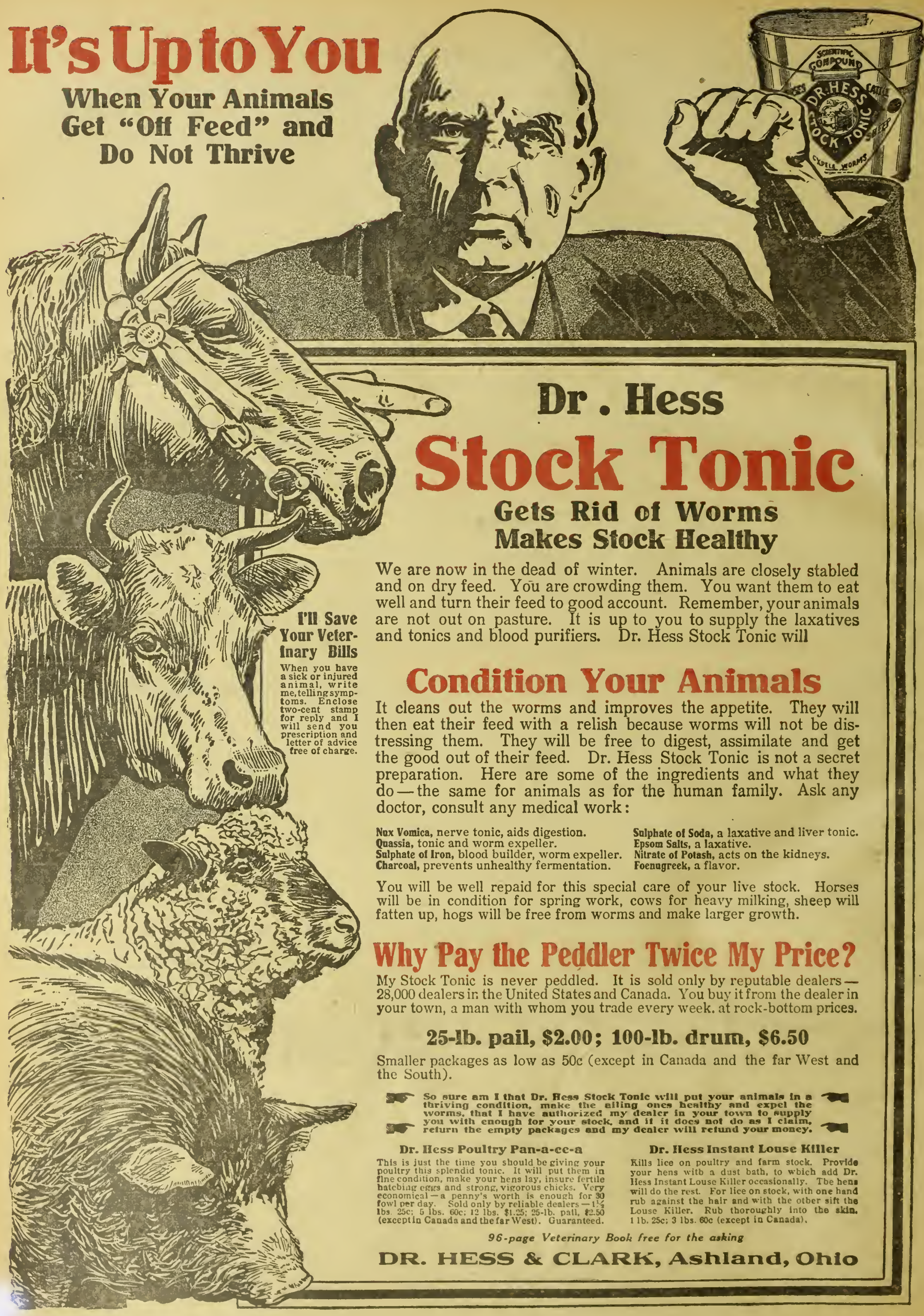
FRANCOIS OLIVIER & SONS, DANVILLE, KANS.

Mention Kansas Farmer and write today for catalog.

O. W. Devine will represent Kansas Farmer at sale.

It's Up to You

When Your Animals Get "Off Feed" and Do Not Thrive



I'll Save Your Veterinary Bills

When you have a sick or injured animal, write me, telling symptoms. Enclose two-cent stamp for reply and I will send you prescription and letter of advice free of charge.

Dr. Hess

Stock Tonic

Gets Rid of Worms
Makes Stock Healthy

We are now in the dead of winter. Animals are closely stabled and on dry feed. You are crowding them. You want them to eat well and turn their feed to good account. Remember, your animals are not out on pasture. It is up to you to supply the laxatives and tonics and blood purifiers. Dr. Hess Stock Tonic will

Condition Your Animals

It cleans out the worms and improves the appetite. They will then eat their feed with a relish because worms will not be distressing them. They will be free to digest, assimilate and get the good out of their feed. Dr. Hess Stock Tonic is not a secret preparation. Here are some of the ingredients and what they do—the same for animals as for the human family. Ask any doctor, consult any medical work:

Nux Vomica, nerve tonic, aids digestion.
Quassia, tonic and worm expeller.
Sulphate of Iron, blood builder, worm expeller.
Charcoal, prevents unhealthy fermentation.
Sulphate of Soda, a laxative and liver tonic.
Epsom Salts, a laxative.
Nitrate of Potash, acts on the kidneys.
Foenugreek, a flavor.

You will be well repaid for this special care of your live stock. Horses will be in condition for spring work, cows for heavy milking, sheep will fatten up, hogs will be free from worms and make larger growth.

Why Pay the Peddler Twice My Price?

My Stock Tonic is never peddled. It is sold only by reputable dealers—28,000 dealers in the United States and Canada. You buy it from the dealer in your town, a man with whom you trade every week, at rock-bottom prices.

25-lb. pail, $2.00; 100-lb. drum, $6.50

Smaller packages as low as 50c (except in Canada and the far West and the South).

So sure am I that Dr. Hess Stock Tonic will put your animals in a thriving condition, make the ailing ones healthy and expel the worms, that I have authorized my dealer in your town to supply you with enough for your stock, and if it does not do as I claim, return the empty packages and my dealer will refund your money.

Dr. Hess Poultry Pan-a-ce-a

This is just the time you should be giving your poultry this splendid tonic. It will put them in fine condition, make your hens lay, insure fertile hatching eggs and strong, vigorous chicks. Very economical—a penny's worth is enough for 30 fowl per day. Sold only by reliable dealers—1½ lbs. 25c; 5 lbs. 60c; 12 lbs. $1.25; 25-lb. pail, $2.50 (except in Canada and the far West). Guaranteed.

Dr. Hess Instant Louse Killer

Kills lice on poultry and farm stock. Provide your hens with a dust bath, to which add Dr. Hess Instant Louse Killer occasionally. The hens will do the rest. For lice on stock, with one hand rub against the hair and with the other sift the Louse Killer. Rub thoroughly into the skin. 1 lb. 25c; 3 lbs. 60c (except in Canada).

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1917

SECOND ANNUAL TRACTOR SHOW—KANSAS CITY—FEBRUARY 12th to 17th

KANSAS FARMER

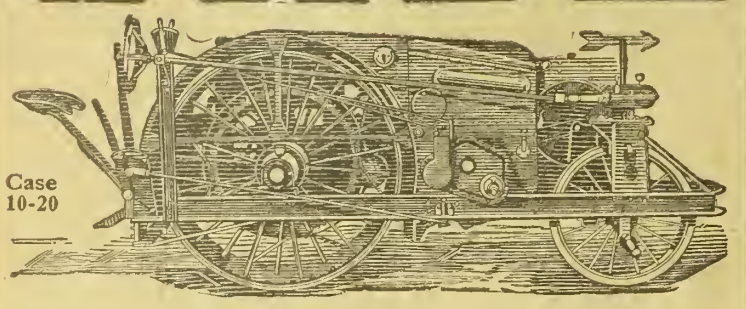
For the improvement of the Farm and Home

Volume 55, Number 6. TOPEKA, KANSAS, FEBRUARY 10, 1917. Established 1863. $1 a Year



Kansas Experiment Station Calves in Winter Quarters—Valuable Studies are Being Made in Cost of Producing Beef

CASE



Case 10-20

Not Merely for Plowing

The Case 10-20 Tractor is adapted for all kinds of farm work. It pulls manure spreaders, harrows, planters, hay tools, harvesters, road-scrapers, etc. It will drive silo-fillers, threshers, balers, feed-mills, lime pulverizers and do many other belt jobs.

The Product of 75 Years' Experience

Because of this long experience in the manufacture of farm implements it is natural that Case products represent values that cannot be duplicated. The Case 10-20 weighs only 4800 lbs.—much less than other tractors of equal capacity. It has a four-cylinder Case-made motor which our experience has proved absolutely essential in any light tractor. The Case 10-20 tractor is designed with utmost simplicity and freedom from complicated parts. All parts of the motor are easily accessible, so no dismantling is necessary for any adjustment.

Designed and Built in Case Shops

Every Case tractor is designed and built by Case-trained workmen, right in Case shops. It is not bought piece by piece outside and assembled. This includes our specially designed tractor motor. We *know* that Case Tractors represent the best that experience, money, time and modern machinery can produce. That's why *every* Case product is backed by an absolute guarantee to perform as well, or better, than any other product of its kind.

All Case Products Lead

Case steam engines, Case threshing machines, Case road machinery are all leaders in their own field. Each one offers the utmost at a reasonable price, performance, reliability and service.

Write today for our complete Case catalog. It is an album of information that should be on the table in every farm sitting room. It is beautifully printed, with many interesting scenes and reproductions in color.

J. I. Case T. M. Co., Inc., 253 Erie St., Racine, Wis.
Founded 1842

There are five sizes of Case Tractors—the 9-18, 10-20, 12-25, 20-40, 30-60. A size for every farm.

Write TODAY for more information about the Case 10-20 tractor or whatever size you need.

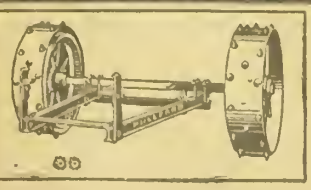
(486)

Plow and Pull With Your Ford

$135.00 f.o.b. Quincy Ill.



Ford With Pull-ford





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MAKES a practical tractor out of a Ford—or most any other car. Does not injure the car. No holes to drill. Attached with clamps to car frame. Does work of 3 or 4 horses. Pulls plows, harrows, drills, mowers, the binder, hay loader, road grader, etc., also your farm wagons anywhere that 3 or 4 horses can. Steel wheels with roller bearings. Two pairs steel pinions, allowing two speeds, one for plowing and one for hauling wagons. Multiplies usefulness of your car. Only $135.00, f. o. b. Quincy, Ill. Write for circular.

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

THE farm tractor is generally a profitable implement if enough land is cultivated to use it economically. This is the opinion expressed by three fourths of the two hundred tractor users in Illinois to investigators for the United States Department of Agriculture. About one-third of the men in this list increased the acreage, on an average 120 acres to the farm, after buying the tractors and finding that they did not have room to use them to the best advantage.

The average size of the farm on which the two-plow tractor is used is 270 acres. The average size of the farms that make room for the five-plow tractor is 420 acres.

Here is the minimum size of the farm on which the Illinois tractor owners think their machines could be used profitably: Two-plow tractor, 140 acres; three-plow tractor, 200 acres; four-plow tractor, 250 acres; five-plow tractor, 320 acres.

The Illinois figures indicate that the large tractor is going out of use on farms. Thirty-nine per cent of the tractor owners estimate that a four-plow tractor is the best size for use on a 750-acre farm, while only 22 per cent of the men using tractors favored the eight-plow machine. None recommended one as large as ten-plow.

Storage Battery May Freeze

The care of the storage battery in a car is a matter of a great deal of importance. During cold weather it requires more attention than in the summer. The Studebaker Service for November calls attention to the fact that the man who keeps his car in commission during the severe winter months must give close attention to the condition of his storage battery. It should receive, if anything, closer attention during this period than it does at other times of the year.

Particular attention should be given to the specific gravity, and in this way determine that it is always fully charged.

As you appreciate, cold weather makes the work of the battery considerably harder than during the warmer months, for the reason that the motor is very often cold and hard to start and requires more effort for cranking. In a condition like this many owners will not assist the starting of the motor by priming the cylinders, but will continue to use the energy of the battery to turn the motor over until the motor fires. As a consequence the battery assumes a discharged condition and the gravity becomes low very quickly. There is then an excellent opportunity for the electrolyte in the battery to freeze.

Electrolyte will freeze at 20 degrees above zero in an empty battery which is indicated by a specific gravity of 1.12. A specific gravity of 1.16 indicates a battery three-fourths discharged. It will then freeze at zero.

In a full battery the electrolyte has a specific gravity of 1.28. By frequent use of the hydrometer during cold weather it is possible to know the condition of the battery and by keeping it charged there will be no danger of injury through freezing.

Electricity from Wind Power

Electricity generated by wind power in sufficient amount to supply a large farm has been found to be possible as a result of some experimental work done by Prof. C. E. Reed of the electrical engineering school of the Kansas Agricultural College.

Preliminary tests were made on this proposition three years ago, and enough success was had to make it seem desirable to continue the tests. In these tests the generator was belted to the windmill at the foot of the tower. Friction losses were enormous. It took a nine mile wind to start the mill and the noise was distracting.

With the first series of tests the total cost of the plant was $775, whereas a gasoline engine plant of the same power and storage capacity would have cost $500. One-sixteenth of the time lights would be cut off because the wind velocity was too small to run the mill. To overcome this disadvantage a large battery is necessary to store up enough current to last during the calm spells.

In the tests now being conducted, the generator is mounted on the head and geared direct to the mill. Ball and roller bearings are used throughout so that a six mile wind or less will start the mill. The cost of this plant is estimated at $750, but improvements in the windmills would reduce this to $500.

The present objection to the use of windpower for developing electrical energy is the first cost of the outfit. Until it is possible to get windmills which will run on light winds the cost will not be cut down on account of the size of battery necessary to store up current for use when the mill does not run. With a windmill designed for higher speeds than are used in present mills there would be little time during the year that the winds would not be sufficient to operate it, at least a part of the day.

It is probable that one of these plants would not be more than sufficient to take care of one or two small residences or of one large farm plant, although in Europe, large and expensive plants have been developed that successfully light small towns.

Practical Engine Work

Small gas engines designed by W. W. Carlson, superintendent of shops in the Kansas Agricultural College, are being manufactured by students of the division of engineering. This addition to the courses in the shops was planned last year with a view to giving the students practical work that would be both interesting and instructive. Such work will thoroughly familiarize students with the internal combustion engine.

While the engine is not patterned after any small engine on the market, no system has been used that has not proved successful. The construction is so simple that first term students can make every part.

The engine is of the four-cycle type, with jump spark, hit and miss governor, and either a tank or a hopper cooling system. The bore is 3½ inches and the stroke five inches.

The engine complete, when set up on skids, weighs approximately 225 pounds. When running at 600 revolutions a minute it will develop two horsepower. The engine may be used for driving a forge, grindstone, saw, and other shop machinery on the farm.

Anti-Freeze Liquid

Alcohol is the cheapest and one of the best anti-freeze liquids on the market for the automobile. It will not affect the hose connections between the engine and the radiator and because of its low freezing point will lower the freezing point of the cooling solution in the water system of a gas engine to as low a point as desired.

Several anti-freeze solutions are on the market, but the majority of these are composed of glycerine and alcohol, the glycerine being used to stop the excessive evaporation of the alcohol. This addition of glycerine is not imperative, however, as there is little evaporation unless the solution is brought to the boiling point by the overheating of the engine. These solutions may be mixed at home and will be as efficient as those purchased.

For zero weather, three-fourths water and one-fourth alcohol should be used. When the temperature is 10 degrees below zero a solution of 70 per cent water and 30 per cent alcohol should be used.

The radiator should be filled from time to time with a solution of the same strength as the original.

In buying an engine it does not pay to buy a cheap one or one of an unknown make. It is easy enough to build an engine cheaply from cheap materials and then sell it at a low price, but that kind of an engine balks, makes delays and wears out quickly, so that the owner finds he would have been far better off if he had bought a good, reliable, first-class engine to begin with.

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KANSAS FARMER

THE FARM PAPER OF KANSAS

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MORTGAGE TAXATION

An attempt has again been made to pass legislation that would relieve the owner of mortgaged property from paying taxes on its full valuation. This question has long puzzled legislators.

It requires no argument to convince the man having a six- or eight-thousand-dollar mortgage on his farm that there is injustice in making him pay taxes on its full valuation when he is paying 6 or 7 per cent interest on the loan. The kernel of the whole matter is that there is no way to hide the farm or real estate whereas the mortgage can be hid and a large proportion of them are not taxed because their holders do not report them. Our law now provides that notes, bonds, mortgages, and money shall be assessed for taxation, but because this kind of property is hard to find we have gone along compelling the owner of mortgaged real estate to carry the full load and thousands of dollars of securities based on farm values annually escape their just share of the burden.

We are offering no suggestions as to how to overcome this injustice in equalizing the burden of taxation. Various legislatures have wrestled with the problem without success. It all seems to depend on finding some way of compelling the mortgage-holder to accept his tax-paying obligation. The argument is frequently advanced that if the mortgage is taxed the result will be to pass on the tax to the borrower in the form of higher interest charges or else money will be driven from the state. We have moved forward some in Kansas since the days when vast sums of outside capital were esential to the development of our industries. This fact certainly has a bearing on the question of taxing securities.

The thing that must be done is to find some way of compelling people who have farm mortgages and other securities to be honest with the government which protects their property. The present legislature, like previous legislatures, apparently gives the question up as too hard a nut to crack. Reducing the assessed valuation of our real estate to the amount of the equity of the owner meant too big a reduction in the taxable property, and as a result the proposed bill was voted down.

MONEY FOR STATE SCHOOLS

An illustrated lecture on the work of the Kansas Experiment Station and its various branches was given in Representative Hall one evening last week, by Director W. M. Jardine. We do not see how a member of the legislature could listen to such an address and then go on record as favoring smaller appropriations to carry on the great work being done.

It is hard for those who have farmed during the past thirty or forty years to realize the situation confronting the young man who starts farming now. Director Jardine made the statement that no young man could go on a farm valued at $100 to $150 an acre, make a living and pay for the farm if he followed the same methods his father before him had followed. Almost 40 per cent of our Kansas farms are now operated by tenants and the number is increasing and will continue to increase unless a type of farming can be developed that will bring larger returns, and this involves marketing and distribution as well as production.

The encouraging feature is that all over the state there are conspicuous examples of young men who are demonstrating that it is not an impossibility to make good at farming under present-day conditions.

The work of the experiment station is fundamental to the teaching of up-to-date farming practice. Without research laboratories there could be no progress in medicine, engineering, or any of the great professions or industries, and it is fully as true of farming. The experiment station has justified its existence over and over again. The development of the wheat "P-762" is an illustration of the great work an experiment station can accomplish. There is no guess work about this new wheat. It has been tried all over the state in direct comparison with the best local varieties grown. During the past three years there have been fifty-nine different tests on twenty-nine farms of the state. If this new variety had been planted on all the wheat fields of Kansas during this period and had produced the same increase over the best local varieties that it did in the co-operative tests, it would have meant almost sixty-three million dollars additional money for Kansas wheat growers.

Every year there is quite a large acreage of wheat that winter-kills and the ground must be planted to spring crops. Valuable seed is wasted and time thrown away. During a period of ten years an average of over 9 per cent of all the winter wheat sown has been winter-killed. The station has been conducting some experiments in methods of planting wheat which point to the possibility of overcoming almost entirely this danger from winter-killing.

But greater even than its immediate effect on farming methods, is the possibility the station work offers for making of agriculture a really scientific subject that can be taught to students on a plane with university courses in engineering, medicine, or law. As a result of the large amount of research work done by stations all over the country, this is now possible.

The support of all this work seems to require an immense sum of money and our representatives and senators always come to Topeka with the feeling that the folks at home are going to expect them to pare down to the limit the appropriations they make for the work of the station and the big state schools. We believe our people should demand a dollar's worth of service for every dollar appropriated, but in thinking of this matter of holding down taxes let us get things in their true proportions. Our big taxes are not state taxes. The big burden comes from what we spend right at home. During 1916 a thousand-dollar valuation called for only $1.30 in taxes to the state and less than 65 cents of this was spent on all the state schools. Fully nine-tenths of our taxes are other than those imposed by the state.

The great work carried on by our experiment station and the big state schools should certainly not be hampered for lack of funds. Every citizen of the state is interested in what they do and receives more benefit than the amount he has to pay for their support.

COMMUNITY CENTER

We were impressed with the truth of a recent statement made by Walter Burr of the Rural Service department of our agricultural college, that a community center is not a place or a building, but the spirit of community service. A building in the center of a neighborhood is by no means an assurance that the neighborhood will center its social and other community activities. The people of the community must first be filled with a zeal to work out together plans that will make the home neighborhood a better place to live. They must take up together practical questions having to do with the community as a whole. When such feeling and spirit exists a center will be found or created through which it can work. It may be a school house. No better place can be found for centering community interest than a thoroughly modern, well equipped school building. Sometimes a church can be maintained as a community center. In other places the community hall built for the purpose is the outgrowth of the development of the real community spirit which must first of all exist among the people of a neighborhood before anything as a community can be accomplished. But even a community hall can most fully serve its purpose by being located so it can be of use to the school. The school is really the institution in a neighborhood around which the spirit of community co-operation most easily centers.

FIRE EXTINGUISHERS ON THE FARM

The average farm house and other buildings on the farm are as a rule absolutely without fire protection. If a fire starts, the building goes. The chemical fire extinguisher does its work by throwing a stream over a fire, putting it out before it has gained headway. The material discharged quickly volatilizes into a non-combustible gas that settles down over the fire and smothers it. All fires have small beginnings and the quickly available chemical extinguisher will put out many before they have gained headway. Public buildings are compelled by law to have the extinguishers in the various rooms. Hand chemical extinguishers ranging in price from $5 to $20 are now on the market. They are light enough to be carried from one room to another and can easily be operated by a woman.

The wide use of kerosene and gasoline stoves and lamps, gasoline engines and automobiles on the farm increase the fire danger. Water should not be used in putting out fires involving oil or gasoline. It simply spreads the flames. The stream from the chemical extinguisher producing its gas blanket, quickly smothers a fire of this kind.

Some types of extinguishers are quite as good in twenty years as when new. If used they must of course be re-charged, which can be done at a comparatively small cost.

We believe farm people should by all means take all the precautions possible against fires. In many cases it is not merely a matter of property—lives are lost that might be saved by having a hand extinguisher near.

DIARIES FOR FARM ACCOUNTS

There are two kinds of records in which farmers are particularly interested—receipts and expenses, and records of the daily work such as dates of planting and harvesting, yields of various crops, feed consumed by stock, and numerous items. Many farmers keep such records in a diary and find it a great help although not as valuable as a more elaborate system of farm accounts.

Farmers who feel that the diary is the only form of record they can keep will find valuable suggestions in Farmers' Bulletin 782, recently published by the Federal Department of Agriculture. This bulletin suggests a number of ways in which the diary can be made especially helpful. It contains also a number of blank forms and other information in connection with using the diary on the farm. Write to Division of Publications, Department of Agriculture, Washington, D. C., for a copy of this bulletin.

KANSAS CITY TRACTOR SHOW

Next week the Kansas City Tractor Club will hold its second tractor show. The one held last year was the biggest indoor exhibition of its kind ever held.

Field demonstrations of tractors have been popular, but the indoor exhibition permits the examination of working parts in a way that is impossible in the field. Prospective tractor purchasers are wise in requiring the field test, but they have had enough experience with machinery to know that it pays to study the mechanical details of such equipment as a tractor.

The Kansas City show will be a technical show and every facility possible will be offered to make it easy to learn the details of construction and the kind of material used in the different tractors on exhibition. Fully fifty different manufacturers will be represented at the big show next week. Two or three days spent in studying the different models will give the visitors complete information regarding the types of tractors now being made. Companies from New York to California have entered. The two-wheel, three-wheel, four-wheel, drum, and caterpillar types will all be represented. There will also be a complete exhibition of power machinery of all kinds. The show will be held in a mammoth double-wall tent almost 500 feet long. This tent will be floored and heated by forty-five salamander stoves.

An admission fee of 25 cents will be charged, which will keep out mere curiosity seekers. This will insure the visitor ample opportunity to study the exhibits without being annoyed by the crowds always in attendance at such shows when they are free.

SAVE CALVES FROM BLACKLEG

New and Reliable Method of Prevention Worked Out at Experiment Station

By Dr. F. S. Schoenleber, Head of Veterinary Dept., K. S. A. C.

A HIGHLY potent blackleg serum can be produced from the horse.

This serum exerts a curative action upon calves in the early stages of blackleg.

A fair degree of active immunity may be produced by administering virus to calves a few days after the serum has been administered.

Filtered œdematous fluid from blackleg lesions possesses great immunizing properties.

In the field both serum and the filtered fluid—germ-free vaccine—have permanently protected calves upon premises where spore containing vaccines have failed.

Attenuated spore vaccines commonly used do not insure permanent immunity.

It pays to insure calves by using germ-free fluid vaccine.

The new method of blackleg prevention is expected to revolutionize the cattle-raising industry in Kansas.

A SERUM has been produced from the horse which stops immediately losses in a herd where calves are dying from blackleg. A germ-free vaccine or aggressin also has been produced from calves, which when used upon healthy calves will give permanent immunity from the disease.

Little publicity has been put on the experiments at the college, because of existing skepticism on the part of the part of the United States Department of Agriculture and individuals interested. It was thought wise to wait until enough had been made to make the evidence conclusive. A bulletin giving the results of the laboratory tests of the vaccines and the results obtained from their use on more than 30,000 cattle under farm and range conditions is now in course of preparation and will be published for general distribution in the near future.

In herds where the disease is present it is necessary to make two applications of the college vaccines which means that the calves must be handled at two different times. This means, also, that before the owner knows his herd is infected, he has lost some calves. Putting the value of these calves in dollars and cents into the germ-free fluid vaccine, which requires but one handling of the animal, and giving to healthy animals, means there will be no losses.

This single vaccination with this germ-free fluid cannot transmit any disease to vaccinated calves or to those calves in a herd that have not been vaccinated—in fact there is absolutely no danger of infecting other animals. Another important consideration is the fact that the vaccine will not throw the calves off their feed.

It costs from 35 to 40 cents to vaccinate a 50-pound pig, valued at approximately $5, against cholera, while it costs but 50 cents to immunize a $40 calf against blackleg. The veterinary department is experimenting with other animals to see if a cheaper product can be put out. The process of making the vaccine on a small scale is at present comparatively expensive. No commercial concern is now putting out this fluid, but applications have been made to do so by firms in Muscatine, Iowa, and Wichita, Kansas.

In the spring of 1905 when I took charge of the veterinary department, I found that the department was sending to cattle raisers several hundred thousand cubic centimeters of blackleg vaccine annually. At this time occasional reports would come to the office complaining of the inefficiency of the vaccine. Upon investigation it was found that at times the vaccine killed a certain percentage of the calves vaccinated while at others it did not protect them for any length of time. Further investigation showed that all the blackleg vaccine used, no matter from what source, acted in the same way. From year to year these complaints increased in number, showing that the disease was becoming more and more virulent. Some cattle raisers complained that they vaccinated three, four, and even five times, and still lost calves, the losses running up in some cases to more than 10 per cent.

These conditions prompted the department to look into the situation critically and see what could be done. In 1912 the work of analyzing the testing vaccine of the different makes was begun. Samples of vaccine were bought in this country and in Europe—including samples from the government. These were all tested in the bacteriology laboratory, under the microscope, upon guinea pigs and upon calves.

After a number of years of experimentation a serum was perfected which has never failed to effectually stop the disease, and in some instances has cured animals apparently beginning to show signs of the disease. A few well advanced cases have been cured with special treatment with large doses of the serum. This procedure, however, is only recommended in exceptional cases, as the expense is considerable and the chances of success are small even in the hands of a person experienced in the work. In practically all cases, animals which are apparently well and show no symptoms of blackleg at the time of injection will remain well, and if symptoms develop shortly after using the serum another application undoubtedly will save the animal.

In June, 1916, the method of producing and administering these vaccines had been sufficiently developed to warrant the Kansas Experiment station in making a preliminary announcement concerning them to the agricultural colleges of the country, and to the cattlemen of Kansas and others who attended the Feeders' convention at Manhattan June 9, 1916. Later, representatives of the veterinary departments of the state colleges of Texas, Kentucky, Nebraska, and California visited the institution and received full information regarding the technique of this process. Since that time the College has furnished cultures of the blackleg organisms to the institutions of Kentucky and Texas, presumably for the production of these serums.

METHOD OF PREPARING SERUM

In the preparation of the anti-blackleg serum, horses are injected with gradually increasing doses of blackleg culture. Usually about six doses at intervals of about ten days are necessary to produce a potent serum. The initial dose is fifty cubic centimeters and the maximum dose 700 cubic centimeters, when the point is reached in the administration of the culture at which it is assumed wise to test the serum for potency. Ten days after the last treatment, a sample of blood is drawn from the jugular vein and allowed to clot spontaneously. The clear serum is drawn off and three guinea pigs are inoculated subcutaneously with .55 cc. of the same.

Twelve hours later these pigs receive one gram of a very virulent unattenuated blackleg virus. If the serum is fully potent the guinea pigs will not develop serious symptoms. The virulence of the virus used in serum testing should be determined before each test. Fully virulent virus should kill guinea pigs, weighing from 12 to 14 ounces in doses of from two to 2.5 milligrams.

The protective action of the serum upon calves is tested by administering from 15 to 20 cc. of serum and three days later giving the calves an injection of fully virulent blackleg virus. The virus had been previously tested for virulence on guinea pigs and calves and had been found to be fully virulent. These doses of virus, therefore, would have produced death in a large majority of these calves had they not been protected by this serum.

Since the susceptibility of calves to blackleg varies so greatly it is reasonable to suppose that the amount of serum necessary to protect against such large doses of virus likewise will vary. It is not anticipated that 15 cc. of serum would in every instance protect a very susceptible calf against a gram of very virulent virus.

HOW TO USE BLACKLEG SERUM

The virus is usually made into small pellets and admistered with the ordinary pellet injector.

Experience gained from the vaccination of more than 30,000 calves has demonstrated that 15 to 40 cc. of serum is sufficient to protect calves against one or two pellets made from slightly attenuated or pure virus.

When serum is administered to calves showing the first symptoms of blackleg the symptoms, as a rule, improve or disappear and recovery takes place. Treatment of calves in the advanced stages of blackleg is unsatisfactory. For curative purposes doses of 300 to 500 cc. of serum are administered intra-muscularly in affected region. If the symptoms persist, a second dose is administered from 12 to 24 hours later. If the disease is in the incubation period only and the symptoms have not yet appeared, it seems probable, from our observation, that a dose of from 15 to 40 cc. of serum will prevent the further development of the disease. This is a point that is difficult to determine by direct experiment.

It is generally recognized that the losses occuring from 12 to 48 hours after vaccination are limited to calves having the disease in the incubation stage when they were vaccinated. The absence of such losses in the serum treated herds is probably due to the curative action of the serum.

IMMUNIZATION BY SERUM AND VIRUS

The passive immunity produced by the serum is of short duration. To produce active immunity of a certain degree from one to two four-milligram virus pellets are administered three days after the injection of the serum. The degree of immunity produced by this pellet has in most instances been sufficient to protect calves from natural infection even on very badly infected premises and where the ordinary spore containing vaccines had failed to produce protection. Of more than 30,000 head of cattle receiving this treatment, there have been reported only five instances where a calf subsequently developed blackleg.

While the immunity produced by this method has been sufficient to protect the animals against natural infection, it has been found that this immunity is not sufficient to protect against the effect of the injection of a gram of virus.

IMMUNIZATION WITH GERM-FREE FLUID

Schobl has shown that the oedematous fluid derived from blackleg lesions when freed from living organism possesses marked immunizing properties.

The oedematous fluid was collected from the tissues of calves artificially infected with blackleg. This fluid was sterilized by filtration. The immunizing properties of this germ-free fluid or aggressin are shown by the fact that doses of from 8 to 15 cc. were sufficient to protect calves against doses of virus which promptly killed the non-vaccinated animal used as a check.

In the field this germ-free vaccine has given excellent results. Doses of 5 cc. have produced in calves six months of age or older sufficient immunity to protect them for the remainder of their susceptible period. No losses have occurred in vaccinated herds except that occasionally a calf succumbed within 12 to 24 hours after the treatment. These calves were doubtless affected with blackleg in the incubation period when vaccinated and such losses are to be expected after vaccination with any agent not producing a passive immunity.

WHEN TO USE SERUM

Blackleg serum is to be used when the disease has appeared in the herd—it will immediately check its progress—and on calves which have access to badly infected premises, or where blackleg recently has appeared in the immediate vicinity or in the same pastures. This serum will protect for a short time—10 days to two weeks—but for a long period of immunity it must be followed in three days with a very strong specially prepared dose of vaccine. This vaccine is much stronger than could be used safely on calves without the serum, as it would likely produce blackleg in some of the calves that had not first received the serum three days previous. It is perfectly safe, however, when given according to directions, as has been demonstrated by using it on more than 30,000 animals.

The serum should be used also on particularly valuable calves, as it protects the animal against latent or undeveloped cases of blackleg which frequently show up in apparently healthy animals after an ordinarily safe dose of vaccine has been used.



GATHERING INDIAN RUNNER DUCK EGGS.—THEY ARE GREAT LAYERS OF FINE QUALITY EGGS

The well-fed cow is almost sure to return more profit than the poorly fed one. A poorly fed cow will often be found to give no profit. At the Ohio Experiment Station, a cow increased her milk production 80 per cent through better feeding. This increased quantity of milk cost seventy-seven cents less per hundred pounds than what she produced on the small quantity of feed and the butterfat cost twenty-three cents less per pound. This extra feed would not have been sufficient to feed another cow. By feeding the one cow well about as much milk was secured as by feeding two cows poorly. Feeding the one cow well required less work, less barn room, less feed and less pasture, than feeding two cows poorly. In many cases the quickest way to increase the profits from a herd is to feed and care for them better rather than by increasing the number.

Chicks should not receive feed until they are 36 hours old.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

A WESTERN Kansas reader asks what would be a fair arrangement between land owner and renter where the owner furnishes the land and buildings, has a half interest in all stock, and pays for half the feed if any has to be purchased. This includes pasture land as well as farm land. The renter has a half interest in all live stock, furnishes all machinery and labor, also provides upkeep of machinery and harness, furnishes all seed and pays all expenses of threshing and silo filling. He also scatters all the straw and keeps up fences and improvements.

In a lease of this kind the two parties are really partners in the business and each should receive compensation in proportion to what he invests in the business. The simplest method is to divide the obligations of each so that they can share equally in the profits. In a partnership farming proposition of this kind, a fair division of the obligations is as follows: The lessor or landlord to furnish the farm, including all improvements, and pay all taxes and insurance. He should furnish material for all repairs and needed improvements such as new fences, barns, sheds, or granaries. The lessee or renter should furnish all work horses, harness, implements and machinery and the labor necessary to operate the farm in accordance with the stipulated agreements. He ought to make all repairs and improvements not requiring skilled labor. In the interest of the maintenance of soil fertility there should be stipulations relative to hauling out manure, scattering straw, and prohibiting the burning of any straw or stalks.

The two parties should jointly furnish all seed grain, grass seed, clover or alfalfa seed sown during the period of the lease. They should also jointly own the livestock other than work horses and share equally in the cost of purchased feed for live stock, including any hired pasture. They should furnish jointly binder twine and fuel for threshing, silage cutting, fodder shredding, hay baling, etc., and the machine bills for the same. Each should pay one-half the taxes on personal property owned in common. In the sale of live stock and other products they should share equally. Such details as the place of delivery and the manner of selling, should be stipulated in the contract.

In order to be successful there should be a complete understanding between the parties on all points and it is always a good plan to go over in detail the various items and have them reduced to writing and placed in the lease. A very satisfactory form of stock-share lease embodying the essential points, was adopted at a landlord-tenant conference held in Winnebago County, Illinois, about a year ago. The terms of this lease had been given careful consideration by both landlords and tenants and with some slight modifications it could be very satisfactorily used in setting forth the aggreements between Kansas landlords and tenants who desire to enter into a stock-share farming arrangement.

If any of our readers would like to have a copy of this stock-share lease to which we have referred, we will be glad to furnish it.

Repairing Stave Silo

C. P. F., Osage county, asks about repairing a two-piece stave silo which is not absolutely tight. He bought this silo five years ago last fall. The following spring after it was emptied it blew down during a storm. Some of the staves were broken and quite a number had part of the tongued edges split off. After getting a few new staves he put the silo up again but has had considerable trouble in keeping it tight. He has carefully tightened the hoops, used roofing cement and other similar materials to point up the cracks, but still has spoiled silage, especially where the staves are spliced. He has thought of several methods of repairing his silo, such as putting iron siding or cypress drop-siding on the outside under the hoops, sealing up the inside with four-inch flooring, running boards up and down, and putting metal lath or patent wood lath on the inside and plastering with cement plaster.

The two-piece stave silos are not as a rule satisfactory for Kansas conditions and nearly always make trouble. It might be possible to make this silo tight by putting on a few more hoops and drawing it up tighter, but since the tongues and grooves of a good many of the staves are injured it is probable it could not be made tight without putting on another layer of material. Sealing up the inside with the flooring is the most practical plan to follow. The silo should be straightened up and put in as good condition as possible before nailing on the flooring. It would be a good plan to use tar roofing paper under the flooring boards. This will be almost sure to make the silo air-tight. It might not be necessary to use the paper anywhere except where the staves are spliced. If these splices all come close together as they probably do, a single strip of paper will perhaps cover them all. Nail the flooring solidly to the staves. This method of repairing a leaky stave silo will put it in good shape without much expense. Of course it should be protected against possible wind damage when empty as before, by keeping the guy wires tight.

Plan for Cistern Filter

L. H., Wyandotte County, writes that he needs a large cistern to furnish water for supplying the house. He expects to use a pressure tank system. He asks of what material to make the cistern wall, whether brick or concrete, and what kind of a filter is best to use. The water may be used for drinking as well as other household purposes.

Either brick or concrete can be used for the walls of a cistern. If of brick, the walls must of course be plastered with a cement mortar to make them hold water. In making a cistern of concrete, the following mixture should be used; One part cement, two parts sand, and four parts gravel or coarse stone. The concrete may be made more nearly water-proof by adding petroleum residuum oil to the amount of ten per cent of the cement used, or by replacing about fifteen per cent of the concrete with hydrated lime. It is not usually necessary to reinforce the walls of a cistern, although it may be necessary to do so if the soil is very loose.

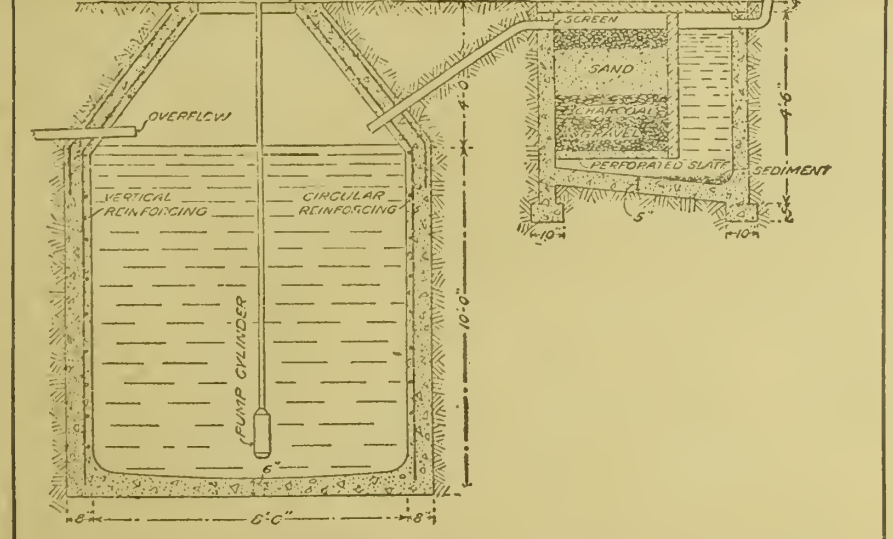
Whatever the material used for the walls, one or two coats of rich cement plaster, preferably containing about three per cent of the residuum oil, will aid in making the cistern absolutely water-tight. The cover should be made tight to keep out surface water or dirt.

Provision should be made for turning the water out of the cistern while the roof is being washed of the dust and dirt which always gathers between rains.

The use of a filter is absolutely necessary if the water is to be used for drinking purposes, for in spite of all efforts to keep the gutters clean and keep dirty water from running in, it will not be fit for drinking without filtering.

A filter can be made by placing alternate layers of gravel, sand, and charcoal in a good barrel, or a brick or concrete tank made for the purpose. The rainwater from the roof should be directed over the surface of this filter bed, passing through it and finally into the cistern through a pipe leading from the bottom of the filter. Another method is to partition the cistern into two compartments, making a double wall of brick eight to ten inches apart, with coarse sand and gravel between. Only the verticle joints of the brick should be cemented. A few bricks at the base of this wall should be left loose so the sand and gravel can be cleaned out if it becomes clogged. This wall should be built in a curved form to resist the pressure of the water, and the compartment containing the unfiltered water should be much larger than the other, in order that as much dirt as possible may settle in this compartment.

Having the filter separate from the cistern is more expensive but is the most efficient plan. The cut on this page shows the plan for a cistern filter in which the water passes upward in going through it. By this arrangement the sediment collects in the lowest part of the water compartment and does not tend to clog the filter bed. This illustration is from a Federal Department of Agriculture bulletin, entitled, "Clean Water and How to Get it on the Farm". In addition to discussing the source of water supply, it takes up the different plans of getting it into the house where wanted.



PLAN FOR CISTERN FILTER FROM FEDERAL DEPARTMENT OF AGRICULTURE BULLETIN

Profit from Dairy Cow

F. R. E., Chase county, asks what profit can be expected from dairy cows for butter fat alone. He wants the information for grade cows as well as for pure-breds. He asks if it pays to milk a cow for forty cents clear gain each day.

An average clear profit of forty cents a day for nine months would mean a profit of $108. This is more than some of our very successful dairymen get. In our issue of November 25, 1916, we published some figures on the results secured in the Dickinson County Cow Testing Association. In 1913 there were 134 cows in this association that finished twelve-months feed records. Their feed for the year cost $35.59 per cow, and the average profit per cow was $54.89. In this calculation butter fat was figured at twenty-eight cents a pound and skimmilk at forty cents a hundred. The next year 151 cows finished twelve-months feed records and the average profit for the year was $46.94. In 1915, 164 cows finished twelve-months records and the profit was $53.01 per cow. In 1913 the ten best cows made an average profit of $145.21. In 1915 the ten best cows made an average profit of $164.24. Most of the high producing cows were pure-breds or grades of dairy breeds.

If our correspondent has any doubt as to whether it pays to milk cows or not, a careful study of the records of this cow testing association should convince him of its profitableness. There is good money in milking quite ordinary cows if members of the family can do the work. The ten poorest cows in this association averaged 119 pounds of butter fat for the year in 1913, and even with this low production the profit was $15.23 a cow. No account is taken in these figures of the labor, it being assumed that the calf and the manure produced by a cow will more than pay for the labor of milking and caring for her. The cows, however, are charged good prices for all the feed eaten, these being high enough to allow a little profit on growing the feed.

There are a number of boys and girls in the Kansas Farmer Dairy Club who will have their cows paid for in one year from the net profits of selling their milk or butter fat. By the rules of the club they are required to make a monhtly payment at the bank, the amount of which is the total receipts for their product less the cost of the feed for the month. One boy in the club has already seen that he can easily pay for his cow before the end of the year, and has bought another cow. Of course this second cow has nothing to do with his dairy club work. The result of his work in the club has taught him the profitableness of dairying and he is ambitious to do more work and thus secure a larger income. He thinks he can take care of two cows almost as easily as he can look after one.

There is no question about its being profitable to milk cows if one is willing to pay careful attention to the details of the work and stay with it. It is not a business to go into for a few weeks, dropping out when it becomes irksome.

Topeka Gets Duroc Futurity

The secretary of the National Duroc Jersey Record Association has written Phil Eastman, secretary of the Kansas State Fair Association, that the association agains desires to promote a futurity show at the 1917 Topeka fair. The association offers $400 in cash prizes for spring pigs not farrowed before March 1, 1917. There are three classifications —boar pigs, sow pigs, and litters of four. The first prize in each class is $35, and there are eight cash prizes in all. R. L. Hill of Columbia, Missouri, who helped in handling the 1916 Duroc Jersey futurity, has been appointed Duroc Jersey fieldman, a position created at the last annual meeting. One of his duties will be to help in conducting the show this year.

The Duroc Jersey and the Poland China futurity shows were important features of the Topeka fair last year and brought out a fine lot of exhibits. The Poland China futurity prizes will probably be offered by the association if enough breeders in the state want such a show. It is up to the Kansas breeders of Poland China hogs and they will, without doubt, be sufficiently interested to induce the American Poland China Record Association to again put on the futurity show in this state.

Buying Feed for Stock

When we buy a beef steer, we need to figure how much meat he will furnish. When we buy feed we should learn how much of the elements needed for our stock that feed will furnish. Practically all of the waste rough forage in the fields now is rich in carbohydrates and poor in protein. So, when we buy feed for our stock, we need to buy feed that is rich in protein.

The two feeds which are available to some people are alfalfa hay and cottonseed meal. Good alfalfa hay contains 210 pounds of digestible protein per ton. Cottonseed meal contains 752 pounds of digestible protein per ton.

The above figures are borne out by the fact that practical cattle raisers have been using cottonseed cake to feed their cattle while they are feeding upon buffalo grass in winter. Many of them feed nothing but cottonseed cake; and they get their stock through in good shape.

Considering protein content alone, if alfalfa is worth $20 per ton, cottonseed meal is worth $70 a ton.—J. E. PAYNE, Oklahoma.

Brooder lamps should be cleaned every day.



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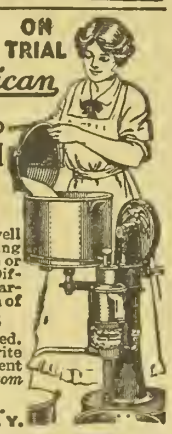

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Kansas Farmer Dairy Club

How Much Does His Cow Eat?

I RECEIVED your card yesterday in regard to my feed records. I have been trying to study out how much that cow eats in a day. Some days we feed the cows corn fodder, kafir bundles and hay. When the weather is fit they can be turned out in the corn stalks and around a straw stack. The farmers around here who have plenty of feed, "rough" cows through the winter on corn stalks for $1 a month, so that is what I gave Papa for roughage. But if I have to estimate it, I believe she would eat around 25 pounds of corn fodder and hay out in the lot. She is a small Jersey cow. I have not had a chance to weigh her but I believe she will weigh about 700 or 800 pounds.

I like my little cow very much. She sure is a dandy. I sold my calf. My cow is now giving about three or three and a half quarts at a milking.—HOWARD WEIS, Neosho County.

It is difficult to find out just how much the cow eats when she is fed roughage in the lot with the other cows. However, this can be done by putting her to herself for a few days and weighing the roughage given her. I think you will be able to work it out and it will be good practice for you to find out exactly how much rough feed the cow does eat. I note you speak of her eating fodder and hay. On your record you show eight pounds of alfalfa hay daily. Is the hay fed with the fodder in addition to the alfalfa shown on the record? If so, what kind of hay is it? You should state this in your record and estimate just as nearly as possible how much she eats. Hay is higher in price than fodder and your record would not be correct by stating that she eats about twenty-five pounds of fodder and hay out in the lot.

Wishes More Would Write

I have sent in my feed and milk records. My cow gave 1,122 pounds of milk in December. I am feeding her only roughage—silage, alfalfa hay and corn fodder. As she is in the corral with the other cattle, I put her in a pen by herself for a few days to see how much feed she would eat up clean. I gave her 35 pounds silage, 10 pounds alfalfa hay and 20 pounds corn fodder, all weighed separately. She weighs 1,325 pounds.

Little Woodrow is doing fine. I feed him skim milk, some bran and oats and alfalfa hay.

My brother is in the Capper pig club.

I like the Dairy Club work. Mamma says it not only teaches us good business methods, but to be kind to dumb animals, as they respond to the treatment we give them.

I will try to send a picture of my cow and calf and myself sometime.

I wish more of the Dairy Club members would write.—HELEN BUCHENAN, Dickinson County.

I believe you are making a mistake in not feeding your cow some grain during the early part of her lactation period. When a cow of considerable capacity freshens, she will give quite a large flow of milk for a while even though the ration fed is not extra good. She will fall down later, however. I presume you are feeding your cow all the roughage she will eat, although it would seem she ought to eat more alfalfa. I would suggest that you make up a grain ration of two parts corn, two parts bran, and one part oil meal or cottonseed meal, and begin feeding her four or five pounds of this mixture daily. I think she is a cow of enough capacity to pay for a larger amount of this grain mixture, but I would not advise starting with more than this amount. If she increases in her milk, try increasing the grain.

If you had plenty of first quality alfalfa and gave her all she would eat in addition to the silage, some change might be necessary in the grain ration. I suggest this grain ration assuming that you are limited in silage and alfalfa and have to feed some corn fodder. I believe you would get better results if you would give the cow all the silage she would eat and all the alfalfa hay, and not try to make her eat corn fodder. Of course, she would need some grain even with all the alfalfa hay and silage she will eat.

Another Prize Added to List

We have just received word from the Hinman Milking Machine Company that it will supply two units, and all the necessary drive-rod, shafting, pulleys, and hangers required to install the two units, as a prize for the Kansas Farmer Dairy Club. The term "two units" means a milking machine large enough to milk four cows at one time.

This and the prizes listed in last week's paper, surely are worth working for, and you should do your very best work and see that your cow does her best also, by giving her the feed, water, and care necessary.

Glad to Tell of Club Work

I have just gotten through reading the dairy department of KANSAS FARMER.

In regard to your letter I received the other day, the reason I charged my cow with pasture is that she ran in the stalk fields and clover and timothy meadow. My father is charging the neighbors $1 to pasture cattle in the same pasture.

My cow is not giving much milk now, but I think I will make it all right, for the test is pretty good.

A neighbor boy and I gave Paul Studdard a visit not long ago. I read his letter in the January 27 issue, and my letter also.

Do you think my milk will not freeze if I put it in ice to ship it? I will be glad to send some milk to this show and try and get a prize and a good one and a good quality test for the Dairy Club.

I like the Dairy Club work fine. My neighbors and friends ask me about the club and I am always glad to tell them all I can.

When my classmates in school come to a problem in dairying that they cannot get, they ask me if I can work that problem, as I am a dairyman. I find that I have learned a great deal about the dairy business.—ERNEST S. ASBURY, Leavenworth County.



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GENERAL FARM NOTES

Feeding Pure-Bred Sow

C. M., Cloud County, writes that he has a pure-bred gilt weighing about two hundred pounds, and wants some suggestions about feeding her. For feed, he has tankage at $2.70 per hundred pounds, linseed oil meal $5 per hundred, shorts $1.85, and corn 85 cents a bushel. He also has plenty of good alfalfa hay. This reader has a pig just weaned and asks how to feed it most profitably from the feeds mentioned. He can feed some skim milk to the pig.

This reader is certainly paying an exorbitant price for oil meal. It can be purchased here in Topeka in hundred-pound lots for $2.55 and the local freight rate would probably not add more than ten or fifteen cents a hundred.

This young sow must have plenty of mineral matter and protein in her feed. By all means give her all the alfalfa hay she will eat. Keep it before her in a rack all the time. This will supply mineral matter in abundance and alfalfa is also rich in protein. Many very successful hog feeders feed their brood sows nothing but alfalfa hay and corn. If the corn is fed in the ear, allow about three pounds daily or about two and a half pounds of shelled corn. While corn and alfalfa hay make a fine combination for a young brood sow, we would suggest that you feed a little tankage daily—about a quarter of a pound mixed with an equal amount of shorts and fed as a slop. This will make it certain that she gets plenty of protein to make proper growth and to develop the pigs.

You do not want your brood sow to get too fat, but she should make a gain of two-thirds of a pound to a pound daily from now until the time she farrows in the spring. Sows fed plenty of alfalfa and a little tankage and shorts with the corn, as suggested, are almost sure to farrow strong and vigorous pigs. Pigs from sows fed corn alone are smaller at birth and lacking in vigor and vitality.

Skim milk and corn will make a fine ration for the weaned pig. Give him a quart and a half to two quarts of milk to each pound of corn fed. If the skim milk is limited, allow a little shorts in place of part of the corn. Give the pig also all the alfalfa it will eat. It will help make his bones grow good and strong.

Valuable Feeding Experience

In our issue of January 20 we gave some hog feeding figures from a farmer in Eastern Kansas who had purchased a bunch of stock hogs averaging 133 pounds in weight, and fed them out, making a profit on the fifteen head of $12.98. These figures were not intended to be a record of the pork production business as a farm enterprise. They were given simply to show results of feeding out a bunch of hogs when feeds were unusually high in price. If this man had not kept this close record he probably would have thought he lost money.

We have just received a letter from F. G. Houghton, one of the successful hog men of Morris County, in which he calls attention to the fact that when these hogs were fed the weather was unusually fine and goes on to say that the figures fail to give the profit or loss of the man who raised the hogs up to the 133 pounds weight. Also that no estimate was made of the labor involved or of the alfalfa hay fed, all of which go with the hog business. Mr. Houghton gave some very valuable figures on growing and fattening hogs for market. We quote from his letter as follows:

"In 1916 I fed one thousand bushels of corn to my hogs, valued at $750; four tons of shorts, $100; about 200 pounds of salt, $1; 100 pounds of tankage, as an experiment, $2.75. I charged the hogs six per cent interest on ten acres of 60-dollar land, $36; six per cent interest on $300 invested in hog houses and fence, $18; repairs, $2; taxes $5; making a total of $914.75 for the year. My total sales were $1,361.41. I do not count the animals slaughtered for home use, which amounted to about $100. I allow this to offset the labor. I also breed sows for neighbors at $1, which I allow on labor. I manage to break even on buying and selling boars.

"I keep only six brood sows and keep them as long as they produce good litters of strong pigs. I do not keep a sow that farrows less than seven pigs to the litter. I breed gilts only when it is necessary to replace a discarded brood sow, and I pick the best gilt from my largest litter. I try to have my pigs come in March and September. The six sows I now have all farrow from ten to thirteen pigs. They are of the Duroc Jersey breed. The only breeding stock I buy is herd boars. I confine my business entirely to raising hogs for market purposes, selling sometimes on the home market and sometimes shipping to Kan-

"I feed soaked corn and slop the year around. During the winter I put my barrels in the manure pile. This keeps the slop warm and is better than a cooker for it saves fuel and does away with the bother of firing up. Fresh manure from the horse stable is added to the pile every week or so. My breeding stock gets ear corn and alfalfa pasture, except at farrowing time when the sows are shut up in separate pens and fed corn and water until the pigs are two or three weeks old. Then I add some shorts slop to the ration and keep this up until the pigs can follow the sows on the pasture.

"The past three years I have fed about the same quantities of feed and my sales have averaged $1,155 a year. I consider 1916 an exceptionally good year for the hog men. This year will not be so good. I would be glad to have my methods criticized or have suggestions made that might be helpful."

The grange as an organization is opposed to granting the 15-day open season on quail provided for in the fish and game bill now before the legislature. The State Grange, which met last December, passed a resolution urging the continued protection of quail. Farmers generally look upon quails as their friends because of the countless numbers of injurious insects they consume. If the protection they now have is to be continued, letters from farmers to the members of the legislature, expressing their wishes, are in order.

If you have not already purchased the males to head your breeding pens, you will have difficulty in procuring them. The high price of grain caused most breeders to sell short last fall. This has resulted in a shortage of all breeds of cockerels.

Arrow
form fit (PAT.)
Collars



Have bands and tops curve cut to fit the anatomy of the shoulders.

15c each 6 for 90c

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CLUETT, PEABODY & CO., Inc. MAKERS

TRACTOR SHOW! Second Annual Exhibit

Union Station Plaza

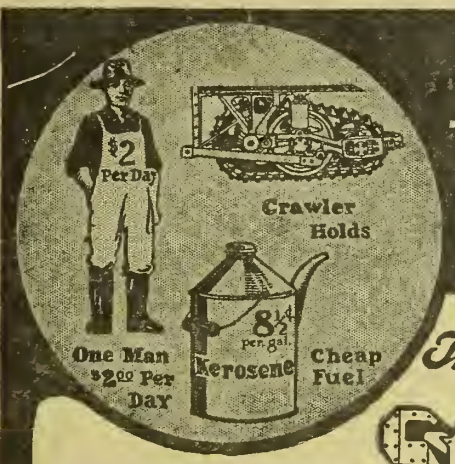
Kansas City, February 12th to 17th

Greatest display ever made. Seventy different models of Tractors; Tractor attachments for Automobiles, Power Cultivators, Power-Lift Plows, Special Binder Hitches and all kinds of new power-lift machinery. Beautiful decorations. Fine Orchestra. Show given under direction of the Kansas City Tractor Club.

SAME WEEK AS AUTOMOBILE SHOW

Come and Select Your Tractor During This Show.

W-H-Y Thousands Of Farmers Now Use





The Bates Steel Mule

The Bates Steel Mule Owner Has All These Money-Saving Features to Help Him.

The Average Round Wheel Tractor Is Handicapped Because of These Features.


One Man Plows 10 Acres a Day


One Man Discs 30 Acres a Day

When thousands of farmers put the "OK" sign on the Bates Steel Mule, you can bank on it that the Bates Steel Mule is the one tractor for you.

It's a big success because it's a big worker—a big result getter. The largest exclusive light tractor plant in the country is hard pushed to fill the demand

The "Crawler" Saves Time and Fuel—It Burns Kerosene
It Saves One Man's Labor—It Does All Farm Jobs

It gives you full drawbar power on any kind of soil. Because of its "Crawler," it will not pack the ground. It saves fuel over wheel tractors because it does not have the "back slip" of a wheel tractor. Plowing, discing, drilling, cultivating and harvesting all look alike to the "Mule." It does all kinds of belt and hauling work, too. No tractor on the market can compare with the "Mule" for 'all 'round general farm utility. It burns cheap kerosene because its motor is designed specially to burn kerosene. This cuts the operating cost and makes the "Mule" the cheapest tractor to operate.

Get the Illustrated Facts You want to get the latest illustrated literature on the Bates Steel Mule. A postal brings everything. Write and mail one today.

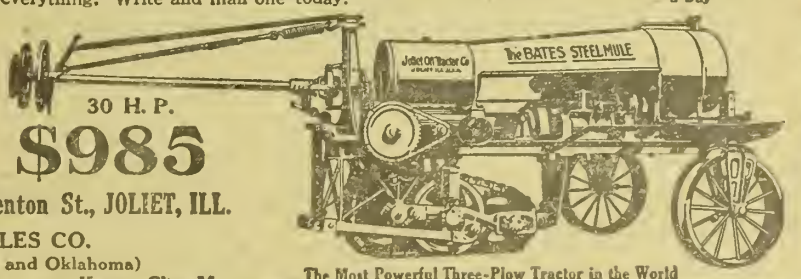

One Man Cultivates 25 Acres a Day


One Man Harvests 30 Acres a Day


Fuel Saving Crawler

30 H. P.

$985



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C. H. BANTLEY SALES CO.
(Distributors Missouri, Kansas and Oklahoma)
1702 Grand Avenue Kansas City, Mo.

See the "Mule" at the Kansas City Tractor Show, Feb. 12-17

A Thoroughly Well-built Car at $845

ELCAR

There are few cars equally beautiful at any price, and few, if any, equally good at as low a price. We put into the ELCAR the style, class and high-grade workmanship that went into our former models selling up to and above $2,000. Our organization has had long training in the production of quality cars, and both beauty and quality are inherent in the

Three New Models at $845

Five-Passenger Touring Car
Four-Passenger Touring-Roadster
Two-Passenger Roadster

Each model is large and roomy — some would say room to spare, but you want a car that will seat its full load comfortably. Fine in appearance, fine driving and remarkably easy riding qualities, power in excess, economical in upkeep and fuel consumption, a car to give you satisfactory service for years to come—a car that we believe to be as high in quality and as nearly mechanically perfect as any car ever offered at anywhere near as low a price.

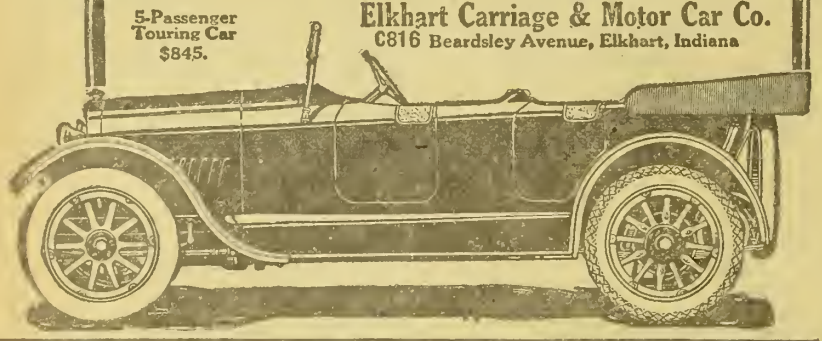
Our Illustrated Catalog

will show you views of all the ELCAR models and the more important mechanical parts, and is descriptive even to the minute details of construction. We will gladly mail it to you upon request.

A Few Elcar Specifications

Wheel Base—As long as some cars selling up to $2,000 and more—115 in.
Motor—4-cylinder; long stroke; high speed; 34.7 h. p. at 1,800 r. p. m.
Fuel Supply—Stewart vacuum system.
Ignition—Delco automatic spark advance with manual control.
Starting and Lighting—Dyneto two-unit; double-bulb headlights; Willard storage battery.
Clutch—Dry multiple disk—seven plates, steel on Raybestos.
Rear Axle—Full-floating with roller bearings at each end of wheel hubs.
Differential—Spiral bevel driving gears, with roller main bearings and ball thrust bearings.
Brakes—Internal and external, two inches wide on 12-inch drum.

5-Passenger Touring Car $845.



Elkhart Carriage & Motor Car Co.
C816 Beardsley Avenue, Elkhart, Indiana

Cushman Light Weight Engines

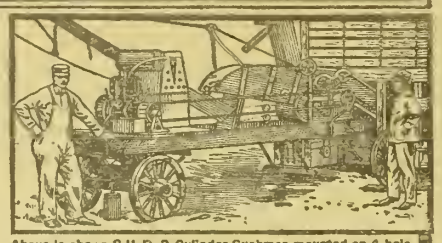
The all-purpose farm engines, for farmers who want an engine to do many jobs in many places instead of one job in one place. Built light, built right. Weigh only about one-fifth as much per horsepower as ordinary farm engines, but so well built, balanced and governed that they run even more steadily and quietly. No loud explosions, no fast-and-slow speeds, like old-fashioned heavyweights, but steady and quiet like automobile engines.

Before Buying Any Engine Ask These Questions

1. How much does it weigh? If it weighs more than 60 lbs. per horsepower, why? The old-time reason for heavy weight was to keep it steady, but if an engine is well balanced, it doesn't need pig iron to hold it down.

2. Is it Throttle Governed? A throttle governor insures steady, quiet and economical power.

3. Does it have a good carburetor? The Cushman has the Schehler. Many manufacturers of farm engines wont pay the price for a good carburetor, as they think the farmer doesn't know the importance of it.



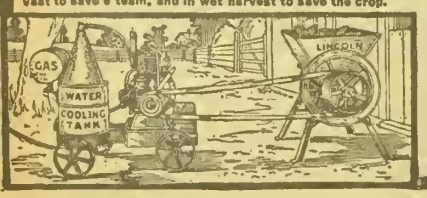
Above is shown 8 H. P. 2-Cylinder Cushman mounted on 4-hole corn sheller. Engine weighs only 320 lbs. 2 cylinders give it very steady power. May also be mounted on hay press or corn picker, besides being used for all other farm work.

Floyd Wilmoth, Crawford, Kans., writes: "I have used your 8 H. P. with my 4-hole Sandwich Sheller and shelled 88,000 bushels—over 2,000 bushels a day. It takes care of wet and tough corn same as dry.

"In your advertising you say the Cushman is built to run without trouble, and it will come nearer doing this than any other engine on the market. It runs cool all the time. The upkeep has been practically nothing and the fuel consumption very small.

"Lots of people talk about it being so small, but why buy an engine that weighs 3,000 to 4,000 lbs. to do the same work a 320 lb. engine will do?"

Below is shown 4 H. P. Cushman on light truck, with water cooling tank and gas tank in front. Engine weighs only 190 lbs. Easy to pull around from job to job. Used on Binder in harvest to save a team, and in wet harvest to save the crop.



Cushman engines are not cheap, but they are cheap in the long run. If you want an all-purpose engine, that will run for years without trouble, write for our Light Weight Engine Books. Mailed free.

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822 No. 21st St. Lincoln, Nebr.

Decay-Proof Fence Posts



"My fencing is up to stay—thanks to Long-Bell Creosoted Yellow Pine Posts—the kind that last a lifetime."

This is the united opinion of farm owners everywhere who are now using Long-Bell Creosoted Posts instead of the ordinary kind that rot and decay after a few years.

L-B CREOSOTED Yellow Pine POSTS

Our posts are cut from selected trees of slow growth, air dried and yard seasoned, and treated by the Long-Bell vacuum creosoting process until pure creosote is forced into every part of the sap wood. The germ of decay is killed, every fibre of the post is protected—there's no decay.

Free Book Send at once for our book, "The Post Everlasting"—learn how to end all your post and fence troubles and save from $50 up each year now spent in repairs and replacements.

Your lumber dealer sells L-B Creosoted Posts—see him and look for the L-B Trade Mark branded on the end of each post. It means thorough treatment with pure creosote.

The Long-Bell Lumber Co., 122 R. A. Long Bldg. Kansas City, Mo.

Harrell School District Alive

By Osceola Hall, Rural Social Life Editor

THE community about which this story is written is the Kaw Valley School District, more commonly known as the Harrell school. Being about equally distant from Wamego to the northeast and St. George to the northwest, and bounded on the south by the Kaw River, the people of this district are beginning to center their activities around the school, and are obtaining for their community some of the opportunities that come only by united effort.

The school may be made one of the greatest assets of a community as it is the one institution in which all may have a part. Such is the case in the Kaw Valley district. The school building is of stone and is unusually large for a district of that size, there being ample room to accommodate all in the neighborhood. The building is well equipped, including an organ which gives pleasure to both the children and grown-ups.

In choosing the teacher the school board has had in mind the larger interest of the neighborhood with the school as a center. The present teacher, Miss Velma Kastner, is interested and efficient—not only in school teaching, but in social center activities and is recognized by her co-workers in the district as a leader. In short, this teacher lives in the district—she is thoroughly interested and fits into the life of the district in a way that pleases all and accomplishes much. The teacher and school board are working so harmoniously and with such zeal that it is thought by spring District 102 will be listed among those schools of the state that are standardized.

Along with this program for a standard school, other progressive steps are being taken. The teacher and parents are realizing that recreation is really a part of education—that to gain the best results in developing the mind, the body must also have opportunity for growth. Once a real need is discovered, progressive people will not relax their efforts until something is done to supply that need. Miss Kastner thought that recreation was the greatest need of her little flock and began to search for some way in which games could be introduced into the school. She found in the columns of Kansas Farmer a notice of the writer's dramatized play festival, "The Spirit of Play." Arrangements were made at once to secure our services for the week before Christmas to train for this program.

Upon arrival in the community, Miss Kastner greeted us with, "I really don't see how you can do it. Why, my children don't know any games. All we ever play is "Black Man" or ball. I'm so glad you're going to teach them some games." The little ones were just as eager for these new games. Their eager, expectant, delighted faces were like the sunshine as during the week game after game was played. At recess and noon hours the children would crowd around and joyously exclaim, "Oh, can we play the fairy game?" or some one of the other games, and the discord as each called for his favorite game was music to our ears as it denoted hearty response to our efforts. Many times the expression, "There has never been anything like that here," was heard, and from the children, "I can hardly wait for Friday night to come." Even when the thermometer registered ten below zero, these children came to school at eight o'clock for their practice games.

The rehearsals of the program were easily arranged, the older ones remaining after school. Some of them lived two miles from the schoolhouse, but they would walk fast and sometimes run in order to reach home before dark. One of the mothers allowed her little girl to stay all night with friends who lived near the school, and in this way both mother and teacher were relieved of anxiety about the child being out after dusk.

The games were a pleasure, but there were shrieks of delight when the costumes arrived. This important event took place at recess, and most of the twenty-five children ran out to the road to bring in the box and suitcase. Finally the old suitcase was rescued by three boys and they clumsily carried it into the schoolhouse, none of them being willing to give up the honor. Then little by little, during the two remaining days of practice the costumes were unpacked, but it was not until Friday night that the climax was really reached, when the children, splendidly costumed and supervised by the "Spirit of Play," presented their wonderful dramatized play festival, to which program a Christmas touch had been added.

The dramatized play festival is accompanied by instrumental music, and this feature was very acceptably supplied by Miss Katherine Harrough, a student of Wamego High School. District No. 102 was Miss Harrough's childhood school and her dear memories of those earlier days and her desire to be of service to the home school, caused her to put forth great effort in getting to the country school after her own classes in town were dismissed. The first afternoon she came to practice she was greeted with the exclamation, "Oh, Kather-



SCENE IN "SPIRIT OF PLAY."—THERE ARE NO STAR PERFORMERS. ALL HAVE EQUAL SHARE IN SUCCESS OF FESTIVAL

1842 The Seventy-Fifth Anniversary of 1917

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LIGHT DRAFT PLOWS

Built for the Field Test.

Three-Quarters of a Century of "Knowing How" Hammered Into Every One of Them.

The product of the Parlin & Orendorff Co. has always been noted for simplicity of construction, great strength and ease of operation. It was upon such a basis that the founders of this business made their implements, established their reputation, and built their factory. It is upon the same foundation that the business has been carried on to this day, and in 1917 we celebrate our Diamond Jubilee; 75 years of practical experience gained through constantly striving to provide for the exacting requirements of three generations of American farmers.

For an even three-quarters of a century we have met the demand, and today we operate the largest and oldest permanently established plow factory in the whole world. "It's the way we build them."

P & O

Light Draft Plows, Harrows, Planters and Cultivators are made in all types and sizes, to meet the conditions in all sections, and are Backed by an Unqualified Guarantee.

We also make the most complete line of Traction Engine Plows produced, and we have a special catalog devoted to these famous plows.

The P & O Little Genius Engine Gang Plow

was the most popular plow shown at all points on the 1916 National Tractor Demonstration.

We will send P & O Catalogs to any address. While P & O Implements are sold only through established implement dealers, we welcome correspondence from farmers in all sections.

Ask Your Dealer or Write Us.

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YOUR ENGINE SHIPPED Ed. H. Witte TO DAY

DON'T wait 6 or 8 weeks. Wire me your engine order NOW! Get a High-Grade WITTE Engine. I can ship any size—2 to 22 H-P.—Kerosene or Gasoline—Stationary, Portable, or Saw-Rig—all ready to run. Ship today! Fully guaranteed for 5 years. Immediate shipment proves superior factory equipment, and a better engine, just as 30 years' WITTE success proves the superior quality of

WITTE ENGINES

No other similar factory can offer you the engine quality and service that I am prepared to give every WITTE engine user. If you don't know about WITTE engines, write for my FREE BOOK telling "How To Judge Engines." Gives valuable pointers gathered from over 30 years of practical engine experience—not guess work. Write today. Ed. H. Witte, Pres.,

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SILOS American Tile Blocks, Curved Hoops Imbedded, 14x35, 115 tons $223

American Silo Co., 210 Traders Bldg., Kansas City, Mo.

ine, I'm so glad you can play for us," and she enthusiastically replied, "I wanted to. I refused two offers in town so that I might play here Friday night." The next afternoon she proved her interest by walking four miles, reaching the school about four o'clock and remaining until dark, in order to practice with these young people. We often hear that leaving the local community and going to town to school kills the desire to return to the country neighborhood. But this is not true in the case of girls like Katherine, for if they must go outside the home community to complete



MISS VELMA KASTNER, TEACHER OF HARRELL SCHOOL

their schooling, the more they learn the more they are impressed with the possibilities of the home community and are eager to return to have a part in the realization of those possibilities.

In this dramatized play festival, "The Spirit of Play," there is no star performer, but each character is a star, thus illuminating the entire program. At the end of the week, Miss Kastner said she believed it would prove to be the beginning of many improvements in developing the school as a community social center.

What Kind of Club for Women

We have been asked to suggest the best plan of organization for the women of a rural neighborhood.

In organizing the women of a community into a group who can work together, a great deal depends upon the nature of their interests. If the women are all united in one church denomination, a club affiliated with the church will be of great service to the minister and to the life of the community. We presume, however, that the women are of different denominational connections, so that it will be necessary to plan a club in which they can meet in some common activity. It is always desirable in the country to avoid duplicating organizations, as much time and energy are wasted in keeping up competition.

If there is no grange in the neighborhood, no better organization could be formed. It admits women upon an equality with men, and there are great possibilities in it for the women to work together in various ways.

A mothers' club is another splendid form of organization for women. A group of women interested in literary topics might form an organization affiliated with the Federation of Women's Clubs of the state.

A home-makers' club is always in order and is perhaps one of the best forms of organization for the women of a rural community. Special information regarding home-makers' clubs will be furnished by the Home Economics Department of the Extension Division of the Kansas Agricultural College, Manhattan.

Rural Social Life Questions

You are invited to send in questions that have to do with the rural social activities. Questions will be answered in this column, except where personal reply is requested, and a self-addressed stamped enveloped enclosed. Address Department of rural Social Life, Kansas Farmer, Topeka, Kansas.

No life is well rounded that has no social expression. Both work and play are needed—each to bring appreciation of the other.

Answering the Kerosene Question with a Guarantee

THERE is no need of guesswork claims or promises on the kerosene burning proposition. Either a tractor burns kerosene in a way that *means something* or in a purely temporary, expensive and inefficient way.

In selling the Rumely OilPull tractor we don't make word-of-mouth promises, but give you a broad, positive *written guarantee*—the kind that you are entitled to and should demand with the tractor you buy.

Remember, the OilPull is a kerosene tractor from *start* to *finish.* It isn't a makeshift combination gasoline proposition. The fact is, the OilPull gives *more power* on a gallon of kerosene than competing tractors of the same size on gasoline.

In addition to cutting your operating costs in half, the OilPull has all the qualifications you want in your tractor. It is an all-purpose outfit and will handle *all* your power jobs, draw-bar or belt. It is oil cooled—there's no danger of the radiator freezing and no bother with cooling water.

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Built in two sizes, 15-30 and 30-60 h. p.

Write our nearest branch for a catalog of this famous cost-cutting tractor.

ADVANCE-RUMELY THRESHER CO.

LA PORTE (*Incorporated*) INDIANA

Address the branch nearest you

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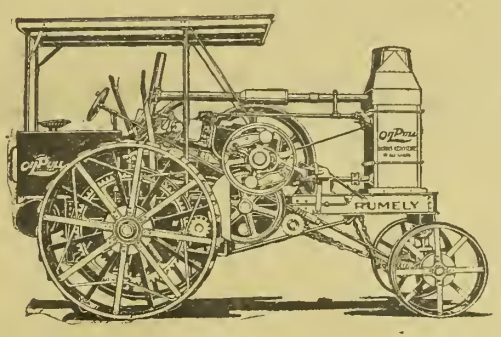
RUMELY OilPULL TRACTOR



Guarantee

We guarantee the OilPull tractor to operate successfully *at all loads under all conditions*, not only on all grades of kerosene permitted by law to be sold in the United States and Canada, but on distillates and fuel oils free from earthy matter.

There's Only One OilPull—
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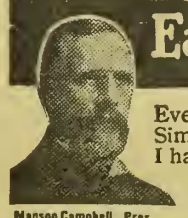
Special 30 Day OFFER To One Man In Each Township





Manson Campbell, Pres.

$16—That is what you save by dealing direct with me. Isn't $16 worth saving?

Even though *thousands* of farmers buy Simplex Straw Spreaders every season I have decided to give the Simplex further introduction. Therefore, I now make an extra Special Offer to one man in each township. Can't outline my Special Offer here. But write me and I'll explain all. It's a real *surprise*—a remarkable chance to *MAKE* as well as *SAVE* money. You also get my *regular* proposition of *low factory price, 30 days' free trial with the money in your pocket*—and *liberal long-time credit.* Offer is limited, however. May be withdrawn any time. Write now—be the lucky man!

Simplex Straw Spreader

Makes Straw Worth $3.80 per Ton

Straw, as you know, is worth up to $3.80 per ton—as a fertilizer—as a preventive of winter kill—as a conserver of moisture—as protection against "soil-blow." *Spread yours.*

The "Simplex" Spreader is tried and proven—five years' success—thousands in use—only machine with double-drive and double-width carrier—only machine that handles *rotten, wet* straw as well as bright—only machine that spreads over 25 acres per day. PAYS FOR ITSELF, MAN, IN ONLY *THREE* DAYS!

Try my "Spreader!" Try it! That's all I ask. No money wanted in advance nor until the machine has made good. Postal brings latest catalog. Letters from Simplex owners in your State and my Special, Private Offer mentioned at the beginning. All come FREE—by return mail. Address Manson Campbell, Pres.

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10 ASSORTED SEED PACKAGES ONLY 10c

A fine selection of vegetable and flower seeds best adapted to your locality. A big value. We offer it to make you better acquainted with Lincoln Brand Seeds and Griswold service. A great combination backed by thousands of satisfied customers and 27 years at it. Write also for our Bee Supply Catalog.

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Gives strong, steady light of 800 candle power. Costs less than a third of a cent per hour to run. Can't blow out or jar out. Solidly built of nickled brass with Mica Globe. Stands all hard knocks. Use it in feed lots, barns, cow sheds, chicken houses, cellars, etc. Fill it only once a week—Clean it only once a year. No wicks. No chimneys. No smoke, no odor. Perfectly safe. No danger even if rolled around in straw. Can't explode. Can't spill. Guaranteed 5 years. If not on sale in your town yet, write for catalog of 20 different kinds of Gasoline Lanterns, Table Lamps, etc. Dealers or agents wanted in every locality.

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is a 112-page book of practical barn plans and building information—not a catalog. Its mission is to help you build the best possible barn at a minimum cost. It contains the best of the building ideas gathered by The Louden Machinery Co. in fifty years of barn building and barn equipping experience.

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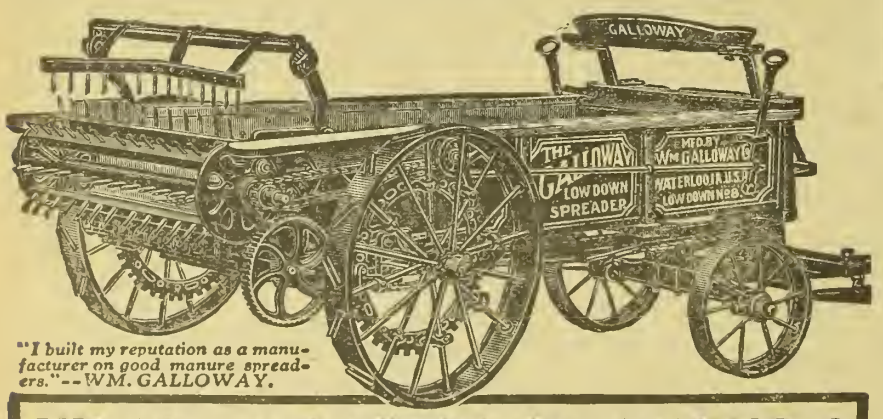

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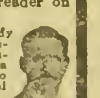

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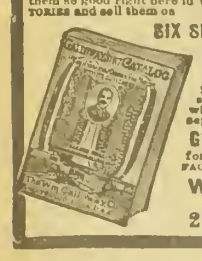

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Profit From Dairy Heifers

THERE can be no progress along dairy lines unless some effort is being made to improve the dairy herd. Dairying as an industry is making great strides in Kansas, and large numbers of dairy cattle have been shipped in from other states. One of the profits of this business is from the raising of high producing dairy cattle. The newly established dairymen cannot hope to make the new industry permanently profitable through a system of buying cows to replenish their herds. We speak of this at this time because as dairying increases there will be many who will look to condenseries for their market. Our comment is not in opposition to condenseries, but with the idea of helping Kansas dairymen to avoid some of the practices commonly prevailing in condensery districts.

The objectionable features of this practice are that in many districts in which the milk is sold to condenseries, no attention is given to the improvement of the dairy herds. Any old cow which can be fed even for a few months to a fairly good production will suffice for the patron of the condensery. When no longer giving milk in sufficient quantity she is fattened and sold for beef. Another cow is bought to take her place. Usually these cows come from the stock yards. The calves produced on farms of condensery patrons are sold as veal. This is done, first, because the farmer feels that he cannot afford to feed whole milk to the calf even for a two weeks period; second, because he has no skim milk to feed for four or five weeks, and third, because the calf is fit only for beef because it has no breeding which makes it worth rearing for stock purposes. With such prevailing conditions, regardless of the cause which may lead to such conditions, there can be no real dairy development in any community.

One cannot actually engage in the most profitable dairying without year after year improving the herd so that more milk is produced or without rearing calves of such breeding as will make them useful animals in the dairy. The profits of dairying come largely through cow improvement and through which comes good prices for cows as milkers and through the rearing of calves which will sell for breeding and milking purposes at prices higher than those commanded by calves of nondescript breeding. The real dairyman makes as much or more money from the sale of good milkers or from the sale of calves from heavy-producing mothers as is made from the sale of the milk. These are sources of income which the man engaged in dairying cannot afford to overlook and a system of dairying which does not recognize the income from this source is faulty. It is only one-half as profitable as it can be.

We do not believe that the cow milker on high-priced land and who sells his milk to a condensery, can afford to use the whole milk and the skim milk necessary to grow to maturity a calf which only is fit for beef. This is no doubt the view which the average condensery patron takes of his situation. We do not, however, believe that he realizes to what extent the rearing of a well-bred calf which could take its place in a dairy herd would add to his profit. The holding of the idea that the common cow, handled as above, is good enough for milking for the condensery, is responsible for the practice in the condensing district. If these patrons, however, would give well-bred, large milking cows a fair trial, they would soon realize the increased profit through the sale of the milk alone. They would convince themselves that even in selling milk a high-class milker is most profitable. This because such milkers make better use of the feed given and convert that feed into milk at a greater profit. Realizing this, they would then be desirous of perpetuating this kind of cow by rearing her offspring.

High-class cows cannot be easily bought, and when purchased can be had only at high prices. This is the highest compliment that can be paid the large milking cow and is the best argument for her use. If a profitable cow is milked, her offspring is too valuable to sell as veal. The very fact that a man has a herd of well-bred and large-producing milkers will induce him to rear the offspring to maturity. The best obtainable cow is in every instance the foundation for profitable dairying and when one knows a good cow the value of her kind is at once recognized.

We have never known milk to sell at a condensery or for domestic consumption at prices so high that the producer could not afford to grow a heifer calf from a sire of good antecedents and from a profitable milk-producing mother. Calves from such parentage are valuable. The full value of such calves, however, cannot be realized at six or seven weeks of age. They must be grown to the point at which their breeding is apparent in their conformation. So in the rearing of well-bred heifer calves it is necessary if the greatest return be realized, that the same be kept on the farm until they give some outward appearance of their breeding and value. The farmer who has produced on his farm such calves will find good money in their rearing.

Cows of good breeding are always in demand at good prices and that demand was never greater than now. The grower of such calves can well afford to give them the start necessary on whole milk and the skim milk necessary to bring them to the point at which they can exist on grain and hay and pasture. A well-bred well-reared heifer calf at two years of age and soon to be fresh, will sell for more money than a



GAMBOGE'S VELLUM MAJESTY, A TYPICAL JERSEY BULL.—OWNED BY M. D. MUNN, PRESIDENT OF THE AMERICAN JERSEY CATTLE CLUB

beef animal of the same age, and it will not cost so much to produce the heifer as the beef animal. The well-developed and most profitable dairy farm is that which each year has a few desirable heifers to sell to the man who is looking for good milkers.

Visiting Dairy Farms

Some Cloud County farmers found it most profitable and instructive to visit dairy farms in Dickinson County. In a recent issue of the Concordia Blade, Agricultural Agent Karl Kuaus tells of this visit:

"Two auto loads of farmers from the vicinities of Concordia and Miltonvale drove to Abilene to inspect some of the good dairy farms of that section. Eight farms were visited, six of which had twenty or more Holstein cattle. The other two farmers had mixed herds with Jerseys predominating. A careful study was made of the type of cattle kept, equipment, methods of feeding and feeds used, and the products sold. The testing association has shown these farmers that only the good cows pay. It costs about $50 to keep a dairy cow one year. George Lenhert milks seventeen cows that return him $2,000 a year. A. B. Wilcox paid $450 for a cow that returned him $500 in ten months. This cow's bull calf sold for $250 to a neighbor. All the farmers visited placed cows in stanchions to be milked. If milking over fifteen cows, a milking machine was used. All think the milking machine a success where enough cows were to be milked. In every case except one the farmer that was producing milk, fed silage and this one is building a silo this winter. Alfalfa racks were found in every lot and at milking time a feed of corn and cob meal, bran and oilmeal was given each cow according to the amount of milk she produced. The milk from each cow is weighed at milking time and tested once each month. No guess work here. Where close enough to town to deliver each day most of the men sell whole milk. If farther away cream is sold and the skim milk fed to pigs and calves.

"In all this trip we did not find a Holstein cow or heifer for sale. These farmers are prosperous and the cows are the cause of it. Many Cloud County farms are better adapted to this type of farming than any other. Why haven't we as many good cows as Dickinson County?"

Minerals in Milk Production

Dairy cows ordinarily cannot digest from rations of the usual character sufficient mineral matter to meet the demands made by heavy milk production. This conclusion has been reached by nutrition experts at the Ohio Experiment Station after two years' investigations with cows yielding large quantities of milk.

These specialists also say that even when the common practical rations are supplemented with large amounts of calcium carbonate and bone flour, the cows still give off or use in milk production more lime than they can digest from their rations. To meet this demand for heavy milk production the cows must draw upon the mineral substance of their skeletons.

Further attempt is being made, by the use of more readily soluble lime salts, to learn whether a cow can absorb as much lime as she gives off during heavy milk production.

The results obtained thus far emphasize the value of leguminous roughages in milk production. Without liberal allowance of such feeds the loss of minerals from the bones becomes excessive, and predisposes to disorders of nutrition.

Winter Care of Dairy Heifers

Silage and alfalfa hay are ideal feeds for calves more than six months old during the winter months. Some grain should be fed in addition, however. Four parts of corn chop, two of bran, and one of oil meal make a good ration. Two or three pounds a day should be fed heifer in calf until near calving time, depending upon conditions. Enough grain should be fed to keep the animal in good flesh and in a growing and thrifty condition. Size is as desirable in dairy as in beef animals.

Heifers should have a shed to furnish some protection although they can run in the lot in the day time. The grain should be fed inside and the alfalfa and silage in suitable places outside. It saves feed if the water is warmed, especially in severe weather.

Dairy animals, not to be used for show purposes, should have their horns removed. This may be done by applying caustic potash on the embryo horns of the calves before they are a week old.

The best age to have heifers freshen depends upon the size and thriftiness of the animal, but in general Holsteins and Ayrshires should freshen when they are about 30 months old, and Jerseys and Guernseys 26 to 27 months.—J. B. Fitch.

Eradication of Tuberculosis

In his recent annual report, Secretary Houston of the Federal Department of Agriculture mentioned the following activities of the Bureau of Animal Industry in its fight against the spread of cattle tuberculosis:

"Applying the tuberculin test to interstate shipments of cattle at stock yards when destined to states requiring the test. This is done upon request of the owner and without fee; testing cattle for importation and for exportation; testing herds in Maryland and Virginia supplying milk to the District of Columbia, in co-operation with the local health officer; testing all cattle in the District of Columbia with a view of eradicating the disease within the district; testing herds in Virginia in co-operation with the dairy and food commissioner of that state; testing pure-bred herds in various parts of the United States in co-operation with the owners; manufacturing and distributing tuberculin to state authorities for official use.

"In addition to this work, it is believed that the time has arrived when systematic eradication of tuberculosis in selected areas in some of the states should be begun. While this has been suggested from time to time, none of the states has yet indicated a desire to commence the work. This is possibly due to the lack of funds. To make the requisite progress, the necessary authority and a considerable sum of money should be available both to the federal government and the states.

"It is not thought that much permanent headway will be made in securing the co-operation of cattle owners unless some reimbursement is made for cattle destroyed. Under the plan followed in the District of Columbia, cattle which react are first appraised and then slaughtered. If no lesions of tuberculosis are found, the owner receives the full appraised value. If lesions are found but the carcass is not affected to such an extent as to destroy the value of the meat for food purposes, the owner receives 80 per cent of the appraised value less the salvage. In case the carcass is so badly affected as to require destruction, the owner receives 40 per cent less the salvage. This has been found generally acceptable to the cattle owners. The cattle are appraised at their beef or dairy value.

"Considerable co-operation is received from breeders of pure-bred cattle in eradicating the disease from their herds. So far no compensation has been given for cattle which reacted to the test.

"If co-operation with the states is undertaken, it should be on the half-and-half plan and the work should be confined to certain definite sections, such as one or two counties at a time, with extension to other counties as the work progresses. The magnitude of the task should be fully understood before the work is begun. There are approximately 22 million dairy cattle in the United States. It would be necessary to retest herds at intervals of six months until all disease was eradicated. All new cattle added to tested herds would require testing unless from herds known to be clean."

From the fact that we are becoming a great export nation, and must compete with other countries in the world's markets, as well as freeing ourselves from this disease for the benefit of our own country, we agree with the Secretary of Agriculture that the time has arrived to undertake a systematic eradication of tuberculosis.

This disease has been and is being used as a scare by the oleomargarine interests to boost the sale of their substitute, and this substitute is also churned in milk.

In the District of Columbia, through the work of the Department of Agriculture, the disease is less than 1 per cent. Whether we agree or not in the tuberculin test, all agree that owners of slaughtered animals should be paid. This is a matter for state legislatures to take up. If the necessary appropriations are made to start the work, by another year the states can meet the national government on a half-and-half basis.

The agricultural appropriation bill of the present congress, as reported from the committee, carries $75,000 for the beginning of this work.



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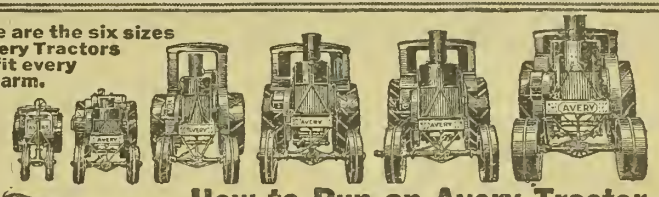

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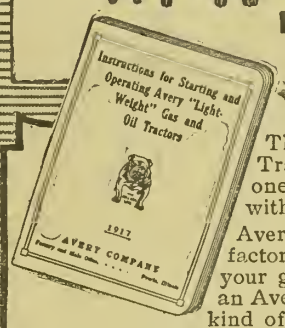

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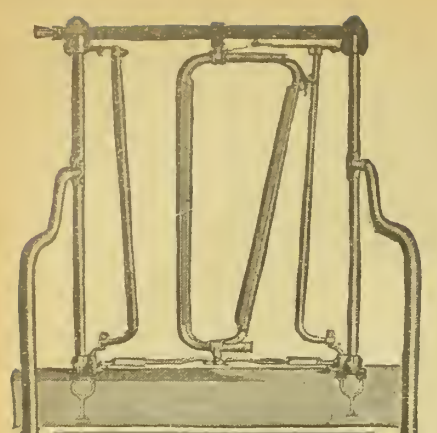

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CROP REPORT FOR 1916

THE State Board of Agriculture in a recent report states that based on farm values, the agricultural products of Kansas for the year 1916 were worth $371,188,476. This is $30,000,000 more than that of 1915, and takes rank as the state's second best record, the gross income in 1914 only exceeding it by about $5,000,000. The value of live stock on the farms is $341,020,835, the largest ever reported, exceeding the best prior year (1915) by $30,000,000.

An outstanding feature of the year's inventory, aside from the high prices that generally prevailed, is the wheat crop. Its yield of 99,384,760 bushels is the second largest in the history of the state, worth $134,615,300. While its production is but little more than one-half the record output of 1914, its value is only 10 per cent less, and it exceeds the value of the crop of 1915 by nearly $49,000,000. Although bulking large, the yield per acre of 12.7 bushels was not unusual, and approximates the annual average. Its quality was extra fine, however, and the average price received by the growers is given as $1.35 a bushel, the highest reported since 1872.

The value of the field crops of 1916 amounted to $273,110,075. Forty-nine per cent of this is credited to wheat alone, while 65 per cent is represented by the two crops of wheat and hay. Only two corn crops in the past twenty-five years have been smaller than the yield of 62,127,190 bushels, and the output of the sorghums was far below the average, the season having been unfavorable for both. In fact, yields of all the principal products, excepting wheat, were less in their aggregates than for the preceding year, but owing to higher prices the total value of all field crops was more than $23,000,000 greater. There is an increase of approximately $7,000,000 in the value of animal products, more than $5,000,000 of which is accounted for in the one item of animals sold for slaughter, which amounts to $68,762,369, compared to $63,438,405 in 1915. The income from poultry is more by $700,000, and the value of dairy products is greater by about an equal amount, a most notable gain having been made in condensed milk, from 1,166,161 pounds, worth $81,031 in 1915, to 3,344,570 pounds, worth $500,674 in 1916.

There have been substantial increases in the numbers of all kinds of live stock, except horses and hogs, which are less by 7,232 and 230,895 head, respectively. Milk cows have gained in numbers 115,786, other cattle 281,092, mules 19,512, and sheep 43,399. The values of all live stock show increases over the preceding year, horses having gained $4 a head, mules $3, milk cows $2, other cattle 50 cents, sheep $1.25, and hogs $2.

It should be borne in mind that the huge sum as represented in the total value of agricultural products reported is the gross income from the farms of Kansas, and no allowance is made for the cost of production, which was great and is steadily mounting higher.

Making Corned Beef

The following directions for making corned beef are given by A. M. Paterson of the agricultural college:

The cheap cuts of beef, such as plate, brisket, and flank, are used generally in corned beef. The animal heat should be out of the carcass before curing, and it should not freeze. Beef should be cured while it is fresh as it is more easily kept and more palatable.

To corn beef, use eight pounds of salt with 100 pounds of meat. Put a layer of salt in the bottom of the curing vessel, one-fourth inch thick. Pack in each layer of meat as closely as possible, alternating salt with meat, covering the top layer completely with salt. Let stand over night. With each 100 pounds of meat use four pounds of sugar, two ounces of baking soda, and four ounces of salt peter. To these ingredients add a gallon of clean fresh water. If the weather is warm, the brine should be boiled and allowed to cool before pouring it over the meat. Add enough water to cover meat. Weight down to keep meat under the brine. The meat may be left in the brine until used.

When preparing dried beef, the round cut is the better cut to use. With 100 pounds of meat use five pounds of salt, three pounds of sugar, and two ounces of salt peter. Rub the surface of the meat with one-third of the mixture, let stand in curing vessel three days and then rub with one-third of the remaining mixture and let stand for three days longer. Rub on the remaining mixture at the end of the three days and let stand the same period.

In repacking, put the bottom pieces on top, remove from the brine and smoke. Hang in a dry, well ventilated place where the water will evaporate from the meat. Meat may be used as soon as it is smoked. The drier the climate, the more easily meat may be dried.

State Grange Resolutions

In the Grange Co-operator, Alfred Docking summarizes the various resolutions passed by the State Grange as follows:

"Report passed by Grange was against military education and increased appropriation by federal government; for the continuation of publication of text books by the state printing plant, and facilities to make the work effective (this was the committee resolution, but some fragmentary ones were sent in); deploring the opposition of the organized teachers to state publication; in favor of Torrens law; for a law prohibiting shooting quail for another five years, asking the Interstate Commerce Commission to require the railroads to furnish cars; favor of law prohibiting loan companies inserting in mortgages clause claims to collection of extra fees; favor efficient initiative and referendum law; favor budget system of handling state's expenses, governor, treasurer and auditor to be the budget commissioners; favor law to compel county commissioners to publish itemized statement of all public expense and issue free to every taxpayer; favor state printer being authorized to print all county and township blanks, and furnish same at cost; and a number of others."

Canker Worms Again Menace

Canker worms will again menace the lives of Kansas shade and fruit trees in 1917 unless a vigorous effort is made to combat the insects. This statement was made at the annual meeting of the State Horticultural Society by Prof. Geo. A. Dean.

Injury done by the canker worm last spring was severe over a large portion of the state. In many cases elms, hackberries, and large numbers of fruit trees were completely defoliated. Many trees died in the summer, while others were weakened and thus rendered susceptible to the attack of wood borers. The canker worms are almost certain to prove serious next season. Plans should be made to band all trees that cannot be sprayed.

Grange Views on Education

The educational committee of the State Grange, of which L. S. Fry is chairman, made a report at the annual meeting held in Independence, suggesting amendments to rural high school law, limiting size and shape, and forming new districts; that fraternity and sorority houses be taxed; that standardization of schools be followed; that the Barnes Law be readjusted to permit rural high schools to participate in the funds; that a revolving loan fund of $1,800 be set aside by the State Grange to help children of patrons secure industrial higher education; that special teachers who shall pass about the county to teach manual arts, etc., be employed by law.

Eighty-cent corn may be fed profitably to 10-cent hogs, provided the ration is balanced, by feeding some high protein feed with the corn, such as alfalfa or tankage.



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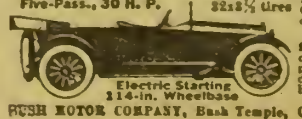
Ride in a Bush Car. Pay for it out of your commissions on sales, my agents are making money. Shipments are prompt. Bush Cars guaranteed or money back.

Five-Pass., 30 H. P. 82x3½ tires



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Make Horse Production More Profitable

ON JANUARY 1, 1916, $2,150,468,000 was invested in horse stock in this country as compared with $3,332,144,000 in cattle, swine, and sheep combined. In spite of this enormous investment, too little attention has been given to the kind of horses raised, as the average value in the United States on January 1, 1916, was only $101.60. Yet statistics have shown that it costs $104.06 to raise the average horse until he is three years of age. This is a deplorable state of affairs.

Possibly one reason for having made so little progress in improving the general average of farm horses is the fact that most producers are raising horses for service on their own farms and are giving very little attention to the cost of production, cost of maintenance, and amount of service rendered. Such producers fail to appreciate the difference in efficiency between different types of horses, the difference in the cost of labor rendered by horses of different types, and the difference in the profits from sales of horses of different types, and continue year after year to breed mares with little thought as to the kind of horses they will raise. On the other hand, the producer of cattle, swine, and sheep is raising a product that will be sent to market at the earliest age possible. It is only natural that he give more attention to the cost of production and exert a greater effort to produce a more efficient and profitable animal.

Another important reason for much of the carelessness and lack of interest in the kind of horses grown is a feeling more or less prevalent in many localities that there is no market for good horses. This opinion is due to a general lack of authentic information regarding the horse supply and the demand of the country today. Where this idea is prevalent, the producers fail to appreciate the fact that there is no longer a demand for horses of certain types, but that horses of other types are in greater demand at better prices than ever before. Tractors have no doubt caused some apprehension regarding the future of the horse, but careful observation and experience are proving that the tractor will never decrease the need for good, sound, heavy horses. Such horses have increased in value 10 per cent during the past ten years, according to the Chicago horse market reports. All horses passing through that market in 1905 that would classify as drafters, including the good, bad and indifferent, averaged $186 per head. In 1915 the same class of horses averaged $205 per head. The demand for horses on farms and the influence this demand exerts in making horse values is shown by the fact that under normal conditions only 1.5 per cent of the horse population of the country passes through the central horse markets annually.

Many of the simple essentials of profitable horse production have been neglected in horse raising operations. More horses continue to be raised in a haphazard manner each year, the annual colt crop reaching into millions, yet only a few thousand are bred and fed with sufficient thought and care to insure the development of really high class farm horses. To conduct a business with such result is unfortunate as well as unprofitable, but it is encouraging to note that certain types of horses are a profitable farm product. This profitable type is the sound, good looking, bold going, easy keeping, durable horse weighing in working condition 1,500 pounds or over. Such a horse not only meets the needs for efficiency and economy in farming operations, but it also sells for the high dollar on the open market. Market reports show that the bigger they are the better the prices, providing size is combined with quality and substance. The following is typical: "Common 1,300 to 1,400-pound chunks, $165 to $185; medium weight (1,400-1,500) chunks with flesh and quality, $190-$215; and heavy weight (1,500-1,600 pound) chunks $200-$225. Horses weighing 1,600 pounds or more ready to go to work, $275-$350."

If the horse raiser hopes to raise the most efficient farm horse which is also the most profitable market horse, he must observe more carefully the fundamentals in profitable horse production. Some of the most important are:

First, he must observe more closely changing economic and market conditions which affect horse demand, value and prices.

Second, he must appreciate more thoroughly those features of conformation and soundness that make a horse a good individual.

Third, he must study more carefully the various types of horses, that he may be able to select the efficient and profitable type.

Fourth, he must consider more thoroughly the cost of production. Today the average horse breeder of this country is raising a $101 horse at a cost of $104.

Fifth, he must learn to appreciate more fully the value of good, sound, pure-bred sires.

Sixth, he must retain for breeding purposes the best mares at his command if he would produce the most profitable kind of horse.

Seventh, he must learn to feed his colts more liberally from the time they are old enough to eat, bearing in mind that the feed and care the colt receives during the first year and a half of its life, and particularly during the first winter, determine very largely what that colt will be at maturity.

Eighth, he must give more attention to the care of his horses, especially the brood mare. The fact that only one colt is raised from every three mares mated means a tremendous loss to horse production.

Ninth, he must take a more active interest in local horse and colt shows since there is nothing equal to a good horse and colt show to stimulate a keener interest in better horses.

Tenth, he must appreciate more fully the value of community co-operation. Each essential previously mentioned is important, but horse production can never reach its full achievement without the combined effort of the community.—Circular, Kansas State Live Stock Registry Board.

Be sure and see that the hens in the breeding pens are not too fat. The offspring of any over-fat animal is likely to lack vitality and vigor. The same holds true with hens. The loss of many of the chicks which pip the egg in the incubator and fail to get out of the shell, can be attributed to this cause.



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New Victor Records demonstrated at all dealers on the 28th of each month

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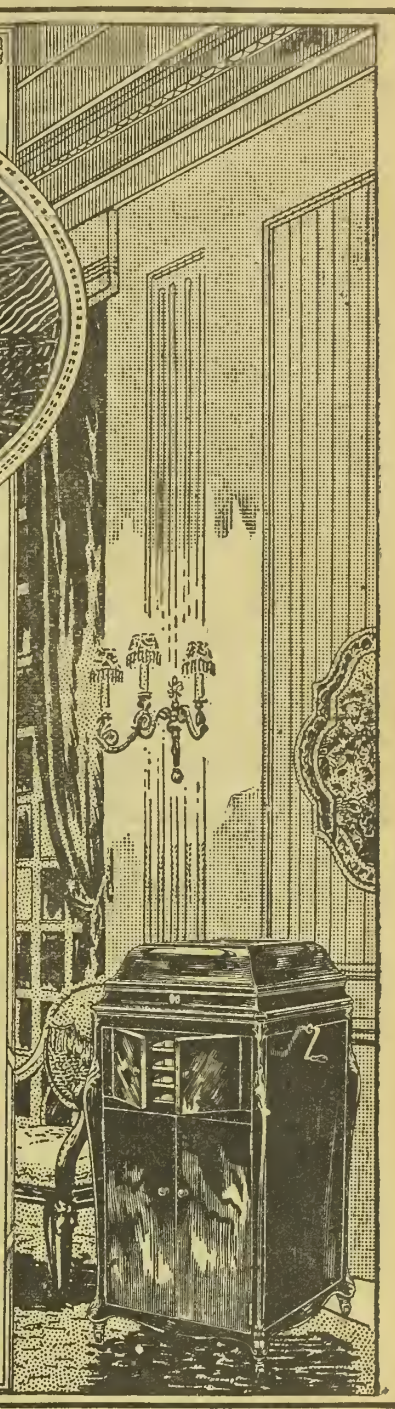



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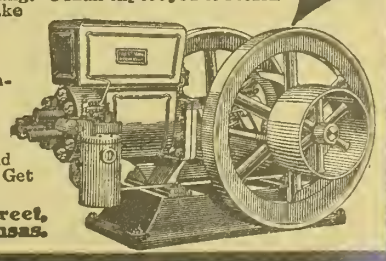

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We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

No soul is desolate as long as there is a human being for whom it can feel trust and reverence.—George Eliot.

Crossroad Dangers

Extra precautions should be observed at this time of the year in crossing railroad tracks or opposite highways. Because of heavy clothing and side curtains on the buggy or automobile, it is a little troublesome to make sure there is no danger, but any amount of inconvenience in gaining this assurance is trivial compared with the loss of life due to carelessness at these crossroads.

Only recently eighteen people were killed and thirty-six injured in grade crossing accidents on one railroad's right-of-way in ninety days. Undoubtedly many of these accidents were the result of careless driving. Many vehicle collisions happen in the same way, neither driver taking the time to make sure the way is clear before crossing.

Old-Time Spelling Schools

We seldom hear of a "spelling school" in these days, and judging from the number of poor spellers there are, one of the best means for impressing the importance of spelling upon pupils is being neglected. Can't you remember how you aspired to remain standing after all the rest in your line and in the one on the other side of the room had had to go to their seats? The weekly spelling match at the close of the regular classes Friday afternoon served to strengthen our memory on the spelling of words. It kept us in good trim for the occasional evening contest, too, and incidentally we learned to spell through our efforts to avoid being "spelled down" in these matches.

The evening spelling school, because of its bringing together all members of the families in the districts, had a social value, and such gatherings should be encouraged.

Many of the seed house catalogs are now being mailed. Now is a good time to plan the flower and vegetable gardens as we can give this planning more study and thought now than we can when the rush of doing the work is upon us. Many of these "garden books," as they are called, contain much valuable information on the care of the garden and flowers in addition to listing the different varieties for sale.

"The Farm Kitchen"

This is the title of a very readable circular recently issued by the extension division of the Missouri College of Agriculture. It contains many excellent suggestions for making this most important workshop convenient and comfortable. There are also many illustrations of good and poor arrangement of the kitchen furniture, windows and doors.

The housewife must necessarily spend much of her time in the kitchen, but her work can be greatly simplified by proper arrangement and the use of needed equipment.

It is easy enough to build a new kitchen so that it will be convenient, but there are many old kitchens that could, with little expense, be made to much better answer their purpose.

The important thing in building or remodeling a kitchen is that it be made to protect the health and conserve the energy of the housewife. This is accomplished by tables, stove and all other working surfaces being the proper height and arranged conveniently, by having good ventilation, and a finish on floor, ceiling and woodwork that can be easily cleaned.

Boys' and Girls' Clubs

Few other agencies are doing more at this time to keep the boys and girls on the farm, than are the agricultural clubs. Love for farm life can best be developed through interest in the things of the farm.

The boy and girl doing the work of the agricultural club cannot escape becoming interested in the line of work covered by the club and this will lead to a general interest as they find the farm as a whole has a bearing on the club operations. If the child is feeding a pig or calf or milking a cow for specific results, it will not be long before he will realize he must know many things besides the pig, the calf or the cow before he can be successful, and he will learn of these other things, too, because of their relation to his work—because he has a real interest in them.

The same thing is true regarding any of the many agricultural clubs for boys and girls. Then tend to create a real interest in the things of the farm.

Clubs for 1917 are now being organized by Otis E. Hall, state club leader for the Kansas Agricultural College and the Federal Department of Agriculture. Boys and girls should be encouraged to send their names to him if they know the clubs they would like to join. If not, they should write him at Manhattan asking about the different clubs. If there is an agricultural agent in the county, he will be able to give this information. The ages for admittance to the clubs are ten to eighteen years.

The public health service, which has been gathering statistics on nervous diseases and their tendency to shorten life, recently issued a bulletin against worrying. "So far as is known," says the bulletin, "no bird ever tried to build more nests than its neighbor, no fox ever

Business Measurements for the Young Man

THE boy who neglects his opportunities for mental, moral and physical development does not have a "ghost of a chance" with the one who in early childhood is impressed with the thought that he is all the time building for the future and can meet the responsibilities ahead only by carefully building his life and moulding his character day by day. A strong constitution—physically, morally and mentally—is not bestowed upon the mature individual regardless of the way the years of youth have been used. He has an important part in coming into the possession of this great gift—he is not merely the receiver but the builder.

In its search for a young man to fit into an important place, a large business concern recently named these requirements: "High character, first class ability, possession of common sense in a conspicuous degree, enthusiasm, sympathy for people, thorough education, ability to think clearly and ambition to climb to the top, natural optimism, amiable temper, well-developed funny-bone; good habits, good health, and a sound constitution."

These requirements are not unusual coming from those in search of business associates. The leaders in all lines are more and more realizing the relation between these qualifications and good business.

Should this not make us very thoughtful about the influences with which we surround our youth?



They wear like iron—

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Join Our Penny Rose Club

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Just your name on a postal brings it to you free, postpaid. It's chuck full of Flower, Garden and Field Seed bargains. It tells best time and how to plant. Best soils for growing. Best seeds for different sections, etc. It tells all about Lincoln Brand Seeds, the new trade name for the well-known Griswold Quality Seeds. A seed book worth having. Send for your copy today sure. It's absolutely free. Address

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of irrigated and non-irrigated land, sub-divided into 40, 80 and 160 acre tracts, in the Beaverhead Valley, Montana, are being sold on long time and easy payments. Soil very rich and suitable for diversified farming, live-stock raising, dairying, etc. Excellent markets. Let me tell you about it. Authentic information absolutely FREE.

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The greatest forage plant that grows. Superior to all as a fertilizer. Equal to Alfalfa for hay. Excels for pasture. Builds up worn-out soil quickly and produces immense crops, worth from $50 to $125 per acre. Easy to start, grows everywhere, on all soils. Write today for our Big 100-page free catalog and circular about unhulled and scarified hulled sweet clover. We can save you money on best tested, guaranteed seed. Sample Free.

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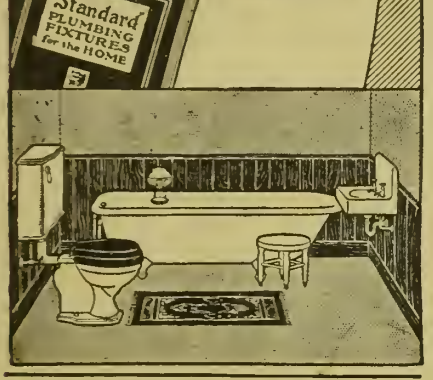

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Over 700 illustrations of vegetables and flowers. Send yours and your neighbors' addresses.

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Buy Trees At Wholesale

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Apple trees $7.00 per 100; Peach $7.00 per 100; Cherries $11.00 per 100; Concord Grapes $2.00 per 100; Dunlap Strawberries $2.25 per 1000; Everbearing Strawberries $2.50 per 100. Everything in Fruit trees, Plants and Ornamentals at money saving prices. Send for our FREE CATALOG

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Ask now! This beautiful 96-page four-color book describes 1917 varieties vegetables and flowers; handsomely illustrated; beautiful home grounds, flower and vegetable gardens, landscaping, shrubbery, orchards, farms. A dictionary on gardening! Flower lover's delight! Berry grower's book! An orchard's manual! Most wonderful gardening guide catalog ever published. Better than our famous 1916 book. Don't miss it. Ask today. A postal gets it.



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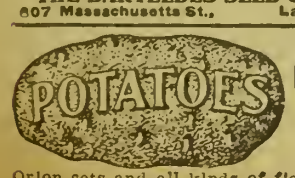
KANSAS GROWN Bartelдes' Kansas grown seed corn, tipped butted, shelled—tested for vitality and graded. Produces biggest crops in this climate. Well acclimated—hardy, vigorous. FREE SAMPLE and Big Catalog sent postpaid, also Special List of field seeds of all kinds. Write at once.

THE BARTELDES SEED COMPANY,
807 Massachusetts St., Lawrence, Kansas.



SEED Potatoes Seed Corn

Onion sets and all kinds of field and garden seed. Send for our catalog. It is free.
HAYES SEED HOUSE, TOPEKA, KANSAS.

fretted because he had but one hole in which to hide; no squirrel ever died of anxiety lest he should not lay by enough nuts for two winters instead of one, and no dog ever lost any sleep over the fact that he did not have enough bones laid aside for his declining years."

Water, if pure and taken into the body in large quantities, dissolves and carries away waste and poisonous products. For this reason we should not allow ourselves to become careless or negligent about drinking water. It is a good body conditioner and very necessary to health.

Canary Bulletin

Those of our readers who have canaries will be interested in knowing that the Federal Department of Agriculture has just issued a bulletin about these birds. A note at the beginning of the bulletin states it has been written to take care of the numerous requests which are continually received for information on the care of canaries in sickness and health. The bulletin gives a short history of the canary, the varieties—these are illustrated—a page on cages, care of cages, food, bathing, molt, color feeding, breeding, sex and age, vermin, care of feet and bill, broken limbs, loss of feathers about head, and diseases. The twenty pages about these winged pets are full of interest and help to the canary owner.

This bulletin is free for the asking. A request to the Federal Department of Agriculture, Washington, D. C., for Farmers' Bulletin 770, will bring it to you.

Spanish Rice

Boil one cupful of rice in two quarts of boiling water to which has been added one tablespoonful salt. Fry large onion, cut in small pieces, and two canned pimentos, cut in pieces, in about two tablespoonfuls of butter, until the onion is delicately browned. Add one large cupful of tomatoes. Simmer few minutes and add to rice. Cook one-half hour or until rice is very tender.

Scalloped Salmon

1 can salmon
1 cupful white sauce

Put half the salmon in buttered pudding dish, pour in half of the white sauce, add balance of salmon, then white sauce. Top with layer of cracker crumbs. Bake until brown.

The white sauce is made as follows:

2 tablespoonfuls butter
2 tablespoonfuls flour
1 cupful milk
¼ teaspoonful salt
Few grains pepper

Put butter in sauce pan, stir until melted and bubbling. Add flour mixed with seasonings and stir until thoroughly blended. Pour the milk on gradually, adding about one-third at a time, stirring until well mixed, then beating until smooth and glossy.

FASHION DEPARTMENT — ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8031—Girls' Dress: Cut in sizes 4, 6, 8 and 10 years. This illustration shows a little dress of simple loveliness. The body part is in the long-waisted effect, with side front closing and the skirt a plaited model. The always fashionable contrasting goods for the collar, cuffs and belt makes other trimming unnecessary, but a bow tie may be added without taking attention from the excellent lines of the frock. No. 8044—Ladies' Middy Blouse: Cut in sizes 36, 38 and 40 inches bust measure. This model offers a surprise in a middy blouse. The front is fitted with a yoke, below which two box plaits are introduced with good effect; at the back, three box plaits fall from a yoke and a separate belt keeps them in graceful line. The collar, band cuffs and trimming of the patch pockets are in contrasting color. No. 7983—Girls' Dress: Cut in sizes 8 to 14 years. The more extreme ideas in girls' dresses for fall are featured in this one, a back-buttoned model having pannier pockets for its chief attraction. A well-cut collar and large bow tie have a deal of style merit and the plaited skirt joined to the waist under a belt of material is girlishly graceful. No. 7534—Ladies' Dress: Cut in sizes 34 to 42 inches bust measure. This simple frock shows the plain blouse with center front closing, the neck high and finished with a wide square collar. The sleeves are plain and full length, but may be shortened. The skirt has three gores. No. 8038—Ladies' Skirt: Cut in sizes 24 to 32 inches waist measure. In graceful, rippling style, and with just the right degree of flare for a fall model, this skirt for dressy wear is cut in two gores. The wide sash girdle and fancy pocket are the detail features of interest that satisfy the need for novelty. The width of the lower edge of the garment in size 24 is three yards. No. 8015—Maternity Gown: Cut in sizes 34 to 44 inches bust measure. To add to its comfort-giving qualities, the sides of body and sleeves are in one piece in this dress, and there is a body lining with darts in each front and the front edges finished with eyelets for lacing so that the garment adjusts itself to changing figure and still preserves the normal appearance. The skirt is cut in one piece and is gathered on an elastic.



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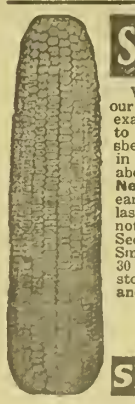

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"My success in raising chickens is Mrs. Romigh," says her husband. At any rate Mr. and Mrs. Chester Romigh made $1,800 net in 1916 raising chickens on four city lots in Omaha. Yet every day he worked from 6 a.m. to 2 p.m. as a mail clerk.

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"There is no secret about it," said Mr. Romigh. "Any other working man can do the same thing if he has a wife, daughter or mother who is interested in chickens."

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Keep your hens laying and let a Rayo do the hatching for you this year. It will do it easier, cheaper and better by far. The saving in eggs alone will more than pay the cost of the machine in a season. At the present high prices of eggs, you can't afford to do any setting of hens. Not with eggs at 75c a dozen! The big increase in prices is making poultry raisers rich. At such prices you've got to keep the hens busy

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These two special Rayo advantages prove our claim of low cost of operation. Other incubators require 5 to 6 gallons of oil to a batch. Rayo only 1 gallon (see second view in panel below). Saves its cost in fuel alone. Takes only 1 filling of oil tank to a batch (see fourth view in panel). Others require 1 filling of lamp each day or 21 times to a batch. Think of the time and labor saved!

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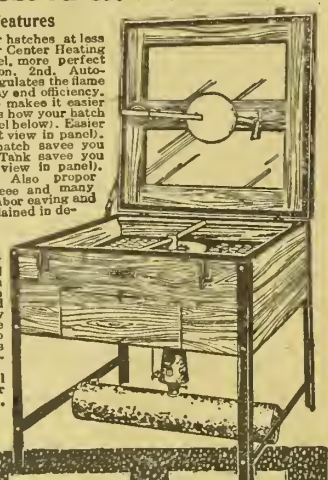

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How to Succeed With Incubators

By Ross M. Sherwood, Poultry Department, K. S. A. C.

"WHY do so many incubator chicks die in the shell even after having broken the shell?" A common reply is that there is not enough or too much moisture in the incubator at hatching time. This may be a reason, but there are a number of other things which may cause it.

First, one should remember that no special exertion is necessary on the part of the chick to develop within the egg. The little germ simply responds to the conditions furnished. Hatching is a more difficult task. The chick must use all the energy it has to break from the shell. If the chick is weak it may not be able to break out immediately after pipping. This delay allows the membrane to toughen and makes it more difficult or even impossible for the chick to get out. Thus the answer to the question might be that the egg contained a germ too weak to develop a chick strong enough to get out of the shell.

CAUSE FOR WEAK GERMS

"If that is the answer, then what causes weak germs?" They may be caused by poor conditions of the flock before the egg is laid, as well as improper care of the egg before being placed in the incubator.

Only fowls which are strong and vigorous should be used to produce the eggs for hatching. Eggs from yearling hens generally hatch better than those from pullets. With some farmers it is impossible to have the hens separate from the pullets. In this case it pays to make a careful selection of the eggs and use only those a little above the average size. Neither the smallest nor the extra large eggs hatch well.

The hens should be mated early and be housed in a house with sufficient ventilation. Lack of ventilation injures the health of the hens and the hatching quality of the eggs they lay. Careless feeding, with an excessive amount of animal or mineral feeds may cause the fowls to produce eggs which will not hatch well. Plenty of range, which furnishes sufficient exercise and green feed, is necessary.

Even though good eggs have been produced a number are often ruined on account of age, temperature, rough handling or because they have been soiled. Eggs set very soon after being laid give better hatches than older ones. After they are held more than a week to ten days the hatching percent is lowered rather rapidly. Eggs held for hatching should be kept at a temperature of 45 degrees to 60 degrees Fahrenheit and turned every day or two. The reason they must be kept below 60 degrees is because the germ begins to develop slowly whenever they are kept at a temperature above 70 degrees Fahrenheit, and this slow development injures the vitality of the germ. It is thus safer to hold them as low as 60 degrees to be sure that they do not ever get above 70 degrees.

When hatching eggs are purchased from a distance it is advisable to candle them to see whether or not they have been roughly handled or whether they are too old to give best results. If they have been roughly handled the shell membrane may be broken and the air cell will be directly over the germ. Such eggs will not hatch. This defect as well as fine cracks will show up if the eggs are candled. The size of the air cell will also be seen by candling. In a fresh egg the cell is from the size of a dime to the size of a nickel. As the egg ages, the size of the cell gradually increases.

After the eggs have been carefully examined they may be set at once. Resting of eggs which have been shipped does not make them hatch better. The washing of dirty eggs does not make them hatch as well as eggs which have never been soiled. Dirty eggs should never be used for hatching.

HATCHING WITH INCUBATOR

The next question may be, "Is it necessary to use an incubator on the farm?" This depends upon certain conditions. If the fowls are carefully handled to produce winter eggs it is advisable to hatch early so the pullets will be mature and ready to lay before cold weather comes on. This generally necessitates the use of an incubator. The same is also true of the farmer who keeps such breeds as the Leghorn, Minorca, etc., which seldom become broody. A number have been afraid that the use of an incubator would ruin the constitutional vigor of their poultry. If culls are disposed of whenever found, the vigor of the chickens will not be injured. Culling is also a good practice in hen hatching.

"What kind of an incubator should be purchased?" It makes little difference whether one selects a hot-water or a hot-air machine, provided it is well made and has an efficient heat regulator. Both of these types of machines have their advantages and advocates, but either one, when properly handled, will bring off good hatches. A poorly made, poorly insulated machine with an inefficient regulator is dear at any price. When one considers the life of a good machine, the difference of a few dollars should not be considered.

"How should an incubator be operated?" Each incubator company furnishes excellent directions with its machine. These directions should be carefully studied. If this set of instructions is lost, another should be secured from the incubator company. The things considered are temperature, ventilation, turning, and cooling.

The exact temperature, between 102 degrees and 103 degrees Fahrenheit, varies with the type of the incubator, methods of handling the eggs, location of the thermometer, etc. If the bulb of the thermometer is placed on a fertile egg the temperature should be allowed to raise a degree or so during the incubating period. When the thermometer hangs an inch or more above the eggs the temperature should remain the same during the entire incubating period.

Ventilation is important largely because of its effect on the evaporation of moisture from the egg. Most hot-air incubators and a number of hot-water machines give better hatches when a pan of water is placed in the incubator to prevent too rapid evaporation of moisture from the eggs. This pan is often placed on the floor of the incubator under the tray of eggs. A few hot-water machines have so little ventilation that the eggs do not dry down enough. These machines must be provided with more ventilation. A number of people determine whether the evaporation is correct by comparing the size of the air cell with that of eggs set under hens for the same length of time.

Eggs turned twice a day hatch better than eggs turned only once. A good method of turning is to remove three or four rows of eggs from the front of the tray, and then gently roll the remaining eggs forward and toward the center of the tray. It is not necessary to turn eggs exactly over. The eggs removed from the front of the tray should be replaced at the back and the tray placed in the machine in the same position as it was before being removed.

With some machines, better results are secured when the eggs are cooled a few minutes daily from the third to the eighteenth days. The recommendations of the incubator company should be followed in this matter.

INSPECT AND TEST INCUBATOR

A number of precautions such as testing the thermometer and heat regulator and disinfecting the machine should be observed each year before the machine is used. The thermometer may be tested by placing it in water at different temperatures with a thermometer that has already been tested. If they do not agree another thermometer should be secured.

The regulator may be tested by heating up the machine or, in the case of machines with a disk thermostat, by carefully holding a match under the wafer to see that it is sensitive. If it is not, it should be discarded and another one secured. A wafer is cheap as compared with the value of the eggs.

Before starting the machine in the spring the incubator and all its parts should be cleaned and thoroughly disinfected with a 3 percent solution of a good disinfectant. This prevents the spread of any disease which may have been in the machine the previous year. The machine may be heated up a couple of days before it is aired out and used for hatching.

Stock weakened by disease should be sold.

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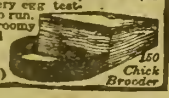

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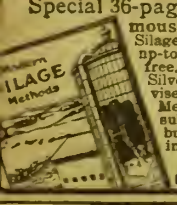

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MISCELLANEOUS.

YOU CAN MAKE A GOOD LIVING IN your back yard raising Belgian hares. Full particulars and price list of all breeds, 10c. W. G. Thorson, Aurora, Colo.

FOR SALE — 16-HORSEPOWER GASOline engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost $480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

WANTED — MEN AND WOMEN, CAN have furnished them brief of the laws of their state, explained in manuscript, compiled by expert attorney, explaining provisions which interest life, business and estate. You may also ask questions. Price $1.00. Charles Vance, Attorney, 301 Farmers Trust, South Bend, Indiana.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

TREES, SEEDS AND PLANTS.

CLEAN ALFALFA SEED FOR SALE. Edwin S. Young, Route 10, Oklahoma City.

DAIRYMEN—WE HAVE SEVERAL CARS No. 1 second cutting alfalfa for sale. Shimer & Son, 1815 Kansas Ave., Topeka.

WATERMELONS—GUARANTEED PURE. Both Halbert Honey and Rubber Rind. H. A. Halbert, Originator, Coleman, Texas.

RHUBARB ROOTS, $1.75 HUNDRED. Large variety; other plants. Price list. Fayetteville Plant Co., Fayetteville, Ark.

PURE GRADED FETERITA SEED, $4.00 per 100 pounds. Fred Hothan, Scranton, Kansas.

BLACK-HULLED WHITE KAFIR SEED, $2.25 for 70 pounds in head. H. W. Chestnut, Kincaid, Kansas.

BOW CREEK FARM SEEDS—ALFALFA, feterita, kafir, Sudan grass, corn. (Sudan, sweet clover wanted.) Logan, Kansas.

TEN ELBERTA AND FIVE CHAMPION peach trees, postpaid, $1. Send now. Wellington Nurseries, Dept. C, Wellington, Kan.

TIMOTHY SEED—FANCY, NEW CROP, recleaned timothy seed at $2.50 per bushel. Write today for samples. Watson Bros., Seed Merchants, Milan, Mo.

SEED CORN — DIAMOND JOE WHITE, excellent drouth resister, and Reid's Yellow Dent. Graded, $2.50 bushel. D. D. Denver, Milford, Kansas.

IOWA GOLD MINE AND BOONE CO. White seed corn, selected, shelled, graded, $2 per. Choice alfalfa seed, $7.50 per. Samples free. J. F. Feigley, Enterprise, Kan.

REID'S YELLOW DENT, BOONE COUNTY White seed corn. Genuine Red Texas seed oats, clover, timothy and alfalfa seed. S. G. Trent, Hiawatha, Kansas.

TREES, SHRUBS, PLANTS, VINES, seeds. Everything at lowest prices direct to you. All tree peddlers' commissions cut out. Free book. Wichita Nurseries & Seed House, Shell Bldg., Wichita, Kansas.

ORANGE AND GOLDEN CANE, STANDard and dwarf kafir, red and cream dwarf maize, each $4.50 per 100 pounds, prepaid in Kansas. Claycomb Seed Store, Guymon, Okla.

SEED CORN — JOHNSON CO. WHITE, Boone County White, Reid's Yellow Dent, Hiawatha Yellow Dent. Won first and sweepstakes at state show. Write George R. Manville, Faucett, Mo.

SEND $1.00 FOR 100 PROGRESSIVE strawberry plants and get our Twentieth Century Berry Book absolutely free. Worth dollars to you. E. W. Townsend, Box 3, Salisbury, Md.

RED TEXAS RUST-PROOF SEED OATS, recleaned and carefully graded. You buy nothing but oats. Grown here one year. They are fine. Let me send you a sample and price. Warren Watts, Clay Center, Kan.

ALFALFA SEED FROM HIGH PRODUCing fields. 370 bushels threshed from forty acres. Quick to recover after each cutting. 95% germination, 99 purity. Test made by County Agent Schnacke. Won first at our fair. Price, $8 per bushel; new sacks, 25c. Stockwell Farms, Larned, Kansas.

KAFIR SEED — WE HAVE TWO CARS fine white kafir seed testing over 90 per cent germination, which we will sell while it last in 2-bushel sacks at $1.85 per bushel. Sacks free. It is going to be hard to find good kafir like this this year. If you will need kafir, better order quick. Brooks Wholesale Co., Ft. Scott, Kan.

DOGS.

FOX, WOLF AND COON HOUNDS; rabbit dogs. Reasonable. J. P. Tindall, Lees Summit, Mo.

FOR SALE—PAIR GUARANTEED COON hounds. Send 2 cents for prices. John Rash, Centerville, Kansas.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

PATENTS.

PATENTS — PICTURE OF PATENT OFfice and 3-year calendar free. Fitzgerald Co., Patent Attorneys, 841 F St., Washington, D. C. Established 1880.

THE STRAY LIST.

TAKEN UP — BY OWEN O'NEIL, OF Windom, McPherson County, Kansas, on the twentieth day of December, 1916, one heifer coming two years old, color deep red, no marks or brands. W. E. Rostine, County Clerk, McPherson, Kansas.

NOTICE IS HEREBY GIVEN THAT ON December 28, 1915, one red steer with horns, three years old, was taken up by W. E. Kimel in Ninnescah Township in Sedgwick County, Kansas. Said animal was appraised December 28, 1916, at $50. H. M. Barrett, County Clerk, Wichita, Kansas.

TAKEN UP — ON THE 15TH DAY OF March, 1916, by C. S. Heath, whose residence is eight miles north and 3½ miles east of Leoti, East Edwards Township, Wichita County, one mare pony about 4½ feet high, weight 750 pounds, color sorrel, age nine years, brand "C" on left hip, white stripe in face, appraised at $30. Dean Trueblood, County Clerk, Wichita.

HORSES AND MULES.

CLOSING OUT SALE OF SHETLAND ponies. Geo. Ald, Gallatin, Mo.

FOR SALE CHEAP—TWELVE JENNETS, good breeding. Geo. S. Stullken, Bazine, Kansas.

FOR SALE—THREE REGISTERED PERcheron stallions, coming 2 years old. W. E. Dustin, Route 1, Topeka, Kansas.

SALE OR TRADE FOR YOUNG STOCK, 15-16th Belgian stallion 9 years old, weight 2,000 pounds; 65 per cent breeder. W. G. Shideler, Silver Lake, Kansas.

WANTED — TO TRADE 1,000-POUND registered blue ribbon jack, 7 years old, black, for good draft stallion. J. E. Itschner, Box 122, Sayre, Okla.

ONE REGISTERED PERCHERON STALlion, 4 years old, weight 1,950 pounds, black with small star, Reg. No. 89169. One road stallion, "Ben Weaver," track record 2:18. One mammoth black jack, 4 years old, heavy boned, 14 hands. All good breeders and colts to show. Emern H. Stedd, County Clerk, Lyons, Kansas.

CATTLE.

FOR SALE — REGISTERED HOLSTEIN bull, fifteen months old. Good breeding. Priced to sell. F. E. Weed, Athol, Kansas.

POLLED JERSEYS—BREEDERS' NAMES of Chas. S. Hatfield, Secy., Box 40, Route 4, Springfield, Ohio.

FOR SALE — REGISTERED GUERNSEY bull, serviceable age; May Rose-Glenwood breeding. For description and price write W. E. Evans, Jewell, Kansas.

FOUR REGISTERED JERSEY COWS and heifers for sale. Golden Lad and St. Lambert breeding. Priced to sell. W. F. Pyke, Marion, Kansas.

300HEAD OF REGISTERED AND HIGH grade cows and heifers for sale, headed by the great 40-pound bull, Johanna King Segis. Neal Houslett, Oxford, Wis.

FOR SALE CHEAP — A PURE-BRED Jersey bull, four months old; from an extra good milker. Milk test of nearly 8 per cent. Eber Anderson, Clay Center, Kansas.

FOR SALE — AN EXCELLENT REGISTered Shorthorn bull, of serviceable age. Red in color. C. W. Merriam, Columbian Building, Topeka, Kansas.

FOR SALE—FOUR REGISTERED JERsey bull calves, Financial breeding, good enough for any herd. Priced cheap. Must sell. Earl Eager, Beaver Crossing, Neb.

FOR SALE—SIX PURE-BRED SHORThorn bulls from six to ten months old. Good lusty calves at the right price. Warren Watts, Clay Center, Kansas.

HOLSTEINS FOR SALE — ONE PUREbred heifer calf and four grades, nicely marked and colored. Arthur Findlay, Whitewater, Wis.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $20 apiece. Frank M. Hawes, Whitewater, Wis.

GOATS

FOR SALE—MILCH GOATS. BURR Fleming, Eminence, Kansas.

FARM AND HERD.

"Under no consideration should farmers pay out any money or give any notes to agents or strangers purporting to be working in the interests of the new Farm Loan Law."—Secretary, Federal Farm Loan Board.

See that the fly wheels run true on the engine you buy, for this is an indication of first-class workmanship. The fly wheels should be good and heavy and the engine should run with but little shaking and vibration, showing that it is properly balanced.

The prospects for the live stock show to be held at Wichita, Kansas, February 26 to March 3 inclusive, are very bright. Exhibitors all over the country are taking an active interest and entries are coming in rapidly. This show will be held during the annual convention of the Kansas Live Stock Association. The consignments of stock to go in the sales of the various breeds are from the best herds in the country and the offerings in the sales will be very high class. On February 26 the sale of sixty head of Poland China and Duroc bred gilts will be held. February 27 sixty head of carefully selected Hereford cattle will be sold. February 28 is the date of the Shorthorn sale. Sixty head of good ones will sell. March 1, sixty high class Percherons from noted herds will be sold. March 2 the offering will be coach horses, trotting bred horses, French and German coach horses and a choice lot of jacks. The series of sales will close March 3 with an offering of sixty head of choice dairy cattle.

RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

BARRED ROCK COCKERELS AND PULlets. Nat A. Owens, Traer, Iowa.

BARRED ROCK EGGS—WILL PLEASE. $1 postpaid. Mrs. Geo. Kennedy, Edmond, Okla.

WHITE ROCKS, SIZE AND QUALITY. Prices reasonable. Write G. M. Kretz, Clifton, Kansas.

FOR SALE—BUFF ROCK AND BLACK Langshan roosters, good ones, $1.50 each. Newton Coffman, Rosendale, Mo.

CHOICE BARRED PLYMOUTH ROCK cockerels and pullets, $2 to $3 each. E. Leighton, Effingham, Kansas.

WHITE ROCK COCKERELS, HALBACK strain, $3. Mrs. E. E. Merten, Clay Center, Kansas.

BARRED PLYMOUTH ROCKS — FARMbred beauties. Eggs for hatching, 5c each. Mrs. W. C. Bocker, Solomon, Kan.

FINE BARRED ROCK COCKERELS, $1.50. White Pekin Drakes, $1. Mrs. Bryant Wells, Belmont, Kan.

FOR SALE—BARRED ROCK EGGS, C. A. Hawk strain, $1.50 per setting. Mrs. Wm. L. Shelly, Route 1, Atchison, Kansas.

PARTRIDGE ROCK COCKERELS — Noftzger strain. Clarence Hoffman, Preston, Kansas.

BUFF AND WHITE ROCK EGGS—FEmales scoring high as 96 and 96¾. Mating list. W. H. Beaver, St. John, Kansas.

PURE-BRED S. C. BARRED ROCK cockerels for sale and eggs in season. Mrs. Otho Farmer, Farnam, Neb.

NICELY BARRED ROCK COCKERELS, $1.50, cocks; pullets, $1.00; eggs, $1.00. J. T. Hammerli, Oak Hill, Kansas.

WEIGHER-LAYER BARRED ROCKS—Pens, $3 to $5 setting; flock, $5 hundred. Stock for sale. C. F. Fickel, Earlton, Kan.

ARISTOCRAT AND BRADLEY STRAIN Barred Rock cockerels, good size, bone and barring. Mrs. Bert McTaggart, Pawnee, Ill.

HATCHING EGGS FROM BARRED PLYmouth Rocks, excellent birds. Two dollars for fifteen. Peter H. Friesen, Route 1, Lehigh, Kansas.

BUFF ROCK COCKERELS — LARGE, early, clear buff to skin, $5 up. Garlic sets, 20c per pound. Don Chacey, Leavenworth, Kansas.

BLUE RIBBON BARRED ROCKS — Twenty-eight years' experience; 110 premiums. Cockerels, $3, $8; eggs, fifteen, $3. Mrs. Chris Bearman, Ottawa, Kansas.

"FISHEL" WHITE ROCKS, PURE-BRED. Four hens, three pullets, $3 each; one extra fine cock, $5; the pen, $24. Harper Lake Poultry Farm, Jamestown, Kansas.

FOR SALE — EXTRA FINE BARRED Rock cockerels. Cockerel mating. Pure Thompson strain. Sired by $25 bird. $3.50 to $5 each. G. W. Romberg, Red Oak, Iowa.

FINE LARGE BARRED AND WHITE Rock cocks and cockerels. Forty-five prizes last year. Write for prices and mating list. H. F. Hicks, Cambridge, Kansas.

BUFF ROCKS—WILL CLOSE OUT REmaining utility cockerels from my New York, Chicago and St. Louis winners at $3 each. Pullets, $1.50 up. T. H. Lucas, Pattonville, Mo.

BARRED PLYMOUTH ROCKS, RHODE Island Reds. Fine lot of birds now ready for shipment. Prices reasonable. Quality guaranteed. Eggs in season. Tom Leftwich, Winfield, Kansas.

LINDAMOOD'S BARRED ROCKS; BOTH dark and light matings. Prices for eggs from special matings, $5 per fifteen. Utility eggs, $5 per hundred. Send for circular. C. C. Lindamood, Walton, Kansas.

BARRED ROCKS — FINE LAYERS, large size, yellow flesh, hardy. Buy the best. Prize winners at Missouri's two big shows. Eggs, fifteen, $1.50; hundred, $7. M. E. Lane, Clinton, Mo.

BLUE RIBBON WINNERS, MISSOURI and Kansas state shows. Barred Rocks, Ringlet strain. Eggs and stock for sale. Satisfaction guaranteed. Hartman's, Route 1, Webb City, Missouri.

BRAHMAS.

LIGHT BRAHMA COCKERELS — 100 good heavy birds, have won prizes at leading shows. Can surely furnish you quality. Schreiber Farm, Sibley, Iowa.

LIGHT BRAHMAS, FELCH STRAIN—Twelve premiums, fourteen entries in Kansas State Show; stock and eggs. Satisfaction or money back. Mrs. J. R. Kenworthy, Wichita, Kansas.

ANCONAS.

ANCONA EGGS, SIXTEEN, $1; 100, $5. W. G. Shaw, Cherokee, Okla.

SINGLE COMB ANCONAS—EGGS, FIFteen for $1.25 or $6 per hundred delivered. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

TURKEYS.

SARVER'S FAMOUS NARRAGANSETT turkeys, large boned stock, unrelated. Sunlight Poultry Farm, Mt. Morlah, Mo.

WHITE HOLLAND TURKEYS. SINGLE Comb White Leghorns, Single Comb Buff Orpington eggs. Baby chicks. Mrs. S. A. Warren, Reger, Mo.

FIFTY MAMMOTH BRONZE TURKEYS. Toms, $7.50, $10, $15; pullets, $5, $10; hens, $10, $15. Eggs—Yard 1, $1 each; second, 50 cents. Black Langshans. Barred Plymouth Rocks, show record. Order direct and Order early. J. W. Anders, Pattonville, Mo.

RHODE ISLAND REDS.

DARK RED ROSE COMB RHODE ISLand Red cockerels, $3 and $4 each. Mrs. F. A. McGuire, Paradise, Kansas.

EGGS FROM PRIZE WINNING ROSE Comb Rhode Island Reds. Catalog free. M. L. Puckett, Puxico, Mo.

R. C. RHODE ISLAND RED COCKERels, extra fine, $3 each, two for $5; eggs, $5 per hundred. Redview, Irving, Kansas.

S. C. R. I. RED MALE BIRDS—WINnings for last three years, 12 firsts, 8 seconds, 5 thirds, 4 fourths, and 7 specials. James Sisters, Olathe, Kansas.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Mating list. L. E. Castle, Wichita, Kansas.

SINGLE COMB RHODE ISLAND RED cockerels, large husky dark red fellows that will improve your flock, $3 to $15 each. Write for price on hatching eggs. Nels W. Peterson, Mason City, Neb.

EGGS FOR SALE—S. C. R. I. REDS.—Breeder for twelve years. $1.50 per setting of fifteen; $5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

ONE HUNDRED ROSE COMB RHODE Island Red cocks and cockerels, sired by roosters costing $15 to $35—$2, $3.50, $5 and $7.50 each. A few higher. Order at once. They will go fast. Our pens mated for 1917 are the best we ever had. W. R. Huston, Red Specialist, Americus, Kansas.

MINORCAS.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

ORPINGTONS.

BUFF ORPINGTON EGGS FROM PRIZE winners, $1.25 per fifteen. Mrs. Vall, 3610 Ida, Omaha.

SINGLE COMB BUFF ORPINGTON eggs from silver cup winners. Prices reasonable. Mrs. J. N. McDaniel, Arbela, Mo.

BUFF ORPINGTONS, EGGS AND CHICKS Bred for eggs 16 years. Circular free. Will Schadt, Box 1055, Goshen, Indiana.

FINE BUFF ORPINGTON EGGS FROM my regular winners, reasonable. H. T. Farrar, Axtell, Kansas.

EXHIBITION BUFF ORPINGTON EGGS, state, county winners. Bourbon Red turkeys. Prices reasonable. Write for catalog. Mrs. Rees Barton, Amoret, Mo.

SINGLE COMB BUFF ORPINGTON eggs from prize winners. Also some choice cockerels left. Mrs. Earle King, Raymore, Missouri.

BUFF ORPINGTONS—SOME GOOD HENS and pullets yet for sale. Eggs from winners, $1.50 and $3 per fifteen. L. S. Weller, Salina, Kansas.

LIMITED NUMBER WHITE ORPINGton cockerels, bred from Aldrich best 1916 mating. Eggs from three fine pens. Satisfaction guaranteed. H. M. Goodrich, 712 Topeka Ave., Topeka, Kansas.

S. C. BUFF ORPINGTON COCKERELS and pullets whose grandsire was first prize winner at Madison Square Garden, New York. Price, $2 to $5. Guaranteed to please. Thos. D. Marshall, Sylvia, Kansas.

DAMON'S ORPINGTONS—MY S. C. BUFF and White Orpingtons win in all classes of competition. Five splendid matings in buffs and whites. Imported blood. Write for mating list. Few white cockerels for sale cheap. J. E. Damon, Caldwell, Kansas.

LAWSON, MISSOURI, January 25, 1917.

KANSAS FARMER, Topeka, Kansas.

Gentlemen: I have had such great success with KANSAS FARMER that I have sold out long ago, and yet the inquiries and orders are coming in fast and have to be returned.

Thanking you for your past favors and wishing you the utmost success in KANSAS FARMER, I remain,

Very respectfully yours,

MISS CORDIA COX.

WYANDOTTES.

WHITE WYANDOTTE COCKERELS. U. A. Gore, Seward, Kansas.

R. C. BUFF WYANDOTTE EGGS, $1.50 for fifteen. G. G. Wright, Langdon, Kan.

PARTRIDGE WYANDOTTE EGGS, $3.00 per fifteen; $5.50 per thirty. Mrs. O. E. Collins, Drexel, Mo.

FOR SALE—PURE-BRED WHITE WYandotte cockerels, also eggs for hatching. Write for mating list. C. Shobe, Puxico, Mo.

EXTRA CHOICE ROSE COMB SILVER Wyandotte cockerels, $2 each, six for $10. Mrs. Phillip Schuppert, Arrington, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Cockerels, $2, $2.50, $3, $4, $5; hens, $1.50, $2. Mrs. Edwin Shuff, Plevna, Kansas.

REGAL STRAIN WHITE WYANDOTTES, weigh, lay, win and pay. Heavy laying strain. Eggs, $2 and $3 a setting, from blue ribbon stock Kansas State Show. F. P. Brown, 1461 Ohio, Wichita, Kansas.

SILVER LACED WYANDOTTES, WON first, second, third cockerel; first, second, third pullet, first pen, Northwest Missouri Poultry Association. Eggs in season, $1.25 per fifteen, $3.50 for fifty, $6.00 per hundred, postpaid. Mrs. Arthur Wiley, Route 5, Maryville, Mo.

LANGSHANS.

BLACK LANGSHANS—EGGS, $1.25 FOR fifteen. Young hens and cockerels, $1.50 each J. Medford, Wheatland, Okla.

BLACK LANGSHAN EGGS, $3 FOR 15, from my San Francisco and Kansas State Show winners, 1917. H. M. Palmer, Florence, Kansas.

SEVERAL BREEDS.

EGGS AND BABY TURKS OF PUREbred prize winning Bourbon Red turkeys, S. C. Reds, fine laying strain. Eggs and baby chicks. Booking orders now. Mrs. A. G. Friesz, Keytesville, Mo.

FREE—1917 PRICE LIST OF EGGS. ALL leading breeds of chickens, turkeys, ducks, geese and guineas. Monroe Poultry Yards, Monroe, Iowa.

QUALITY EGGS FOR HATCHING FROM the much wanted Imperial 'Ringlet" Barred Plymouth Rock. "Goldbank" Mammoth Bronze turkeys; Golden and Chinese Ringneck Pheasants. Orders booked for small deposit. Thank you. Harper Lake Poultry Farm, Jamestown, Kansas.

FOR SALE, EGGS—EGGS FROM PUREbreds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

DUCKS AND GEESE.

ENGLISH PENCILED INDIAN RUNNER drakes, $1 each. A. Grant, Rosalia, Kansas.

ROYAL BLUE STRAIN ROUEN DUCKS, $1.75 each. James Cassell, Fremont, Neb.

GEESE, EMBDEN, TOULOUSE, CHINA; turkeys, ducks. All leading breeds of poultry. Emma Ahlstedt, Roxbury, Kan.

FAWN INDIAN RUNNER DUCKS BY the hundred, 95c; smaller lots, $1 each. Mrs. E. C. Wagner, Holton, Kansas.

POULTRY WANTED.

PAYING FOR NO. 1 POULTRY: TURkeys, 24c; hens, 17c; capons, 22c; ducks, 14c; guineas, dozen, $5. Coops free. The Copes, Topeka.

BABY CHICKS.

BABY CHICKS —REDS, ROCKS, LEGhorns, 12½c. Eggs also. Request circular. McCune Hatchery, Dept. M, Ottawa, Kan.

ROSE COMB RED BABY CHICKS. I AM booking orders now. Order early. Lily Robb, Neal, Kansas.

LEGHORNS.

ROSE COMB BROWN LEGHORNS. MRS. Ida Standiford, Reading, Kansas.

S. C. W. LEGHORN EGGS. STATE WINner. Mrs. W. R. Hildreth, Oswego, Kansas.

PURE-BRED S. C. WHITE LEGHORN cockerels. Mrs. D. Christmann, Oswego, Kansas.

PURE-BRED S. C. BROWN LEGHORN eggs, $1 per fifteen, $5 per hundred. Mrs. L. H. Hastings, Thayer, Kansas.

S. C. B. LEGHORN COCKERELS—FINE birds for sale, $1.50 and $2. J. J. Stalder, Meade, Kansas.

ENGLISH WHITE LEGHORN EGGS, cheap. Write for prices. I. M. Fisher, El Dorado Springs, Mo.

SINGLE COMB BROWN LEGHORN cockerels from high scoring stock, $1 each. With combs frozen, 75 cents. Cornelius Phillips, Emporia, Kansas.

PRIZE WINNING SINGLE COMB BUFF Leghorns and Single Comb Reds. Extra winter layers. Eggs for hatching. C. B. Hinchliff, Hamilton, Mo.

S. C. BUFF LEGHORNS, HATCHING eggs. The quality kind from my winners at Omaha and Lincoln. Otto Timm, Bennington, Neb.

ROSE COMB WHITE LEGHORN COCKerels, scored birds. Write for prices. Eggs for hatching, $5 per hundred. Mrs. Joe Streeter, Route 5, Hamilton, Mo.

SINGLE COMB BROWN LEGHORNS—Fine winter laying utility and beauty strain. Eggs from trap nests. Pullets in Leavenworth contest. Eggs, per hundred, $4.50 and $6, baby chicks, 12½ cents apiece. Paradise Poultry Farm, Carona, Kansas.

LEGHORNS.

ROSE COMB LEGHORN COCKERELS—Eggs in season. Mrs. John Holzhey, Bendena, Kansas.

SINGLE COMB WHITE LEGHORN cockerels. Dave Baker, Conway Springs, Kansas.

BROWN LEGHORNS — ROSE. SINGLE Comb. Bred to lay strain breeding. Eggs, fifteen, $2; fifty, $3; hundred, $6. Plainview Poultry Farm, Lebo, Kansas.

S. C. BUFF LEGHORN COCKERELS, $2 to $5 each. Bred to lay stock. Winners at state show. Eggs in season. Pearl Halnes, Rosalia, Kansas.

SINGLE COMB BROWN LEGHORNS — Thirty-one prizes at Kansas State Show, 1917, including eight firsts. W. J. Roof, Maize, Kansas.

PURE SINGLE COMB BUFF LEGHORNS, Buff Cochin Bantam cockerels, White Holland turkey toms. Mrs. S. F. Crites, Florence, Kansas.

RUSSELL'S FAMOUS BROWN LEGhorns, single comb, prize winners, heavy layers. Write for catalog. Satisfaction guaranteed. Mrs. Geo. Russell, Chilhowee, Missouri.

S. C. WHITE LEGHORNS. I AGAIN have state show prize winners, exhibition and utility cockerels for sale. Eggs. Eggs. Eggs. Mrs. Terry Junkins, Osawatomie, Kansas.

PRIZE WINNING S. C. WHITE LEGhorns at two state shows. Eggs, $2, $3 and $5 per fifteen. Eggs from flock, $5 per 100. Chicks. Send for free mating list. C. G. Cook, Box F, Lyons, Kansas.

SINGLE COMB WHITE LEGHORNS, Columbian Wyandottes, Muscovy ducks, fancy pigeons. Catalog. Southdown sheep, Berkshire swine. J. A. Leland, Springfield, Illinois.

S. C. W. LEGHORN COCKERELS FROM hens with records over two hundred eggs; one, two, three dollars each. Baby chicks, 12½c each. Eggs, $5 per hundred. Hyperion White Leghorn Farm, Route 1, Des Moines, Iowa.

YOU WANT GOOD LAYERS. MOORE'S strain of S. C. Brown Leghorns are prize winners and winter layers. Eggs, $1 for fifteen and $4 for 100 postpaid. John W. Moore, R. R. No. 1, Poplar Bluff, Mo., formerly of Hendrickson, Mo.

Good Roads Bill Submitted

A bill modeled somewhat after the Iowa road law has been introduced in the Kansas legislature. In order that our readers may be informed on this bill, we give below a summary of its main provisions:

1. Provides for codification of all laws relating to dirt roads and the administration of all laws relating to highway construction and maintenance.

2. Provides for a state highway commission to conform to Federal Aid requirements. The commission to consist of the governor and two others to be appointed by him, the two to serve for $5 per day and expenses. Their salary allowance not to be over $200 per year.

3. Provides for state highway engineer to be employed by the commission.

4. The commission and engineer to be located at Topeka.

5. Provides that county commissioners shall appoint a county engineer, excepting that two or more counties may join together and employ an engineer when one county does not have enough work to require all of his time. The county engineer must be approved by the highway commission and state engineer.

6. Provides for appointment of road overseers by township boards, but the overseer must have the approval of the county engineer.

7. Provides for county system of highways. County commissioners shall lay out the system and if the systems of adjoining counties do not connect at county lines, then the state engineer has power to adjust the two systems to make them connect.

8. Provides for compulsory dragging of county roads and the patrol system of maintaining same.

9. Provides for maximum road tax levy for county of 1½ mills and a maximum for townships of 3 mills, the same as at present.

10. Provides that salaries of county engineers to be regulated by population of counties and to be the same as county clerks.

11. Provides that the highway commission may make rules and regulations relative to road management and building and use of roads where the provisions have not been made by law.

12. Provides that the highway commission may do educational work by holding road meetings and publishing facts and information relative to roads, road machinery, bridges, and any general information pertaining to improvements of and maintenance of the highways.

OVERLAND RED

A Romance of The Moonstone Canon Trail

(Chapter XXXII, "Morning"—Continued.)

"For the same reason that I can't now—you. Red and Billy Winthrop and I don't own a cent's worth of the claim now. I don't even own what's in the bank. All I got is Yuma."

"You gave Yuma to me, Collie."

"I sure did. I haven't even her. But I've got you. Oh, Louise! I can't believe it. I could just shout. Can't I have another one, Rose Girl?"

"Must I teach you not to ask?" said Louise.

Collie took her other meaning as she made a little mouth at him. "Not after this," he said, and gave apt proof that he meant it.

"More than a whole carload of gold?" she asked, gazing at him.

"You know that, too?"

"Collie?"

"What is it?"

"Promise that you won't speak to any one about the claim, or the desert, or my father until I say you may."

"Of course I promise."

"Nor about ourselves, until I tell you to."

"Never—if it will make you happy."

. . . . . .

Overland Red, sitting on a boulder beside the road, stooped and gathered up a handful of pebbles. Then, for lack of other interest, he invented a game of ancient and honorable origin. "She loves me," he said, tossing away a pebble. "She loves mo aot." And up spun another pebble. So he continued until the pebbles were gone. "She loves me not," he muttered lugubriously. Then his face brightened. "Of course she don't. She loves him. That's what I was tryin' to get at, anyway."

He fumbled at a huge bunch of little red flowers called "Hummingbird's Trumpets." He arranged the hastily constructed bouquet to suit him. Then he laid it on the rock.

"Accordin' to the latest book on good table-manners, or 'How to Be Happy Though Dressed Up,' this here bouquet is the proper thing. They'll think I'm some wiz' when I step out and present these here hummin'birds' bugles. Huh! I seen the two horses gone, and I gets wise direct. But I got to brace up. Wonder what she'll think about me—after hearin' what I said last night at the Old Meadow? Gee! I wonder what I did say? Did I cuss much? I forget. H-m-m. Good-mornin', folks. I—er—This here—Them hummin'birds' bugles—Happy day—Collie, what's wrong with you? What you laughin' at?"

"You, of course. Where did you get the posies?"

"Picked 'em along the Gilden Shore. Just got back."

"You do look scared, Red."

"Seein' you're gettin' personal — you needn't to think because you just been there that I never will."

"Say, Overland—I—we—" began Collie.

"I knowed it! I won't say a word to nobody."

Collie glanced at Louise. She nodded. Then she gave Overland her hand. He seized it and stood looking into her sweet gray eyes. "Little Rose Girl," he said quietly, "you always was the best and kindest and beautifullest we ever knowed. It ain't the first time you give your hand to help them that ain't fit to touch it. If there is any Golden Shore, I guess me and Collie will be there just because we knowed you down here and couldn't stay around, nohow, where you wasn't. And, believe me, if he don't treat you from now on like you was a plumb angel, I'll—I'll ride him off the big range and into space quicker'n shootin' stars! These here flowers is for you—not for that long-legged grasshopper ridin' your hoss there. I should think Boyar would be plumb ashamed."

"Then Collie can walk," said Louise promptly. "Collie, will you please let Mr. Summers take Boyar? I want to talk with the President of—of my mine a little while."

"Don't faint, Chico," said Overland, swinging into the saddle. "I always was the 'cute little gopher with the ladies. You watch us ride up this trail if you want to see a pair that can ride."

Collie shook his fist at the grinning Overland, who had turned as he rode away. "You want to learn to act quick when a lady asks you," called Overland. "You didn't get off this hoss any too spry."

Then Collie stooped and picked up a little red flower that had dropped from the boisterous one's offering.

had been pleasant. They were talking about Overland. They had been discussing the rearrangement of a great many things since the news of Louise's heritage had become known.

"You had better close the muffler, Billy. You are frightening that pony!"

"That's the Yuma colt," said Winthrop. "Overland is riding her."

CHAPTER XXXIII
A SPEECH

The Marshalls and Billy Winthrop came in their car. The ride through the canon

"Overland?"

"Yes. He's coming to meet us."

Plunging through the crackling greasewood at the side of the road, the Yuma colt leaped toward the car. In broad sombrero, blue silk neckerchief, blue flannel shirt, and silver-studded leather chaps, was a strangely familiar figure. The great silver spurs rang musically as the pony reared. The figure gave easily to the wild plunging of the horse, yet was as firm as iron in the saddle.

Anne drew a deep breath. It was not the grotesque, frock-coated Overland of a recent visit, nor was it the ragged, unkempt vision Louise had conjured up for her in relating the Old Meadow story. In fact, it was not Overland Red at all, but Jack Summers, the range-rider of the old red Abilene days. He was clean-shaven, vigorous, splendidly strong, and confident. In the saddle, bedecked with his showy trappings, surrounded by his friends, Jack Summers had found his youth again, and the past was as a closed book, for the nonce.

"I'm the boss's envy extraordinary," said Overland, by way of greeting. "Walt said something else, too, about bein' a potentiary, but I reckon that was a joke."

"Good-morning! Don't get down! Glad to see you again!"

But Overland was in the road, hat in hand, and Yuma's bridle-reins over one arm.

"'Mornin', Billy! 'Mornin', Doctor! You run right up to the house. I left the gate open."

Then Overland rode back, following them. Later he reappeared, minus spurs and chaps, but still clad in the garb of the range-rider. He was as proud and happy as a boy. He seemed to have dropped ten years from his shoulders. And he was strangely unlike his boisterous self withal.

The noon sun crept through the moonvine. Out on the wide veranda was the long table. They were a happy group at luncheon there. Even the taciturn Brand Williams had been persuaded to come. His native picturesqueness was rather effaced by a black, characterless suit of "store clothes."

Walter Stone, at the conclusion of the luncheon, asked Overland to make a speech. Nothing daunted, Overland rose briskly.

"I expect you're lookin' for me to fall off the roof of the cannery into the tomato-vat and make a large red splash. Not me. I got somethin' to say. Now the difference in droppin' a egg on the kitchen floor and breakin' it calm-like, in a saucer, ain't only the muss on the floor. You save the egg. Just recent I come nigh to losin' my whole basket. You all know who saved 'em. Not namin' any names, the same person, by jest bein' herself, and kind to everybody, put me wise to the fact that money and clothes ain't all that goes to make a man. And, at the same time, speakin' kind of orthodoxical, money and clothes has a whole lot to do with makin' a man. I just got hep to that idea recent.

"Speakin' of clothes leads me to remark that I got a new outfit up at the bunkhouse. It's a automobilein' outfit. Billy says it's the correc' thing. He helped me pick it out. Which leads Billy into this here thing, too. He said to break the news gentle, and not scare anybody to death and not get 'em to thinkin' that somebody was hurt or anything like that, so I'm breakin' it to you easy. Me and Billy is goin' away. We're goin' in the Guzzuh—'God save the mush,'" as the pote says. We are the Overland Red Towerist and Observation Company, Unlimited. We are goin'

" 'Round the world and back again;
Heel and toe in sun and rain'—

as another pote says. Only we ride. I ain't got nothin' to say about gettin' married, or happy days, or any of that ordinary kind of stuff. I want to drink the health of my friends. I got so many and such good ones that I dassent to incriminate any particular one; so I say, lookin' at your faces like roses and lilies and—and faces, I say,—

" 'Here's to California, the darling of the West,
A blessin' on those livin' here—
And God help all the rest.' "

Overland sat down amid applause. He located his tobaeco and papers, rolled a cigaret with one hand, and gazed across the hills. Glancing up, he saw Louise looking at him. He smiled. "I was settin' on a crazy bronc' holdin' his head up so he couldn't go to buckin'—outside a little old adobe down in Yuma, Arizona, then. Did you ever drift away life that, just from some little old trick to make you dream?"

At a nod from Aunt Eleanor they all rose.

Louise stepped from her end of the table to where Overland stood gazing out across the hills. She touched him lightly on the arm. He turned and looked at her unseeingly. His eyes were filled with the dreams of his youth, dreams that had not come true . . . and yet . . . He gazed down into her face. His expression changed. His eyes grew misty with happiness. He realized how many friends he had and how loyal and excellent they were. And of all that he had gained his greatest treasure was his love for Louise—for Louise Lacharme, the little Rose Girl of his dreams. That love lay buried deep in his rugged heart. She would never know of it. No one should ever know—not even Collie.

Louise, in an ecstacy of affection and pity that she could not understand, suddenly flung her arms around Overland's neck and kissed him full on the lips.

More than he had ever dared to dream had come true.

THE END.

Overland Red.—Copyright, Houghton Mifflin Company.

FARM AND HERD.

H. E. Huber of Meriden, Kansas, has announced February 23 for his annual Shorthorn sale to be held on his farm near Meriden. At the head of this herd is the great breeding bull, Silk Goods, a ten-year-old bull by Choice Goods. All the cows either have calves by this great sire or are bred to him. Most of the heifers are sired by him. Six very promising young bulls will be sold in this sale sired by Silk Goods and are splendid prospects for herd bulls.

We have just received the catalog of the offering of big-type Poland China sows to be sold in the sale to be held by Clarence Dean of Weston, Missouri, the noted breeder of Mastodon Polands. The sale will be held February 28 at Dearborn, Missouri. Mr. Dean has catalogued fifty head of tried sows and spring gilts. The catalog shows a remarkable offering of daughters of the most noted sires of the breed, including such boars as Long Jumbo, Chief Price Again 2d, A Wonder Price by A Wonder, Big Bone Model by the champion Long Big Bone, and Smooth Black Bone by Smooth Big Bone. They are bred to Dean's Big Timm by Big Timm.

Catalogs are out announcing the Poland China bred sow sale of A. J. Erhart & Son at Hutchinson, Kansas, on February 22. Erhart & Son own a large farm near Ness City, Kansas, but the sale will be held at the state fair grounds at Hutchinson. This arrangement will afford prospective buyers more conveniences for shipping and attending the sale. The offering promises to be one of the very best that will go through a public auction this year and is a part of the 1916 show herd.

HOLSTEIN CATTLE. HOLSTEIN CATTLE.

MAURER'S HOLSTEIN FARM

Is offering a bull calf, born December 3, 1916, by 24.93-pound three-year-old niece of the new world's champion 50-pound cow, and sired by a great son of the $25,000 bull, Rag Apple Korndyke 8th. Also pure-bred cows and heifers of choieest breeding. We keep a select lot of high-grade cows and heifers on hand at all times. Write your wants in good Holsteins to

T. R. MAURER & CO., West Sixth Ave., EMPORIA, KANSAS

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN-FRIESIAN FARM, TOWANDA, KANSAS

Breeders of pure-bred Holsteins. Special attractions in choice young bulls ready for service, with fashionable breeding. Write for pedigrees and prices. We maintain a breeding herd of pure-bred females and offer a grand lot of young springing heifers and cows, a number with A. R. O. records at prices within reason.

IT WILL PAY YOU TO SEE OUR OFFERING

Of choice extra high grade young cows and heifers, all springers in calf to pure-bred sires; large developed females, good udders, well marked and the right dairy type at prices that will challenge comparison for Holsteins of their breeding and quality. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone.

GIROD & ROBISON

Braeburn Holsteins A. R. O. BULL CALVES
H. B. Cowles, 608 Kansas Av., Topeka, Kan.

HORSES AND MULES.

Jacks, Jennets, Percherons

Two coming 6-year-old herd jacks, 9½ and 10-inch bone, 1,100 and 1,200 pounds. Two coming 4-year-old jacks. Eight jennets, most of them in foal. Two coming 3-year-old Percheron stallions. Write for prices and deseription.
W. S. DEARDOFF - HALE, MISSOURI

POLAND CHINAS

Poland China Boars and Gilts

Twenty-five early spring boars and twenty-five gilts. Sired by I Am King of Wonder and Watt's King.
WM. WATT & SON - GREEN CITY, MO.

IOWA KING BRED SOW SALE FEB. 1

Will Sell 40 Head of Tops. Am offering now some choice herd boar prospects, June and July pigs. All immune. Send for catalog of sow sale and price on boars.
P. M. ANDERSON, LATHROP, MISSOURI

Henry's Big-Type Polands

Fall pigs, either sex, sired by Mammoth Orange. Special price of $15 each to make room for spring litters.
JOHN D. HENRY, LECOMPTON, KANSAS

TOWNVIEW FARM
Big-Type Poland Chinas.
For Sale—25 summer and fall gilts, sired by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 25 summer boars. Come and see my herd.
C. E. GREENE - PEABODY, KANSAS

BIG-BONED IMMUNE POLANDS

Both sexes, July and August farrow. Best big-type breeding. Choice individuals. Also bred gilts. All sired by that great boar, Chief Miami. Dams 600 to 700 pounds. Remember this is the home of largest boned boar of the breed.
WALTER B. BROWN, PERRY, KANSAS.

Size and Quality Polands

Five big-type gilts, weight 275 pounds each, bred for February, March and April farrow. $35 each. Two good tried sows, priced to sell. Choice lot of summer sow pigs, weight 150 pounds and over, $18 each or two for $35. Fall pigs, $15 each, two for $25, sired by 1,000-pound boars, out of extra large sows.
OTTO PLAGAMANN, EUREKA, MISSOURI

ARKELL'S BIG POLANDS

April and March bred gilts by Longfellow Again and Chief Big Bone, weight 225 to 275 pounds. They are bred to Arkell's Big Timm. Also a few bred sows. Priced right.
JAS. ARKELL, JUNCTION CITY, KANSAS

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

LANGFORD'S SPOTTED POLANDS
Boars — Serviceable age, guaranteed to please. Breeding stock, both sexes.
T. T. LANGFORD & SONS, Jamesport, Mo.

Bonnie View Stock Farm

Duroc Jerseys and Holsteins

PUBLIC SALE FEBRUARY 19.
20 Holsteins and 15 bred sows. Write for sale bill.
Searle & Cottle, . Berryton, Kansas

HOLSTEIN CATTLE

We offer for sale 200 choice, high grade Holstein cows, heifers and serviee bulls of various ages; well marked and in good condition. Also can furnish a few choice, beautifully marked, 15/16ths pure-bred heifer or male calves, 1 to 2 weeks old, out of heavy milk-producing dams, at $15 each, crated f. o. b. cars. First draft takes them. Write
W. C. KENYON & SONS, ELGIN, ILLINOIS

REGISTERED HOLSTEINS

We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.
M. E. MOORE & CO. - CAMERON, MO.

HOLSTEIN COWS

Holstein cows, springers or bred heifers. Very large, good markings, out of best milking strains, bred to pure-bred bulls of the very best blood. Special prices on carload lots. J. C. ROBISON, TOWANDA, KANSAS

CORYDALE FARM HERD

Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.
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Sunflower Herd Holsteins

Watch for Date of Big Public Sale.
150 head bred for produetion. Get catalog early.
F. J. SEARLE - OSKALOOSA, KANSAS

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.
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We are now offering some exceptionally good bulls of serviceable ages at very attractive prices. These calves are sired by our 29.4-pound grandson of Pontiac Korndyke.
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Registered bulls from calves to 5 months old. Best breeding and good individuals.
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Route No. 2, Topeka, Kansas.
BREEDERS OF PURE-BRED HOLSTEINS
Bulls from A. R. O. cows, all ages, for sale.

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165945, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
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REGIER'S HOLSTEINS

Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.
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HOLSTEIN CALVES—Ten heifers and two bulls, 15-16ths pure, beautifully marked, 5 weeks old, from heavy milkers. $20 each, crated for shipment anywhere. Write EDGEWOOD FARM, Whitewater, Wis.

TREDICO BULLS
G. C. T.
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HOLSTEIN CALVES.
Very high grade heifer calves, five weeks old, nicely marked, $20 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

CEDAR LAWN FARMS
C. A. Schroeder & Sons, Props.
Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.
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DEMING RANCH POLANDS

We will not hold a spring sale. Our show herd will be at Wichita, Kansas, Oklahoma City, and Fort Worth, Texas. We have for sale forty bred sows and gilts bred to our four herd boars, also 125 high class fall pigs, boars and gilts.
H. O. SHELDEN, HERDSMAN
THE DEMING RANCH, - - OSWEGO, KANSAS

KENTUCKY JACKS AT PRIVATE SALE



E. P. Maggard, formerly with the firm of Saunders & Maggard, Poplar Plains, Ky., has shipped twenty-three head of jacks to Newton, Kansas, and they will be for sale privately at Welsh's Transfer Barn. This is a well bred load of jacks, including imported jacks, and they range in age from coming three to matured aged jacks; height from 14 to 16 hands. I will make prices reasonable, as I want to close them out in the next thirty days. Anyone wanting a good jack will do well to call and see them. Barn two blocks from Santa Fe Depot, one block from Interurban. Come and see me.

E. P. MAGGARD, Newton, Kan.

The Kansas National Live Stock Show and Sale and The Annual Convention of the Kansas Live Stock Ass'n

SIX DAYS OF PURE-BRED LIVE STOCK SALES AT WICHITA, WEEK OF FEBRUARY 26

Monday, February 26, at 9 a. m.—Sixty Poland China and Duroc Bred Sows and Gilts consigned from the best herds in the Central West, including ten famous show animals from the herd of Crow & Sons, Hutchinson, Kansas.

Tuesday, February 27, at 9 a. m.—Sixty head of selected Herefords. The champion Hereford bull of America will be on exhibition.

Wednesday, February 28, at 9 a. m.—Sixty selected Shorthorns, including pure Scotch and Scotch-tops consigned by Theo. Martin, Bellevue, Iowa; Park E. Salter, Augusta, Kansas; Homan & Son and F. P. Wilson, Peabody, Kansas; John Regier, Whitewater, Kansas; James Baxter & Son, Clay Center, Kansas, and others.

Thursday, March 1, at 9 a. m.—Sixty high-class Percherons consigned by W. S. Corsa, Whitehall, Illinois; J. C. Robison and Bishop Bros., Towanda, Kansas; W. R. Neal, Caldwell, Kansas; Ira Rusk, Wellington, Kansas; J. O. Cedarholm, Lindsborg; J. H. Armstrong, Emporia, and others. Sale includes Isola, three times grand champion at state fairs, and mares bred to him. Also stallions and mares sired by the famous champions, Carnot and Casino. J. C. Robison writes that he will sell ten of the best mares he ever sold in one sale. Enough said.

Friday, March 2, at 9 a. m.—Coach Horses, Trotting Bred Horses and Jacks. Sale includes stallions, mares, racing prospects and developed race horses, French and German Coach, some extra good 16-hand jacks weighing 1,200 pounds.

Saturday, March 3, at 9 a. m.—Sale of Sixty Dairy Cattle.

We positively guarantee the Kansas National Live Stock Show will be the largest event of the kind ever held in Kansas. The best Shorthorns, Herefords, Percherons, Poland Chinas, and Durocs in America will be here. Write at once for premium list and entry blank to show and sale. Sale catalog mailed free February 20.

The Kansas National Live Stock Show Ass'n
By F. S. Kirk, General Manager
Room 27 Live Stock Exchange



Hereford Breeders Combination Sale

At Great Bend Kansas Friday, March 9, 1917

Eighty head of choice Herefords from the well known herds of
W. I. Bowman & Co., Ness City, Kansas
H. D. Plummer, Longton, Kansas
Samuel Drybread, Elk City, Kansas
W. C. Stanley, Great Bend, Kansas
R. Taylor & Son, Great Bend, Kansas
Moses Bros. & Clayton, Great Bend, Kansas

There will be forty head of exceptionally good young cows and heifers, all bred to good bulls. Forty head of bulls of serviceable age, including herd headers, farm and range bulls. For catalog address

Thos. Clayton, Mgr. **Great Bend, Kansas**

20 Head - JACKS & JENNETS - 20 Head

AT McCUNE, KAN., THURSDAY, FEB. 22



12 HEAD OF JACKS

From two years to aged jacks; 14 to 15½ hands high. Black with white points. Good bone, body, head and ears. These jacks are my own raising. Sired by Bradley's Sunlight and Kentucky Yelberton, both big Kentucky jacks. Kentucky Yelberton's dam took fourth premium at the St. Louis world's fair in a bunch of thirty and his sire took first premium at the Lexington, Kentucky, state fair for the best jack, and first premium for best jack with three colts, and his grand sire sired the champion yearling jack at the St. Louis world's fair.

8 HEAD OF JENNETS

Eight head of jennets from yearlings up to aged jennets. Aged jennets from 14 to 15 hands. Black with white points.

Will sell two driving mares and two good ponies. Will offer for sale one registered Percheron mare coming four years old; registered Percheron stud colt coming two years old, an extra good one.

TERMS: Cash or 12 months' time on bankable notes drawing 6% interest from date.

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German Coach Stallions and Mares

THE FARMER'S GENERAL PURPOSE HORSE

Twenty-three stallions from weanlings to 5-year-olds. Handsome, stylish, gentle, but powerful young stallions, 1,300 to 1,600-pound fellows, the right kind to produce durable, active farm horses and command attention in any stud. Priced where you will buy. Satisfaction guaranteed. Come or write at once.

BERGNER BROS, ROUTE 1, PRATT, KANSAS
Waldock Lake Ranch

HORSES AND MULES.

MARES AND FILLIES ABOUT ALL SOLD

A few good ones left. Fifty head of stallions and mares. Thirty head of stallions, including Percherons, Belgians and Coach stallions, 2 to 6 years old. All for sale at hard times prices. Come and see me.
J. M. NOLAN - - PAOLA, KANSAS

Home-Bred Draft Stallions, your choice $[illegible] with the exception of two. Also mares for sale. A. Latimer Wilson, Creston, Iowa

40 Head Percheron Stallions - Jacks and Jennets - 40

Two to six years old, heavy bone, right in every way. Imported Spanish jack, weight 1,200 pounds, at head of Jennet herd. Come and see us. We mean business. Prices reasonable.

J. P. & M. H. MALONE
CHASE - - - - KANSAS

PRAIRIE VIEW STOCK FARM



Has 40 big, black Mammoth jacks and jennets. Every jack my own raising; two to six years old, 15 to 16 hands high, extra heavy bone, big bodies. I can sell you a better jack for $500 to $600 than most speculators can for a thousand. Come and see for yourself. They must sell.
ED BOEN, LAWSON, MO.
38 Mi. E. of K. C. on C. M. & St. P.
40 Mi. S. W. of St. Jos. on Santa Fe



PERCHERONS—BELGIANS

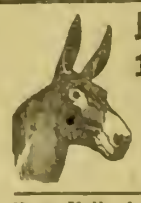
Imported and home-grown 4 and 5 yr. old stallions, 1 and heavier. 3 yr. colts, 2 yr. olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. Fred Chandler, R. 7, Charlton, Iowa. (Above Kansas City.)

FOUR BIG JACKS FOR SALE

Also three jennets. Jacks are all blacks, 4 and 5 years old, 15½ to 16¼ hands, standard. All grandsons of Limestone Mammoth. Barns 3 blocks north of depot.
F. W. POOS - - POTTER, KANSAS

REGISTERED PERCHERON STALLIONS for sale at their actual cash value. Barn in town.
A. H. SEYMOUR, GREAT BEND, KANSAS

JACKS AND JENNETS



15 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. Fifteen good jennets for sale. Come and see me.
PHIL WALKER,
Moline, Elk County, Kansas

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

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Live Stock and Farm Auctioneer

Write or wire for date. I can please you.
LAFE BURGER, WELLINGTON, KANSAS

FRANK J. ZAUN Live Stock Auctioneer. Write or wire for date.
Independence, Missouri

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

FIFTH

ANNUAL BRED SOW SALE

THE KANSAS STATE AGRICULTURAL COLLEGE will sell Poland Chinas and Duroc Jerseys, Friday, February 16. Manhattan, Kansas.

WRITE FOR CATALOG.

GUERNSEY CATTLE. GUERNSEY CATTLE.



$81.86 PROFIT PER COW PER YEAR over a period of 7 YEARS is the average of A GRADE GUERNSEY HERD IN WISCONSIN

IT WAS THE GUERNSEY BULL THAT DID IT

Write for our free booklets about GUERNSEYS

THE AMERICAN GUERNSEY CATTLE CLUB

BOX R. K. PETERBORO, N. H.

REGISTERED GUERNSEY BULL CALVES FOR SALE

Grandsons of Imp. Masher's Sequel A. R. out of first class cows. Tuberculin tested.

R. C. KRUEGER - - - BURLINGTON, KANSAS

HEREFORD CATTLE. HEREFORD CATTLE.

WALNUT BREEDING FARM



Hereford Cattle, Shropshire and Cotswold Sheep, Berkshire Hogs.

Thirty-five grandsons and granddaughters of Beau Brummel 10th for sale. Some extra herd headers at reasonable prices, breeding considered. Come and see my herd. Satisfaction guaranteed.

LEON A. WAITE, WINFIELD, KANSAS



HEREFORD CATTLE

FOR SALE 35 BULLS, 10 MONTHS TO 2 YEARS OLD. 20 COWS AND HEIFERS.

Best breeding families. Bred to an Imported Bridisher bull. Come and see me. Sale barns right in town.

T. I. WOODDALL, HOWARD, KANSAS

STAR BREEDING FARM---HEREFORD PLACE



FOR SALE--100 BULLS 50 EARLY BULL CALVES 30 COMING 2-YEAR-OLDS 20 COMING 3-YEAR-OLDS

Herd headers and range bulls. Ten yearling heifers, twenty heifer calves and a carload of good cows. The very best breeding represented. Come and see me.

SAMUEL DRYBREAD, ELK CITY, KANSAS

HEREFORD CATTLE

150 Head In Herd. A few cows and heifers for sale. Also a lot of farm and range bulls. Priced reasonable.

B. M. BROWN, FALL RIVER, KANSAS

HEREFORDS AND PERCHERONS

Choice 2-year-old bull, weight 1,600 lbs.; extra good bull calves. One May calf, weight 600 lbs., outstanding herd header prospect. Two choice yearling Percheron stallions. Priced to sell.

M. E. GIDEON - EMMETT, KANSAS

JERSEY CATTLE. JERSEY CATTLE.



SEVENTY HEAD REGISTERED JERSEYS

FORTY COWS AND THIRTY HEIFERS FOR SALE.

Nothing over five years old. Richly bred Fox Signal and Fern Lad families. All bred to choice registered herd bull. Must reduce herd.

N. L. DUCHESNE - GREAT BEND, KANSAS

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. BERRY & SON, Jewell City, Kansas

DORNWOOD FARM JERSEYS

Fine young bulls from Register of Merit and imported cows; descendants of Fontaine's Eminent, Pogis 80th of Hood Farm, and Golden Fern's Lad.

DORNWOOD FARM, Route 1, Topeka, Kan.

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

HAMPSHIRE HOGS

ATTEBERRY'S HAMPSHIRE HOGS

Choice July boars, best breeding, $12.50 each. They are bargains.



ATTEBERRY & SONS

Lancaster - Missouri

RED POLLED CATTLE.

Red Polled Cattle

A few 1916 fall bull calves for sale. Also a few cows and heifers.

AULD BROS. - FRANKFORT, KANSAS

RED POLLED BULLS

FORTY yearling bulls, big rugged fellows, sired by ton sires; all registered and priced reasonably. Will sell a few females.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

REDMAN & SON - TIPTON, MISSOURI

Bargains in Jersey Cows

From one to a carload of good, young, registered Jersey cows, mostly fresh or soon due. Offered at sacrifice prices because short of feed and cannot winter. Also a few open heifers and young bulls. Write your wants or come and see this stock.

The Ennis Stock & Dairy Farm, Horine, Mo.

(Just South of St. Louis.)

LINSCOTT JERSEYS

Kansas First Register of Merit, Estab. 1878.

If interested in getting the best blood of the Jersey breed, write me for descriptive list. Most attractive pedigree.

R. J. LINSCOTT - HOLTON, KANSAS

20 - Registered Jersey Cattle - 20

Thirty O. I. Chester White Hogs and Five Horses at blooded auction stock sale at Topeka State Fair Grounds, March 8, 1917. Catalog ready February 10.

F. J. SCHERMAN, Route 8, Topeka, Kansas

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

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CLAIM SALE DATES.

Combination Sale.

Feb. 26 to March 3—F. S. Kirk, Manager, Wichita, Kansas.

Jacks and Jennets.

Feb. 22—G. W. Overley, McCune, Kansas.
Feb. 22, 1917—W. H. Rolier & Son, Circleville, Kan., and Bruce Saunders, Holton,
March 13—H. T. Hineman & Sons, Dighton, Kansas.
March 15—L. M. Monsees & Sons, Smithton, Mo. Sale at State Fair Grounds, Sedalia, Missouri.
March 19—G. C. Roan, La Plata, Mo.

Jersey Cattle.

March 8—F. J. Scherman, Topeka, Kansas.

Holsteins.

Feb. 21—Dwight Williams, Omaha, Neb.

Shorthorn Cattle.

Feb. 23—H. E. Huber, Meriden, Kansas.
March 7—Andrew J. Howitt & Son, King City, Mo.
March 30, 1917 — Combination Sale, South Omaha, Neb. H. C. McKelvie, Lincoln, Neb., Manager.
April 4-5, 1917—Central Shorthorn Association at Stock Yards Pavillon, Kansas City, Mo.

Hereford Cattle.

Feb. 26—Combination sale at Hays, Kan. Prof. W. A. Cochel, Manhattan, Mgr.
March 3—W. A. Cochel, Manhattan, Kansas.
March 6—Moses Bros. & Clayton, Great Bend, Kansas. Combination sale.

Polled Durhams.

March 29, 1917 — Combination sale, South Omaha, Neb. H. C. McKelvie, Lincoln, Neb., Manager.

Poland Chinas.

Feb. 20—Fred B. Caldwell, Howard, Kan.
Feb. 22—A. J. Erhart & Son, Ness City, Kan. Sale at Hutchinson, Kan.
Feb. 23—F. Ollvier & Sons, Danville, Kan.
Feb. 28—Clarence Dean, Weston, Mo. Sale at Dearborn, Mo.

Durocs and Polands.

April 25—Fred G. Laptad, Lawrence, Kan.

Polands and Durocs.

Feb. 16—Kansas State Agricultural College, Manhattan, Kansas.

Durocs.

March 6—Richard Rothgeb, Pleasant Green, Mo.
March 15—W. T. McBride, Parker, Kan.

O. I. C. Hogs.

March 8—F. J. Scherman, Topeka, Kansas.

Hampshire Hogs.

March 1—Missouri Hampshire Breeders' Association, C. I. Ward, Cameron, Mo., Mgr.; sale at St. Joseph, Mo.

Harry Forbes of Topeka, owner of one of the good herds of Shorthorn cattle in Kansas, reports a heavy demand for Shorthorn bulls. During the last months he sold eight head and at this time has only three left that are old enough for service. The demand is such that a number of prospective buyers have asked for prices on fall calves.

Andrew J. Howitt & Sons of King City, Missouri, announce March 7 as the date of their annual Shorthorn sale. This firm owns one of Missouri's good Shorthorn herds and will catalog a good offering for this sale.

George McAdam of Holton, Kansas, the well known breeder of Aberdeen Angus cattle and Berkshire hogs, reports a good demand for both cattle and hogs. He has sold out of bred gilts and recently delivered twelve head of choice Angus cows and heifers to J. H. Holt, manager of the Breezy K Ranch, Quinlan, Okla., at very satisfactory prices.

The Missouri Hampshire Breeders' Association will hold a sale of Hampshire hogs at St. Joseph, Missouri, March 1. This sale will be under the management of C. I. Ward of Cameron, Missouri, and a choice offering from Missouri's good herds will be catalogued.

W. S. Deardoff of Hale, Missouri, one of the leading breeders of Percheron horses and Mammoth jacks in that state, reports his herds doing well. A feature of the herds at this time is the choice lot of jacks and young stallions of serviceable age.

We have just received the catalog of the bred sow offering of H. B. Walter, to be sold at Effingham, Kansas. The catalog is nicely illustrated and a large percentage of the sows catalogued were sired by Mr. Walter's great boar, Big Bob Wonder, noted throughout the corn belt as the sire of prize winners.

F. J. Scherman, Route 8, Topeka, has announced a public sale of twenty head of Jersey cattle and forty head of O. I. C. hogs for March 8, 1917. The sale will be held at the Topeka State Fair grounds.

P. M. Anderson of Lathrop, Mo., held one of the most successful Poland China sales on February 1 in the history of his herd. Forty sows and gilts averaged $68.12. Mr. F. L. Corswell, formerly of Topeka but now on his farm near Kansas City, Mo., topped the sale on No. 5 at $136. Walter B. Brown of Perry, Kansas, bought five head and was one of the strongest bidders. About one-third of the offering came to Kansas breeders at good prices. The average of the sale was very satisfactory to Mr. Anderson. Had the weather been favorable a much higher average would have been made. The extreme cold and high wind kept many prospective purchasers from attending the sale.

FARM AND HERD.

C. A. Schroeder & Sons of Cedar Lawn Farms, West Bend, Wisconsin, owners of one of the great Holstein herds in that state, report their herd doing well. This herd was established in 1878 and the Holstein cows purchased at that time were among the first brought into that state. The herd now consists of 200 head and is noted for high record cows. The foundation stock for many of the heavy producing herds now in existence was selected from Cedar Lawn Farms herd.

Real Estate For Sale

280-ACRE FARM located 3 miles good town, Franklin County, in proven oil field; fair improvements, 30 acres tame grass, 140 acres native meadow and pasture, remainder in cultivation; good orchard, well watered. A big bargain for immediate sale at $50 per acre. Possession at once. Write for full description of this or any size farm you may want. Mansfield Land Co., Ottawa, Kansas.

160 ACRES, 6 miles Adrian, Mo. All smooth land, 25 acres in wheat, 40 acres in tame hay, remainder cultivation; 95 acres fenced hog-tight; fair improvements. Price right, easy terms for immediate sale. MANSFIELD LAND CO., Ottawa, Kansas.

32 ACRES, 2½ miles business center McAlester, city 15,000; ½ mile $30,000 ward school. 25 acres strictly first class dry bottom land, 12 acres cultivated. $55 per acre, terms. Southern Realty Co., McAlester, Ok.

LANE COUNTY BARGAINS

Best tract of land for a colony in state. Comes in half mile of station. Some well improved from $10 to $25 an acre. Get my list of bargains. C. N. Owen, Dighton, Kan.

SHORTHORN CATTLE.

Barber Shorthorns

Villager Junior and Curley Dals Head Herd.

For Sale—Twenty coming yearling bulls, 20 yearling bulls, 40 cows and heifers, Scotch and Scotch topped. We have what you want. Come and see our cattle. Three hundred head in herd.

F. C. Barber & Sons

SKIDMORE - - - - - MISSOURI

OUR HERD BULL

Abbotsford Lad 2d 395841, pure Scotch, deep red and a good breder, three years old, priced to sell quick. We are keeping every heifer calf sired by him, also some young bulls six to ten months.

CHESTER A. CHAPMAN, Elisworth, Kan.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

H. M. HILL - LAFONTAINE, KANSAS

CEDAR HEIGHTS SHORTHORNS

For Sale—One Lavender bull, 14 months old; one Orange Blossom, 10 months old; one Golden Drop, 10 months old.

HARRY T. FORBES

Bell Phone 59 N-1, Route 8, Topeka, Kansas

Lowemont Shorthorns — Bulls, including white 2-yr.-old; 18 cows and heigers; priced right. E. E. Heacock & Son, Hartford, Kansas.

Breeders' Directory

ANGUS CATTLE.

Geo. M. McAdam, Holton, Kan.
Geo. A. Deitrich, Carbondale, Kan.
D. J. White, Clements, Kan.

RED POLLED CATTLE.

Mahlon Groenmiller, Pomona, Kansas.

DORSET-HORN SHEEP.

H. C. LaTourette, Route 2, Oberlin, Kan.

JERSEY CATTLE.

J. B. Porter & Son, Mayetta, Kan.

Catalogs are out for the Hereford Breeders' Combination Sale to be held at Great Bend, Kansas. Forty head of choice young cows and heifers all bred to good bulls, and forty head of serviceable bulls all of serviceable age have been catalogued for this sale. The consignments are from the best herds in the state. The following well known breeders will be represented: W. T. Bowman & Co., Ness City, Kansas; H. D. Plummer, Longton, Kansas; Samuel Drybread, Elk City, Kansas, and W. C. Stanley, R. Taylor & Sons, and Moses Bros. & Clayton of Great Bend, Kansas.

Searle & Cottle of Berryton, Kansas, have announced February 19 as a closing out sale of thirty-five head of Holstein cattle and Duroc Jersey hogs. The herd bull, Trojan Tritorna ,and several registered cows will sell, also a few high grade cows, five registered Duroc Jersey brood sows and ten registered Duroc gilts, all bred for spring litters. The brood sows are sired by Tat-a-wolla and bred to A Critic. The ten gilts are sired by A Critic and bred to Crimson Model 2d.

Bergner Bros. of Pratt, Kansas, are among the successful breeders of pure-bred German Coach horses. Their herd was established on their 2,500-acre ranch in 1907 and they now have eighty head of registered German Hanoverian and Oldenburg Coach stallions, mares and fillies. They have a number of mares in their herd sired by The Moltke 13, grand champion at the Chicago World's Fair, also a lot sired by Mephistopheles 4221, a prize winner at the state fairs for years. They now have at the head of their herd Milon 3159, premier champion coach horse at the St. Louis fair. They have the ideal type coach horse and the greater part of the work on their big ranch is done with their coach brood mares and they have found the German Coach a splendid farm and general purpose horse.

J. W. Cox & Son of Arapahoe, Neb., owners of Riverside Farm Herd of Mulefoot hogs, report their herd doing well. This is one of the noted as well as one of the largest herds of that breed of hogs in existence. Their show herd is noted as consistent winners and for several years have been awarded a large percentage of the championships and first and second premiums at Iowa and Nebraska State Fairs. A feature of their herd at this time is the choice lot of young stock of breeding age.

These two champion jacks are representative of the high standard of the forty jacks and jennets that go in this sale to the highest bidder, regardless of price.

Plan to attend this sale, and write for illustrated catalog at once.

Mr. Saunders is closing out his entire herd and Mr. Roller & Son are selling very close.

DEACON JR.



BIG COMBINATION JACK SALE

FORTY HEAD

Twenty-five Jacks and Fifteen Jennets. All black with white points and all registered.

Holton, Jackson County, Kansas
Thursday, February 22

The show herds of M. H. Roller & Son, including John L. Jr., champion State Fair, Topeka, 1914-15, and the show herd of Bruce Saunders, including Deacon Jr., champion State Fair, Topeka, 1916.

CATALOGUES READY TO MAIL.

ADDRESS EITHER

BRUCE SAUNDERS, - Holton, Kansas

OR

M. H. ROLLER & SON, Circleville, Kansas

AUCTIONEERS

R. L. HARRIMAN - C. POOL - V. E. ADDY

Included in the sale are two Percheron stallions, two and three years old, sired by Incleus, champion of the leading shows in 1911.

Sale in big sale pavilion in town. Good railroad facilities. Ask your railroad agent. Good hotel accommodations.

JOHN L. JR.





DEAN'S MASTODON POLAND CHINA BRED SOW SALE

At Dearborn, Missouri, February 28, 1917

FIFTY HEAD TRIED SOWS AND SPRING GILTS, ALL IMMUNE BY DOUBLE TREATMENT.

Eleven tried sows by famous big-type boars, among them Lady Price, a great sow by Chief Price Again 2d. She is bred to Big Bone Model, a son of the champion Long Big Bone. Three tried sows by Halford's 1,006-pound Long Jumbo, bred to my great herd boars. There will be six extra fine gilts sired by Smooth Black Bone by Smooth Big Bone and out of a Big Bob dam and bred to Dean's Big Timm, a good son of Big Timm, the 1,125-pound Nebraska champion. Three good gilts by Smooth Black Bone out of the great sow, Lady Wonder 7th, by Mastodon Price. These gilts are bred to Dean's Big Timm. This entire offering is sired by noted big-type sires and it will be one of the best big-type offerings sold this year. Sale at Dearborn in sale pavilion.

Send at once for catalog. Address

CLARENCE DEAN, - WESTON, MO.

O. W. Devine representing Kansas Farmer.

Shorthorn Cattle Sale, on Friday Feb. 23

At My Farm Six Miles from Meriden, Kansas, on the Santa Fe Ry.; Seven Miles from Grantville, on U. P. Ry.



Fifteen head of cows and heifers, several with calves at foot and bred again to my herd bull, Silk Goods by old Choice Goods.

Six young bulls by Silk Goods.

The cows are a valuable lot, including the great cow, New Year's Lady, with roan heifer calf at foot and bred again. Also Violet Goldenrod with red heifer calf at foot and bred again to Silk Goods.

Marion 2d sells with red bull calf at foot by Silk Goods and bred again. Carrie Melody—this valuable cow is due to drop calf soon by Silk Goods. Most of the heifers are sired by Silk Goods.

I am selling some of my best cattle to reduce my herd. They are right in every way and good foundation stock for any farmer or breeder to buy. They are reds and roans and in good condition. All are registered and tested. I will also sell twenty large Duroc sows bred for early spring litters but not recorded. Send for catalog and come to my sale. All trains met at Meriden, Kansas.

H. E. HUBER, Owner, Meriden, Kansas

When writing to KANSAS FARMER live stock advertisers, please mention this paper.

AYRSHIRE CATTLE.

AYRSHIRE — THE PERFECT COW

MR. HUGH J. CHISHOLM maintains a prize herd of AYRSHIRES at Strathglass, his beautiful farm in Westchester County, N. Y.—every animal a beauty and a profit-maker in the dairy. Mr. Chisholm discarded a very popular and widely advertised breed in favor of AYRSHIRES when he really investigated their merits. It will pay YOU to investigate this handsome, profitable breed.

AYRSHIRE BREEDERS' ASSOCIATION
C. M. Winslow, Sec'y 33 Park St., Brandon, Vt.

DUROC JERSEYS.

TWENTY FIVE SPRING BOARS

Sired by Crimson Wonder Again Jr., first prize boar at Topeka Fair, 1916, and G. M.'s Crimson Wonder. Big rugged fellows ready for service. Immunized and priced to sell.
G. M. SHEPHERD - LYONS, KANSAS

GUARANTEED DUROC BRED GILTS

Immune Duroc gilts with size, bone and stretch. Guaranteed in farrow. Shipped to you before you pay.
F. C. CROCKER, BOX K, FILLEY, NEB.

ROSE HILL HERD DUROCS

For Sale — Thirty spring gilts bred for March and April farrow, ten boars for service; a few fall pigs. All immune, eligible to record. Out of prolific sows and by boars of state fair prize blood. S. Y. THORNTON, Blackwater, Missouri, on Missouri Pacific Ry.

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MULEFOOT HOGS.

Buy Big-Type Mulefoot Hogs from America's champion herd. Low cash prices. Big catalog free. Jno. Dunlap, Williamsport, O.

Mulefoot Hogs. Choice bred sows and gilts, both sexes, all ages, for sale. Five families in herd. J. W. Cox & Son, Arapahoe, Neb.

ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE
Twenty-five young bulls, also some good cows and heifers for sale. All registered.
D. J. WHITE, CLEMENTS, KANSAS
Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

John Dunlap, of Williamsport, Ohio, owner of one of the great herds of pure-bred Mulefoot hogs, reports that the demand for Mulefoot breeding stock in 1916 was the heaviest of any year in the history of his herd. Mr Dunlap has developed a hardy, big type, easy feeding Mulefoot hog that is proving a profitable feeder and market hog.

POLLED DURHAM CATTLE.

POLLED DURHAM BULLS

Choice bull calves out of Belle's Hero, he by Roan Hero. Reds and roans. Also a few heifers and cows bred to this same bull.
C. M. ALBRIGHT, OVERBROOK, KANSAS

DOUBLE STANDARD POLLED DURHAMS
Bulls for sale. "Forest Sultan" at head of herd. C. M. HOWARD, Hammond, Kansas.

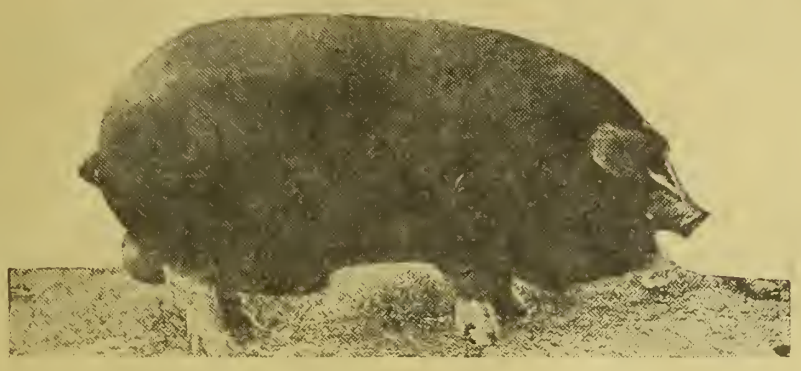
GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

If on the market for pure-bred stock, read KANSAS FARMER live stock advertisements. You will find what you want.

Poland China Bred Sow Sale



CALDWELL'S BIG BOB 76436—WORLD'S CHAMPION SENIOR YEARLING AND SENSATION OF 1916 SHOWS
Is the Topliner in the First Sale of the Southern Kansas Circuit at

Howard, Kansas, Tuesday, February 20, 1917

40 Head - 25 Sows and Gilts Bred to Him---15 Head of Gilts Sired by Him - 40 Head

Daughters of Caldwell's Big Bob are bred to EXPANSION BUD 82486, an outstanding spring prospect by Expansion Sure.

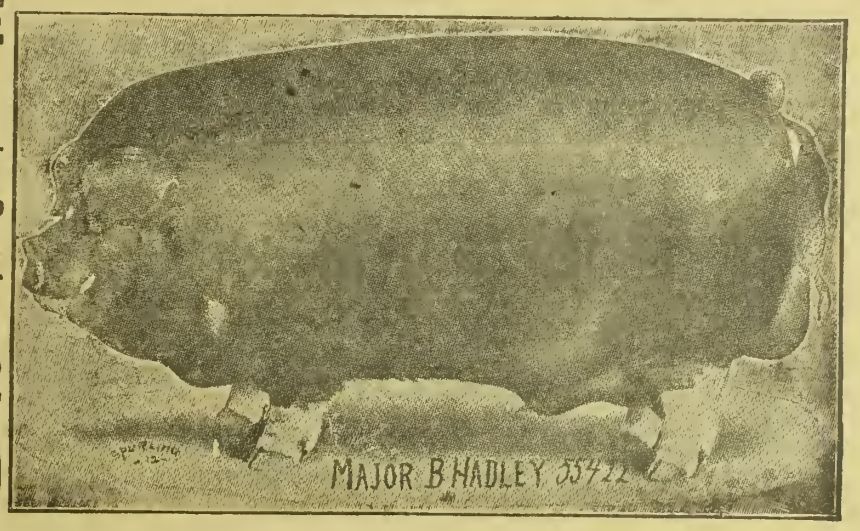
FRED B. CALDWELL, - HOWARD, KANSAS

EVERYTHING IMMUNE. — Watch for further announcements—Send for the catalog. Attend this sale if possible.
O. W. Devine will represent Kansas Farmer.

A. J. ERHART & SONS'

SUPERB OFFERING OF IMMUNE BRED SOWS AND GILTS

Featuring Big Hadley Jr., the Kansas Champion in 1915, and King of All Hadley-Bred Boars



Sell in Sale Pavilion at State Fair Grounds

Hutchinson, Kan., Thurs., Feb. 22

60 - Head of Tried Sows, Summer and Fall Yearlings and Spring Gilts - 60

This offering is sired by such boars as Big Hadley Jr., Orphan Big Gun, Jumbo Hadley, Missouri King by Long King, Giant Wonder by A. Wonder and Big Ben. They are an outstanding lot and have done exceptionally fine. We are going to be able to offer them in tip top condition. The dams of the offering are sired by Big Hadley Jr., Missouri King by Long King, Long King's Equal, Giant Wonder by A. Wonder.

AS SPECIAL ATTRACTIONS for this sale we are putting in Big Ben's Giantess that we bought at Pfander's Sale, Spring 1915, bred to Big Hadley Jr.; also a two-year-old sow by Orphan Big Gun and out of Hadley Lily 2d by King Hadley, Jumbo Wonder by Giant Wonder by A. Wonder and out of Lady Jumbo's Equal and Big Wonder 2d by Big Hadley and out of Jumbo Wonder.

We are putting in five Big Hadley gilts that we do not believe their equal will sell this year. Their dam was by Major B. Hadley. They are line-bred Hadleys. Model Hadley, Model Hadley 2d, Beauties Hadley 1st, 2d and 3d, are spring gilts. We are putting in Walnut Valley Lady 1st, 2d, 3d and 4th out of Walnut Valley Girl by Big Hadley Jr., and they are sired by the 900-pound yearling, Big Bob Jumbo. Two gilts, sisters to our under six months show herd last fall, which included the junior champion boar of Kansas and Oklahoma. These gilts are sired by Big Hadley Jr. and out of the 900-pound sow, Lady Jumbo's Equal. The entire offering is immune. For catalog write

A. J. ERHART & SONS, - - Ness City, Kansas

Auctioneers—Snyder, Price, Burger, Carpenter, Groff and Kramer. **O. W. Devine will represent Kansas Farmer.**

$2 Brings You This Big LIFE-TIME GUARANTEED NEW BUTTERFLY Cream Separator



Top of Milk Tank Is Only 38 In. From the Floor

Skimming Device Made of Aluminum One-piece Easily Cleaned

On 30 Days' Trial At Our Risk

Then if pleased you can keep it and pay only a little each month out of your extra cream profits until the machine is paid for. In this way the separator itself will earn its own cost—and more before you pay. You won't feel the cost at all. If you do not need a large capacity machine you can obtain a smaller one on payments as low as

Only $2 a Month

No Interest to Pay—No Extras

The prices we quote include everything. You have no extras to pay—no interest. You buy direct from the manufacturer and save nearly half. We give ***30 days' trial*** on your own farm. During this time if you don't find the New Butterfly the lightest running, easiest cleaning and best all around separator on the market (regardless of price), you don't need to keep it. Just send it back at our expense and we will refund what you paid, including all freight charges both ways.

Used on More Than 100,000 Farms



Over 100,000 New Butterfly Cream Separators are now in use. No doubt some of them right in your own neighborhood. We have been advertising in this paper for years — the publishers know us and know we do just as we agree. Read these letters from just a few of thousands of satisfied owners:

Seven Years Old—Runs Like New

"The Butterfly Separator we purchased of you about seven years ago is still doing fine work. I recently took it apart and cleaned the gears with coal oil. Now it runs like a new machine and works as well as ever." H. S. Stonebraker, Kokomo, Indiana.

Twelve-Year-Old Girl Runs It

"We would not do without our Butterfly Separator or exchange it for all the other machines we have seen. Our little girl, 12 years old, runs it like a clock!" Mrs. P. E. Rude, Ashland, Wis.

Made $61.39 More from Same Cows

"We made $78.61 worth of butter before we had the machine and in the same length of time we made with the Butterfly Separator $140.00 worth of butter from the same number of cows." Thos. S. Kermosky, Point Aux Pius, Mich.

Lighter Running and Easier to Clean

"We don't see how we got along without the New Butterfly as long as we did. It runs lighter, is easier washed and kept clean than the higher priced machines in this neighborhood. R. E. Morrison, Ollie, Mont.

NEW BUTTERFLY CREAM SEPARATORS are the only ones having the patented one-piece aluminum skimming device, very easy to clean. Light-running vertical shafts, frictionless pivot, ball-bearings bathed in oil; low-down, self-draining milk tank; closed drip-proof and dust-proof bottom. Simplest and most sanitary machine on the market. Send for Catalog Folder.

(32)

Fill Out Coupon and MAIL TODAY

Why not get one of these big labor-saving, money-making machines while you have the opportunity to do so on this liberal self-earning plan? Let us send you our big new illustrated Catalog Folder showing all the machines we make and quoting lowest factory prices and easy payment terms. We will also mail you a book of letters from owners telling how the New Butterfly is helping them to make as high as $100 a year extra profit from their cows. Sending coupon does not obligate you in any way. Write today.

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2181 Marshall Blvd., Chicago

Gentlemen:—Without obligation on my part, please mail me your **free** Catalog Folder and full particulars regarding your special easy payment offer on the New Butterfly Cream Separator.

I keep.....cows.

Name .....

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Factories: 2181 Marshall Boulevard, CHICAGO, ILL.

Also Manufacturers of Albaugh-Dover "Square Turn" Farm Tractors—Write for Catalog

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10th ANNUAL INTERSTATE THRESHER AND TRACTOR SHOW, WICHITA, FEBRUARY 22-23-24

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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 7. TOPEKA, KANSAS, FEBRUARY 17, 1917. Established 1863. $1 a Year

STANDARD RURAL SCHOOLS

Requirements of State Board Are Only Minimum Essentials of a Good School

From Address of J. A. Shoemaker, Rural School Supervisor, Before Forty-Sixth Annual Meeting Kansas State Board of Agriculture

WHEN the legislature of 1915 enacted the law reorganizing the State Department of Education and authorizing the standardization of rural schools, it did so in recognition of the fact that there was urgent need for improvement in our rural schools, and it placed in the hands of the department the means by which it could give more effective aid in working out some of those needed improvements.

Some schools are as good as they can afford to be; others are as good as they want to be. That is to say, they are so weak financially as to be unable to support a good school, or there is a feeling of indifference or smug satisfaction with conditions as they are that effectually bars progress. To schools belonging to the first classification standardization offers little relief, though their need is unquestionably great. Seven rural school districts in Kansas have a taxable valuation of more than $1,000,000 each, while nearly 900 have less than $100,000 each. The extremes in valuation run, in round numbers, from $2,000,000 to $20,000. In spite of the fact that the weaker districts receive state aid, a goodly number of rural districts last year paid a school tax levy of from 8 to 12 mills on the dollar—often with little in the way of a school to show for it—and one district paid even 15 mills. On the other hand, many of the more prosperous districts paid but a fraction of a mill, and several no school tax at all. I repeat, there is nothing in the program of standardization to relieve the situation of these poorer districts. Theirs is a need beyond their power to meet, and until we come to realize that the education of our youth is not a purely local matter, and that it is the duty of "the wealth of the state to educate the children of the state," we may expect little improvement in the condition of these schools.

It is to the schools that come under the second classification that the standard school makes its strongest appeal, and it may be said in passing that this group is larger than the former. Of the seven millionaire districts in the state but three have standard schools, and one—the richest of all—is housed in a building that a good farmer would be ashamed to use as a chicken coop. That old chestnut, "It was good enough for me when I went to school and I guess it is good enough for the youngsters now," is still abroad in the land, though it is heard less frequently as time goes on.

Standardization is an organized effort to arouse and focus community interest in the welfare of the schools. This interest, once aroused and properly directed, will compel needed improvements; and without it no permanent, substantial improvement is possible. The standard school is a direct challenge to the community interest and pride. It does not seek to compel, neither does it offer any special inducement in the way of a bonus or other financial consideration. There is simply placed before the community the ideal of what a good school ought to be, with the hope—and expectation—that it will find lodgement in the minds of the people and that they will desire to do whatever is needed to meet the requirements for standardization.

A standard school is nothing more nor less than a good school. It is not expected to be perfect, but it ought to be good enough to be worthy of imitation by others. It is expected to serve as a definite, tangible example of what may be done in the way of school improvement, and for that reason should be more than just passably good in all the essential particulars. One of the difficult situations the supervisors have had to face in their work is the type of school that is perhaps passably good in all points of building, equipment and teaching, and yet the general impression of the school as a whole is far from ideal.

In prescribing the requirements for a standard school the State Board of Education sought to maintain a reasonably high standard, but they included only what experience has shown to be the minimum essentials of a good school. Many schools today possess more equipment than is required for standardization, but the state board did not wish to make it unreasonably burdensome for any school that was really interested to qualify. In meeting the requirements no school will feel that it is called upon to do anything but what needs to be done, whether it becomes standard or not. The reasonableness of the requirements appeals to the average individual, and the cordial manner in which the people of the state are responding to this challenge has been exceedingly gratifying to the supervisors.

The following are the requirements for a standard rural school as presented by the board:

School grounds at least one acre, and kept in good condition; good approaches to the house; trees and shrubs, where climatic conditions will permit; two well kept widely separated outhouses with screened entrances; convenient fuel house properly located; well where possible.

House well built, in good repair, and painted; good foundation; well lighted, light from left side or left and rear; adjustable window shades; suitable cloakrooms for boys and girls; attractive interior decorations; good blackboards—slate preferred—set about 26 inches from the floor; heated by a room heater and ventilator properly placed, or by basement furnace which provides for proper ventilation; floor and interior clean and tidy.

Desks suitable for children of all ages, and properly placed; good teacher's desk and chair; good bookcase; a good collection of juvenile books suitable as aids to school work as well as general reading; set of good maps, a globe, and a dictionary; sanitary water supply provided by the district board, thermometer, sweeping preparation; a sand table.

School well organized; classification and daily register well kept; definite daily program; attendance regular and punctual; discipline good.

The teacher must hold a state certificate, a first grade county certificate, a normal training certificate, or must at least hold a second grade certificate and be a graduate of a four-year high school; must receive at least the average salary of the county, and in no case less than $385 per year; ranged by the county superintendent as a good or superior teacher; must read Teachers' Reading Circle books, attend institutes and associations, and in other respects show a proper professional spirit.

Some of these requirements are such obvious needs that it seems almost unnecessary to list them. Yet it is surprising how many well to do schools are almost totally lacking in equipment. More schools than you would think are still delaying the purchase of maps until the European War shall end. It is also surprising how many school boards limit their purchases to that type of equipment sold by itinerant agents which is used to some extent the first year, disregarded the second year, and consigned to the coal bin the third. All the equipment required for a standard school will stand the test of usability.

It will be observed that considerable emphasis has been placed on the physical and material side of the school. Some have suggested that relatively too much emphasis has been placed here and not enough on the purely educational side. After a year and a half of observation in more than eighty counties of the state the supervisors are convinced that, taking the state as a whole, the quality of the teaching is far superior to the physical condition of the school plant. We must not forget that our boys and girls have bodies as well as minds, and it is the business of the school to minister to one as well as the other, for what shall it profit a man if he gain the whole world of knowledge and lose his own health, or what will a man give in exchange for his health? Better school sanitation is a real and vital need. Could we but realize the enormous economic loss to our state every year as a result of physical ills contracted in our public schools, the necessity for emphasis here would be fully recognized.

Within the schoolhouse the three things that have most to do with the physical well being of the pupils, and in one or more of which most schools are deficient, are the lighting, the heating and ventilation, and the seating. The requirement for left side lighting is not the result of guess work, but years of experimenting and numerous tests have demonstrated beyond question that for school purposes this type of lighting is the best. Some concession is made in the case of good buildings of the old type where the school fulfills the requirements in other respects, but a number of these have during the past year found it worth while to close up the windows on one side of the building and bank them on the left. Districts that are contemplating new buildings, if they hope to have their schools recognized as standard, should not disregard the requirement for proper lighting, and in no case should windows be placed in front of the pupils.

In many schools the old time stove still occupies the place of honor in the center of the room, and sometimes a large sheet-iron jacket is built around it so the teacher and pupils may have a merry time playing peck-a-boo. The inadequacy of this method of heating our school rooms has been apparent for so long that no apology is needed for demanding something better in the standard schools.



PATRONS and pupils of College Hill School, District No. 7, Riley County, brought together for the exercises of the closing day of the term. Many well-filled baskets were a part of the program, although these are not in evidence. This school-house is a community center for all the social, religious, and educational gatherings of the neighborhood. Many improvements have been made in the building since the picture was taken, and it now ranks among the first standard schools of the county.

KEROSENE KEROSENE

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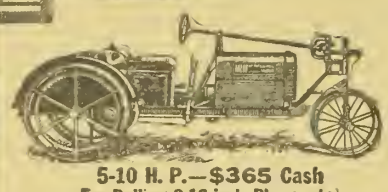
This large output will not only enable us to supply the rapidly increasing number who want to buy Avery Kerosene Tractors but has also made it possible for us to start the 1917 selling season with these prices for early deliveries. In view of the uncertainty regarding material costs, these prices cannot be guaranteed for any certain length of time. The only definite statement we can make is that you can buy an Avery Kerosene Tractor at these prices by placing your order NOW.



5-10 H. P.—$365 Cash
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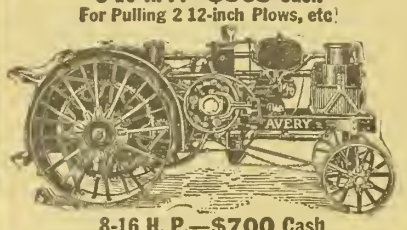

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18-36 H. P.—$1665 Cash
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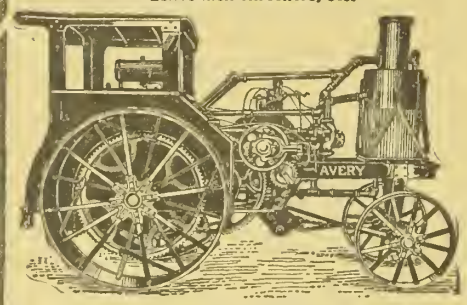

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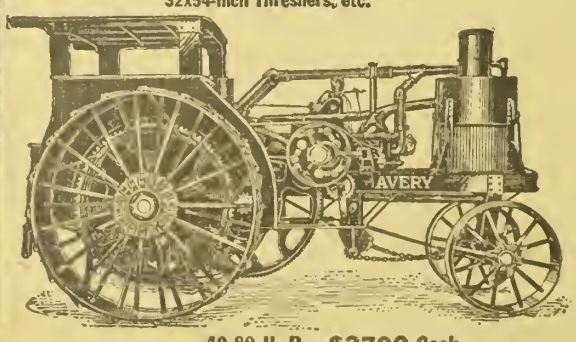

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NOTED FRENCHMAN ADDRESSES BREEDERS

Louis Aveline, of Nogent, France, the distinguished French breeder of Percheron horses, gave a most interesting and instructive address at the annual meeting of the Kansas Draft Horse Breeders' Association, held in Manhattan February 9, in connection with Farm and Home Week. Kansas horsemen were fortunate in being able to hear a man so intimately connected with the development of the Percheron breed in its native land. This is the first instance in history, so far as we know, that a prominent French breeder has addressed a gathering of American breeders.

Charles Aveline, the father of the speaker, was at the time of his death a year ago president of the Societe Hippique Percheronne of France. In introducing Mr. Aveline, President Waters said that his father's influence in making the Percheron breed what it is today, was greater than that of any other man who ever lived. The son who inherited his father's breeding establishment, is now in the United States as the French army horse inspector. Over a million horses have been purchased in the United States by the Allies and it has been his duty to inspect those going to the French Government. In his opening remarks, Mr. Aveline said:

"In France everybody is a soldier. In case of war, all must help defend the fatherland. At the beginning of the war, after the mobilization, I went to the Belgium border but had to leave on account of sickness. After three weeks in a hospital I was sent to the United States to buy horses—not to deliver addresses. However, I could not refuse the kind invitation of the Kansas Draft Horse Breeders' Association and I asked from my chiefs a permission which was gladly granted."

We want every reader of KANSAS FARMER, interested in horses, to read what Mr. Aveline said in his address. It will appear in full in next week's issue.

MANHATTAN HORSE SALE A SUCCESS

It was a new venture to hold a consignment sale of draft horses in connection with the annual meeting of the Kansas Draft Horse Breeders' Association which was held in Manhattan February 9. Owing to the fact that the Percheron breed is so much more popular in Kansas than any other breed of draft horses, this sale was made strictly a Percheron sale.

It was clearly demonstrated that good, sound, purebred draft horses were in demand and that buyers would pay good prices to get them. Every horse offered was absolutely sound. This is a statement that cannot always be made at a horse sale. Dr. C. W. McCampbell, who was manager of this sale, was a stickler on this point. Consignment sales of any kind of stock too often have been considered as a dumping ground for inferior animals.

The small breeder of horses is considerably handicapped in selling his surplus for what it is worth, and the success of this sale shows that they can sell to good advantage in a sale in which the offering consists of consignments of a few animals from each of a number of breeders. It is essential, however, that the standard be set high and that the manager have the backbone to enforce the rules. Unless this is done, the consignment sale cannot be made a success.

Over twenty thousand dollars' worth of horses were sold at this sale. The top price was $1,005 for the five-year-old stallion Vaughn, sold to Joe Spena, Wakeeney, Kansas. The twenty-four stallions sold averaged $525.20. The top mare was Galette, sold to D. F. McAlister, Topeka, for $800. The average for the seventeen mares sold was $471.76. Only four of the animals sold went outside of Kansas.

RAISE MORE SHEEP

"Raise sheep" was the advice of F. R. Marshall of the Federal Bureau of Animal Industry, who addressed the Kansas Sheep Breeders' Association's annual meeting held at Manhattan during Farm and Home Week. Unusual interest was taken in this meeting. In the past other interests have been so strong that the attendance at the sheep program has been light. This year, in spite of the fact that the State Dairy Association was holding a session at the same time, the sheep breeders' program was well attended.

"It is now time for the live stock farmer to make sheep raising one of his regular lines of production," said Mr. Marshall. "Putting aside the effects of war conditions, prospective values of lambs and wool render sheep raising fully as safe and attractive to the man who will study and understand the business, as is the raising of cattle, horses, or swine.

"Prior to 1914 such a statement as this would not have been justifiable. Assured meat values of the future, the need of greater economy in the use of farm labor, and the full utilization of pastures place sheep raising in an entirely new light.

"Some agricultural journals and other authorities have been inclined to question the safety of engaging in sheep raising and base their ideas upon statistical facts of decline in popularity of sheep in eastern states. Such statistical deductions are entirely misleading, as no where is there an instance in the United States of a decline in a well-established sheep husbandry based on the production of both meat and wool."

A. L. Stockwell of Larned, Kansas, was elected president for the ensuing year; Henry Schloch, Natoma, vice president, and A. M. Patterson, Manhattan, secretary-treasurer.

ASSOCIATIONS HOLD ANNUAL MEETINGS

Meetings of various agricultural and live stock associations constitute an important feature of Farm and Home Week. Never has the interest been greater in these meetings than it was this year.

H. N. Vinall, office of forage crops, United States Department of Agriculture, and W. W. Burr, professor of agronomy, Nebraska Agricultural College, were well-known speakers on the program of the meeting of the Kansas Crop Improvement Association. Practical papers were read and demonstrations given by local agricultural college specialists.

Officers elected follow: President, Carl Wheeler, Bridgeport; vice president, J. J. Johnson, El Dorado; secretary-treasurer, B. S. Wilson, Manhattan. Members of the board of directors are L. E. Call, Manhattan; Harry Umberger, Manhattan; John Brox, Atchison; R. A. Muir, Salina; and L. C. Swihart, Lovewell.

Demonstrations were a feature of the meeting of the Kansas State Dairy Association. William Newlin of Hutchinson was elected president; George Lenhert of Abilene, vice president; and J. B. Fitch of Manhattan, secretary-treasurer.

Resolutions were passed commending the efficient work of the dairy department of the agricultural college in experimental work and in establishing cow testing associations.

John M. Evvard, assistant chief in animal husbandry, Iowa State College, Ames, discussed feeding and other problems at the annual meeting of the Kansas Swine Breeders' Association. The organization was much strengthened at the business meeting. Fred Laptad of Lawrence is the new president and Carl P. Thompson of Manhattan is secretary-treasurer.

Vice presidents and the respective breeds of swine they represent follow: H. P. Walters, Effingham, Poland China; George M. Klussmier, Holton, Duroc Jersey; George Porteous, Lawrence, Berkshire; J. E. Powell, Waldron, Hampshire; Arthur Mosse, Leavenworth, Chester White.

SOUTHEAST KANSAS LIVE STOCK MEETING

"More and better live stock" is the slogan of the Southeast Kansas Live Stock Association. A two-day program will be given in Fredonia, February 20-21, at which the importance of more and better live stock on every farm in that section will be emphasized from the opening number Tuesday morning until the close Wednesday evening. For four years this association has been a factor for progress along better and more profitable farming lines in Southeast Kansas. Last year over five thousand people were in attendance at the annual meeting. An even larger attendance is expected this year. The best breeders and live stock men of that section of the state are identified with the movement.

In the conduct of the program this year the members of the association, the commercial club of Fredonia, the agricultural college, and the United States Department of Agriculture are co-operating. There will be a large live stock exhibit in connection with the meeting, not only to show what is being done in live stock improvement, but to furnish material for instruction in judging and selecting good stock.

Live stock is important in all parts of Kansas, but in this section of the state it is almost imperative that live stock be made the basis of farming operations, and we would urge that all our readers in the counties convenient to Fredonia take advantage of this opportunity to get in touch with the most successful and economic practices of handling live stock on the farm.

WICHITA THRESHER AND TRACTOR SHOW

The fifteenth annual Inter-State Thresher and Tractor Show of Kansas, Oklahoma, and Texas, which will be held in Wichita, February 22, 23, and 24, will be the biggest exhibition of its kind ever held in that city. The present indications are that more power farming machinery will be shown there this year than at any other similar exhibition in the United States. All kinds of accessories of power farming and threshing will be included. All the manufacturers having machinery to sell in this territory and the Southwest will have their 1917 models at the Wichita show. Most of the leading companies have branch houses in Wichita and F. G. Wieland, the secretary-treasurer of the Wichita Thresher and Tractor Club, announces that over a million dollars' worth of power machinery will be on exhibition.

Wichita's splendid forum or convention hall will be the headquarters for the convention feature of the show. This is the seventh largest hall of its kind in the United States.

No admission will be charged to any part of the show and a free entertainment will be given visitors on at least two evenings.

MILK CONTEST HONORS WON BY DAIRY CLUB

The Kansas Farmer Dairy Club was very much in evidence in the market milk contest held in Manhattan last week under the auspices of the Kansas State Dairy Association. Fully two-thirds of the samples shown had been sent in by boys and girls of the Dairy Club. They had to meet the competition of experienced producers of market milk who have been sending exhibits for a number of years. Premier honors were awarded to Harold Bentz, a Peabody boy, who not only sent his milk but came himself, having won three-fourths of his expenses to Farm and Home Week in a corn contest in his community. His prize was a Sharples hand separator valued at $60. Theresa O'Mara of Colony, Kansas, won a sanitary milk strainer offered by the Topeka Pure Milk Company. We will later give a full report of this market milk contest. The members of the club may well be proud that one of their number stood at the top.

Judging from some conversation which we overheard between members of the Dairy Club who were in attendance at the Farm and Home Week meetings, some at least of these boys and girls are making a most serious effort to produce high class market milk. Through the instruction they have received in the columns of KANSAS FARMER, they have come to recognize that milk is a human food and they are giving it the kind of care necessary to make it safe and wholesome for the consumer.

The actual registration Farm and Home Week was 1,307. At least 500 persons did not take the trouble to register. The increase in attendance over the meeting held in December, 1915, was 500.

FARM PRODUCTION OF BEEF

Quality and Character Combined With Size Essential Points in Breeding Herds

By Dan D. Casement, Before Annual Meeting Kansas Improved Stock Breeders Association

IN THE founding of a herd or in its subsequent improvement, I believe the vital objects that should be kept in mind constantly are quality and character, always coupled with size and scale; for your purpose is to produce a beef animal and, since beef is bought by the pound, excellence of quality can never entirely compensate for lack of bulk.

My own experience as the owner of a breeding herd of grade cows has covered a comparatively short period of time and I hesitated when asked to address farmers on the growing of beef cattle. My views on this subject must be regarded merely as the result of personal observations covering the past six years, for it is during that time only that I have owned a small herd of grade cows. Those years have been for the most part fortunate ones for the breeder. The demand for breeding cattle has been active and prices have steadily increased. How much longer these conditions will continue it is impossible to predict, but normally one would be justified in believing that the summit of high prices has been reached when unregistered heifer calves sell at $100 each, as they did recently in Denver. Certainly it would not be advisable to found a herd on the expectation of a long continuance of present prices.

However those who are already started with a good bunch of dairy cows are fortunate indeed. They should take full advantage of prevailing conditions and at the same time prepare as best they may for a future when the product of their herds, in all probability, will not command as good prices as it now does.

In any event there are certain purposes which, I think, should be common to all, and certain methods of management which, I believe, may be fairly regarded as universal rules.

By character we mean that intangible thing that a herd of cows and their progeny possess when they have been bred for years along correct lines. It is most noticeable in some of the large herds of the range states where an intelligent breeding policy has been consistently followed for years. Although hard to describe, it is easily recognizable. So strong has it become in some instances that it is no exaggeration to say that droves of steers from certain well known herds can be identified, no matter in what unexpected quarter they may be encountered, almost without seeing the brand. Uniformity, of course, is the striking requisite to character. Your calves will always sell at a disadvantage when they lack this essential.

Quality, too, is a thing that can be recognized in an instant but not described in a word. It implies good conformation, straight lines, a broad head, a placid eye, a loose, mellow hide, soft hair—in short, all of the numerous characteristics by which you are assured that the bullock possessing them will finish quickly and economically and handsomely and will do his full share toward returning a profit to his feeder.

HOW TO START GOOD HERD

How, then, are we going to breed up a herd of beef cows in the surest and most rational way that will have these characteristics and reproduce them? We may start with such cows as we have at hand and, by the use of well selected bulls, produce a uniform, attractive and profitable herd. But this takes a long time. The quicker and easier plan is to start with heifers of the right type and mate them with the right bull. Fix in your mind a definite ideal of the kind of animal you wish to produce. If you happen to know some successful breeder who has already attained that ideal, you could not do better than to cultivate his confidence, apply his methods and act largely on his advice. There will inevitably be disappointments but they will not be unprofitable if we take to heart the lessons they teach.

The right bull is, of course, the all important item. If your observation has convinced you that certain blood lines are essential to the ideal you have in mind, it would be well to adhere closely to those lines. By that policy your herd will most quickly acquire character. The purchase of a cheap bull is almost invariably poor economy. The right bull is always desirable and, consequently, generally high priced. But for our purpose he does not need a record on the show circuit. Indeed, such an experience, probably, will have disqualified him completely for our use. But if he has the blood and the exact qualities you seek, without having his digestion impaired and his frame overloaded for a show career, get him if you can at such a price as circumstances and the size of your cow herd will justify.

With a definite ideal in mind, and with promising animals out of which to attain it in hand, the question of their management may next be considered. In this regard one's policy will, of course, vary with circumstances and conditions. I can only state the plan that I have found most convient and profitable. The foundation of the small cow herd that is now on my farm was a bunch of Colorado heifers bought as yearlings in the spring of 1911 after wintering on Vega hay on an old Mexican grant in the San Luis Valley, where their ancestors had run for twentyfive years or more. Vega hay is not a good ration for calves and accordingly these yearlings averaged only 328 pounds when they came out of the cars at the end of their journey about May 1. They certainly had a poor start in life except in one important particular. Back in the eighties, the herd from which they came had been owned by a remarkably clear-sighted and conservative breeder. He had started with a bunch of registered Hereford cows and had persistently mated them with registered bulls of the blood and type that he fancied. This policy had been continued in a general way by his successors.

By thus going into detail concerning my own start I merely wish to emphasize the importance of the most desirable attribute that attached to these little half-starved calves and to indicate how it had been fixed in them. That attribute was character, and the man responsible for it was George Adams, who laid a foundation for the L. C. herd that has stood the test of time and changing fortune.

The following spring these heifers were bred as two-year-olds to three good bulls all carrying similar blood lines. The bulls were turned with the cows on June 1 and were taken out ninety days later. This plan insures uniformity of size in the calf crop and simplifies herd management, as the calves can all be weaned the same day, leaving no "shorts" to carry through the winter on their mothers. If the bulls are young and the cow herd is of such size as to require more than one, it seems a good idea to turn them out singly on alternate days, feeding a little grain on the day of rest. This plan would apply only when the pasture is less than a section in size and the cows not too numerous. In this way harmful and useless duplication of function can be minimized and a maximum calf crop secured. In late July or August it is advisable to build a creep in the pasture near water where the cattle congregate. A self feeder inside of the creep can be filled with shelled corn and oats and here the calves may learn to eat grain. Thus the hardships of weaning may be anticipated and reduced to a minimum.

IMPROVE BY CULLING CLOSELY

The character of the herd should be constantly strengthened and improved by placing the least desirable animals with the top heifer calves of its annual product. The best time to select the cows to be discarded is before weaning the calves. Thus the usefulness of a cow can be estimated accurately by the kind of calf she has at her side. A cow that has brought an inferior calf by a good bull should be marked for rejection, no matter how attractive she herself may be as an individual. Such cows, with those that are known not to be with calf at weaning time, should make up the bulk of the annual discard.

After weaning the calves, the cows can go into winter quarters and be maintained on an abundance of rough feed. Alfalfa, with some corn fodder or the occasional use of a stalk field, will serve; or silage balanced either with alfalfa or a light allowance of cottonseed meal. Whatever roughage is used, they ought to be kept full and contented. In this way they can be well wintered at the least possible cost and will consume much rough feed that could not otherwise be readily disposed of.

STRONG DEMAND FOR BREEDING STOCK

The logical way to handle the calves will depend on a variety of circumstances. Their breed, their quality, the requirements of the market and the cost of feed are all factors that should influence the determination of the most desirable method of handling them.

As to breed, that question will have been settled, probably, at the outset by the personal inclination of the breeder, or perhaps by his inherited preference for Shorthorns or Herefords or one of the black polled breeds. If he has been so fortunate as to choose the breed that is now almost universally recognized as the one best adapted to the conditions of Texas and the range states, and if his herd is of the requisite quality, he can find for a time, at least, a profitable outlet for the best of his male calves as bulls to supply the western and southern demand. If such is his intention, careful selection of calves chosen for this purpose and strong feeding from weaning time until sold are matters of the utmost importance. As an indication of the rewards that have attended this practice for the past four years, I might state that approximately half of the four crops of bull calves from my herd have changed hands on the Denver market at a gross average price of more than $140 each. However, it can not reasonably be expected that this outlet will be much longer available. Among the better herds of grade Herefords in Kansas and the western states, the custom of saving male calves to sell as bulls has become so common as to have affected very noticeably and adversely the quality of the white-face steers that are now marketed from this territory. It is a matter of only a little time until this outlet will be permanently closed, for registered bulls are rapidly increasing in numbers and some of the western states and many local live stock associations are discriminating by laws and rules against the use of unregistered bulls on their ranges. When this demand ceases there will come out of the West in large numbers, steers of such quality as we have never seen before, and it is this impending competition that we must be prepared to meet with the steer product of our Kansas cow.



QUALITY COWS ESSENTIAL TO PRODUCTION OF HIGH CLASS MARKET ANIMALS

KEEP BEST HEIFERS AS BREEDERS

In the disposition of the calves a matter of prime importance is the selection of the top heifers for replacements in the cow herd. These should be selected with the greatest care in such numbers as circumstances and a well matured plan may dictate. If you choose the deepest, most feminine and motherly looking ones, you can not go amiss. They should be well maintained until spring with at least three or four pounds of shelled corn per head per day, and all the good alfalfa they will eat, or an equivalent silage ration properly balanced with cottonseed meal and supplemented with some dry roughage. They should be kept in a separate pasture away from the bull during their yearling summer. Whether or not it is advisable to breed them that fall I am not prepared to state. My experience in this regard has not been such as to warrant the recommendation of the practice. They can be thrown in with the cow herd and safely become part of it at the beginning of winter.

A second selection of heifers, if they are only slightly inferior to the top cut, may be sold most profitably under present conditions as breeding stock. The demand for females of one of the breeds, at least, is just now unprecedented; but a little time will change this state of affairs.

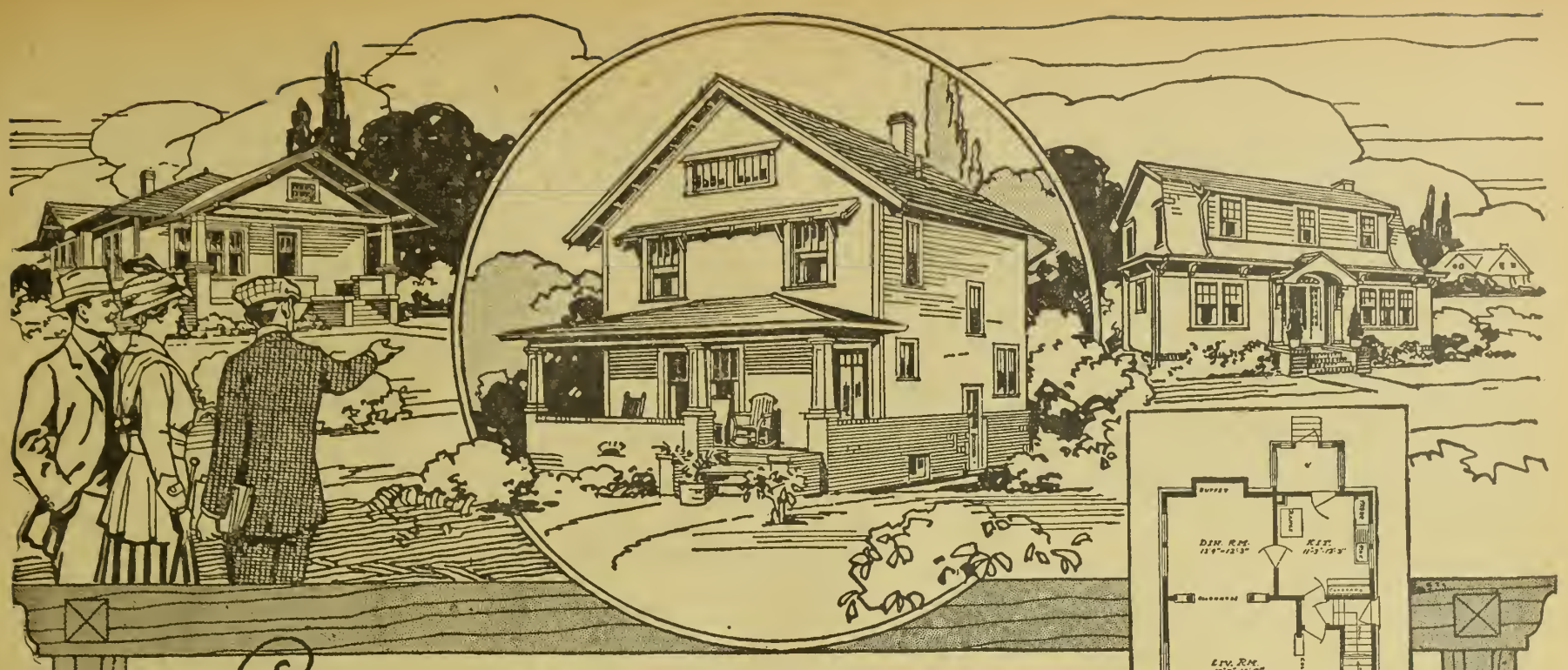
As to the remainder of the calf crop, the whole tendency of the times seems to be toward making beef quickly with young animals; and so it is likely that a popular practice of the future will be to feed calves of both sexes to a quick finish. In fact, the custom is extensively followed today. In an age that puts so high a premium on economy and efficiency and emphasizes so strongly the value of time, it is logical to believe that the policy of making a 900-pound beef steer in fifteen months will commend itself to the up-to-date breeder and feeder as more logical than the old plan of growing an animal to weigh only 300 or 400 pounds more than this at the end of four years.

FINISHING CATTLE FOR MARKET

If the breeder adopts the custom of making baby beef, the greatest attention should be given to excellence of finish and economy of production—two items that are very difficult to successfully harmonize and obtain simultaneously. Close study of the experimental work of the agricultural colleges and their demonstrations along these lines will be found to be of the greatest assistance. The Kansas Experiment Station has now in progress for the third year work of this kind that every feeder will find most instructive. Two bulletins giving the results of this work are already available and on June 1 a third demonstration in full feeding calves will be concluded. All who are interested in this subject should be sure to attend the meeting that will be held here at that time.

The tendency of the present age seems to be toward specialization and it is probable that in the future the occupations of breeder and feeder will be separated more distinctly than has been the case in the past. Possibly the breeder will more and more incline toward running his farm and pasture to their entire capacity with breeding cows, sell-

(Continued on Page Twelve.)



Why Some Wives Fall Short of Their Own Ideals as Home Makers

Some wives and mothers are proud of the homes they have made for their families. Others grow old trying, yet they never realize their ideal. Why? Because they never had a fair show.

It takes three things to make a home you can be proud of—an exterior that is architecturally good, an interior that is conveniently planned, and woodwork that is made with but one aim—"Quality First."

Can you make a livable, comfortable home out of a mammoth box of a place? Can you expect to keep young in a home that seems designed to multiply steps? Do you think you can grow pride in a house when windows rattle, doors warp, drawers stick, and the trim gaps at the joints?

For the home-making wives and mothers of America we have prepared two Home Books. These books show exterior and interior views and floor plans of homes that you can be proud of and in which you can succeed more easily with your work and ideals.

These books show also a few designs of CURTIS Woodwork. The many other designs you can see in the big Curtis catalog at your lumber dealer's. This catalog is just out. It contains the most modern and most attractive designs for sale today. Quality considered, every one is a bargain.

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But send the coupon now for your choice of these Home Books—"Better Built Homes," Vol. II—$2700 and under; Vol. III—$2700 to $4500. Which shall be our gift to you?

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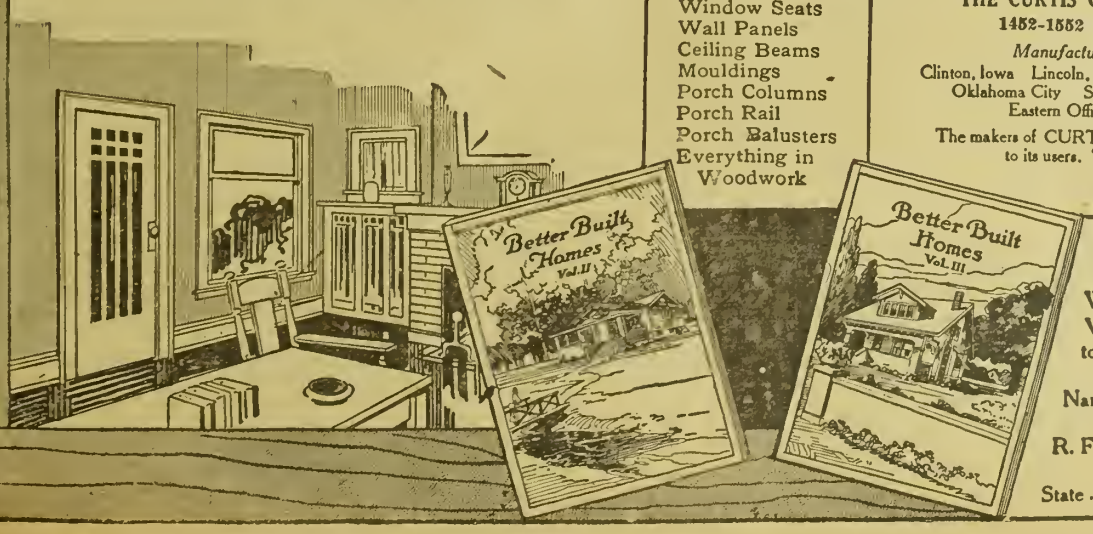
The makers of CURTIS Woodwork guarantee complete satisfaction to its users. "We're not satisfied unless you are."



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La Crosse Happy Farmer Tractor

Any Farmer Can Afford One—

Even the tenant farmer can buy and use one of these models profitably. Cut the cost of feeding idle horses. Speed up spring work—get crops started *on time*. One La Crosse Happy Farmer Tractor can do the work of 6 to 8 horses, and do the work better.

Two models, built with highest quality materials—simple construction—only two-thirds the parts used in other tractors. Model "A"—8-16 h. p.—guaranteed to pull 2 plows—Model "B"—12-24 h. p.—will pull 3 plows under practically any conditions. Either model will do your belt work. La Crosse Happy Farmer Tractor-Drawn Implements for all farm work. Write for Catalog.

MODEL A
8-16 horse power
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Model B is strictly a kerosene burner; equipped with Hyatt Roller Bearings. Twin Cylinder Motor. Really a sensational value at a low price.

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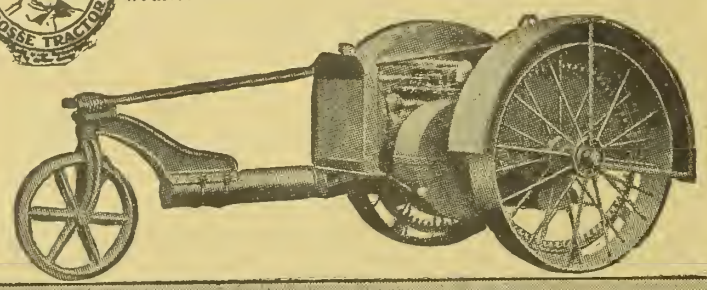
We have a Distributor in your vicinity for prompt service.



Ironclad TRADE MARK
Wins in the Two BIGGEST HATCHING Contests Ever Held



Why take chances with untried machines when for only $11 we guarantee to deliver safely, all freight charges paid (East of Rockies) BOTH of these big prize winning machines fully equipped, set up ready for use? Why not own an Ironclad—the incubator that has for two years in succession won in the greatest hatching contests ever held. In the last contest conducted by Missouri Valley farmer and Nebraska Farm Journal, 2000 machines were entered, including practically every make, style and price. With the Ironclad—the same machine we offer with Brooder, freight paid, for only $11, Mrs. C. F. Merrick, Lockney, Texas, hatched 148 chicks from 148 eggs in the last contest.

150-EGG Ironclad Incubator
Don't class this big galvanized iron covered, dependable hatcher with cheaply constructed machines. Ironclads are not covered with cheap, thin metal and painted like some do to cover up poor quality of material. Ironclads are shipped in the natural color—you can see exactly what you are getting. Don't buy any incubator until you know what it is made of. Note these Ironclad specifications. Genuine California Redwood, triple walls, asbestos lining, galvanized iron covering. Large egg tray, extra deep chick nursery—hot water top heat, COPPER tanks and boiler, self regulator, Tycos Thermometer, glass in door and many other special advantages fully explained in Free Catalogue. Write for it TODAY or order direct from this advertisement.

Galvanized Iron
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10-Year Guarantee

30 DAYS' FREE TRIAL
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MADE OF CALIFORNIA REDWOOD

150 Chick Brooder

IRONCLAD INCUBATOR COMPANY, Box 147 RACINE, WIS.

FARM SEEDS ----AT FARMER PRICES---- WE CAN SAVE YOU MONEY

on your Farm and Garden Seeds. If you will write us and tell us what you want. All our high grade seeds are sold subject to government or any state test. Don't pay two or three profits between you and the man that grows the seeds, but send direct to us and we will save you a lot of money in the purchase of your seeds. We offer attractive prices on Alfalfa, Red Clover, Sweet Clover, Timothy, Alsike and other Clovers and Grasses. Can also make you low prices on all the best varieties of Seed Corn, Spring Seed Wheat, Oats, Barley, Speltz, Cane, Kafir Corn, Billion Dollar Grass, Millets, Rape, Vetch and all kinds of Farm and Garden Seeds. Write us—give us a list of seeds and quantities wanted and ask for our Big Catalog. IT'S FREE. It tells you all about everything you want to know and should know, to make farming pay. Dig Mother Earth—you will never see this great prosperity again.

Address: JEFFERSON-RATEKIN SEED CO., Jefferson, Iowa.

HARLEY-DAVIDSON SERVICE STATION
PARTS For Kansas REPAIRING
SHAWNEE CYCLE CO. TOPEKA KANSAS

Kansas Farmer Dairy Club

This Boy's Father Interested

WE HAVE had a pleasant visit with the father of one of our Dairy Club members the past week. This father is just as interested in his son's success in the work as though it were his own.

We were much interested in his opinion of the business training the club offers. He thinks this one of the most important features of the work. Remember this, boys and girls, when it seems hard to make out your records just right. He said it is hard for his son to remember that the records should be in this office by the tenth day of each month, but this father helps his son to remember and then when the records are finished he passes upon them to see whether or not they are neat enough to send in.

Maybe it is not possible for all of you to have this much help from your fathers, but there is one test by which you can always tell whether or not your records are neat enough to send in and whether or not they are correctly made. If you do your very best on each record, it will be good enough. This means that you must first weigh carefully each milking and put down the weight right then—before you forget the number of pounds or the fraction of the pound over—you must know the amount of each different kind of feed given your cow and put this down each day. These two things can be done best by having a milk record and a feed record tacked up on the wall close to where you weigh your milk and your feed. Then at the end of the month these records should be carefully copied for us and for the bank, you should figure the amount of butter fat as soon as you receive the test from us—which is always in time to have your records reach us by the tenth—and send them to us promptly, addressed "Kansas Farmer Dairy Club, care of Kansas Farmer, Topeka, Kans."

This may sound like a good deal of work but it isn't unless you make it hard by putting if off and not doing it regularly. It is easy to do it then, for you know the exact figures to put down and it takes only a few minutes to write them. At the end of the month if your figures are all on the records, plainly written, it will not be hard to add them and set down the totals.

This father also told us that his inspection of his son's records and letters for neatness has resulted in the boy becoming a much better writer because he has tried harder.

You see, all the things this father is anxious to have his son do are things that will be of help to him long after he has finished his year's work in the Dairy Club. There are many things about the work of this club that will help all of you in later years, and we have hoped all along and have planned to make the Dairy Club as useful to you as possible in learning business methods and business principles. Upon the way you do the work of the Dairy Club, or any other work which you undertake at this time, depends the way you will handle other and bigger things as you grow older, for you are forming habits now which will become a part of you.

Will Send Milk for Contest

Your letter of January 27 at hand and contents noted. I am planning to enter milk in the contest at Manhattan February 5.

I am once more going to get a picture of my cow and myself today and will send it to KANSAS FARMER as soon as I get it. I have had a number taken but have failed to get a good one so far.

My cow is doing fairly well. Her flow of milk last month was not so good but tested higher. I am selling all the whole milk I get.

I am afraid I shall never learn to love my cow. She is a big red cow and does not seem to care for anything but her feed and herself. Another reason I don't like her is that she is a coward. When I am leading her home if we chance to meet a soldier in a blue uniform she gets very much frightened and tries to run. If I try to milk her she kicks me clear off the milk stool every chance she gets. I learned to milk when I was a small girl, but never found a cow so hateful as this one. I do so like a kind and gentle cow. One of these days I am going to get a blue uniform and show her who is boss.

Wishing all the Dairy Club members success.—MAHALA SMITH, Leavenworth County.

Bad habits in a dairy cow are usually the result of bad treatment. In all probability someone abused this cow when she was a calf or when she was being trained to be milked or possibly when she had sore teats. To be successful with dairy cows, you must always be gentle with them. We have been in dairy barns where the admonition to treat a dairy cow as you would a lady, was displayed prominently on a bulletin board. The way to have gentle milk cows is to treat them kindly from calfhood up. After once spoiled by bad treatment it is hard to break them of their vicious habits. Such cows are a nuisance in a dairy herd and they do not give as much milk for the feed they eat as do cows that have always been handled with kindness.

Will Send Milk to Manhattan

Shall answer your letter right away before I forget it again. Am feeding my cow all the hay and silage she will eat. She does not eat as much silage now as she used to. My cow will be fresh the sixteenth of April. She is now giving from 25 to 30 pounds of milk.

I would like to go to the institute at Manhattan this year, but so far as I know now, I will not go. My brother is going and so I will have to stay at home to do the chores. We have fourteen cows to milk and that will be too much for the rest who are at home.

Am glad to join the contest to have the milk of my cow inspected.—ELISE REGIER, Butler County.

In addition to the roughage, Elise feeds corn chop, bran and linseed oil meal.

I want to congratulate you on taking the stand for dairying that you have. 'Tis a step in the right direction and I only hope the time will come when it will be wholly a dairy paper.—R. E. WELCH, Sabetha, Kansas.

Dairy Club Members Win Prizes in State Milk Contest

HAROLD BENTZ, Peabody, Kansas, was awarded first prize in the state milk contest in connection with Farm and Home Week at the Kansas Agricultural College. Theresa O'Mara, Colony, Kansas, was awarded sixth place among the winners.

To say we are proud of the showing made by our Dairy Club members in this milk contest, does not begin to express the way we feel about it. These boys and girls competed with mature and experienced exhibitors of market milk, some of whom have held first places in this contest in other years. As we looked at the exhibit we were proud to find that so many of you had sent in your samples according to the rules of the contest. You made a very creditable showing and we are sure when the particulars come many of you will have good scores even though you didn't win prizes.

Harold's prize is a Sharples tubular separator, valued at $60, given by the Sharples Separator Company.

Theresa's prize is a sanitary milk strainer and one pound of absorbent cotton, valued at $2.50, given by the Topeka Pure Milk Company.

Three cheers for the prize-winners and for the Dairy Club.

13 Years of Big Hatches For Less Than 20c Each



—And Good For Many Years More

Our oldest Old Trusties are now 13 years old and still in use. For example figure Old Trusty at $10. Thirteen years' use would be about 77c per year and if four hatches per season were made, each hatch would cost about 19¼c per hatch. That makes a pretty **low cost for big hatches in**



Old Trusty

And big hatches are easier than ever with the new conveniences in Old Trusty. Note the handy thermometer holder and the big oil drawer that is instantly removed but doesn't have to be removed to fill, nor is it used as a leg brace. Saves time and work. Quick shipment from factory at Clay Center, Neb. or warehouses in St. Joseph, Mo. or Seattle, Wash. **We pay the freight and guarantee safe arrival.**

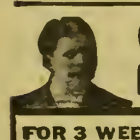
H. H. Johnson "The Incubator Man"

Book Free

$9.60 Buys our Old Trusty "Special" with redwood case, freight paid east of Rockies. A trifle more farther west. Write today.

The M. M. Johnson Co. Clay Center, Neb.





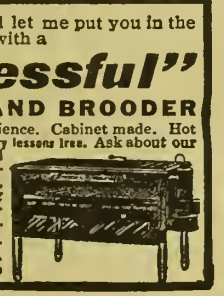
Give Me 20 Minutes a Day

FOR 3 WEEKS—and let me put you in the money-making class with a

"Successful"

INCUBATOR AND BROODER

Backed by 23 years' experience. Cabinet made. Hot water heating plant. Poultry lessons free. Ask about our Poultry and Eggs; and "Successful" Grain Sprouters. Famous little booklet, "Proper Care and Feeding of Chicks, Ducks and Turkeys," 10c. Big catalog FREE.



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Des Moines Incubator Co.
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Hides Tanned

We give you the opportunity of sending your Horse and Cow Hides to us to be tanned and made up into beautiful Coats and Robes for you.

Our superior grade of work costs you less than the ordinary class of work.

Write for free catalog, giving you all information. Address

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POULTRY FOLKS Get My New 1917 Special Offer

Just a straight business offer which will help you get a Rayo at little or no cost to you. No soliciting or canvassing. When you send for our new Rayo Catalog we will tell you all about it. Chuck full of incubator and poultry raising facts. Get your *free* copy now. Get started on the road to bigger profits.

RAYO Center Heated INCUBATORS
Give Bigger Hatches At Less Cost

Only 1 gallon of oil, 1 filling of tank to hatch. Saves time, money, labor. Double panel glass top makes it easier to cool eggs, easier to air and clean, easier to operate. Automatic heat control, special moisture and ventilation features. Get *free* catalog and special offer. RAYO INC. CO., U.D. Sta. 6251 Omaha, Neb.

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of quality guaranteed to 1,500 miles. Eggs for Hatching at low prices. Bar. Rocks, S. C. W. Leghorns, S. C. and R. C. Reds, W. Wyandottes, Buff and W. Orpingtons. Chicklet catalog free.

GOSHEN POULTRY FARMS, R 37, Goshen, Indiana

During the hatching period carefully fill the incubator lamp and trim the wick each day. It is best to trim the wick by scraping or pinching off the burnt portion rather than by cutting the wick. The lamp should not be filled too full. After it is filled it should be closely watched for a time to make sure that the flame does not get too high. A good way to avoid this is to turn it up high in adjusting and then draw it down until the flame is about right.

One Woman's Poultry Success

JANUARY 1, 1916, I started with one hundred fifty pure-bred Buff Orpington hens and pullets. I prefer the pure-bred poultry to mongrels as the pure-breds are more beautiful, lay more eggs, there is a greater demand for both the poultry and eggs and they bring higher prices on account of their uniformity of size and color.

By June 1, I had disposed of a little more than half the hens. My receipts for the year from the sale of eggs, fryers, breeders, and poultry on the common market, were $554.18. My feed cost for the year was $312.80, which left me $241.38 for my year's work with the poultry. I also had 145 birds to start with January 1, 1917.

In addition to taking care of the poultry, I do my own housework, have the care of an invalid mother, milk and care for a cow and look after five lots. Two of the lots I plant to garden, one and one-half lot is taken up with the barnyard, and the balance of the ground is in alfalfa, bluegrass, berries, etc. All this ground must be cared for during the summer, so I do not spend all my time with the biddies.

In the morning I feed the hens wheat and kafir mixed in their scratching material to the amount of one handful to each bird. Part of the time at noon I feed a dry mash composed of 10 pounds shorts, 10 pounds bran, 5 pounds corn meal (fine), 3½ pounds beef scraps, 3 pounds bone, 3 pounds linseed meal, 2 pounds oyster shell. When I do not feed this I boil table scraps, peelings, small potatoes, other vegetables, etc., and scald a mash composed of 1 part corn meal, 1 part shorts, 2 parts alfalfa leaves, 2 parts oats, 3 parts bran, and a small amount of beef scraps. This makes a good laying ration and the hens relish it for a change. During cold weather I feed them all the corn they will eat for their supper. I keep plenty of fresh water, grit, oyster shell and charcoal before the birds all the time. I seldom ever have a sick bird or lose one except through accidents.

Poultry raising is not only profitable work but healthful as well, as it takes one out in the fresh air, and any intelligent man or woman can do the work. Though the work is not very hard, a lazy man will never make a successful poultryman. The key to success with poultry is good care, a liking for the work, and strict attention to details at all times.

If poultry is profitable as a side line without the proper equipment or room and where every bite of feed has to be purchased, then it certainly ought to be profitable if followed as a business, especially on the farm where so much grain would be wasted if it were not for the poultry and where the chickens have free range and can pick up half of their living during the greater part of the year.—MRS. GEORGE D. PAGE, Riley County.

Wonderful Egg Producer

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents' worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit-maker, write E. J. Reefer, poultry expert, 4639 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1.00 (prepaid). So confident is Mr. Reefer of the results that a million-dollar bank guarantees if you are not absolutely satisfied your dollar will be returned on request and the "More Eggs" costs you nothing. Send a dollar today or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—(Adv.)

The advertising columns are an important part of the paper—to the readers, we mean. The reliable paper carries only reliable advertisers and the reader can buy at this market place with safety. It pays to advertise and to read the advertisements in KANSAS FARMER.

The figures in the office of the Live Stock Registry Board show that Rice County leads in the number of pure-bred stallions registered in Kansas in 1916, 80 per cent of its seventy stallions standing for public service being in this class.

For Fords

Less Carbon Less Heat

Every make of automobile has its minor operating problems. Among Ford owners two such problems are: Carbon troubles and Overheating.

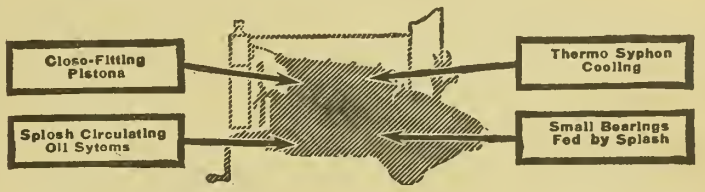
Of course every petroleum-base lubricant in burning must leave a carbon residue.

But carbon residues are of three kinds.

The first—which "cakes" hard on spark-plugs, piston-heads and valves—is the most troublesome.

The second—also troublesome—is an adhesive, sticky or "gummy" carbon, which causes piston rings to stick in their recesses with resultant loss of power and also interferes with valve action.

The third variety of carbon residue forms in a light, dry ash. This light ash is expelled through the exhaust by the natural action of the engine.



The high standing of Gargoyle Mobiloil "E" among Ford owners is due to two things:

(1) Its light carbon ash.

In *body* Gargoyle Mobiloil "E" is scientifically correct for the Ford Piston clearance.

If the oil-level is correct, Gargoyle Mobiloil "E" does not work past the piston rings into the combustion chambers in excess quantities. Thus troublesome carbon deposits, so common on incorrectly lubricated Ford cars, is avoided. The slight carbon residue from Gargoyle Mobiloil "E" is *a light, dry ash*. It expels naturally through the exhaust.

(2) Its *quality* enables Gargoyle Mobiloil "E" to withstand the high heat in the Ford combustion chambers.

The correctness of the *body* assures complete distribution through the Splash Circulating Lubricating System of Ford cars. Complete protection to all moving parts results. Friction-heat is reduced to a minimum.

Ford owners who use Gargoyle Mobiloil "E" avoid trouble from overheated motors in summer.

Gargoyle Mobiloil "E"—An 80c Demonstration

It will cost you less than 80c to fill your Ford crank-case to the proper oil-level with Gargoyle Mobiloil "E". And that trial amount will demonstrate its benefits in the way of—

(1) Lower cost per mile for oil
(2) Lower cost per mile for gasoline
(3) No troublesome carbon
(4) Lessened tendency to overheating
(5) Full power—particularly on the hills

GARGOYLE

Mobiloils

A grade for each type of motor

In buying Gargoyle Mobiloil "E" from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. For information, kindly address any inquiry to our nearest office.

YOUR TRACTOR

also may be lubricated efficiently with Gargoyle Mobiloils. On request we will mail you a separate Chart specifying the correct grade for each make and model of tractor.

VACUUM OIL COMPANY, Rochester, N.Y., U.S.A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world.

Domestic Branches: Detroit, Boston, New York, Des Moines, Chicago, Philadelphia, Indianapolis, Minneapolis, Pittsburgh, Kansas City, Kan.

This is the Small Tractor You've Been Waiting For

HERE'S a tractor, the Advance-Rumely "8-16" that was especially designed to fit the needs of the small and medium size farm—a small, light weight, kerosene burning outfit to meet the demand where the famous Rumely OilPull is too large.

The "8-16" is easy to handle, economical and durable. It supplies reliable power for every farm job, and just as important, it is made by a company with an established reputation for dependability.

It is a real one-man outfit—tractor and plows are combined in one machine, and full control is from the driver's seat. With the Advance-Rumely you plow the same as with a horse gang, the plows are where you can always see what you're doing. Also you can back up with your plows, make short turns and cut square corners.

Kerosene for Fuel

Kerosene is its fuel, and it burns kerosene, not as a makeshift proposition, but continuously and at variable loads as well as full load.

An Advance-Rumely "8-16" not only will plow, but it will draw your discs, drills, harrows, mowers and binders, and on the belt it will run a small separator, hay baler, silo filler, sheller, feed grinder, etc. In fact, it will deliver the same reliable, steady power on all jobs—draw-bar or belt. When used for other jobs than plowing, the plows are quickly detached.

The powerful four-cylinder motor and the entire machine is Advance-Rumely built throughout. It comes from the same shops that build the well known OilPull tractor, the Ideal separator, and all the other dependable machines in the Advance-Rumely line.

Write our nearest branch for a special catalog on this new Advance-Rumely outfit.

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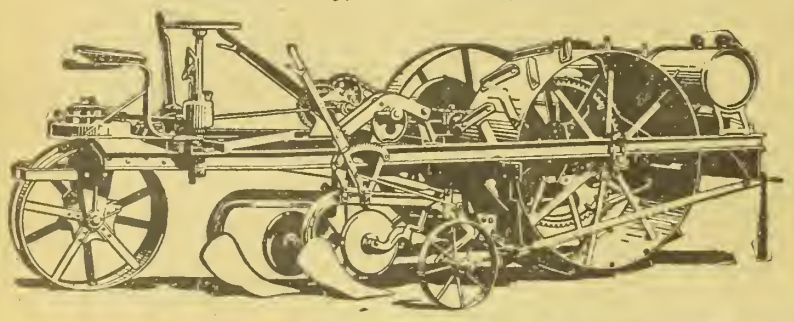

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MEANS HEALTHY PIGS and BIGGER PROFITS

Winter pigs are money-makers. They repay you in dollars and cents on the Fall market for every bit of care you give them. Don't take chances trying to raise early pigs in the old-fashioned way—make your hog house modern—give your young pigs direct sunshine on the cold February and March days. It means healthier, stronger, faster growing pigs—fewer losses—bigger profits, which is just what you have always wanted.

Chief Sunshine Hog House Windows Used by Thousands of Farmers

CHIEF CUPOLAS
Ventilate any building—scientifically designed. Worth three times as much as wooden cupolas—cost no more.



E. G. PERIGO, Donovan, Ill., writes that Chief Sunshine Windowe are saving the pigs.

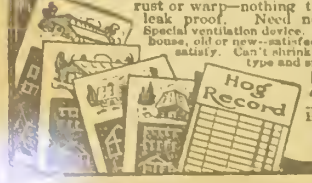
G. A. WHEATLEY, Lyon Co., Ia. "Would use no others."

W. J. ISGRIG, Tekamah, Neb., "More than pleased."

CHIEF SUNSHINE HOG HOUSE WINDOWS

Most modern and satisfactory Hog House Windows you can buy. Insure sunshine right on the floor of the pens. Designed right and made right for permanent service. Made of heavy galvanized steel throughout—can't rot, rust or warp—nothing to wear out. Absolutely leak proof. Need no repairs—no attention. Special ventilation device. Easy to install in any hog house, old or new—satisfactory in service anywhere. Satisfy. Can't shrink or swell—rot or rust. Good for lifetime service. Made in two models—regular type and special ventilating type. Both convenient, serviceable and economical.

CHIEF BARN WINDOWS—Modern barn windows that



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Testing Seed Corn Pays

IS YOUR time worth $4 an hour? That sounds like a get-rich-quick scheme, but J. C. Hackleman of the Missouri College of Agriculture figures that you can make that much testing seed corn. What he says is fully as applicable to the grower of corn in Kansas as to those in Missouri. The average Missouri farmer raises about twenty-six acres of corn each year. Most of them fail to test the seed corn, whereby they lose $1.50—and this is a conservative estimate—an acre.

Mr. Hackleman says that about ten hours of actual labor would be required to test the seed for the twenty-six acres. By such testing the yield can be increased at least $1.50 worth. Hence the time required to test the seed is worth about $40, or about $4 an hour. The more corn a farmer grows, the more money he can make by the test. The man who raises 100 acres can increase his earnings at least $150. This is practically clear gain since testing is done during late winter or early spring when the time would otherwise be lost.

Seed corn testing is comparatively easy. The ears that have been previously selected for seed are labeled or laid out on a table to correspond to the spaces occupied by the grains from those ears in the germinator. If any of the samples of grain show poor germination, the ear from which they came can be found from the label on the space the grains occupy, and can be eliminated.

One of the simplest testers is the sand box or sawdust. It consists of a box about four inches deep and thirty inches square, with about two inches of sand or sawdust in the bottom to hold the moisture or to keep water from standing around the corn. A piece of old sheeting or other cloth that will absorb moisture but will not allow it to stand on the surface should be stretched over the surface and marked off into two-inch squares. Put six kernels from various portions of the middle of each ear to be tested into one of these squares and give the ears and squares corresponding labels. Cover the box to prevent drying and keep it at room temperature—about 70 degrees F.—for six days, then find the ears from which kernels failed to germinate, throw them into the feed box and retain those that showed a good strong test.

Figures based on the acreage and yields in Missouri during the last eight years indicate that the losses incident to neglect of seed corn testing will amount to about $11,000,000 this year. That amount is worth saving.

Some of the high schools are offering to test seed corn and other seeds for those who wish to have this work done. It is good practice work for the classes in agriculture and they can be of considerable service to the community by undertaking to test the seed corn for germination.

Make Flues Safe

Fires in the country are even more to be dreaded than in town. In our issue of November 4, 1916, appeared an editorial, "Are Your Flues Safe?" We wish to again call the attention of our readers to this most important subject.

This article told of the efforts of the state fire marshal to reduce the fire loss in Kansas and urged our readers to cooperate with him in this worthy attempt. We urged the inspection of all chimneys before the heavy firing of winter should begin. We particularly called attention to the dangerous bracket chimneys, where the brackets invariably settle, throwing the structure out of line. This causes the openings where the fire comes out and a couple of hundred thousand dollars go up in smoke each year in our state as a result.

Many reports have reached us this winter of fires caused by defective flues. We want to co-operate with the state fire marshal and at the same time urge our readers to protect themselves. If you didn't act on our former suggestion to make your chimneys safe, you owe it to yourself, your neighbors and the state to do so now.

Remember that fire loss is a total loss. Insurance merely distributes the loss from the individual upon the community.

Fire losses are similar to deaths. We never fully realize what a terrible thing a fire really is until it occurs in our own home. Even where there is insurance the money received merely replaces the structure and perhaps the furniture. Many articles of intrinsic value cannot be replaced. Clothing, jewelry and personal effects seldom are insured. Where there is no insurance, the savings and efforts of a lifetime usually are swept away.

What makes a fire loss so regrettable is that probably 70 per cent of the fires could and should be prevented. More fires are caused by defective flues than any other one cause. Ninety-five per cent of the fires originating from this cause would never happen if the chimney was lined with fire clay flue lining. If all chimneys were lined so that they would have a smooth interior surface, thousands of dollars annually would be saved. Soot will not collect nor birds build nests in chimneys so lined. With no soot or debris, the danger from sparks is lessened. If the mortar cracks and a brick drops out, the lining prevents the escape of the flames.

Many cities already have ordinances compelling everyone who builds a house to line their chimneys. The time is coming when every state will pass a law of this nature.

You cannot line chimneys already installed, but you can carry out our suggestion to inspect them. If the mortar is cracked, the bricks loose, or there are openings where fire might get through to the woodwork, it will be cheap insurance to have the chimneys properly rebuilt.

It is to your interest to co-operate with the state fire marshal in his efforts to reduce this shameful waste from fires that could be so easily prevented.

Plan to Produce Seed

The high price of seeds of all farm crops this year show the need of planning to produce plenty of seed for future years. As a community, Southwestern Oklahoma should adopt the maxim of a seed grower who used to grow seeds far out on the plains—"Save enough seed, every year that seed is plentiful, to plant three crops."

Trials of Sudan grass in this section on a large scale have been delayed another year on account of scarcity of seed. Pasture trials of sweet clover are also delayed for the same reason.

Those who now have good seed of any farm crop should plant some especially for seed, and they should plan to save a good supply next fall.—J. E. PAYNE, Oklahoma.

Month for Pruning

This is the right month to get the pruning work out of the way. There are always on every well ordered farm, some trees and vines that need the farmer's attention each year. Last year we helped prune at twenty-two places. If you want some help get your request to us soon, as there is much work to get started. Many neglected, crippled trees that have outlived their usefulness and are disease breeders for the locality, should be dragged out and burned. A visitor always sees your crippled hog, horse, or cow, before he does the good ones. Trees are like those cripples if they have been neglected and are unsightly. Why not spend a half day in a general clean-up about the premises? You will be surprised at the results in improved appearances.

Peach trees should be headed back some each year, and when there is no crop, dehorn. Grapes should be pruned each year and you can secure a 35 per cent larger crop by doing it properly.

Barrel sprayers are splendid investments. They can be hitched up to a small engine by using an ordinary pump jack. Two farmers in this county have them fixed in this fashion and greatly reduce the labor of spraying.

Following is the "Government Whitewash" recipe, for which there has been several requests:

Take a half barrel of lump lime, slack

it in warm water, using only enough to cover it; cover to keep heat in, strain the liquid through a fine sieve or a coarse cloth; add a peck of salt previously dissolved in warm water, three pounds of ground rice boiled to a thin paste and stirred in boiling hot; half pound of powdered Spanish whiting and a pound of glue which has previously been dissolved over a slow fire. Then add five gallons of hot water to the mixture, stir well and let stand for a few days, stirring occasionally. When ready to apply, heat the mixture and apply while hot. One pint should cover one square yard of surface. No other whitewash can compare with this for exterior or interior use, as it sticks and wears well. Coloring matter can be added and any shade desired obtained.—E. J. MACY in February News Letter to Farm Bureau members, Montgomery County.

Fight English Sparrow

A. J. Wenkheimer, Pawnee County, is a sworn enemy of the English sparrow. He writes us at considerable length regarding these birds and urges that a state-wide campaign be started to destroy them. He says that they have been investigated by the U. S. Department of Agriculture and designated as a pest in Farmers' Bulletin No. 493. In some states systematic efforts are being made to exterminate them. These seem most successful where the campaign is placed under direction of the state fish and game warden. Mr. Wenkheimer quotes at considerable length from a bulletin of the California Fish and Game Commission, in which a very clear case is made against the sparrow as an unmitigated nuisance and pest. Following this quotation, he says:

"I will add that the English sparrow is also a distributor of disease germs and parasites. It carries chicken mites and the germs of poultry diseases and hog cholera. Dr. Crumbine urges us to 'swat the fly' but if in the meantime we swat the English sparrow the barn swallows will return and swat the flies for us.

"Before the English sparrows arrived here we raised cherries, grapes and berries, but now the sparrows take them. Grapes would be almost a sure fruit crop in Central and Western Kansas if the sparrows did not destroy them before ripe. These birds become more numerous and more destructive in treeless plains than in timbered or semi-timbered sections, for the reason that on the plains the birds of prey that hold them in check, are lacking. The sparrow hawk, which is a little hawk about the size of a turtle dove, should be included in the list of protected birds because it preys on sparrows.

"I am in favor of a bill placing a bounty of two cents on each sparrow killed and delivered to the official authorized to pay such bounty. I believe it would be a good idea to authorize county commissioners to pay an additional two-cent bounty if they saw fit. Sparrows are most easily killed during winter. On cold, stormy nights they roost in barn lofts, stables, sheds, and other farm buildings. My sons and I have gone out repeatedly during the winter with a bright lantern, a few paddles and a hard-shooting air rifle and killed from three to four dozen sparrows in a half hour. Hunting them this way we never get any other birds."

Disk or Plow for Corn

A Commanche county reader writes that he has a piece of sandy loam land that was in wheat last year. He plowed it six or seven inches deep the fall of 1915 in preparation for the wheat. He plans to put it into corn this year and asks if it would pay to plow this land deep again before listing in the corn, or whether it would be just as well to give it a good thorough disking with a tandem disk in advance of listing.

It would not cost as much to disk as to plow and as this land is quite sandy and does not pack solid, we believe fully as good results will follow the use of the disk as the plow. The earlier the disking can be done, the better, as it will help to take in and hold the moisture. By disking early a lot of weed seeds lying on the surface of the ground will be germinated and the weeds will be killed when the corn is listed.

Farm Accounts and Loan Act

The real basis of land valuation is its capacity for production.

The Federal Farm Loan Act passed by Congress contains one provision that is especially interesting from the viewpoint of the new business principle it is introducing in the financing of farms. O. R. Johnson, of the Missouri College of Agriculture, calls attention to Section 12, Article 5, of this act. Concerning the appraisal of land for loans it expressly states that "In making said appraisal the value of the land for agricultural purposes shall be the basis of appraisal and the earning power of said land shall be a principal factor."

Heretofore mortgage security has been principally upon the sale value of the land. With a 50 per cent margin on the value of the land and intelligent appraisers, this has been safe business for the lender. Appraisal in this case consists mainly in a comparison of the land under consideration with other near-by land of known value in topography, distance from market, soil, and other factors likely to affect its sale value. Under such system the earning power of the land is considered only to the extent that such factors as those named are limiting factors in the earning power of the farm. Such a basis of mortgage security is likely to exist as long as the demand of borrowers for lenders is much larger than the demand of lenders for borrowers. With the coming of competition in the farm loan business, more and more attention is likely to be given to the earning power of individual farms and individual systems of management.

The new Federal Farm Loan Act in the section quoted contemplates following this latter method in appraising land. Under this system of appraisal recognition is given to the fact that the same farm may be worth more under one farmer and one system of management—in other words, of two farms that may now be valued the same, the one with the best income can secure the larger loan under the new method of appraisal. Loans made on such appraisal are based on the ability of the borrower to meet his obligations without foreclosure rather than on his probable solvency in case of foreclosure.

This will be good business for both borrower and lender, as it will curb the careless borrower, put more capital in the hands of the best users, and protect the lender against security that is not very liquid.

One good feature of this proposed practice is the incentive it will give to good business practice among farmers. The farm that makes the most is to be worth the most. To know what the real earning power of their farm is, farmers must keep accounts; and keeping accounts will point out many ways to increase the earning power of the farm. Good accounting is the key to successful business management.

$1150 F. o. b. Racine
For Mitchell Junior—120-inch Wheelbase

Mitchell SIXES

$1460 F. o. b. Racine
For 7-Pass. Mitchell—127-inch Wheelbase

Now Also An $1150 Model

With Nearly All the Mitchell Extras
A Doubled Output to Meet a New Demand

Thousands of men have wanted a car with all the Mitchell extra features. But they did not want a car so big and impressive. They did not want a 7-passenger car.

We have built for them the Mitchell Junior—a Mitchell Six in little smaller size. Its 40 horsepower is ample for five passengers. Its 120-inch wheelbase gives plenty of room for five—more than most makers give.

The $1150 price gives all of the saving to the man who doesn't want extra power and size.

Last year we sent out thousands of these cars before announcing this new model. And Mitchell Junior has proved itself as perfect as the larger Mitchell. So we have more than doubled our factory capacity, to build as many Mitchell Juniors as we build of the 7-passenger Mitchells.

Hundreds of Extras

Both of the Mitchells embody hundreds of extras, paid for by factory savings. They give you at least 20 per cent extra value over other cars in their class. All because John W. Bate, the great efficiency expert, has cut our factory costs in two.

There are 31 extra features—things which other cars omit. On this year's output these extras alone will cost us about $4,000,000.

There is much added luxury. We have added 24 per cent to the cost of finish, upholstery and trimming. That is all paid for by savings made this year in our new body plant.

And there is now 100 per cent overstrength in every vital part. That is, every part is twice as strong as need be. The evidence is that this double strength makes the Mitchell a lifetime car.

Twice as Strong

The Mitchell standard for many years has been 50 per cent overstrength. Under that standard Mitchell cars have proved marvels of endurance.

Two Mitchells that we know of already have exceeded 200,000 miles each. Seven of them have averaged 175,000 miles each—over 30 years of ordinary service.

But in 1913 Mr. Bate spent a year in Europe. When he came back he started out to double our margins of safety—to more than match the highest European standards.

It has taken years to do this. But we announce this year this double strength in every vital part.

Over 440 parts are built of toughened steel. All parts which get a major strain are built of Chrome-Vanadium. We use steel alloys which cost us up to 15 cents per pound. And all the parts on which safety depends are made oversize.

One result shows in the Bate cantilever springs. We have used them for two years, on thousands of cars. And not one spring has broken.

That one fact will illustrate what this extra strength means in every vital part. For you know how springs break under shock.

Exclusive Values

These extra values are exclusive to Mitchell cars. No other factory in the world could include them at the Mitchell price.

This model plant, covering 45 acres, was built and equipped by John W. Bate. Every machine is adapted to build this one type economically. The methods employed here have cut our factory cost in two.

That is what pays for these extras. That is what pa for this vast overstrength.

Now a new body plant—building all Mitchell bodies—saves us a vast sum more. That goes into luxury—into heat-fixed finish, into rare-grade leather, into countless dainty details. The latest Mitchells are the handsomest cars under $2000.

Go see these extras, which are numbered by the hundreds. See what they mean in a car. You will not want a fine car which lacks them.

There are Mitchell dealers everywhere. If you don't know the nearest, ask us for his name.

MITCHELL MOTORS COMPANY, Inc.
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TWO SIZES

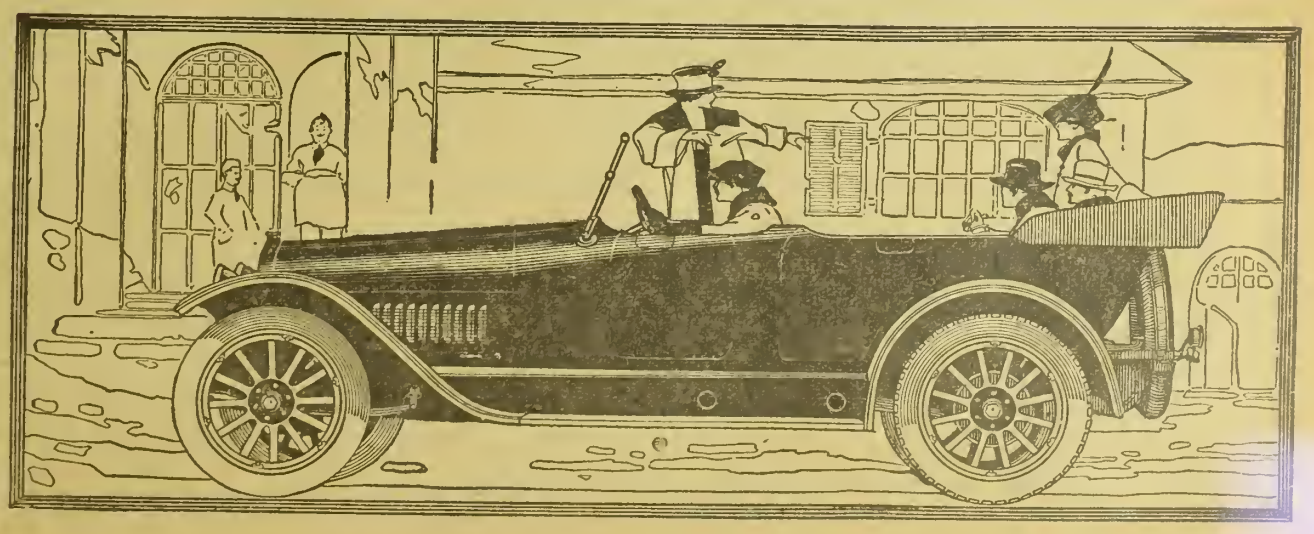
Mitchell —a roomy, 7-passenger Six, with 127-inch wheelbase. A high-speed, economical, 48-horsepower motor. Disappearing extra seats and 31 extra features included.

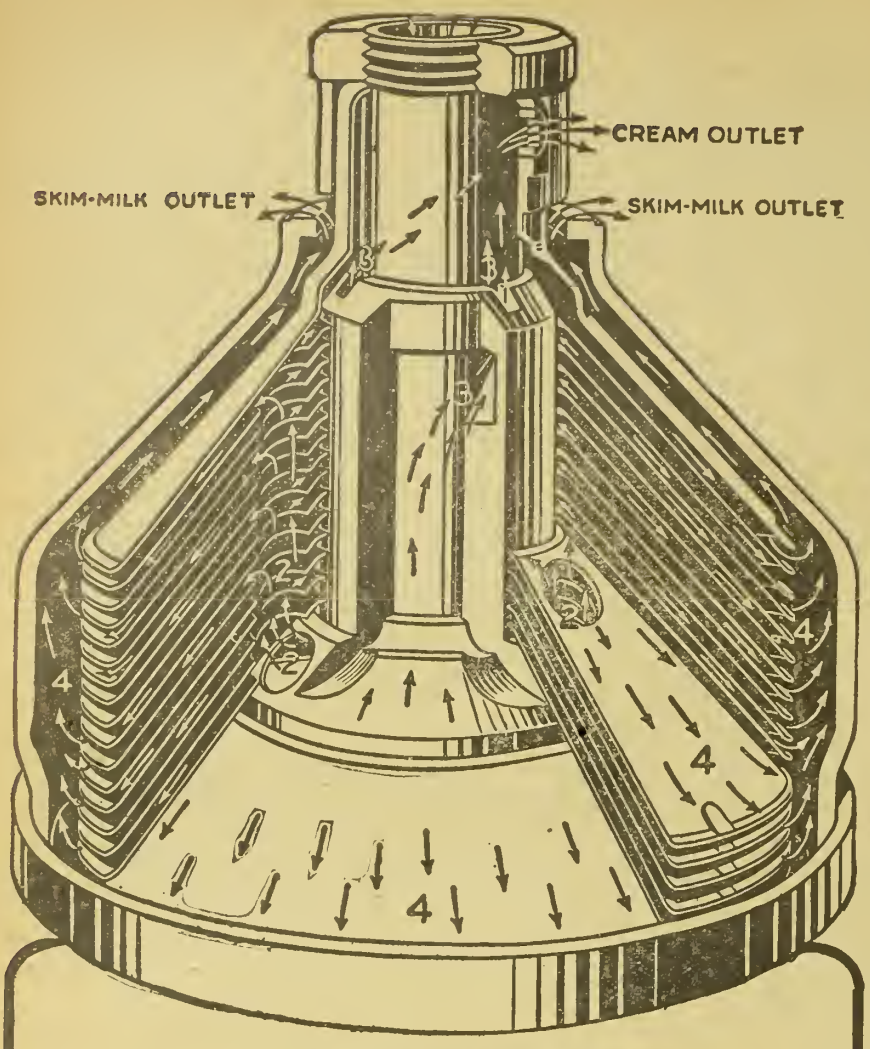
Price $1460, f. o. b. Racine

Mitchell Junior a 5-passenger Six on similar lines with 120-inch wheelbase. A 40-horsepower motor—¼-inch smaller bore than larger Mitchell.

Price $1150, f. o. b. Racine

Also all styles of enclosed and convertible bodies. Also demountable tops.





Here is the heart of

THE NEW DE LAVAL CREAM SEPARATOR

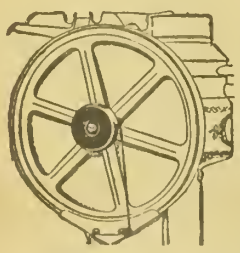
THIS is the new self-centering De Laval bowl with detached spindle, that is creating such a sensation in the dairy world.

This new De Laval bowl, with patented tangential tubular milk passages and patented removable milk conveyor, makes possible in a bowl of given size and weight, operated at a given speed, greater skimming efficiency and capacity than has ever before been attained in any other cream separator bowl.

These are big advantages that you can secure only in the De Laval.

But aside from the big advantages of greater capacity and closer skimming, there are many other important improvements in the New De Laval.

All discs are now interchangeable and are unnumbered. There are fewer discs. On account of greater simplicity of bowl construction, the New De Laval is easier to wash and, capacity considered, is still easier to run than before. High grade construction and design, together with perfect automatic lubrication, are a guarantee that the splendid De Laval record for durability will be maintained in the new style machine.



Every New De Laval is now equipped with a Bell Speed-Indicator, the "Warning Signal" which insures proper speed and uniform cream.

If you are trying to get along without a cream separator or with a half-worn-out or unreliable machine, why not get a NEW De Laval NOW and stop your cream waste? You don't need to count the cost, because the De Laval will soon pay for itself.

There is a De Laval agent near you who will be glad to explain all the improvements and advantages of the NEW De Laval, and who will set and start a machine for you on your farm and let you try it for yourself.

Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for any desired information.

New Catalog will be mailed upon request

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York 29 E. Madison St., Chicago

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER



SUDAN GRASS

Greatest forage crop and drought resistant. Produces fine crop of hay—superior to Millet and equal of Timothy. Barteldes' Sudan Grass Seed is a sure big yielder—from 2 to 4 tons of hay per acre and under irrigation as high as 10 tons per acre. BARTELDES' SUDAN SEED IS PURE—cleaned and recleaned. Scarce this year but we have a good stock. Order from headquarters. FREE Catalog of field and garden seeds—also special pink price list—send at once. 50 years of honest dealing.

THE BARTELDES SEED COMPANY,

707 Massachusetts St., Lawrence, Kansas.
707 Main Street, Oklahoma City, Okla.
707 Sixteenth Street, Denver, Colorado.



No Substitute for Butter Fat

THERE has been an idea prevalent among dietists and chemists, as well as people in general, that all fats, regardless of their source, yielded only energy and heat when consumed by the animal or human body, and until very recently no chemical or dietetic experiments had shown any real important difference between butter fat and other fats. It had, of course, been proved that fats of low melting point were more digestible than those of a high melting point. Aside from this, there was thought to be but little difference in their food value. In the estimation of many "fat was fat" and yielded only energy and heat.

The oleomargarine people often took advantage of this fact to exploit a cheap product as a substitute for butter Whether or not this "just as good or better product" is at all worthy of the place they claim for it has always been seriously questioned by dairy and creamery men. In this connection experiments carried on by F. B. Osborne, of the Connecticut Experiment Station, Dr. Mendel, of Yale, and E. V. McCollum, of the Wisconsin Experiment Station, are peculiarly interesting and prove beyond a doubt the real value of butter—viz., that butter fat not only yields energy and heat as do other fats, but that it contains something more vital than other fats—a principle which, like proteids, supplies the elements necessary for growth and life itself.

In experiments carried on with white rats, young rats were fed mixtures composed of chemically pure protein, starch, fat, sugar and various salts, and got along splendidly for the first three months, when they lost appetite, fell off in growth and finally starved. After numerous repetitions of this nature the investigators found that when milk was added to the ration the little animals began to regain normal condition, to thrive and grow to maturity. Many changes were made in their diet to make it more palatable, changes in salts used, the kinds and amounts of sugar, etc., but always the same result—growth ceased at the age of about four months. It was in an attempt to increase the palatability of the diet by substituting pure butter fat for the lard, which had been used as the fat in the ration, that the experimentors found these new facts, for the little animals immediately began to grow just as when milk was fed. It was evident that butter fat supplies something necessary for growth which lard could not supply. Other experiments were carried on to determine whether other fats from the animal or vegetable kingdom would produce the same effect as had butter fat. Experiments with tallow, olive oil, corn oil, cottonseed oil and peanut oil proved futile, while the fat of eggs and fat extracted from the cells of pig's kidney produced the same result as did butter fat. Thus it seems evident that the fats obtained from the living protoplasm of the animal have this property of inducing growth after growth has ceased. Thus far no plant fat has been found to possess this power.

Experiments with pigs and calves gave results similar to those obtained with the rats. If records of experiments on man were available, it is reasonable to suppose that results fully as striking would be obtained. In this connection the editor of Hoard's Dairyman recalls two instances in which two public institutions had, in the interest of so-called economy, substituted oleomargarine for butter in the diet of the inmates. It was noted that when oleo was used the inmates were not in as good physical condition and that physicians were in greater demand than before. When oleo was replaced by butter it was reported that the health of the inmates was materially improved.

In the light of these experiments and observations it is reasonable to suppose that even more marked discrepancies would be apparent in the growth and general health of young children.

Just how much or how little butter fat can be used and still maintain growth has not yet been determined—but enough has been proved to give the dairyman sure footing in his claim that butter fat is a better food than butter substitutes composed of vegetable fats and oils. Facts and figures like these make it most embarrassing for the oleo manufacturer to claim hereafter that he has a "just as good as butter" article, and surely it behooves the housewife to give the most careful consideration to the results of these recent investigations and the conclusions which may logically be drawn from them, before she decides to eliminate butter from the diet of her family.—J. H. Fransen, Nebraska University.

Advanced Registry

At one time the fact that a cow had a pedigree was enough to give her standing with her owner. But the old adage, "The world will not ask who you are; it will ask What can you do?" is just as true for the dairy cow as for the man. Advanced Registry tells what your cow can do.

"An advanced register is a herd book within a herd book, based upon individual merit and designed as an aid to improvement within the breeds. Any animal that has been recorded in the herd book may, on showing the required degree of merit, be advanced; the advancement being indicated by entry in the Advanced Register."

There are three essentials necessary for the carrying on of advanced registry work, namely, the barn sheet, milk scales, and a Babcock tester. The combination of these three things, together with a good dairyman, builds a firm foundation for the successful breeding and selecting of the dairy herd, guarantees a reasonable profit and insures quicker and better sales.

Different breeds have different requirements and use different terms. The letters A. R. O. are used in the Holstein breed and mean "Advanced Registry Official." The Jersey Cattle Club maintains a "Register of Merit" in which to preserve production records of cows or bulls meeting the requirements. Similarly the Guernsey and Ayrshire Associations keep production records.

Breeders of pure-bred dairy cattle find it greatly to their advantage to secure all the official production records possible.

Usually the dairy departments of the state experiment stations supervise official tests. For information about conducting official tests in Kansas, write to Prof. O. E. Reed, Manhattan.

Feed a Dairy Problem

In a lecture during the Missouri Farmers' Week in January, Prof. C. H. Eckles stated that feed has increased in value between 30 and 40 per cent over the average of the last three years. Dairy products have gone up only 10 to 15 per cent. If feed prices should in the future remain where they are now, butter will retail for at least 50 cents and milk at 12 cents a quart.

According to Professor Eckles, the dairyman must meet the situation by culling out the poor producers in his herd and giving closer study to the feeding problem. He must grow as much of his own feed as possible and cut to the minimum the amount to be purchased.

Good and economical dairy rations are based upon silage and some legume hay such as clover, alfalfa or cowpea. If these are plentiful, the feeding problem is much simplified. A good grain ration to go with these is corn four parts, bran one part, and cottonseed or linseed one part.

Corn even at the present high price is the cheapest source of digestible nutrients. Cottonseed meal, distillers' grains, brewers' grains and linseed meal are the cheapest sources of protein. A mixture of corn and cottonseed meal alone would not be a good ration, as it is too heavy; that is, it forms a sticky mass in the stomach which the digestible juices cannot penetrate easily. Bran, dried beet pulp or brewers' grains are the best feeds we have to lighten a ration. For this reason one of these is nearly always included in the ration fed heavy milking cows requiring liberal grain feeding.

FARM VALUES AND RAILROADS

Transportation Problem Must be Solved Nationally in Order to Assure Agricultural Prosperity.

THE greatest industry of the United States is farming. Next to that comes transportation.

Efficient transportation is essential to the continued welfare and business progress of the nation. To the farmer it means wider markets and better prices for his crops.

Speaking for 90 per cent of the railroad mileage of the country we invite your co-operation in the solution of the railroad problem to that end.

Make Regulation Efficient

There is no question that public regulation of transportation has come to stay. The railroads accept it. They ask only that such regulation be made efficient. They ask that the functions properly subject to public supervision—incorporation, the issuance of securities, the making of rates—be placed under the direction of a single responsible national body such as the Interstate Commerce Commission, with regional subcommissions, in order that regulation may be kept close to the people. They ask that such regulation be so administered as to permit the railroads to earn a living return, to attract new capital and to make the improvements and extensions necessary to enable them to serve the American people fairly and efficiently.

In the Federal Reserve and Rural Credit Banking Systems the operation of regional divisions under Federal supervision is well illustrated. The railroads seek a similar solution of their problem.

Commerce is Nation Wide

The farmer wants free trade among the states.

Commerce in farm products is not confined to state lines. It is nation wide. Its regulation should also be national. The fundamental state right is the right of each state to be protected against discriminations by other states such as exist today. Every barrier that a state erects to the free movement of commerce across its borders limits the farmer's market, makes it easier for speculators to control products and depress prices and tends to increase the cost of what the farmer has to buy.

The railroads cannot serve 49 masters—48 states and the nation—and serve efficiently. The present system of multiple and conflicting regulation is wasteful and destructive.

In the interest of all, regulation should be in behalf of all the states. We invite discussion of this question and shall be glad to answer questions and to supply information on request.

This is the first of several brief talks on this subject.

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The most difficult questions to decide this winter is how liberal one can afford to feed dairy cows. As a general rule feeding a cow to near her capacity is the most economical. If the farmer goes to the expense of maintaining the cow it is not economy to fail to make use of her productive capacity. A good rule for practical feeding is to give the cow as much roughage, silage and legume hay, as she will eat clean, then feed in addition one pound of grain to each three pounds of milk for a Jersey, and one pound of grain for each four pounds of milk from a Holstein.

A dairy cow should be in good condition at time of calving. The amount of milk she gives when fresh usually shows her capacity. She should then be fed enough to support this milk production. A cow that does not have the inheritance to give more than twenty pounds of milk daily cannot be made to give forty pounds by liberal grain feeding. However, the cow that starts giving forty pounds will not continue to do so long unless sufficient feed is given to furnish the raw material for this much product.

It is not economy to feed all cows the same amount of grain. They should be fed in accordance with their production. A heavy grain ration given a light milking cow fattens her but does not increase her milk beyond her ordinary limit.

R. A. Beamer, Oakley, has two pit silos containing silage three years old, which he is feeding with very satisfactory results. This is an illustration of the value of the silo as a means of utilizing the feed grown in the big crop years to carry stock over the poor years. At the Hays Experiment Station this practice of having a reserve supply has been practiced for several years.

Only one class of signs should be used on farm buildings, and that is the kind that advertises the farmer's own business. If he is specializing in any breed of live stock, farm crop, or seed grain, this fact stated in a farm name on the road side of the barn, will produce results for both the owner and the prospective buyer who passes that way, but the glaring advertisement of some firm many miles away should never be tempting to the farm owner because of the check received when the sign is painted. It may be a good ad for the firm placing it, but it is a very poor recommendation for the man on whose building it is seen.

The policy-holders of the Patrons' Fire & Tornado Association, which is the insurance organization of the grange, held their twenty-seventh annual meeting at Olathe, January 17. This association writes fire and tornado insurance for members of the grange only. It began business in 1889 and the business has grown steadily until today they have ten thousand policy-holders with insurance in force December 31, 1916, amounting to almost twenty-seven million dollars. This is an increase of three and a half millions of insurance for the past year. They have a surplus of fifty-nine thousand. The officers whose terms had expired, were all re-elected.

Preventing Chicks from Dying in Shell

The Raisall Remedy Company, of Blackwell, Oklahoma, sell a guaranteed remedy to prevent chicks from dying in the shell at hatching time. Each package contains enough to hatch 500 chicks. They will send it to any reader of KANSAS FARMER who has an incubator. You must mention this paper and date with order.

You may use one-half package and if not satisfactory for any reason you may return other half and you will not be out one cent. Price of remedy, $1.50 per package, two for $2.50, parcel post prepaid with directions. If package fails to raise 500 chicks, Raisall Remedy Company will furnish additional package without cost. This is certainly a great opportunity for those who have trouble with chicks dying in the shell. You should by all means try this remedy. It is absolutely guaranteed, you take no chances in giving it a trial.

Every cent of your money will be refunded if you are not satisfied after using half package. They will also tell you how to build the best home-made brooder in the world from an ordinary box, that will save your baby chicks. Send them your order today for a package of this remedy and other information, it will insure big hatches and strong chicks. ADV



Listening to the Auctioneer

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Our free booklet, "More Days Wear," will be sent you on request. It shows the right kind of rubber footwear for different kinds of work, also for hunting and fishing.

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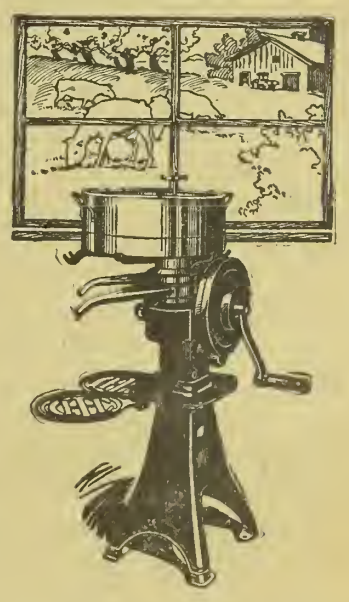
Get All the Cream



YOU cannot expect to get all the profit from your cows unless you have a separator that skims clean. Why don't you make up your mind here and now to buy a **Primrose** or **Lily cream separator?** Then if your checks are not big enough, you will know that the trouble is with the cows, not with the separator.

The president of the Iowa Federation of Cow Testing Association says that of all the separators in use in his association, and they are many, the **Primrose** skims closest. It leaves less than one-hundreth of one per cent of the cream in the milk. The **Lily** skims just as close. Neither one wastes any cream. With prices of everything as high as they are now, to waste cream is little short of a crime.

Yes, you can buy separators for less money. You can also pay more. But you cannot buy a closer skimming machine, one that runs easier, or one that will skim clean for a longer time. Do not delay. The longer you put off buying a **Primrose** or **Lily** cream separator, the more you lose. Get one of these machines, and your separator troubles will disappear as if by magic. Drop us a card for catalogues and full information.

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Yes, two boys can lift a 4 H. P. Cushman Engine. It is the **lightest farm engine built,** yet even more reliable and economical than heavy engines. Much more steady and quiet because of greater speed, perfect balance and Throttle Governor. **No violent explosions,** no fast and slow speeds that tear engines to pieces.

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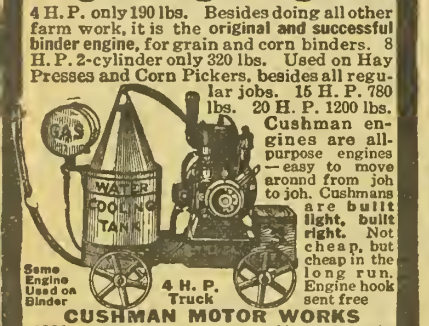
4 H. P. only 190 lbs. Besides doing all other farm work, it is the **original and successful binder engine,** for grain and corn binders. 8 H. P. 2-cylinder only 320 lbs. Used on Hay Presses and Corn Pickers, besides all regular jobs. 15 H. P. 780 lbs. 20 H. P. 1200 lbs.



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GENERAL FARM NOTES

Partnership Bull

J. E. Payne, a demonstration agent for the Frisco railroad, tells of a plan for cattle improvement followed by Mr. Drumm and Mr. Routzhan, who raise Guernseys near Frederick, Okla. They have owned bulls in partnership for several years. They buy a good bull and he is kept on Mr. Drumm's farm one month and on Mr. Routzhan's farm the next month. Each partner gets the use of the bull six months each year.

This plan could be extended by several men buying bulls of equal quality and exchanging at the end of two years. By buying three bulls and exchanging, all the partners will get the use of good sires six years for the cost of one.

Items in Poultry Feeding

The following essentials for successful poultry feeding are given by H. L. Kempster of the Missouri Experiment Station:

Grain (scratch food) and ground feed (mash); animal food, such as beef scrap or sour skim milk; grit and oyster shell; green food; clean, fresh water; liberal feeding; plenty of exercise; regular attention.

Hens eat from five to eight pounds of food a month, or sixty to eighty pounds in a year. The daily food eaten by a hen is from three to four ounces. The daily ration for 100 hens is from nineteen to twenty-five pounds.

Hens drink about six pounds of milk a month. One hundred hens drink two and one-half gallons of milk daily.

On limited range a laying hen eats two pounds of grit and three pounds of oyster shell in a year.

The oleomargarine legislation pending in Congress has an important bearing on the business of every dairyman and his help is needed to defend his own rights. If his congressmen know his attitude they will think seriously before voting for a measure that will permit the fraudulent sale of oleomargarine in competition with butter. The uncolored product is not a competitor, but it is unfair to the consuming public and to the dairy cow to allow the sale of this imitation product at butter prices.

Farm Production of Beef

(Continued from Page Four.)

ing the product at weaning time to some specialist in the work of feeding and finishing beef. But if he elects to follow both branches of the industry and if his feed and grass exceed the consumptive capacity of his cow herd, he may carry his steers for a year or two before selling them or putting them in his own feed lot. During the past season I had unusually good results from grazing a bunch of yearlings until the middle of August and then feeding about 110 days. These calves were wintered on three pounds of corn and alfalfa hay daily per calf until April 1, when their ration was increased to six pounds for the last thirty days before going on grass. They went in the feed lot August 17, started for market December 2 weighing 983 pounds, and sold for $10.75 in Chicago.

On mature steers, also, I have had the best results from short feeds in the fall beginning the middle of August. Under favorable conditions and with the proper ration a four-year-old steer that has grazed well can be moderately ripened under this system in sixty-five days, while two- and three-year-olds will require a slightly longer period.

It is well to bear in mind that the cheap calf, apparently, is a thing of the past. The Agricultural Department of the Federal Government has carefully compiled figures indicating that a high-class beef calf, reared under such conditions as have prevailed in this immediate vicinity for the past four years, represents to his breeder at weaning time an average cost of $38, and these figures are made on the basis of a 90 per cent crop. How costly the calf will be if one's herd happens to be afflicted with that terrible bane of the cow man, contagious abortion, it is difficult to surmise.

PROFITS OF THE BUSINESS

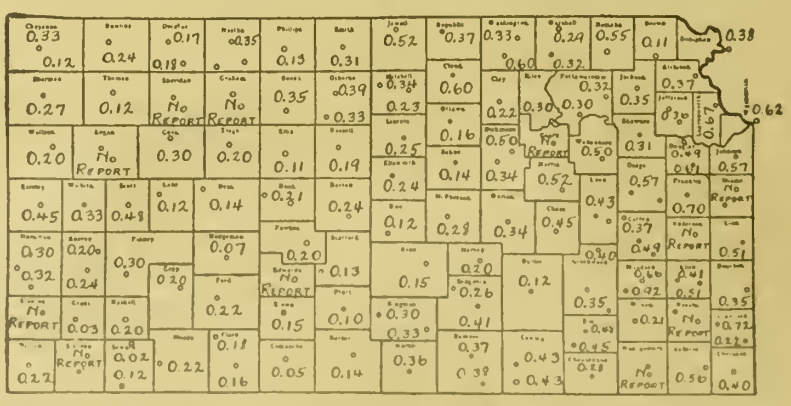
If our calf is actually costing us $38 and we are selling him for this figure, we are engaged merely in the unprofitable occupation of swapping dollars and must soon tire of it; but I am convinced that, if we view the matter in the right perspective, we shall find such is not the case. That cost is made up of many items that can properly be credited as profits—interest on the value of the cow—and this a liberal and potential value rather than her actual worth for beef at the moment; income from grass, which you would regard as a satisfactory and profitable return if rented to a grazier; a round profit on the roughage—often of poor quality and unsalable—charged to the cow, which profit you could obtain so readily in no other way; fertility added to your soil by feeding and grazing the cattle upon it; and lastly, the unearned increment which time and the evolution of our industrial and social conditions are rapidly and surely affixing to the value of the land which you own and use.

These profitable items are the ones on which stress should be laid in reckoning the cost of the calf. When we have gotten rid of our longing for purely speculative and spectacular returns from our operations and are able to view the true facts of the business more philosophically and reasonably, we shall all be better and more contented farmers.

This is my honest belief and the same principle applies, I think, to the business of feeding as well as to that of breeding cattle and to all other branches of the agricultural profession. When our friends, the packers, who finally manufacture our product, shall acquire something of a kindred vision and apply it to their own operations, I'm sure we shall all be happier and shall live on better terms with each other than is the case at present.

Rainfall Over Kansas, for January

Reports Furnished by S. D. Flora, Observer, U. S. Weather Bureau.



THIS January was one of the driest on record in Kansas, with the precipitation below normal in practically every county and not heavy enough to soak the ground well anywhere in the state. In the western half there has not been a snow this winter that was heavy enough to saturate the soil as it melted, and very few western counties have had a good general rain since last August.

Wheat has been at a standstill for the past two months and a half on account of the lack of moisture, but it is generally reported to be still alive and capable of growth if more favorable weather comes soon.

NO MONEY IN ADVANCE

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Order any size **Majestic Cream Separator** you want—no deposit—no C. O. D.—no security. When the separator comes, work it 30 days and if you are not fully satisfied with it, send it back at our expense and you will not be out one cent. If you are completely convinced that the "Majestic" is a wonderful bargain and just the cream separator you want, then keep it and pay one-tenth in 30 days and balance in 9 equal monthly payments or pay one-sixth, 60 days after arrival and balance in 5 equal payments at intervals of 2 months each—giving you

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Test it on warm or cold milk and find out by actual results how the Majestic skims down to the last drop—note the fine condition of the cream—how much quicker it skims than any other you have ever seen. You will find it just the separator you want. Our free trial without money or security offer proves it to you.

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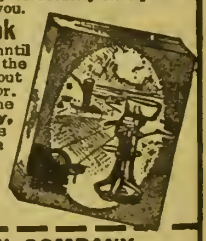
Don't buy a separator until you get all the facts about the "Majestic". Learn all about this wonderful Separator. Compare our low price. The Majestic on our **year-to-pay, farm credit terms** costs less than others ask all cash for. Get the proof. It's in this book. Mail coupon.



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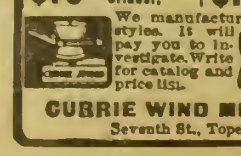

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Annual Prize Week for Standard boosters. It will pay you well to see the Standard Dealer in your town, or write us at once for special offer coupon. Handy note book free with each coupon by mail.

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Durable, Powerful, Reliable, Massive. Built to last; to do hard, heavy work. Uses Cheapest Fuel. Pull ¼ to ½ horse-power more than rated. ***3 Months Trial. Easy Terms.*** Sized ¼ to 22 H-P. Easy to start. No Cranking. No batteries. **10 Year Guarantee.** Most practical engine ever built. Engine book free. A Postal brings it.

THE OTTAWA MANUFACTURING CO.,
861 King Street, OTTAWA, KANSAS

Tractors Require Good Care

THAT the farm tractor cannot be neglected any more than can the farm work horse if it is expected to give good service, was the theme of one of the lectures given during Farm and Home Week by W. H. Sanders, instructor in farm motors at the Kansas Agricultural College.

"The horse may be a pure-bred or a scrub, intelligent and docile, or cranky and unmanageable," said Mr. Sanders. "Both horse and tractor need reasonable care and groowing. The horse must be regularly fed and watered—so must the engine. The horse does best work when not urged beyond his strength. The tractor rapidly deteriorates if made to work at its maximum power.

"A horse becomes ill or out of condition when wrongly fed or fed with musty dirty feed. The engine has trouble and gets out of condition if harmfully fed its fuel or lubricating oil, or when wrong oils are used. A horse is sometimes ruined if watered when overheated. Engine cylinders can be ruined if allowed to run without water in the cooling system, and then water is suddenly turned on.

"The harness and hitches of horses must have intelligent attention if sore shoulders are eliminated and efficient work is to be done. The tractor harness or hitches must likewise be given careful attention.

"The horse needs protection from inclement weather for the conservation of his best energies. A tractor left out in any weather, dust storms, and cold, will suffer enormously. Both need careful housing. The veterinarian is called upon to keep the horse well. The tractor needs no less its competent mechanic to prescribe for and cure worn or broken parts and make repairs.

"A horse must be shod to do his best pulling, so too must the "shoes" or lugs of the tractor receive attention. The 'hoss doctor' can be the engine operator himself if endowed with common sense and a few tools. Instead of the horseshoer, the driver and a wrench are needed. The harness of a horse is seldom 'made over' to suit the particular work or condition. Here again a few simple adjustments of bolts and bars give a wide range of work conditions with a tractor.

"The idea that has been fostered by unscrupulous salesmen that a 12-year-old boy can succeed as an operator, has been thoroughly exploded. No man of common sense will say that a child of such tender years is competent to breed, raise and break horses for farm use. The successful tractor operator must grow up a while with tractors and study them as to their habits, care, and work. One must get 'tractor sense' as the horseman gets 'horse sense.'

"It is highly desirable that correct information be given engine operators before they start in the tractor game.

"Kansas is reputed to have more tractors on farms than any other state in the Union. This number is estimated by many as 3,000 to 5,000. This shows that as far as the college is concerned, informational help has reached but about one-third of the number required to operate all of them."

Automobiles in School Work

In a successful attempt to show that the once jeered-at automobile is today making itself indispensable in a countless number of ways, the current number of American Motorist brings a large variety of photographs to give testimony in behalf of the motor car. Among these is a picture of the Fullerton, Cal., high school, and a long string of automobiles which the institution utilizes to bring its pupils to school and take them home again.

The cars haul 450 pupils twice a day. There is no charge for the transportation, and the cars operate in a nine-mile radius. During the day some of the cars are used to convey classes in botany into the surrounding country, while others are used as models in the school's auto instruction department. The school district owns and operates the cars.

At the annual meeting of the Rooks County Live Stock Improvement Association held January 26, it was decided to hold a sale of registered stock March 8. The association is planning for two events each year. In September one day will be given to a colt show and the following day a sale will be held. Sires entered in these sales must be registered.

Curing meats at home will aid very materially in reducing the high cost of living. This practice, who has been abandoned by a good many farmers, should be taken up again.

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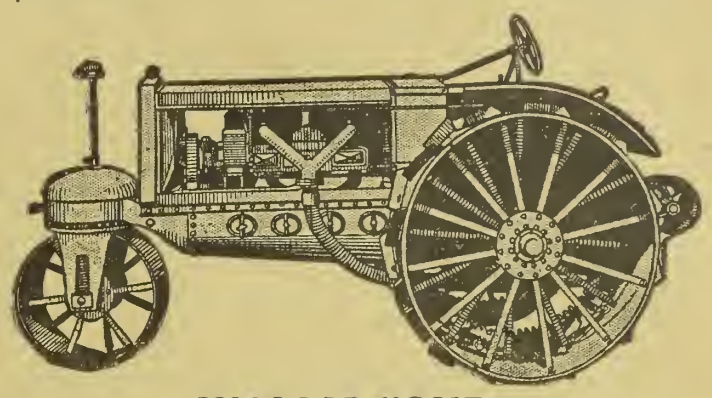

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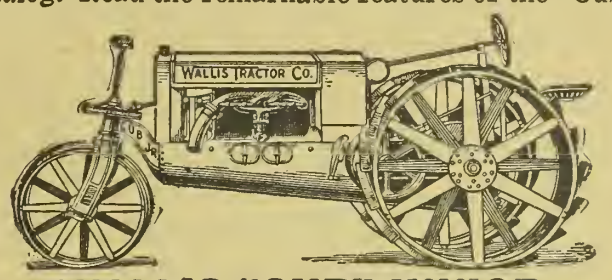
Already this premier medium weight tractor is proving the wisdom of building for quality, regardless of price. On farms everywhere the great speed records made by the "Cub" and the durability proved in its sensational "1000 mile cross country run" are being duplicated. The "Cub" does heaviest work with ease on only 80% of its tremendous power, holding 20% in reserve for emergencies. This with Low Upkeep and Long Service assures true economy. Write for free catalog. Read the remarkable features of the "Cub."

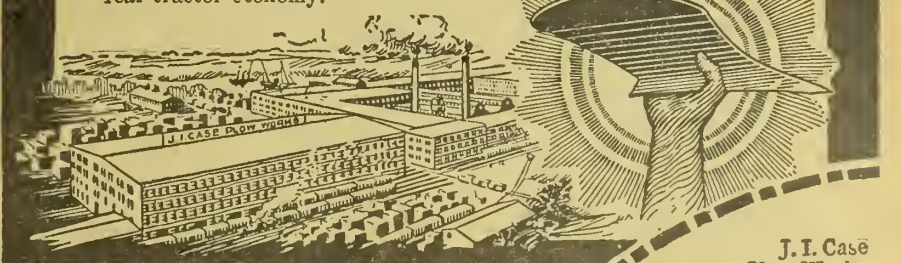


WALLIS "CUB" JUNIOR
Mightiest of All Light Tractors

In the "Cub" Junior the pinnacle of small tractor construction is reached. Delivers a pull at the draw bar (2600 lbs.) almost equal to its weight. In anything but size it duplicates quality and dependability of the "Cub." Great Reserve Power! Long Service! Wonderful Durability! Amazing Low Upkeep! These things which mean maximum service at least cost—you get in the "Cub" Junior. Submarine type, dust proof body! Finest heat treated steels! Perfect lubricating system! Hyatt Heavy Duty Roller Bearings! Spring Mounted! These are a few of the distinctive features of this master small tractor. Write for catalog at once. Every farmer should know about this noteworthy achievement in tractor engineering.

MAIL COUPON FOR DETAILS

Find out about these two great tractor successes. No matter what size farm you own, buy the right tractor FIRST! Our catalog is a revelation of real tractor economy.



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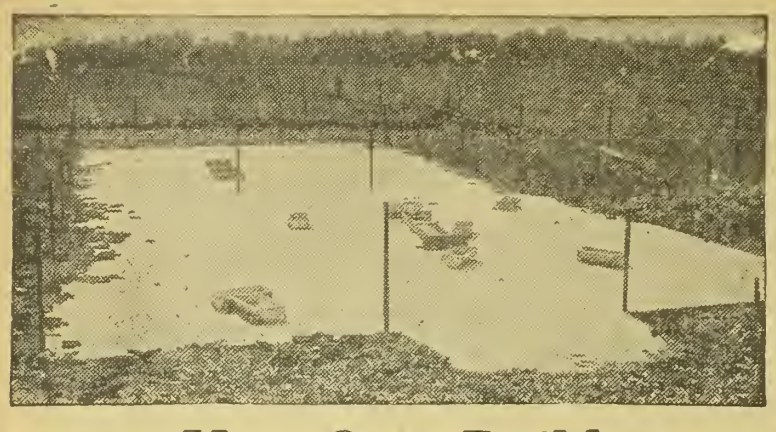

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You'll find it one of the most practical and money-making improvements you can add to your farm.

Concrete feeding floors are not hard to build. They cost but little. They are permanent.

You know how muddy the unpaved feed lot gets. Much of the feed is wasted. You know how rats nest under wooden floors. They carry disease. They live on grain that should go to fatten your stock. Why support rats to breed disease? Think of the saving in feed and labor a concrete feeding floor would mean to you. In the city of New Orleans where millions were spent in rat-proofing old buildings, many foundations were changed to concrete.

Concrete is sanitary. Clean up the feed lot and barnyard with concrete.

You can build a concrete feeding floor. A gravel bank on your farm or near by will supply the sand and pebbles. Your dealer has the Portland cement.

You are losing money every day without a concrete feeding floor.

Write for a free copy of "Concrete Feeding Floors, Barnyard Pavements and Concrete Walks." Upon receipt of your request for Booklet No. 137 it will be sent promptly.

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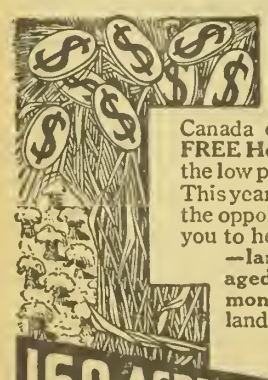

Raise High Priced Wheat on Fertile Canadian Soil

Canada extends to you a hearty invitation to settle on her **FREE Homestead lands of 160 acres each** or secure some of the low priced lands in **Manitoba, Saskatchewan and Alberta.** This year **wheat is higher** but **Canadian land just as cheap,** so the opportunity is more attractive than ever. Canada wants you to help **feed the world** by tilling some of her fertile soil **—land similar to that** which during many years **has averaged 20 to 45 bushels of wheat to the acre.** Think of the **money you can make** with wheat around **$2 a bushel** and land so easy to get. Wonderful yields also of **Oats, Barley and Flax. Mixed farming** in Western Canada is **as profitable an industry as grain growing.**

160 ACRE FARMS IN WESTERN CANADA FREE

The Government this year is asking farmers to put increased acreage into grain. Military service is not compulsory in Canada but there is a great demand for farm labor to replace the many young men who have volunteered for service. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature as to reduced railway rates to Supt. of Immigration, Ottawa, Can., or to

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Constantly Flooding Every Bearing With Oil, Makes It Pump In The Lightest Breeze And Prevents Wear
OIL SUPPLY REPLENISHED ONLY ONCE A YEAR
DOUBLE GEARS — Each Carrying Half the Load
Every feature desirable in a windmill in the AUTO-OILED AERMOTOR
WRITE AERMOTOR CO. 2500 12TH ST., CHICAGO

A few lilacs, hydrangeas, spireas or snowballs add much to the attractiveness of the home grounds.

The seed supply, particularly sorghums, is short in Western and Northwestern Kansas, and the indications are that the sooner seed is secured, the better. A number of farmers have already secured what seed they will need for spring planting and some of those who had seed for sale have completely sold out their surplus.

"Standardization is not an end within itself. Its mission is to awaken in the public mind a deeper interest in the condition of our rural schools, and then it remains for that interest, once aroused, to express itself in working out fundamental reforms in our school system."

FARM ITEMS

Use Best Layers as Breeders

It is not the usual practice to have breeding pens in the farm flock. It is important to breed from hens that are good layers. Any hen can lay in the spring, but the one which lays through the winter when eggs are high is the one which deserves recognition by promotion to the breeding flock. Mark these good layers and use them in reproducing their good qualities.

It is easy to select the laying hen. Her comb is bright and red and her pin bones will be spread apart. Hens meeting these qualifications should be set apart with a good, vigorous male bird. It is folly to breed from the entire flock. By selecting a few of the best birds, progress will be made. Where no selection is practiced, the poor producers will be used for breeding, for even loafers will lay in the spring. It is also a mistake to breed from the immature and undersized stock. Over-fat, coarse-boned hens or those which crop behind should never be put in the breeding pen. The best place for them is on the table. Pick out the good birds and note the improvement. Use fewer males so that you can afford better stock.

Sweet Clover Experience

A good many inquiries are received about sweet clover. The following letter from E. B. Lewis, Jewell County, appeared in the Jewell County Farm Bureau News:

"Several have asked about my sweet clover experience, and I will tell you. The first I sowed was in the pasture on the sandy bottom near the Republican River. I sowed unhulled seed in February. I sowed about six or seven pounds to the acre with the intention of duplicating the seeding the next winter. I secured an excellent half stand, four inches high; the floods came, and kept coming, and killed most of it. I resowed part of this ground again last winter and have a good half stand again. The object in the two sowings is to secure seeding plants each year, for this is permanent pasture. I will sow the other half stand this winter, also of unhulled seed.

"In another field on the upland we prepared the ground by disking and rolling with corrugated roller, drilling hulled clover at the rate of about fifteen pounds to the acre, May 1, 1916. Weather conditions were very favorable and we secured an excellent full stand. About June 15, 1916, we turned the milk cows, work horses (at night), and hogs on this field. The plants were about six inches high and all the stock seemed to rather eat there than elsewhere, except the hogs. They would cross the sweet clover to the alfalfa field. About July 15 we shut out stock from this field for a month, then turned them on again for two or three weeks. This was to keep the horses from eating it too close.

"We have had no trouble with bloat, or to get stock to eat it. We have to shut the gates to keep the stock from eating it. I expect to sow about fifty acres this winter. This will be on badly worn-out soil in an effort to build it up quickly."

Rearing Chickens with Hens

Hens are often used to raise incubator-hatched chicks and to take the place of the artificial brooder, a practice that is in operation on many poultry farms. A few eggs are put under the hen four or five days before the incubator is to hatch. In the evening following the hatch of the incubator, after the chickens are thoroughly dry, one or two are put under the hen, and if she is found to mother them properly, the next evening as many more are added as she can brood or care for properly. Hens will succeed fully brood ten to fifteen chickens early in the breeding season, and eighteen to twenty-five in warm weather, depending on the size of the hen. This method of handling chickens does away with the artificial brooder, and where one has only a small number of chickens to raise it is a very easy manner in which to handle them, and also a good method when it is desired to raise separately special lots of chickens.

It should be borne in mind, in adding chickens to a hen which already has some to brood, that it is best to add those of the same color and age as the ones already with her, as the hen will

Biggest Hatches Strongest Chicks



That's what you will get with my Hatching Outfit—and I can prove it. The whole story is in my big Book "Hatching Facts" in colors—sent Free, write for it. It gives short cuts to Poultry Success—what to do and how to do it. Start one of these wonderful Prize Winning Incubators making money for you.

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With railroad facilities this country is developing fast. Farmers are making goor profits on small investments. It is the place today for the man of moderate means.

Wheat, oats, barley, speltz, kaffir and broom corn, milo and feterita grow abundantly in the Southwest counties referred to. Chickens, hogs, dairy cows and beef cattle increase your profits.

You can get 160 acres for $200 to $300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6 per cent—price $10 to $15 an acre.

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Don't plant more than enough apples to supply home use, unless they can be well taken care of. They are not a profitable crop on the average farm unless some attention is given them.

often pick the later arrivals if they are of a color different from the ones she is already brooding. As a rule this transferring should take place at night, although with a gentle hen it can be done in the morning.

Powder the hen with a good insect powder before moving her and the chickens to the brood coop. The hen should be dusted every two weeks or as often as necessary until the chickens are weaned. If lice become thick on the chickens, or if they are troubled with "head lice," a very little grease, such as lard or vaseline, may be applied with the fingers on the head, neck, under the wings, and around the vent. Great care should be taken, however, not to get too much grease on the chickens, as it will stop their growth and in some cases may prove fatal.

The brood coop should be cleaned at least once a week and kept free from mites. If mites are found in the coop, it should be thoroughly cleaned and sprayed with kerosene oil or crude petroleum. From one to two inches of sand or dry dirt or a thin layer of straw or fine hay should be spread on the floor of the coop. Brood coops should be moved weekly to fresh ground, preferably where there is new grass. Shade is very essential in rearing chickens, especially during warm weather; therefore, the coops should be placed in the shade whenever possible. A cornfield makes fine range for young chickens, as they secure many bugs and worms and have fresh ground to run on most of the time, due to the cultivation of the ground, and have abundant shade at the same time.

It is a good plan to toe punch or mark all the chickens before they are transferred to the brooder or brood coop, so that their age and breeding can be readily determined after they are matured. Farmers frequently keep old hens on their farms and kill the younger hens and pullets, because they are unable to distinguish between them after the pullets have matured.

Home-Made Brooders.

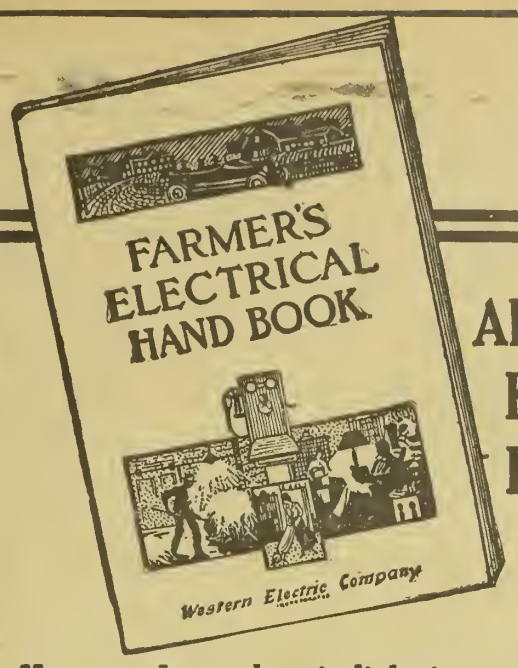
Here is a brooder that will put back into use a million incubators, and right now is the time for you to write the Raisall Remedy Company, Blackwell, Oklahoma, and get their plans for building the best home-made brooder in the world from an ordinary box or change any old brooder that you might have, so that you can use the warm medicated dirt floor and feather hover. Unless you keep the baby chicks' feet warm you will never raise them. The floor of a brooder must be bone dry and warm at all times and you must have a good hover. Chicks will never crowd nor pile up on a warm floor, neither will a warm floor cause leg weakness, which is due to cold hard floors and not enough exercise.

You should certainly write the Raisall Remedy Company and get their plans for building their brooders or remodeling your old ones, in this way you can use the warm medicated dirt floor and feather hover. They are equipped with the famous Hydro Heater Lamp which is the one safe brooder lamp. They will run a week at one filling. The outfit sent parcel post prepaid with full directions for changing any old brooder or building one of these from an ordinary box, $5, two for $8.

They are made by Mr. Tredway, who has spent his entire life in the business, and the principle is certainly right. If you have any trouble with your baby chicks, you should certainly try this out. Hovers are all same size, 20 x 30 inches. Medicated dirt floor makes brooder absolutely immune from mites and lice. Send for one or two of these outfits today, or write the Raisall Remedy Company for their circulars.

With hovers and lamps they send you free a package of remedy to prevent chicks from dying in the shell at hatching time. Price of remedy alone, $1.50, will hatch 500 chicks. With your order mention this paper and date. Don't put it off, write today.—[Advertisement.]

Before plowing the garden patch this spring, rake together and burn all the dead vines, grass, sticks and any other sort of rubbish, and you will save your plants from hosts of plant pests. Cutworms and adult tarnished plant bugs, squash bugs, cucumber beetles, Colorado potato beetles, Harlequin cabbage bugs, bean leaf beetles and other insects live during the winter in trash about the vegetable garden. Clean culture also tends to prevent many fungous diseases, as wilts and rusts, from spreading.



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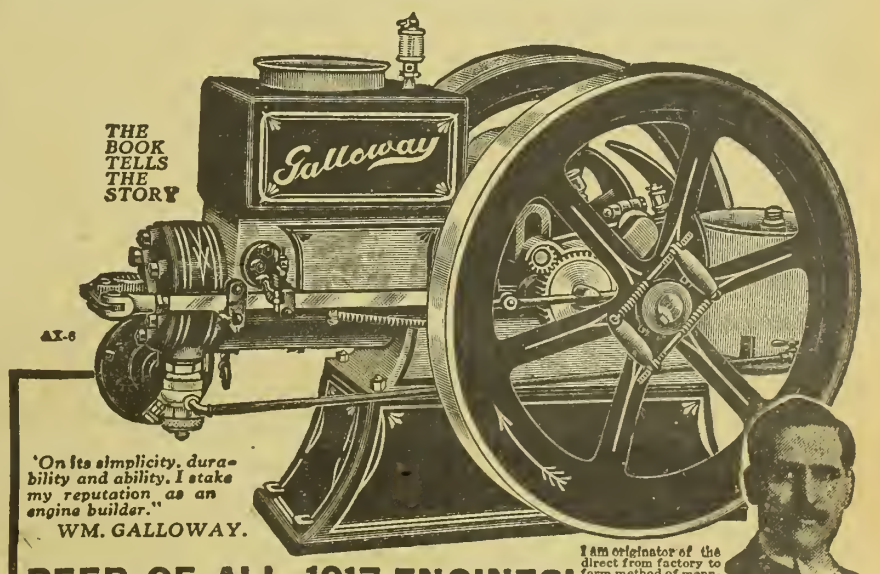

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KNOW THIS ENGINE and you will buy it--you will at least try it. Its design, the material from which it is built and the workmanship and finish and its low wholesale price demand that you compare the Galloway engine with any other engine on the market. That is what my customers have done and why our annual sales have run into the thousands upon thousands. If you pay more than Galloway's price it would only be paying too much. If you pay less you could not possibly be getting as good an engine. One could not be built for less.

1917 IMPROVEMENTS include--adjustable bearings. Economy carburetor, worth $15 more on any engine, costs nothing extra on the Galloway--cuts down fuel bills. Valves in head exactly like high-class automobile motors. Double Ball governor, never sticks, regulates speed perfectly. Large, heavy, over-size flywheels. Large bore, long stroke, heavy-weight, perfect balance. Blue-hot spark magneto. Make and break Galloway igniter--easy to start--no cranking--needs no batteries. Cylinder and water pot frost proof.

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FIVE SELLING PLANS—BACKED BY A BOND! I make it easy for you to buy a good engine on either cash or time payments. Cash, bank deposit, half cash half note, all note and installment. You can try a Galloway engine on your own farm--in your own shop--for an actual power test without expense to yourself, and buy on any one of these plans. A Galloway engine must prove to you--you to be the sole judge--whether or not it actually does everything we claim for it and satisfy you in every way. Ask for my book today. Engines shipped from our transfer houses at Council Bluffs, St. Paul, Kansas City, Chicago and from Waterloo factories. We are engine manufacturing specialists.

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We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

As one lamp lights another, nor grows less,
So nobleness enkindleth nobleness.
—Lowell.

There is never a time when we can afford to be careless about fire risks.

How many times have you visited the school during the present school year? Are you and the teacher working together on a basis of understanding regarding your son and daughter? There is a limitation to the work that can be accomplished by the teacher without the co-operation of the parents.

Farm and Home Week

We feel sure the busy mother who left her household cares to another in order that she might attend the Farm and Home Week meetings at Manhattan last week, felt well repaid for the effort required to make the trip.

One feature about this year's meeting was the presence of the regular college students on every hand. The visitors saw the school working to capacity. However, nothing but harmony was in evidence and the courtesy of the students was noticeable.

Every session of the home economics program resounded the importance of woman and her influence in the world. We studied her as the loving wife and mother, the thoughtful and business-like spender, and the character- and habit-builder for her young family. This is a very broad field to cover in so short a time. As every mother knows, it is a field that is never covered, for ever before her stretches an unconquered spot in her individual experiences, but much valuable help can be obtained through a discussion of underlying principles, and this was the purpose of the program.

VALUE OF NUTRITION TO CHILD

We learned anew the direct relationship between the food the child eats and his attitude toward life—that his breakfast, dinner and supper influence far more than is generally believed, his ambition to make the most possible of his life and his opportunities. We were impressed with the complexity of the human body and the care of it necessary to give it wearing quality and allow it to yield its greatest possible return.

President Waters, in his talk to the women, emphasized the need for scientific investigation of the relation of food to human efficiency, to the end that our boys and girls may develop strong, disease-resisting bodies so necessary for moral and mental strength. He illustrated his talk with photographs of pigs used in feeding experiments at the college, showing the wholly different results obtained by the use of different feeds. He stated that though there is no comparison between pigs and children in most ways, yet the possibilities of response to nutrition tests is much the same in both. He told us of a school in the congested district of the city of St. Louis where the capacity for work is much below the average, which condition is attributable to the poorly nourished bodies of these unfortunate children.

Dean Willard gave it as his belief that malnutrition is the door through which many disease germs enter the body where they quietly do their destructive work long before their presence is realized.

What great importance all this places upon the study of the child's diet in order that his body may be properly nourished and developed and the waste tissues may be repaired.

EFFICIENT LIFE SERVICE

The theme of all the meetings was more efficient life service and we learned of the many different ways in which this life service is influenced by agencies over which we have control. One speaker said it requires twenty-two years to complete a human life. What a wonderful structure this is and unless it is built of the right material and with the greatest care, how foolish it is to expect it to withstand the tests of strength to which it is bound to be subjected in the course of three score years and ten. Built poorly, it will succumb to the storms that beat upon it as does the house or barn that is not sufficiently reinforced with strong timbers.

IMPORTANCE OF MOTHER'S HEALTH

Special emphasis was placed on the value of the well-built body to the mother upon whom, to a great extent, depends the happiness and welfare of the family. One speaker went so far as to say that to be well is to be happy and that if people are well they cannot help smiling. She also brought out the need for the mother storing energy to be drawn upon on occasions of sickness in the family when her endurance is so greatly overtaxed by her extra cares and her anxiety. If she has some reserve energy, this will greatly relieve the physical strain at such times.

As a means toward this saving of strength and energy, the choosing of essentials from non-essentials was suggested. Illustrating this point, the speaker pictured the home where perfect order of the material furnishings has the right-of-way, leaving little time for supplying the more important needs of the family. For instance, no matter how good the books and magazines, if they must always be in place much energy will be required to keep them there and they will be of little real value. This practice sacrifices home-making for housekeeping. Each has its place, but surely the housekeeping should never be considered the more important.

HOUSEWIFE AS BUYING AGENT

As seventy-five to ninety per cent of the money earned is used in buying shelter, food and clothing, surely there is great need for the housewife to study the economy of spending this money judiciously. Many helps were given in this line. The keynote sounded on this question was that the housewife needs thorough training in her profession that she may know the articles for which the money goes and may know their value to her. A table filled with canned goods, meats, dried beans, cereals, etc., of the different qualities, graphically bore out the argument for economy in buying food. It was not hard to realize there are places where the cracked rice does quite as well as the whole grains, making possible a saving of half the cost. We also learned something about the different cuts of meat and the value of this knowledge to the buyer of meat.

After hearing the little talk on the development of judgment in the buying of clothing materials, no one could doubt the advisability of knowing these materials when buying them over the counter.

Concerning the buying of shelter, one speaker stated girls should be so trained that they will be able to plan their houses—be able to select the ground with regard to drainage, etc., select the lumber, know the prices of the materials that are needed for building the house, understand the details of the plans and be able to make a blueprint of them if necessary. She would have the housewife trained for efficiency as the purchasing agent for the family.

INTEREST IN CANNING CLUB EXHIBIT

The exhibit of the Glenwood Mother-Daughter Canning Club of Leavenworth County, which has won recognition both locally and from the Federal Department of Agriculture, stood on the stage of the college auditorium throughout the week where all might have an opportunity to examine it closely. It received much attention and many favorable comments were heard about the accomplishments of this club. Two of the teams in this club—Mrs. J. M. Timmons, Miss Edith Timburg, Mrs. F. L. Marshall, Miss Lela Hampton—gave a canning demonstration Thursday afternoon and Mrs. Timmons, president of the club, gave the history of the club and told of the work it has done and that planned for the future. We attended no meeting where the interest was greater than at this one. At



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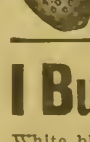

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the close of Mrs. Timmons' talk she was kept busy for three-quarters of an hour answering questions about the different operations in canning fruits, vegetables and meats. These were answered in a very comprehensible way and out of the experience of herself or other members of the club.

BOYS' AND GIRLS' PROGRAM

The entertainment for the boys and girls was in charge of Otis E. Hall, State Club Leader. This was a very complete program and was enjoyed by all. There were a number of good talks designed to help the young folks in their club work, there were judging demonstrations of live stock and field crops, and these were interspersed with periods of recreation in which there were short, exciting contests in rope-tying, sewing, also games in which all were invited to take part.

These children were a happy bunch and we are sure they took home with them memories and ideas that will bear good fruit in their lives. Too much importance cannot be placed upon directing the activities of the boys and girls, and each year's results of the state club work are more gratifying.

We have here only touched upon some of the things of importance in the programs for the women and the boys and girls. It would take many pages to report this meeting. But the true worth of Farm and Home Week cannot be measured on paper—it will be realized and understood only by those who put into practice the helpful suggestions gathered during the week. The meetings abounded in these but unless they are applied they will be lost.

Much credit is due the members of the Extension Division of the college, who plan this annual program. Those in attendance are loud in their praise of this effort to hold a state-wide institute. This year the visitors numbered over 1,500, and we regret that not more were able to be present. The whole meeting is designed to further permanent, prosperous, satisfying agriculture, and covers the wide scope necessary to this end.

Savory Fried Apples

Fry a sliced onion until tender, in bacon drippings. Add quartered and cored apples—pared or not, as you prefer. Fry until tender, then add sugar to taste, and watch carefully to see that the apples brown without burning. This combination is as delicious as it is unusual.

Grape Souffle

1 pint grape juice
½ cupful granulated sugar
1 package gelatin
Whites of two eggs
Pinch of salt

Heat grape juice and sugar in double boiler. Dissolve gelatin as directed on package, add salt. Pour gelatin into grape juice and sugar and let it all heat through, then pour into bowl to cool. When it begins to congeal, beat into it the stiffly beaten whites of the eggs. Serve with whipped cream.

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This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8032—Girls' Dress: Cut in sizes 6, 8, 10 and 12 years. Keeping the schoolgirl up to date is easy enough, when a dress like the one illustrated is the choice. The plain waist and three-gored gathered skirt join under a belt of separate material. A round collar, flaring cuffs and patch pockets in contrasting color, give an air of distinction. **No. 8013—Ladies' Dressing Sacque:** Cut in sizes 34 to 44 inches bust measure. The picture tells that the designed has the right idea of what a really comfortable dressing sacque is like. This garment is cut in a becoming length with the front ends meeting at the center. There is a choice of plain or full sleeve and two styles of collars. **No. 8036—Girls' Dress:** Cut in sizes 6 to 12 years. The closing outline of this dress shows that Fashion tried her hand at novelty with pleasing effect. The little frock is in one piece from the shoulder to the lower edge, having the back fitted with a tuck in each half; a belt holds in the graceful folds of the skirt section. **No. 8042—Ladies' Apron:** Cut in sizes 36 to 42 inches bust measure. A smarter or more comfortable model for housework or wear in the studio would be hard to find. Cut in one piece, this apron offers good protection for the dress and there is just the right touch of trimming given with contrasting goods for the yoke neck. **No. 8027—Ladies' Skirt:** Cut in sizes 24 to 32 inches waist measure. Designed according to the latest fashion notes, this model cut in six gores is an excellent one for two materials. The plaited effect at the back is a noteworthy development because the treatment suggests the popular yoke. The front gore of separate material prominently marks a panel beginning at shallow yoke depth and is the distinctive feature. **No. 8011—Ladies' House Dress:** Cut in sizes 34 to 44 inches bust measure. A thoroughly up to date serviceable garment is shown in the picture, with a tuck in each front and left front closing with button decoration to yoke depth. The neck finishes without a collar, but the sleeve sare cuffed with contrasting goods. The skirt is cut in seven gores.

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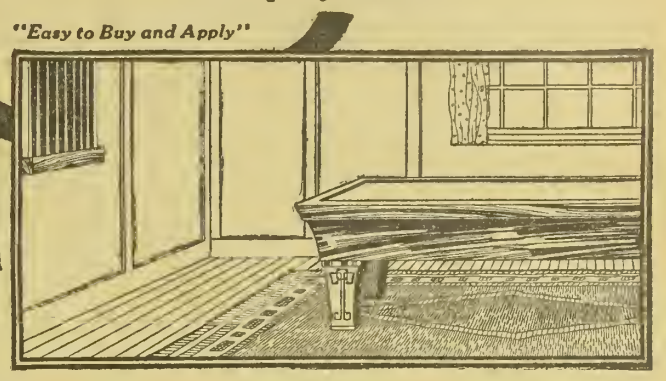

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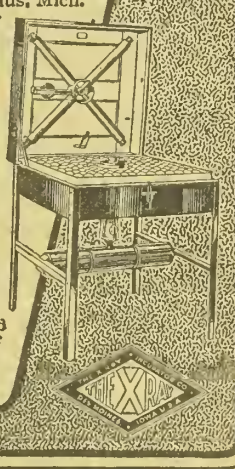

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20 PEACH COMPLETE FAMILY ORCHARD—2 to 3 foot, stock, well rooted. 2 Early Wonder, 2 Mamie Ross, 2 Champion, 7 Elberta, 3 Belle of Georgia, 2 Heath Cling, 2 Late Elberta. Covers all season, earliest to latest. Agents ask $4.50. Collection No. 5..... **$1.60**

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TAKEN UP—BY ROY J. PHILLIPS, Council Grove, Council Grove Township, Morris County, Kansas, on December 18, 1916, one red heifer, no marks or brands. Appraised at $25. Lee A. Moser, County Clerk.

TAKEN UP—BY MAGGIE A. BOLTON, Council Grove, Council Grove Township, Morris County, Kansas, on December 21, 1916, one mare mule two years old, color [illegible], no marks or brands. Appraised at [illegible]. Lee A. Moser, County Clerk.

TAKEN UP—BY OWEN O'NEIL, OF Windom, McPherson County, Kansas, on the twentieth day of December, 1916, one heifer coming two years old, color deep red, no marks or brands. W. E. Rostine, County Clerk, McPherson, Kansas.

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LANDOLOGY, A MAGAZINE GIVING the facts in regard to the land situation. Three months' subscription free. If for a home or as an investment you are thinking of buying good farm lands, simply write me a letter and say, "Mail me Landology and all particulars free." Address Editor Landology, Skidmore Land Co., 301 Skidmore Bldg., Marinette, Wis.

HORSES AND MULES.

CLOSING OUT SALE OF SHETLAND ponies. Geo. Aid, Gallatin, Mo.

FOR SALE—THREE REGISTERED PERcheron stallions, coming 2 years old. W. E. Dustin, Route 1, Topeka, Kansas.

SALE OR TRADE FOR YOUNG STOCK, 15-16th Belgian stallion 9 years old, weight 2,000 pounds; 65 per cent breeder. W. G. Shideler, Silver Lake, Kansas.

FOR SALE—TABASCO 5936, AMERICAN saddle horse, perfect beauty, gentle, five years old. Will exchange for Holstein cows or heifers. R. A. Bower, Eureka, Kansas.

WANTED — TO TRADE 1,000-POUND registered blue ribbon jack, 7 years old, black, for good draft stallion. J. E. Itschner, Box 122, Sayre, Okla.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure, excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

SHETLAND AND WELCH SPOTTED stallion, 650 pounds, 4 years, extra stylish driver, and some cash for good registered black or bay draft or jack. Lewis Cox, Concordia, Kan.

TREES, SEEDS AND PLANTS.

CLEAN ALFALFA SEED FOR SALE. Edwin S. Young, Route 10, Oklahoma City.

WATERMELONS—GUARANTEED PURE. Both Halbert Honey and Rubber Rind. H. A. Halbert, Originator, Coleman, Texas.

BOW CREEK FARM SEEDS—ALFALFA, feterita, kafir, Sudan grass, corn. (Sudan, sweet clover wanted.) Logan, Kansas.

TEN ELBERTA AND FIVE CHAMPION peach trees, postpaid, $1. Send now. Wellington Nurseries, Dept. C, Wellington, Kan.

SUDAN GRASS SEED FOR SALE, 35c per pound. 100 pounds at 30c, f. o. b. J. K. Burke, Estacado, Texas.

SEED CORN—BOONE COUNTY WHITE, carefully selected, $2.50 per bushel shelled. J. W. Taylor, Edwardsville, Kansas.

TREES, SEEDS AND PLANTS.

TREES AT WHOLESALE—CATALOGUE free. Agents wanted. Peyton Nurseries, Boonville, Mo.

NURSERY STOCK OF QUALITY THAT bears the choicest. Send for free catalog. Alpha Nursery, Alpha, Ill.

ALFALFA SEED, CHOICE, RECLEANED new crop at $8 per bushel. Write for samples. C. Markley, Belle Plaine, Kansas.

TIMOTHY SEED—FANCY, NEW CROP, recleaned timothy seed at $2.50 per bushel. Write today for samples. Watson Bros., Seed Merchants, Milan, Mo.

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IOWA GOLD MINE AND BOONE CO. White seed corn, selected, shelled, graded, $2 per. Choice alfalfa seed, $7.50 per. Samples free. J. F. Feigley, Enterprise, Kan.

REID'S YELLOW DENT, BOONE COUNTY White seed corn. Genuine Red Texas seed oats, clover, timothy and alfalfa seed. S. G. Trent, Hiawatha, Kansas.

TREES, SHRUBS, PLANTS, VINES, seeds. Everything at lowest prices direct to you. All tree peddlers' commissions cut out. Free book. Wichita Nurseries & Seed House, Shell Bldg., Wichita, Kansas.

SEND $1.00 FOR 100 PROGRESSIVE strawberry plants and get our Twentieth Century Berry Book absolutely free. Worth dollars to you. E. W. Townsend, Box 3, Salisbury, Md.

SEED CORN—IMPROVED HIGH YIELDing varieties. Guaranteed and priced reasonable. Let us send you pictures of this great corn. Write J. T. Bristow Seed Corn Farms, Wetmore, Kansas.

PURE WHITE BLOSSOM SWEET CLOver seed direct from grower. Hulled, $15; scarified, $16 per hundred pounds. Circulars and samples free. Willis Conable, Axtell, Kansas.

RED TEXAS RUST-PROOF SEED OATS, recleaned and carefully graded. You buy nothing but oats. Grown here one year. They are fine. Let me send you a sample and price. Warren Watts, Clay Center, Kan.

ALFALFA SEED FROM HIGH PRODUCing fields. 370 bushels threshed from forty acres. Quick to recover after each cutting. 95% germination, 99 purity. Test made by County Agent Schnacke. Won first at our fair. Price, $8 per bushel; new sacks, 25c. Stockwell Farms, Larned, Kansas.

KAFIR SEED — WE HAVE TWO CARS fine white kafir seed testing over 90 per cent germination, which we will sell while it last in 2-bushel sacks at $1.85 per bushel. Sacks free. It is going to be hard to find good kafir like this this year. If you will need kafir, better order quick. Brooks Wholesale Co., Ft. Scott, Kan.

MISCELLANEOUS.

CASH PAID FOR BUFFALO NICKELS and Lincoln pennies. Dime gets coin list. Dime refunded if dissatisfied. Clarence Beck, Terrell, Texas.

YOU CAN MAKE A GOOD LIVING IN your back yard raising Belgian hares. Full particulars and price list of all breeds, 10c. W. G. Thorson, Aurora, Colo.

FOR SALE — 16-HORSEPOWER GASOline engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost $480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431.28 W. Jackson Boulevard, Chicago.

DOGS.

HIGH CLASS PEDIGREED ST. BERnard pups, price $25. F. J. Lefferdink, Hickman, Neb.

FOR SALE—PAIR GUARANTEED COON hounds. Send 2 cents for prices. John Rash, Centerville, Kansas.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

CATTLE.

FOR SALE — EIGHT HEAD CHOICE high grade Polled Durham cows, heifers and bull. C. M. Albright, Overbrook, Kan.

FOR SALE — REGISTERED HOLSTEIN bull, fifteen months old. Good breeding. Priced to sell. F. E. Weed, Athol, Kansas.

POLLED JERSEYS—BREEDERS' NAMES of Chas. S. Hatfield, Secy., Box 40, Route 4, Springfield, Ohio

FOR SALE — REGISTERED HOLSTEIN bulls, ready for service. Prices right. G. H. Ross, Independence, Kansas.

FOR SALE — REGISTERED GUERNSEY bull, serviceable age; May Rose-Glenwood breeding. For description and price write W. E. Evans, Jewell, Kansas.

FOUR REGISTERED JERSEY COWS and heifers for sale. Golden Lad and St Lambert breeding. Priced to sell. W. F. Pyke, Marion, Kansas.

(Continued on Next Page.)

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm — F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN-FRIESIAN FARM, TOWANDA, KANSAS

Breeders of pure-bred Holsteins. Special attractions in choice young bulls ready for service, with fashionable breeding. Write for pedigrees and prices. We maintain a breeding herd of pure-bred females and offer a grand lot of young springing heifers and cows, a number with A. R. O. records at prices within reason.

IT WILL PAY YOU TO SEE OUR OFFERING

Of choice extra high grade young cows and heifers, all springers in calf to pure-bred sires; large developed females, good udders, well marked and the right dairy type at prices that will challenge comparison for Holsteins of their breeding and quality. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone.

GIROD & ROBISON

MAURER'S HOLSTEIN FARM

We have a choice lot of high grade cows, fresh and springers. Also grade and pure-bred calves of either sex. We can please you in good Holsteins.

T. R. MAURER & COMPANY -:- -:- EMPORIA, KANSAS

Real Estate For Sale

Have been in business here nine years. Can serve you, should you wish to buy land in Eastern Oklahoma. Write us.
SOUTHERN REALTY CO., McAlester, Okla.

EIGHTY-ACRE FARM, good buildings, land in high state of cultivation. Well located. A special bargain at a special price. Come at once, as this farm should not be on the market long. Possession on short notice. Terms if wanted. Write for list of any size farm you are interested in. Clover, alfalfa and corn land.
MANSFIELD LAND CO., Ottawa, Kansas.

RANCH FOR SALE

Eight miles from county seat and shipping point. One-half mile to school. 200 acres under cultivation; 400 or 500 acres good alfalfa land if cultivated; creek running through place giving plenty of living water; 200 acres or more of good timber; excellent shelter for stock; balance good buffalo grass pasture. Nine-room story-and-a-half house, cistern, well, wind mill, carriage shed, granary, corrals, hog lots, chicken yards, etc. This is one of the best ranches in the county. Come and be shown. Have lived on ranch for forty years, am retiring and would sell. For particulars address
P. O. BOX 292, MEDICINE LODGE, KAN.

CLASSIFIED ADS.

CATTLE.

300 HEAD OF REGISTERED AND HIGH grade cows and heifers for sale, headed by the great 40-pound bull, Johanna King Segis. Neal Houslett, Oxford, Wis.

FOR SALE CHEAP — A PURE-BRED Jersey bull, four months old; from an extra good milker. Milk test of nearly 8 per cent. Eber Anderson, Clay Center, Kansas.

FOR SALE—SIX PURE-BRED SHORThorn bulls from six to ten months old. Good lusty calves at the right price. Warren Watts, Clay Center, Kansas.

HOLSTEINS FOR SALE — ONE PURE-bred heifer calf and four grades, nicely marked and colored. Arthur Findlay, Whitewater, Wis.

FOR SALE — TWENTY HIGH GRADE Holsteins, 2 and 3 years old; large, nearly pure, freshen soon. Ernest Holmes, Garnett, Kansas.

FOR SALE—TEN HIGH GRADE GUERNsey cows and 150 pure-bred Duroc hogs. Bred sows, gilts, boars and fall pigs. Write for information. George M. Newlin, Hutchinson, Kansas.

WANTED—TEN HIGH GRADE OR REGistered cows to be fresh in March or April. Give full description and price in first letter. Geo. V. Dean, Columbus, Kansas, care T. A. Blake.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $20 apiece. Frank M. Hawes, Whitewater, Wis.

FOR SALE—SEVERAL GRADE POLLED Durham yearling bulls at $50. Two full-blood yearlings at $65. My herd bull coming four years, gentle, recorded in both books, at $100. One hundred western ewes five years old, bred to Shropshire bucks to lamb in March, at $9. David Baumgartner, Halstead, Kansas.

FARM AND HERD.

Ross & Vincent of Sterling, Kansas, are among the live boosters for improved stock in Kansas. They have good herds of Percheron horses and big-type Poland China hogs and report both herds doing well. This year they have bred a large number of gilts for March and April farrow. They are of Douglas Jr., Improved King Jr. and Cowles' Orange breeding.

As a result of the efforts of George W. Ela of Valley Falls, Kansas, and other Kansas Hampshire swine breeders, a meeting has been called to be held in Topeka on March 3 for the purpose of organizing a State Hampshire Swine Breeders' Association. E. C. Stone, secretary of the American Hampshire Breeders' Association, will be present and assist in the organization of the Kansas breeders. The organization of the association will be followed by an organized effort to secure a big Hampshire exhibit at the Topeka State Fair this year.

L. L. Humes of Glen Elder, Kansas, is one of the progressive young farmers of that section of the state and is also one of the live workers for improved stock on Kansas farms. He is building up a choice herd of pure-bred Duroc Jersey hogs with foundation stock from the best Duroc herds in the country. He has just completed a modern hog barn that is a model of convenience and utility.

W. B. Wallace of Bunceton, Missouri, held one of the good Poland China bred sow sales of the season. Sows bred to the great King Joe were in demand. No. 1 in the catalog topped the sale at $240, going to W. W. Perry of Spruce, Mo. The offering was presented in good breeding condition. The forty head catalogued sold for an average of $148. These prices were very satisfactory to Mr. Wallace.

HOLSTEIN CATTLE.



Purebred Registered

HOLSTEIN CATTLE

The scope of its labors and the numerous details involved in the administration of the affairs of the Holstein-Friesian Association are best comprehended by a consideration of the fact that, during the fiscal year ending April 30, 1916, $158,994.50 was received by the secretary's office for the registration of pedigrees and for transfers. This volume of business required 46,760 entries in the cash books, and the issuance of 142,120 certificates, and this prodigous labor is demanded for the conduct of but one department of the greatest dairy cattle breeders' association in the world.

Send for FREE Illustrated Descriptive Booklets.
The Holstein-Friesian Association of America
F. L. Houghton, Sec'y. Box 114, Brattleboro, Vt.

REGISTERED HOLSTEINS

We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.
M. E. MOORE & CO. - CAMERON, MO.

HOLSTEIN COWS

Holstein cows, springers or bred heifers. Very large, good markings, out of best milking strains, bred to pure-bred bulls of the very best blood. Special prices on carload lots. J. C. ROBISON, TOWANDA, KANSAS

CORYDALE FARM HERD

Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.
L. F. CORY & SON, BELLEVILLE, KAN.

Sunflower Herd Holsteins

Watch for Date of Big Public Sale.
150 head bred for production. Get catalog early.
F. J. SEARLE - OSKALOOSA, KANSAS

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

The Cedar Lane Holstein Herd

We are now offering some exceptionally good bulls of serviceable ages at very attractive prices. These calves are sired by our 29.4-pound grandson of Pontiac Korndyke.
T. M. EWING, INDEPENDENCE, KANSAS

LILAC DAIRY FARM

Route No. 2, Topeka, Kansas.
BREEDERS OF PURE-BRED HOLSTEINS
Bulls from A. R. O. cows, all ages, for sale.

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

REGIER'S HOLSTEINS

Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.
G. REGIER & SONS, WHITEWATER, KAN.

HOLSTEIN CALVES—Ten heifers and two bulls, 15-16ths pure, beautifully marked, 5 weeks old, from heavy milkers. $20 each, crated for shipment anywhere. Write EDGEWOOD FARM, Whitewater, Wis.

TREDICO BULLS
G. C. T.
Kingman, Kansas

HOLSTEIN CALVES.
Very high grade heifer calves, five weeks old, nicely marked, $20 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

CEDAR LAWN FARMS
C. A. Schroeder & Sons, Props.
Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.
W. C. SCHROEDER - WEST BEND, WIS.

Braeburn Holsteins A. R. O. BULL CALVES
H. B. Cowles, 608 Kansas Av., Topeka, Kan.

HIGH GRADE HOLSTEIN CALVES
Five to six weeks old, nearly pure, well marked, $20, express paid.
COLD SPRINGS FARM, Whitewater, Wis.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

The Kansas Hereford Breeders' Second Annual Sale Saturday, March 3, 1917

D. D. Casement, Manhattan, is consigning one bull sired by Caldo 7th.

Drennan Bros., Blue Rapids, are consigning one bull by Romany Rye and one by Columbus Y, out of Anxiety-bred cows.

Samuel Drybread, Elk City, is consigning six bulls by Beau Gallant and Rupert Donald from cows by Beau Donald 4th and Chancellor.

J. R. Goodman, White City, is consigning two heifers by Odessa Lad 10th and Caesar 8th. One is bred to the $2,500 "The Monarch."

Howell Bros., Herkimer, are consigning one heifer by Clark out of a Druid cow, and bred to Boatman Jr.

E. S. Jones, Emporia, is consigning four bulls by sons of Dandy Andrew and Beau Mystic 11th out of intensely bred Anxiety cows. Also two cows of similar breeding which are bred to Beau Mystic 59th.

The Kansas State Agricultural College, Manhattan, is consigning four bulls and three females of excellent breeding.

Klaus Bros., Bendena, are consigning six bulls by Beau Onward out of Fulfiller cows.

George Lungstrom, Lindsborg, is consigning two bulls by Dandy Andrew 8th out of cows by Lincoln 7th and Simpson.

Carl Miller, Belvue, is consigning two open heifers by Laredo Boy and Sir Paul from splendid dams.

John J. Phillips, Goodland, is consigning two bulls by Paladin 8th and three by Beau Monington, a son of Beau Mischief. Also a Beau Monington heifer.

John Poole, Manhattan, is consigning four bulls, two of which are polled, and one polled cow with heifer calf at side by a son of Bright Stanway.

W. H. Rhodes, Manhattan, is consigning one bull by Hal Donald out of a Parsifal cow, one bull and two heifers by Bonnie Beau 2d who is out of a Bonnie Brae 8th cow.

J. M. Rodgers, Beloit, is consigning three bulls and one heifer by Paragon 1st out of Castor 2d cows.

John Schmitt and J. G. Schmitt, Tipton, are consigning four bulls out of Lamplighter 2d cows by Beau Dare by Paragon 1st and Rose Lad.

Jos. F. Sedlacek, Blue Rapids, is consigning two bulls and one heifer by Maple Lad 34th by Bonnie Brae 8th. The heifer is bred to Beau Perfection 29th.

S. D. Seever, Smith Center, is consigning two bulls tracing to Lord Erling, Boatman, and Armour Cavalier.

J. B. Shields, Lost Springs, is consigning two bulls and one heifer by Debitola out of cows tracing to Beau Brummel, Java, and Anxiety Briton. The heifer is bred to Admiral Fairfax.

J. O. Southard, Comiskey, is consigning two bulls, one a son of imp. Farmer and out of a Perfection cow, two cows by Mapleton 2d out of Princeps cows, and a third cow tracing in every line to Beau Brummel. The cows are bred to King Farmer, Nero Fairfax, and Monarch.

C. G. Steele, Barnes, is consigning four heifers by Boatman Jr. out of such cows as Donation 2d, Blanche 3d by Beau March On, Abird by Onward 60th, and Bellairs Queen by Columbus Folly.

These cattle have all been personally inspected by some member of the Animal Husbandry Department. They represent the best blood lines and will appear in the sale ring in the most desirable condition to insure their usefulness to their new owners. Bulls are offered suitable to head pure-bred herds, and females which would improve the majority of herds by their presence.

Practically all these cattle were bred by the consignors, a few individuals have been calved as the property of the consignor. This insures a high class of animals which have not passed through second hands. This is a breeders' sale in which an effort has been made to secure animals that represent the best efforts of the Hereford breeders of Kansas.

For Catalog Write

W. A. COCHEL, MANAGER, MANHATTAN, KANSAS

AUCTION SALE--JERSEY CATTLE

SEVENTY-TWO HEAD

Forty-Four Cows, Twenty-Five Heifers and Heifer Calves, Three Bulls

Wednesday, February 21, 1917

Owned by estate of C. W. Clouser, at his farm on Faraon Street Road, St. Joseph, Missouri, half mile east of city limits. Offers greatest opportunity of the season to secure well bred and high class Jersey cattle at your own price. No catalog. For information how to reach the sale, call Phone Main 4285.

T. W. CLOUSER, ADMINISTRATOR

Route 1 St. Joseph, Missouri

RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

BARRED ROCK EGGS—WILL PLEASE. $1 postpaid. Mrs. Geo. Kennedy, Edmond, Okla.

WHITE ROCKS, SIZE AND QUALITY. Prices reasonable. Write G. M. Kretz, Clifton, Kansas.

WHITE ROCK COCKERELS, HALBACK strain, $3. Mrs. E. E. Merten, Clay Center, Kansas.

BARRED PLYMOUTH ROCKS — FARM-bred beauties. Eggs for hatching, 5c each. Mrs. W. C. Bocker, Solomon, Kan.

BUFF AND WHITE ROCK EGGS—FEmales scoring high as 96 and 96¾. Mating list. W. H. Beaver, St. John, Kansas.

WHITE ROCK COCKERELS, $1.50 AND $2. Eggs, $3 per hundred. Nora Lamaster, Hallowell, Kansas.

CHOICE BARRED PLYMOUTH ROCK cockerels and pullets, $2 to $3 each. E. Leighton, Effingham, Kansas.

PURE-BRED S. C. BARRED ROCK cockerels for sale and eggs in season. Mrs. Otho Farmer, Farnam, Neb.

ARISTOCRAT AND BRADLEY STRAIN Barred Rock cockerels, good size, bone and barring. Mrs. Bert McTaggart, Pawnee, Ill.

HATCHING EGGS FROM BARRED PLYmouth Rocks, excellent birds. Two dollars for fifteen. Peter H. Friesen, Route 1, Lehigh, Kansas.

BUFF ROCK COCKERELS — LARGE, early, clear buff to skin, $5 up. Garlic sets, 20c per pound. Don Chacey, Leavenworth, Kansas.

WHITE ROCK COCKERELS, U. R. Fishel strain. From prize stock, $2 to $2.50. Order soon. Mrs. Fred Rogowski, Beaver Crossing, Neb.

BLUE RIBBON BARRED ROCKS — Twenty-eight years' experience; 110 premiums. Cockerels, $3, $8; eggs, fifteen, $3. Mrs. Chris Bearman, Ottawa, Kansas.

"FISHEL" WHITE ROCKS, PURE-BRED. Four hens, three pullets, $3 each; one extra fine cock, $5; the pen, $24. Harper Lake Poultry Farm, Jamestown, Kansas.

BARRED PLYMOUTH ROCKS, E. B. Thompson strain. Eggs, $1.50 per fifteen; $2.50 per fifty; $6 per hundred. C. J. Rivir, Lafontaine, Ind.

FINE LARGE BARRED AND WHITE Rock cocks and cockerels. Forty-five prizes last year. Write for prices and mating list. H. F. Hicks, Cambridge, Kansas.

BARRED ROCKS, HENS AVERAGED 175 eggs, 1916. Trap-nest males and their pullets mated with fine cockerels. Eggs, 10c; fifty, $4. Farnsworth, 224 Tyler St., Topeka.

BUFF ROCKS—WILL CLOSE OUT REmaining utility cockerels from my New York, Chicago and St. Louis winners at $3 each. Pullets, $1.50 up. T. H. Lucas, Pattonville, Mo.

BARRED PLYMOUTH ROCKS, RHODE Island Reds. Fine lot of birds now ready for shipment. Prices reasonable. Quality guaranteed. Eggs in season. Tom Leftwich, Winfield, Kansas.

LINDAMOOD'S BARRED ROCKS, BOTH dark and light matings. Prices for eggs from special matings, $5 per fifteen. Utility eggs, $5 per hundred. Send for circular. C. C. Lindamood, Walton, Kansas.

BARRED ROCKS — FINE LAYERS, large size, yellow flesh, hardy. Buy the best. Prize winners at Missouri's two big shows. Eggs, fifteen, $1.50; hundred, $7. M. E. Lane, Clinton, Mo.

BLUE RIBBON WINNERS, MISSOURI and Kansas state shows. Barred Rocks, Ringlet strain. Eggs and stock for sale. Satisfaction guaranteed. Hartman's, Route 1, Webb City, Missouri.

BRAHMAS.

TWENTY MAMMOTH LIGHT BRAHMA cockerels for sale, $2 each. Eggs for hatching. R. W. Getty, Downs, Kansas.

LIGHT BRAHMA COCKERELS — 100 good heavy birds, have won prizes at leading shows. Can surely furnish you quality. Schreiber Farm, Sibley, Iowa.

DUCKS AND GEESE.

ENGLISH PENCILED INDIAN RUNNER drakes, $1 each. A. Grant, Rosalia, Kansas.

ROYAL BLUE STRAIN ROUEN DUCKS, $1.75 each. James Cassell, Fremont, Neb.

GEESE, EMBDEN, TOULOUSE, CHINA; turkeys, ducks. All leading breeds of poultry. Emma Ahlstedt, Roxbury, Kan.

PURE WHITE INDIAN RUNNER drakes, duadies, $1.50 each. Large vigorous Buff Rock cockerels, $1.50 up. G. W. Perkins, Newton, Kansas.

TURKEYS.

MAMMOTH BRONZE TURKEY TOMS, Pekin ducks. F. J. Yarnall, Carman, Neb.

SARVER'S FAMOUS NARRAGANSETT turkeys, large boned stock, unrelated. Sunlight Poultry Farm, Mt. Morlah, Mo.

WHITE HOLLAND TURKEYS. SINGLE Comb White Leghorns, Single Comb Buff Orpington eggs. Baby chicks. Mrs. S. A. Warren, Reger, Mo.

MAMMOTH WHITE HOLLAND TURkeys—Eggs, $2.50 per eleven. Let us book your order early. Mrs. Roy Davisson, Sabetha, Kansas.

FIFTY MAMMOTH BRONZE TURKEYS. Toms, $7.50, $10, $15; pullets, $5, $10; hens, $10, $15. Eggs—Yard 1, $1 each; second, 50 cents. Black Langshans, Barred Plymouth Rocks, show record. Order direct from ad. Order early. Jas. W. Anders, Pattonville, Mo.

RHODE ISLAND REDS.

DARK RED ROSE COMB RHODE ISLand Red cockerels, $3 and $4 each. Mrs. F. A. McGuire, Paradise, Kansas.

EGGS FROM PRIZE WINNING ROSE Comb Rhode Island Reds. Catalog free. M. L. Puckett, Purico, Mo.

LARGE BRILLIANT ROSE COMB RED eggs for hatching, $1 per fifteen; $6 per hundred. Mrs. Roy Davisson, Sabetha, Kan.

R. C. R. I. RED COCKERELS, STANDard color, graded by John C. Snyder, poultry judge. F. L. Leck, Neal, Kansas.

ROSE COMB RHODE ISLAND RED eggs, $5 per hundred. Bourbon Red turkey toms, extra fine, $8. Redview, Irving, Kan.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Mating list. L. E. Castle, Wichita, Kansas.

SINGLE COMB RHODE ISLAND RED cockerels, large husky dark red fellows that will improve your flock, $3 to $15 each. Write for price on hatching eggs. Nels W. Peterson, Mason City, Neb.

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Shorthorn Cattle Sale, on Friday Feb. 23

At My Farm Six Miles from Meriden, Kansas, on the Santa Fe Ry.; Seven Miles from Grantville, on U. P. Ry.



Fifteen head of cows and heifers, several with calves at foot and bred again to my herd bull, Silk Goods by old Choice Goods.

Six young bulls by Silk Goods.

The cows are a valuable lot, including the great cow, New Year's Lady, with roan heifer calf at foot and bred again. Also Violet Goldenrod with red heifer calf at foot and bred again to Silk Goods.

Marion 2d sells with red bull calf at foot by Silk Goods and bred again. Carrie Melody—this valuable cow is due to drop calf soon by Silk Goods. All of the heifers are sired by Silk Goods.

I am selling some of my best cattle to reduce my herd. They are right in every way and good foundation stock for any farmer or breeder to buy. They are reds and roans and in good condition. All are registered and will be tested if desired by purchaser. I will also sell twenty large Duroc sows bred for early spring litters but not recorded. Send for catalog and come to my sale. All trains met at Meriden, Kansas, and Grantville, Kansas.

H. E. HUBER, Owner, Meriden, Kansas

AYRSHIRE CATTLE.

AYRSHIRE THE PERFECT COW

MR. LOTT HALL, of Gouverneur, N. Y., says that Bells Perfection bore her first calf when she was two. Has had nineteen calves—always been healthy—milked nearly eleven months each period, giving from forty to fifty pounds when fresh. That's a typical AYRSHIRE record—duplicated time and time again. Better investigate this long-lived, prolific, productive, PROFITABLE breed.

AYRSHIRE BREEDERS' ASSOCIATION

C. M. Winslow, Sec'y 33 Park St., Brandon, Vt.

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FARM AND HERD.

Richard Rothgeb, of near Pleasant Green, Missouri, has claimed March 6 for a Duroc Jersey bred sow sale. He has catalogued forty head of very high class bred sows and bred gilts. The blood lines are of the most fashionable breeding from many of the leading Duroc families and bred for March and April litters to the great herd boar, Aristo. This boar was the junior champion at the Missouri State Fair in 1911 and a full brother to World's Fair Col. A few gilts sired by Aristo will also go in the sale.

H. B. Walter & Son of Effingham, Kansas, held one of the most successful bred sow sales ever made at the Walter farm. The offering was in the pink of condition and was probably as good a collection of big-type Poland China sows individually as will go through a sale ring this year. The top of the sale was $300 paid by Forest Rose, of Hemple, Mo., for a splendid gilt sired by King Joe. The forty head of sows and gilts offered sold for $5,715, or an average of $142.87. These returns were very satisfactory to Messrs. Walter & Son.

L. M. Monsees & Son of Smithton, Mo., have announced their thirty-eighth annual auction jack sale t obe held on the State Fair grounds at Sedalia, Missouri, on Thursday, March 15. They have catalogued twenty-nine head of jacks, twenty-three old enough for service, and six extra good yearlings, and thirty jennets. Five of the jennets will have colts at foot and twenty-five of breeding age are bred to the noted jacks, Limestone Monarch, a Missouri State Fair champion and reserve grand champion at the San Francisco Fair; also Limestone Good Boy, second prize three-year-old at

MULEFOOT HOGS.

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Mulefoot Hogs. Choice bred sows and gilts, both sexes, all ages, for sale. Five families in herd. J. W. Cox & Son, Arapahoe, Neb.

ANGUS CATTLE

EDGEWOOD FARM

ABERDEEN-ANGUS CATTLE

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GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

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Sired by Crimson Wonder Again Jr., first prize boar at Topeka Fair, 1916, and G. M.'s Crimson Wonder. Big rugged fellows ready for service. Immunized and priced to sell.

G. M. SHEPHERD - LYONS, KANSAS

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LIMESTONE VALLEY FARM

Thirty-Eighth Annual Auction Sale of High Class Registered Mammoth Jacks and Jennets

THURSDAY, MARCH 15, 1917

At Missouri State Fair Grounds, Sedalia, Pettis Co., Mo.

TWENTY-NINE JACKS—Twenty-three old enough for service; six extra good yearling jacks. **THIRTY JENNETS**—Five with colts at foot; twenty-five jennets breeding age and now bred to the three noted jacks, Limestone Monarch 3254, Missouri State Fair champion and San Francisco World's Fair reserve grand champion, son of the undefeated show jack, Limestone Mammoth 298; Limestone Good Boy 6028, second prize three-year-old at San Francisco World's Fair, son of the undefeated and St. Louis World's Fair grand champion, Orphan Boy 696; De Wolf Hopper 3720, son of Orphan Boy 696. **We will also sell two good registered Percheron Stallions.** Sale begins promptly at 9:30 a. m. in Show Pavilion, with comfortable seats and other accommodations. For fine illustrated catalog, address

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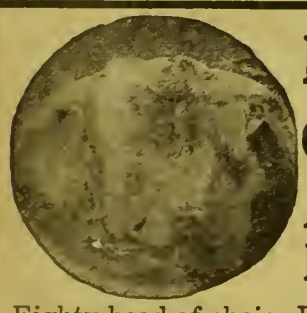
321 SOUTH OHIO STREET **SEDALIA, MISSOURI, U. S. A.**

Auctioneers: Cols. Harriman, Gross, Hieronymus Bros. & Logsden.





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At Great Bend Kansas

Friday, March 9, 1917

Eighty head of choice Herefords from the well known herds of

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Samuel Drybread, Elk City, Kansas
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There will be forty head of exceptionally good young cows and heifers, all bred to good bulls. Forty head of bulls of serviceable age, including herd headers, farm and range bulls. For catalog address

Thos. Clayton, Mgr. **Great Bend, Kansas**

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FOUNTAIN VALLEY FARM
Duroc Sow Sale

Tuesday, March 6, 1917



Aristo 55971, Missouri's Greatest Duroc Sire, Heads My Herd

Aristo was junior champion at Missouri State Fair, 1914. I will sell forty head of large sows and gilts and a few boars. The largest per cent of these gilts are sired by Aristo or bred to him. These are big Durocs with quality. Write for catalog and arrange to come to sale. O. W. Devine will represent Kansas Farmer at sale. W. D. Ross, Auctioneer, Otterville, Mo. All trains met at Otterville or Pilot Grove, Mo.

Richard Rothgeb, **Pleasant Green, Missouri**

Registered Kentucky Jacks



I have shipped from my home, Poplar Plains, Kentucky, eighteen head of jacks to Newton, Kansas, and they are for sale privately. This is a good load of jacks, with lots of bone and size, with all the quality and finish you would ever see in a load of jacks. Ages from two to eight years; height from 14½ hands to 16 hands standard, and good performers.

I have shipped jacks to Kansas since 1879 and I do not believe I ever shipped a better load.

Any one wanting a good jack, call and see me at Welsh's Transfer Barn, two blocks from Santa Fe Depot, one block from Interurban. Come and see me.

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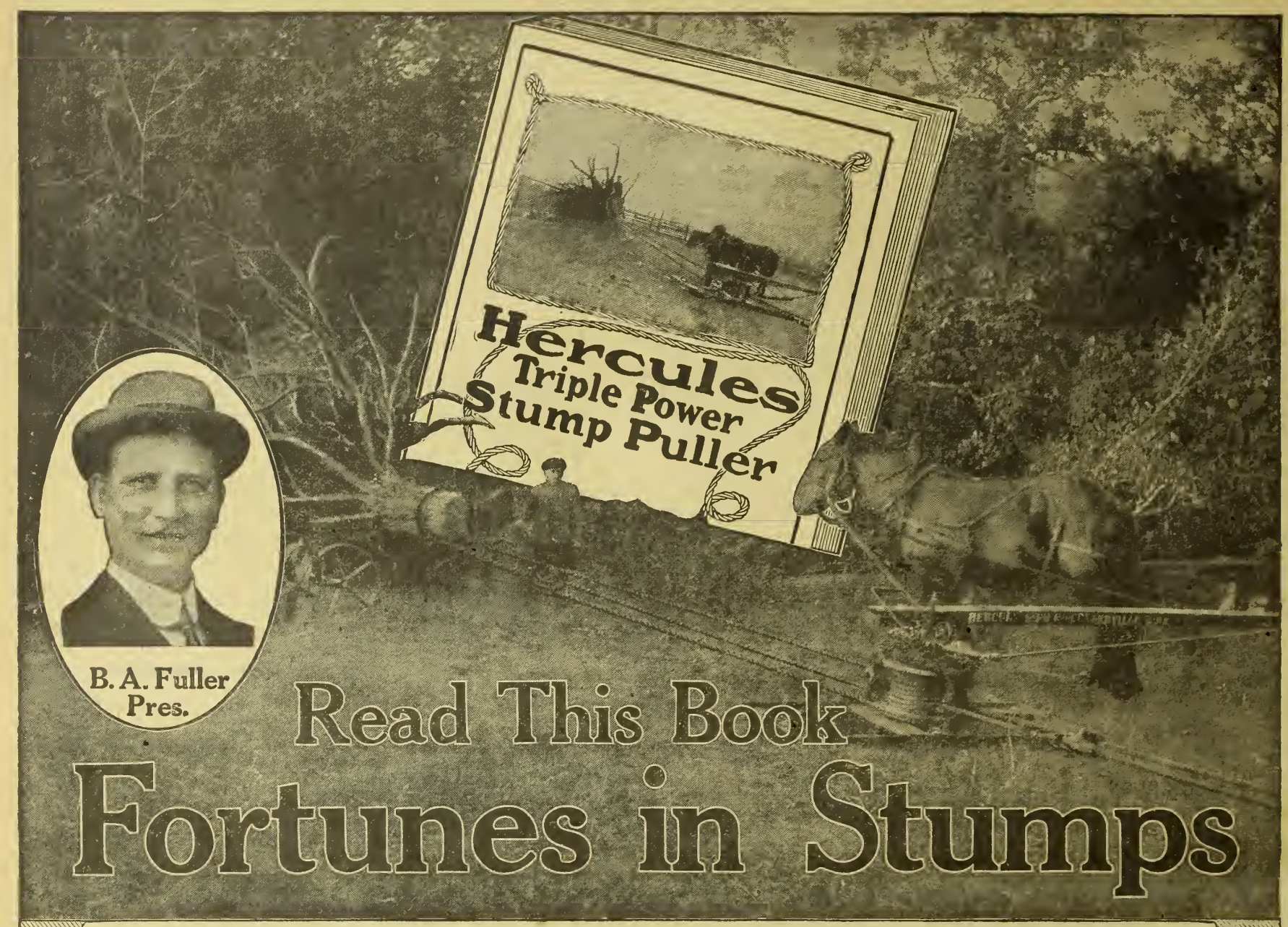

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NEIGHBORS—land owners—all who are after money from the soil, **Get My Special Offer Now.** I'll show you how to snake out the stumps. My book is full of live information. 25 years' experience boiled down. The plain unvarnished truth set forth in a plain, simple way. There is money in it for you. **Read the truth.**

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Hercules is the King of all Stump Pullers and always has been king.

Because it was the first all-steel puller ever built.

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It's the low-down constructed puller that has self-anchoring and stump-anchoring features—the one with double safety ratchets that insure the absolute safety of men and team. I want to send you a Hercules on

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I mean that. When you buy a Hercules I don't fuss or quibble with you. I make a signed and sealed guarantee to you that has no limit of time to it. I can do this because the Hercules is so extraordinarily strong and well built that no job is too tough for it. Write and see.

Bateman's New Special Reheat Treatment Steel in Every New HERCULES

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If I get one of my new Hercules Machines in each locality, more will surely follow because of Hercules quality and efficiency—that's my experience. So I can easily afford to sacrifice my profit on the first machine in each locality. Take advantage of the big profit and big saving opportunity **now.**

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Just simply send your name and address on the coupon or on a postal so I can send you the convincing facts about the superiority and efficiency and value of this wonderful new Hercules Stump Puller.

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Read the many interesting letters from farmers, lumbermen and land promoters. Stumps, stumps, stumps, pulled out quick, making fortunes for owners of Hercules Stump Pullers.

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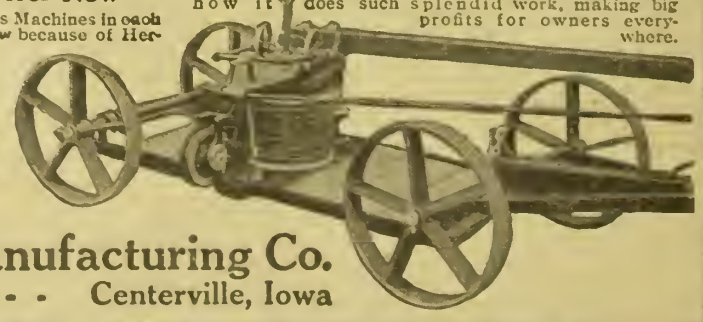
I simply want to get my free book to you at once, so that you can read the remarkable facts about the Hercules All-Steel Triple Power Stump Puller and how it does such splendid work, making big profits for owners everywhere.



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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 8. TOPEKA, KANSAS, FEBRUARY 24, 1917. Established 1863. $1 a Year

GLENWOOD CANNING CLUB

Co-Operation Through Canning Club Puts New Life in Rural Church

Address by Mrs. J. M. Timmons, President of the Club, During Farm and Home Week, Manhattan

IN HIS calls through the county, P. H. Ross, county agricultural agent, came to our neighborhood and finding us interested in canning, told us of Otis E. Hall, state club leader, and soon a meeting was arranged at which Mr. Hall explained the club work as carried on by the mother-daughter clubs. As a result of this meeting the Glenwood Mother-Daughter Canning Club was organized in June, 1915. We began with 12 teams.

After we were organized, Mr. Hall gave a canning demonstration at the Glenwood Church for which the club was named. Great interest was taken from the first and the meetings which were held once a month were a success in a social way as well as instructive. At our demonstration we canned a few jars of whatever was in season. County Agent Ross attended a number of the meetings and gave us much assistance. We always invited all who were interested and always some who were not members were present, and many of these women have canned vegetables successfully.

In September of that year a picnic was held which was attended by many besides the members of the club, including Mr. Hall and County Agent Ross. A demonstration was given in the morning, followed by dinner. The afternoon was given over to a social time.

In November we had our first exhibit at the church, which consisted of about 400 jars. Much interest was aroused by this exhibit and when it was time to plan for the coming year, the interest had grown to such an extent that it became necessary to organize on a new plan. Our membership increased to sixty, including women and girls over a territory of eight or ten miles and representing three school districts. We have six officers—two in each neighborhood. Getting together, becoming acquainted and working together with a common aim—that of encouraging co-operation among the communities, I consider one of the finest things in the club work. Many are our neighbors and friends whom we scarcely knew before and we are becoming one big community instead of three. Our girls are being brought up to take more interest in their homes and work and are proud of their knowledge of canning.

There is much more to the club work than putting products in jars. It brings us in close touch with the Kansas State Agricultural College and we are constantly receiving new ideas for improving our methods of work along many lines besides canning, and which we will take up in our next year's work. We have held regular meetings during the year, sometimes canning, and sometimes arranging an all-day picnic to which we invited all who could attend. The most important of these picnics was held last September, when we invited the members of the Commercial Club of Leavenworth to take dinner with us. One hundred twenty-five of them came, bringing along a brass band. There was also a large crowd of farmers and their families, and a time long to be remembered was enjoyed by all. Edward C. Johnson, director of extension of the Kansas State Agricultural College, Mr. Hall, and I. N. Chapman, who succeeded Mr. Ross as county agricultural agent, were present and gave talks. A moving picture man was also there and took many pictures of the club work.

Early in October a team was sent to Easton, Kansas, to assist County Agent Chapman in organizing a club at that place. Fifty-four joined at that time and they now have ninety-four members. There are two other mother-daughter clubs in the county, and one union club which is composed of members in both Leavenworth and Atchison counties and is under the joint direction of the county agents of both counties.

Later in October we put on an exhibit of 1,700 jars during the Fall Festival at Bonner Springs in Wyandotte County, and gave demonstrations during two days. Moving pictures were also taken there. Much interest was aroused. A farm bureau has been organized in Johnson County and it is only a question of time until there will be a farm bureau and county agricultural agent in Wyandotte County also. We secured a flat premiuf of $60 from the Bonner Springs people.

In December our exhibit was taken to Leavenworth where it was on display for three days. A special car was provided by the Commercial Club for the exhibit, also for the members of the club, and all expenses were paid while in Leavenworth. Twenty-three hundred jars were shown there. O. H. Benson, national leader of the boys' and girls' clubs of the thirty-three Northern and Western States, President H. J. Waters of the Kansas Agricultural College, Dean Johnson, Mr. Hall and Mr. Ross were present and gave addresses which we all greatly enjoyed. A novel feature of this meeting was that we had the unusual privilege of seeing ourselves as others see us, in the moving picture reel of the canning club.

Many good things have grown out of the club work. One, destined to be of great importance, is a community club composed of the members of the farm bureau. Many new members have been added to the farm bureau through the interest in the canning club work. This new club will include men and women, boys and girls, and will take up many things of interest along agricultural lines and will co-operate in many ways to the mutual advantage of all.

A recent meeting of this community club will show how the community spirit works. The church was used, as it is for all such meetings in our community. We had two speakers from the agricultural college who had attended the farmers' institute during the day. County Agricultural Agent Chapman opened the meeting with a song service, which he led in a rousing fashion. This was followed by addresses from both speakers, and after this program a pie social was given by the Glenwood Aid Society. Mr. Thompson, one of the speakers, auctioned off the pies, and I am sure he would make a most successful auctioneer. It was the most enjoyable pie social we have ever had.

In November the Community Club held another meeting. Revival services had been in progress for some time but the club date had previously been set and Walter Burr, who is at the head of the community welfare work of the extension division of the agricultural college, was the speaker. Dr. Heath, our pastor, who is greatly interested in the club work being carried on in the community and whose definition of community spirit is "religion put to work", turned the meeting over to the club and co-operated with Mr. Burr and Mr. Chapman. The most successful meeting was the result. Good music was furnished by some young people from the high school of a nearby town, who gave their services.



GLENWOOD CHURCH, WHERE CANNING CLUB MEETS

In connection with the church and club work, I would like to tell you something of what has been done in the way of building up the church. Five years ago the Glenwood Church had been abandoned for two years. After many efforts during several years it was closed and dropped from the Conference. At this, the minister on the charge to which Glenwood belonged, having the missionary spirit, decided to try to build up the church. It was in a state of complete dilapidation. The tower was not safe, the plaster was off in many places, and windows were out. It took courage to undertake such a task, and yet this man went from house to house raising the money, and men of all denominations gave. When enough money had been raised, the minister put on overalls, and without any thought of pay, worked day after day in an effort to make the church fit for services. He spent the whole day on the job, carrying his lunch with him. An aid society was organized and undertook to raise money to plaster the church. This was done, the walls were decorated and the woodwork painted. The young people of the neighborhood became interested and raised money to buy a piano. Carpets, stoves, and lights were installed. This church which was unused for two years, is now as attractive a country church as can be found, and is the community center for a large scope of territory.

We had many difficulties and many discouragements, and one so great that we could hardly bear it. The man with a missionary spirit was sent to a larger field, and one with none at all succeeded him, and he was so unwilling to act as our pastor that he did so only because he was told he must do it, and we just managed to hold on. It was during this time, however, that the canning club was organized, composed of the women of the aid society with a few others, and the community began to grow stronger. The past year a pastor who is in every way fitted to work with the club, has been with us, and the church has grown stronger, many new members have been added, and the church is in a financial condition second to none in the district to which we belong.

This is an outline of the work being done by church and club, and I feel that we have only begun. There are so many things we can do under the direction of the college extension work, that I can see a great future before us if we continue to co-operate, and co-operation is, after all, the secret of achievement. In closing I want to quote O. H. Benson on the definition of achievement as he gave it in his address at Leavenworth—"Get into the game, stay in the game, and complete the game."

Your Opportunity In Oil

Read Every Word of This---and Act

Never before, so far as we know, have the farmers of Kansas been given an opportunity to invest in an established, operating oil company. Here is one that is RIGHT NOW paying big dividends, and the stock will probably greatly advance in price during the next few months. This advertisement is being inserted at the urgent request of a representative of KANSAS FARMER, who said:

"You are about to offer to bankers and conservative investors what is undoubtedly a wonderful opportunity. I believe there are hundreds of good business men getting our paper who will realize that this is a high class investment offer. Won't you, as a favor to me, permit KANSAS FARMERS to have the same privilege as bankers and others who are on the 'inside'?"

For the above reason we decided to let our copy appear in KANSAS FARMER, and not confine ourselves, as we usually do, to the financial pages of high grade dailies and banking papers.

WHO WE ARE

The Tulsa Securities Corporation are Investment Bankers, handling only high-grade, safe, dividend-paying stocks, bonds, and like securities. It numbers among its clients bankers, lawyers, big business men and other investors who accept its word as final in matters pertaining to advisable investments. We firmly believe that if you make an initial investment with us in the securities of the OKMULGEE PRODUCING & REFINING COMPANY that your profits and your success will be so great that you will look to us for further gilt-edge investments. This Okmulgee offer is a ground-floor, inside opportunity.

Important and Startling Features of the Okmulgee Producing and Refining Company

1. The Okmulgee Producing & Refining Company is the consolidation of seven established, dividend-paying oil companies.
2. The company operates its own wells, pipe lines, refinery, and markets its own products.
3. Three of the seven companies in the consolidation paid one hundred per cent (100%) dividends during the year 1916.
4. The company is now paying 10 per cent dividends, but is *earning sufficient to pay 65 per cent on all outstanding stock,* and this is being done with only one-tenth of the holdings developed.
5. The company owns free and clear over 8,960 acres of *proven* oil and gas leases in the choicest fields of Oklahoma. *Now owns 53 producing wells and a fully equipped modern refinery.*
6. Present oil production is 1,700 barrels per day. Refinery capacity, 1,000 barrels per day. Average daily profits, $3,150, equal to $1,149,750 per year.
7. Twelve new wells are being drilled each month, which assures constantly increasing production and much larger earnings.
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Why, How, and When Stock Is Offered

Why This issue of stock is made in order to secure additional valuable leases in the field. To increase the refinery capacity, and rush the work of bringing in new wells. Only 10 per cent of the holdings are now developed.

How You can secure stock only through the Tulsa Securities Corporation by mail or telegraph. No stock salesmen are employed, or agents, as the excellence of this type of investment makes salesmen and other methods used by the faker unnecessary.

When Before the stock in the Okmulgee Company was advertised, bankers heard rumors of it, and we received not less than 30 telegrams asking for particulars, or making definite reservations. We firmly believe that before March 10 all stock will be subscribed. For this reason we urge immediate action.

While this may be considered as an ADVANCE OFFERING, it is subject to prior sale or withdrawal without notice. Reservations may be made by telegram, at our expense. Letter of application must be accompanied by certified check or draft covering full amount of purchase.

Show This To Your Banker---Ask His Advice

OKMULGEE PRODUCING & REFINING COMPANY

(Incorporated Under the Laws of the State of Delaware)

CAPITAL STOCK.

Authorized Capital Stock - - - - - - - -	$5,000,000
Issued and Outstanding - - - - - - - -	1,750,000

Present Annual Earning Capacity, $1,149,750.

TRANSFER AGENT—Empire Trust Co., 120 Broadway, New York. REGISTRAR—Security Transfer & Registrar Co., 66 Broadway, New York.

All Common Stock. Par Value Five Dollars. Fully Paid and Non-Assessable. No Preferred Stocks, Bonds, Mortgages or Other Indebtedness Except Current Accounts.

Having Placed a Large Part of This Issue, We Now Offer the Unsold Portion at $6 per Share

DIRECTORS AND OFFICERS OF THE COMPANY

E. W. KIMBLEY, President (Director First National Bank of Okmulgee, Okla.)
J. M. MOELLENDICK, Vice-President (In Charge of Machinery and Equipment).
G. A. SIMONS, Vice-President (In Charge of Production).
J. P. COOK, Treasurer (President Guaranty State Bank of Okmulgee).
H. H. HAY, Secretary.

EASILY AND QUICKLY TURNED INTO CASH

Application is being made to list the securities of the Okmulgee Producing & Refining Company on the New York, Boston, Chicago and Kansas City Exchanges. Listed stocks have a quick sales value—can be converted into cash—at any time. This is an extremely desirable feature and is found in Government Bonds, Railroad Securities, etc.

FOR FUTURE DEALINGS

If you are not in a position just now to take advantage of this opportunity, and think that you may be in the market for a desirable investment in the near future, write us to that effect. We keep ourselves thoroughly posted on securities at all times, and will gladly give you our very best advice on investments. Our advice is free and absolutely impartial.

Tulsa Securities Corporation

510 SOUTH MAIN STREET TULSA, OKLAHOMA

Editorial, Advertising and Business Offices, Topeka, Kansas

Entered at Topeka Post Office as Second Class Matter

Published Weekly by The Kansas Farmer Company, at Topeka

KANSAS FARMER

THE FARM PAPER OF KANSAS

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PRACTICAL HIGH SCHOOL WORK

Students of the Mankato High School, Jewell County, enrolled in the agricultural and domestic science courses, won a number of the prizes offered in Farm and Home Week contests at the agricultural college. Paul Russell, Mankato, won first prize in beef cattle judging, second in hog judging, and third in dairy cattle judging. Smythe McMullen, Mankato, stood second in dairy cattle judging. Roy Craugle, Mankato, was first in corn judging. Thelma Green, Mankato, won first prize Class B, girls' sewing club display.

The members of the faculty of this high school are trying to make industrial education the basis of the work. They realize that many of the boys and girls do not have opportunity to go to college and a great many more do not finish college, so they are endeavoring to make the courses as practical as possible.

The course in agriculture is being taught along the seasonal lines. It is divided into fall, winter, and spring work on the farm. In this way the student who lives on a farm has a chance at the theory before the actual work begins on the farm. The work is put before the student in the form of theory, demonstrations, and laboratory work. Individual project work is being started among the students for the summer. Agricultural students taking manual training courses are building model gates, hog houses, poultry houses, ice houses, hay barns, etc.

Domestic science is taught in the same manner. Practice cooking, sewing, canning, etc., is the basis of the work.

SUCCESSFUL LIVE STOCK MEETING

The things most emphasized at the two-day live stock meeting held in Fredonia Tuesday and Wednesday of this week, were building up the soil, good live stock and especially cattle on every farm, improving and maintaining pastures, marketing through live stock all rough feed grown, and through the whole program a constant pointing out of live stock farming as the most profitable and safest type to follow for that part of the state.

The Southern Kansas Live Stock Association planned this meeting. The motto which appears on the letter head of this association is "More and Better Live Stock." This association has been holding an annual conference for several years. These meetings have been bringing together the growers of both dairy and beef cattle and producers of sheep and hogs.

It is generally admitted that the soil in this part of the state presents some peculiar problems. More commercial fertilizer is being used in Southeast Kansas than in any other part of the state. The most successful farmers of the section who are backing the organization, realize that the exclusive use of commercial fertilizers without growing live stock will eventually be ruinous to the farms. They have learned from experience that the use of live stock in conjunction with commercial fertilizers and proper rotation of crops, will build up the soil from a fertility standpoint.

It has been recognized that live stock men will meet with some obstacles in developing the business, but these are such as can be successfully overcome, and the purpose of the meetings that are being held is to work out plans suitable to the conditions.

The first day was devoted mainly to the subject of dairying. There is no other type of live stock farming that will so quickly build up the soil as will dairying. The second day was devoted to the growing of beef cattle. Carl G. Elling, who for several years has been district agricultural agent for this section of the state, discussed the subject of "Type as a Factor in Beef Production." Mr. Elling called attention to the fact that some of our largest and most successful breeders of pure-bred cattle are putting into the feed lot quite a number of animals eligible to registration because they do not come up to their type and standard of excellence. In their business the pure-bred "scrub" is unworthy of being allowed to reproduce itself. These culls even if pure-bred are not of the type and standard which these breeders have found to be most profitable. This shows that quality in the cattle business as well as in other lines, is coming to the front. Every breeder should welcome the fact that the day of the "scrub" is passing and that the sooner the producers of inferior cattle fall in line with these leaders in the cattle business, the better for them. It is the inevitable course to success as the price of land increases. This is a particularly timely warning for Southeast Kansas, where the quality of the stock can be greatly improved and profits thereby increased.

Every feeder knows that there is a certain type of beef animal which puts on more finish and quality, brings the highest price and consequently is the most profitable. This is the type which the great breeders have found fits best into farming on high-priced land.

In these days of strong demands for quality it is not enough that a feeder make good gains, but the type and quality must be present or the finished animal will not bring a choice price. Good breeding, good individuality, and good feeding go together and bring the best profits.

Uniformity in type is very important. Specialization, standardization and commercialization tend to greater profits in beef production. The scrub lacking in uniformity of type cannot be standardized.

The various stock shows and fairs are doing a lot of good and afford excellent opportunities for studying the best types of beef cattle. The low-down, blocky type with good spring of rib, well meated down on the hind quarters, with a wide, short head, plenty of size, constitution and quality, is the type that wins in the feed lot.

KANSAS LIVE STOCK ASSOCIATION

The annual convention of the Kansas State Live Stock Association will be held in Wichita from February 27 to March 1 inclusive.

There has been a demand for concerted action among the live stock producers along various lines the past few years, and the result has been a rapidly increasing membership in the Kansas Association. This organization is always alert and responsive to the needs of the cattle man, hog man, sheep man and horse man. For this reason it draws its membership from the farmers and stockmen of six of the greatest live stock states in the Union, namely, Kansas, Missouri, Texas, Oklahoma, Colorado, and New Mexico.

A strong program has been prepared for the meeting to be held in Wichita next week. Every phase of the live stock industry will be covered and careful consideration will be given to the problems of the business.

WHAT IS KANSAS LAND WORTH?

Some people are never satisfied anywhere. The grass always looks a little greener on the other side of the fence. This applies to some who are farming in Kansas.

A few weeks ago we told of the results secured by boys and girls in the square rod contests in this state. One girl, whose story we printed in full, made her garden return a net profit at the rate of $3,256 an acre.

"When an acre of Kansas land, gardened by a girl, brings a net profit of $3,256," says The Breeders' Gazette, "the query may well be raised as to the worth of such an acre. But many a young man would be disposed to question what would be the worth of such a girl. The garden and the girl were the essential factors in winning the annual Kansas square-rod garden contest. This record only led by about $20, so closely were the leaders balanced. An acre of Florida muck land has yielded $3,000 in one lettuce crop, with other crops to come on. It by no means follows that all acres in those two states are as productive, or that the price of land can be based on the growth of garden truck. As proving possibilities, however, the figures are suggestive. And so far as we fall short of the possibilities, we limit our usefulness to the world. This is not to say that all should grow garden truck, as man shall not live by vegetables alone, but it is a strong intimation that we lose much by careless or too extensive cultivation."

DAIRY AND POULTRY TRAIN

How to make dairy farming and poultry production more profitable will be the subjects discussed and demonstrated by the speakers who will accompany the Santa Fe dairy and poultry train, which will cover the lines of that road in Eastern Kansas from March 6 to March 31 inclusive. One hundred and five cities and towns will be visited.

The train will carry dairy exhibits, including cattle of the breeds best adapted to Kansas. One car will be devoted to poultry exhibits, and three lecture coaches will be included in the train of eight cars.

The territory to be covered is well adapted to dairying and poultry. H. M. Bainer, agricultural and industrial agent for the Santa Fe Railway, will be in active charge of the train, which will be run under supervision of C. L. Seagraves, industrial commissioner for the Santa Fe at Chicago.

Kansas is capable of becoming an even greater dairy state than Wisconsin, the premier dairy commonwealth of the Union. The Kansas farmer can realize a bigger profit than the Wisconsin farmer. Climate here does not necessitate cattle being housed so long in winter and the producer has an assured market for dairy and poultry products.

Kansas is better adapted to the two big dairy crops, alfalfa and corn, than Wisconsin. Prof. O. E. Reed, head of the dairy division of the Kansas Agricultural College, who will be on the train as a speaker a part of the time, has made many visits to Wisconsin, and he reports that Wisconsin farmers are feeding Kansas alfalfa and are making a big profit from the finished product. Naturally, alfalfa from this state costs much more in Wisconsin than here, and if Kansas farmers grow their own alfalfa, as practically all of them do, the feed cost here is far below that in Wisconsin.

A flock of three or four hundred hens and a herd of ten average good dairy cows will add, easily, $1,000 a year to the income of the average farm in the territory over which this train will run.

We would urge that farmers in the sections visited by this train attend the lectures and study the exhibits. We will publish the detailed itinerary of the trip next week.

BURNING PASTURES INJURES GRASS.

Kansas farmers should pay more attention to pasture management in order to realize fair interest on the valuation of their property. Ralph Kenney of the Kansas Experiment Station, who is investigating the problem of pasture improvement, spoke on this subject to the farmers at Manhattan, Farm and Home Week. He called attention to the fact that many farmers follow the practice of burning over their pastures early in the spring in order to get rid of the dead, coarse, unpalatable grass stalks left over from the previous year's grazing. They have found by experience that cattle do better early in the grazing season upon pastures so treated. The young, tender, succulent plants make more rapid growth and cattle find it more accessible than when mixed with the dry growth left.

While better results in pasturing are obtainable early in the season on burned-over fields, the ultimate effect upon the stand of grass, and especially of the choice forage stand, is bound to be bad. The burning cannot help but destroy the crowns of many of the plants, and also much of the seed that might have been dropped the previous year, as well as any young plantlets just starting. A part of this damage is overcome, however, by burning before the crowns and the soil have become thoroughly dry, thus preventing close burning.

BREEDING PERCHERON HORSES

Ancestry of Stallion Important. Horses From Best Families Give Best Results

Address by Louis Aveline, French Army Horse Inspector. Before the Kansas Draft Horse Breeders Association, Manhattan, Feb. 9

IN time of peace, I am like you, a breeder of Percherons, and for this reason I was invited to address you. My father was also a breeder, and President of the Societe Percheronne of France. Born and raised among Percherons in Le Perche, amid farmers, I am glad to find myself with you today. It is with great pleasure that I shall let you know what we are doing on the other side of the water, both in the interest of France and Le Perche. If my country is now a battlefield, it is, however, necessary to think of to-morrow, and to make you familiar with our breeding industry and our resources for the future.

First, I must tell you about the horses I have seen in this country. Fourteen years ago, I first visited the United States, and for the last twenty-eight months I have been back on inspection work for my government. I found a great improvement in the breeding establishments, and I was surprised at the quality of the horses. In the beginning the needs of the war had compelled us to buy cavalry horses. We found them in Montana, Wyoming and Texas; a few in the east; that is, Virginia, Kentucky and Tennessee. Unfortunately, the western horses were a little wild and small. Later, our needs were especially for artillery and transport horses. Particularly in Iowa, Kansas, Nebraska and in the western states, Oregon and Washington, we found very good artillery horses.

PERCHERONS GOOD ARTILLERY HORSES

I must also say, that the horses we like best for artillery service are those having Percheron blood. I do not say so because I am from Le Perche, but it is also the opinion of all the English, Italian and Belgian commissions. Nearly all these commissions can tell you by the qualities and defects of each horse presented, of what descent it is, whether Percheron of Le Perche or of Clyde or Belgian. The English have even demanded in their contracts a certain proportion of horses with Percheron blood.

All horses of Percheron blood have plenty of energy and action. They are the ideal horses for field artillery. * * * I visited several Percheron breeding establishments in the United States and Canada. I found very good mares and stallions, as good as we have them at home, since they were imported. The foals, at their birth, also seemed to me, as to quality, nearly equal to those born in my country. * * * Generally speaking, I believe that the home-bred is not so big as the horse born in Le Perche. * * * In Chicago, where I was at the International Show two months ago, I saw a class of aged Percheron horses quite extraordinary, the like of which I had not seen anywhere, not even in France. All were imported. The other classes had certainly a few good horses, but in small proportion.

The allies have bought nearly a million horses in the United States, mostly artillery. The artillery horses that we buy are from 1100 to 1200 pounds in weight, many of them are of Percheron descent, while among the heavy artillery, or transport horses, which must weigh more than 1300 pounds, are found horses from all breeds. But, even in this class, we prefer descendants from Percherons, because with their bulk and heavy bones they always have energy and action which are not found in the descendants from the other breeds. They can trot, and even gallop, causing many of my fellow officers in active service to say: "Those horses are extraordinary; they gallop like thoroughbreds." They even go farther and say that all grey horses (which proves that they are related to Percherons) are acceptable. It is true, I am sure, that it is in this color that we find the greater proportion of our best horses. Unfortunately, we cannot accept them all, because the grey horse is too visible on the battle-field. The war will not last forever, and when the grey colts, which are born now, will reach the age when they can be sold, then the demand will not be for war horses, and at this time they will take grey horses indifferently. Again, nothing is more beautiful than a fine team of dapple-grey horses. I have seen, among others, the Fire Department of Buffalo, which uses almost exclusively magnificent grey horses, which attracts the attention of everybody in the streets. The South Americans, who are also good customers for Le Perche, do not buy anything but grey horses, claiming that they stand better the work and the heat.

SOIL AND CLIMATE OF LE PERCHE

I have traveled all over the United States and I have found that the States of Iowa, Illinois, Kansas and Nebraska come nearer to Le Perche as to soil, and the crops are about the same. The temperature in Le Perche, however, is more even; not so hot in summer; not so cold in winter. We seldon have any snow or frost, but always heavy rainfalls. I have seen rain for months and months. The summers are often very rainy, and we have a good deal of trouble in harvesting our hay. But we need rain for our pastures. After we have had sunshine for a week we always clamor for rain. Breeding being the specialty of the country, we must have fine pastures, and in order to have fine pastures we must have rain. Furthermore, the rain almost entirely drives away the flies, which trouble you so much here.

The soil is heavier. The main part of Le Perche is the valley of l'Huisne, crossed by the river of the same name. It would be difficult to find a soil which may equal it. An acre sold up to $1,000. The area of Le Perche is about 70 miles in length and 60 miles in width. It is a very hilly country. The pastures and the fields are separated by thick natural hedges and the pastures are planted with apple trees. The valleys are always meadows, and the hills are artificial pastures or fields under cultivation. The property is very much subdivided in Le Perche. Most of the farms have an average of 100 acres, half pasture, half culture. Breeding is then the specialty of this part.

FRENCH BREEDING METHODS

In France, breeding is not conducted as it is in America. It is taken up in districts. In the South, they raise the thoroughbred and Arabian breeds, in the East and North, the draft horses, in the North-West the coachers, in Le Perche, the Percheron horses. Each district has its specialty. In Le Perche you will not find, as in America, breeders keeping both stallions and mares. The man who sells to the exporters, and whom we shall call the stallioner, has not even the mares. The mares are on the little farmer's land. At breeding time, stallions, belonging to the people who make a specialty to sell for export, are taken from one farm to another for the breeding which begins about February 1 and is kept up until June 25. A farmer with a 100 or 120-acre farm could do all his work with three or four mares, but he always has five or six, so that they do not work too much. The proportion of mares in foal, with this daily but not excessive work, is about 75 per cent. The colts then are born between February and June. The mare keeps on working up to the day of foaling. For about a week after the birth of the colt, the mare is kept with him in the stable. Then she goes back to work, being out about two hours in the morning and two hours in the afternoon. As soon as the colt is a few weeks old, and there comes a less rainy day, (I stated above that we have heavy rainfalls,) they place the mare when she has no work to do, in the pasture with her colt, and as soon as the weather is a little better, they are left outside day and night. The colt is taken in only during the working hours of the mare. There is no time, no age to begin to feed the colt. When the mare is working, she has oats when she comes back from her work. The colt begins to eat by himself, and after he has reached a certain age, the farmer takes advantage of the absence of the mother to give extra food to the colt, mostly oats. After that time the colt is never without oats.

PREPARATION FOR EXPORT

Some farmers and particularly the stallioners who prepare the horses for export, buy those foals, males only. Each big stallioner knows practically all the mares in the country. He knows by which stallion she has been served, he knows the line on the dam's and on the sire's side, and he buys those foals from the farmer. The price is pretty high. We pay sometimes as much as $400.00 for them, but they are taken to the stallioner's farm only when they are six months old, at weaning time. The stallioner has a large farm, mostly grass, the area of which varies from 400 to 500 acres. After the colts are weaned, they are placed in those pastures, by lots of about ten according to the size of the pasture. They are fed on oats, twice a day. The oats are given under a shed, but the colts are never locked up. They go about as they like. From that time, they stay outside day and night until they are 30 months old, when they are sold for exportation.

Before delivering his colt to the stallioner, the farmer must have it branded under the supervision of the Societe Hippique Percheronne. This brand is SP on the neck. At the time of branding, the description of the colt is taken, and its pedigree made. All this is done under the care of the Societe Percheronne. * * * The maximum of registrations has reached about 7,000 head, counting both sexes per year. Each Percheron horse is then so branded before the age of six months, as a guarrantee of its purity of blood. I insist on the fact that a very great importance should be given to this brand. It is a guarantee, it is a trade mark. The Societe Percheronne has imposed this brand in order to avoid all frauds.

After weaning time the colt is given about six pounds of oats every day in two feeds. The ration is increased to about fifteen pounds as he grows older. We always give crushed oats, as it is better digested by the colt. During winter, grass being scarce, we give plenty of hay to the colts under the sheds. The fillies are always kept by the farmer to take the place of the mares. He weans them himself, leaves them in the pastures until they are two years old, and then he begins to put them to work. When they are three years old, they can take the place of older mares, because when the mares, at a certain age, are not in foal or do not produce any more, or are not of an exceptional line of breeding, they are sold as draft horses, either at home or abroad. Switzerland, Italy and even Germany used to buy them in great quantities before the war. That is why the farmer in our country never has very old mares on hand. His stock is constantly renewed. We claim that an animal of young or middle age produces better than an old one. Many of those young fillies are also sold for exportation. But we claim in Le Perche, that those exported mares, used as breeding mares, do not yield the same quality of foals as at home. It may be exaggerated, but our pretension is that there is no place quite equal to Le Perche to produce the Percheron horse. Although the climate and soil of certain states of the Union are soemwhat similar to those of my country, I believe that you will never be able to create another Le Perche.

TYPE AFFECTED BY CLIMATE

Certain critics, however, and also certain Americans have claimed that with grass, oats and a little bran, it is possible to produce good Percheron horses anywhere. This is not entirely true, for you can see for yourselves that horses do not reproduce themselves alike in all countries. In securities you find that [illegible] in other localities they are smaller. Besides, the deep influence of climate and soil, even on individuals, is a well known fact. The proof of this statement, gentlemen, I find right in your own country. In 1910, an American Immigration Commission made a report which proves conclusively that from the very first generation, the children of immigrants in the United States change their physical structure. The human skull itself, which had been considered until now as an essential attribute of the race, and not subject to changes, also undergoes noticeable modifications in form under the influence of climate and soil. With such facts proved by experience, and confirmed by my personal observations, am I not right when I say that if you change the climate and the soil, you also change the type of the Percheron horse of Le Perche

For export, particularly for the United States, we sell our stallions after they reach the age of two years. Those horses are bought in the pastures. Before selling them, we have, of course, selected for breeding purposes a few among the best, and above all, among those of the best line. For we put great importance on the ancestry. Such horses are kept as long as possible in the pastures. Generally they are put in the stable about the month of December, in order to be prepared and broke to begin service about the month of February, that is when they will be three years old. To a stallion of that age, we give about 50 mares. The cost for breeding is only $5.00. In France, in order to have a stallion for service, you are required to have him inspected by a commission appointed by the government. The horse must be sound in his eyes and wind, and be at least three years old.

In the choice of stallions, we put less importance than the Americans on the weight. When you speak of a good horse here you always ask: "How much does he weigh?" You will never hear that in France. If we have heavy Percherons, we produce them by selection, no more no less than to meet the demand of the American market, because we find that the bigger the horse, the more apt to be lymphatic and slow it is. * * *

SELECTION OF BREEDING STALLION

In regard to the selection of a stallion, I cannot insist too much on his line of breeding. The best horse does not always produce the best colts. But the best family of horses almost always give the best results. * * * I assure that the exportation of Percheron horses to America must continue to take place, I shall even say more and more, although the breeders are afraid of the competition of the tractor. Opinions differ on this subject. For instance, I read in the Breeder's Gazette for December, 1916, an article written by a big breeder of Percheron horses in Canada, who is also a very big farmer. He says that the tractor is more expensive than a good draft horse, which can always find a ready market. I know several firms in

(Continued on Page Eleven)



SIX MARES SHOWN AT NEMAHA COUNTY FAIR BY C. H. WEMPE

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

A READER in Ellis County, Kansas, asks if anything can be put into harness oil that will keep rats from gnawing the harness and yet not injure the leather.

We have made special inquiry among the dealers in harness and they have no suggestions to offer. About the only thing that can be done is to rig up some method of suspending the harness by wires so the rats cannot get to it.

Seeding Tame Pasture

B. W. L., Leavenworth County, asks about seeding some upland corn ground for pasture this spring—what kind of grass to sow, the amount of seed to use to the acre, and whether or not a nurse crop should be used.

There are no absolutely sure methods that can be followed in getting a tame pasture started the first season in good condition. So much depends upon the weather conditions that what might bring good results one year would fail the next. We do not believe a nurse crop, as a rule, is advisable, although if the weather conditions happen to be [illegible] can be successfully started with [illegible] bluegrass will be found in practically all of the best tame grass pastures of Leavenworth County and Northeastern Kansas. It is always desirable to have a clover sown in a pasture. A mixture of a number of kinds of grasses makes better pasture than does a single variety.

This county has had an agricultural agent for several years and this agent in co-operation with the farm bureau has, without doubt, found out who among the farmers of the county have worked out the best and surest methods of getting tame pastures started under the conditions prevailing in that section. We would advise this correspondent to take up this matter with the county agent and learn of the methods that have proven successful under the conditions prevailing on his farm. One of the most important things the county agent can do is to carry from one farm to another the best practices he finds in his travels over the country. County Agricultural Agent I. N. Chapman should be addressed at Leavenworth.

The handling of pastures is always an important question and we will be glad to publish letters from those who have been successful with tame grass pastures in Eastern Kansas.

Silage for Ewes

L. O., Dickinson County, asks if silage is a good feed for ewes and if the milk from silage-fed ewes will cause their lambs to scour or produce other harmful results. He also asks if a balanced ration equal to alfalfa and silage can be made by grinding alfalfa hay, corn fodder and straw.

Silage has been used most successfully in feeding sheep. It can well be a part of the ration of the breeding ewes. In fact succulent feeds such as root crops or silage, always promote thrift and keep the digestive organs in good condition. It is not generally considered advisable to feed too much silage to ewes before the lambs come. It is believed by most sheep men that heavy silage feeding tends to produce soft, flabby lambs. At the Pennsylvania Experiment Station when silage was used as the sole roughage for pregnant ewes, there was a large loss of lambs. The best results come from feeding about equal amounts of silage and dry rougrage, and there is no better hay to supplement silage than alfalfa. After the lambs come, silage may be fed a little more heavily. It may be necessary to add a little grain to the ewes' ration in order to produce milk enough for the lambs. A mixture of corn six parts, bran three parts, and oil meal one part, makes a good grain ration for ewes suckling lambs. For the first few days after the lambs are born no grain will be necessary, but it should be given if it is found the lambs are not getting milk enough to keep them growing rapidly.

Sheep should never be fed any spoiled or mouldy silage. They are much more susceptible to tainted or spoiled feed than are cattle. Perhaps our correspondent has heard of harmful results from feeding spoiled silage. By being careful to feed nothing but good silage, there need be no trouble in feeding it to sheep. In fact it is an ideal feed for them.

Grinding the corn fodder, alfalfa and straw might result in stock eating it with less waste, but it would not make it anywhere near as valuable as alfalfa hay and silage. It would be difficult to state just what the comparison would be in dollars and cents. Dry fodder and straw are feeds ranking too low in feeding value to justify putting any expense into grinding or cutting them. Even though ground to a meal, corn fodder would still be composed of the same indigestible crude fiber. Silage also usually contains some grain which adds to its value, and because it is preserved in a juicy, succulent condition it is much more completely digested than is the dry fodder.

What Kind of Fish for Pond

A. J. L., Finney County, asks what kind of fish he can put in a 40-foot square pond, without danger of their tearing down the banks. Catfish have been suggested to him. The water is pumped into this pond or reservoir by a windmill used for watering stock. He also asks about feeding the fish and where his foundation stock can be obtained.

So far as we know, the only fish that would injure the banks of the reservoir are carp, and there are plenty of other fish that are better than this variety. Mr. Tegemier, the state fish and game warden, suggests crappie or bluegill. He says the ordinary bullheads would also be good to put in a pond of this kind.

The depth of the pond is of considerable importance where fish are to be grown. The fish and game department will not furnish fish unless they are to be put in suitable ponds. We suggest that our correspondent and others interested in stocking fish ponds, write to the State Fish and Game Department at Pratt. Application blanks will be furnished to those desiring stock. These blanks call for considerable information as to where the fish are to be kept. The fish car will make two trips to Finney County the coming season, and our correspondent can probably secure a start by getting in his application before the car makes the regular trips to that part of the state.

Pasturing Cane and Sudan

We have the following letter from W. J., a Franklin County reader: "I have about 120 acres of bluegrass pasture under lease, and the owner has thirty acres of plow land adjoining this pasture which he is thinking of sowing to cane. The plan is when the cane gets nearly waist high to turn the cattle into it, the idea being to seed this land to bluegrass from the droppings of the cattle running on the pasture. Is it safe to pasture cane? I have heard that it is dangerous."

There is some risk attached to pasturing cane and also others of the sorghum family, although many stockmen pasture these crops every year. Under certain conditions which are not fully understood, cane occasionally develops a very active poison. Usually it seems to be associated with some stunting of the growth of the crop, such as might be caused by extremely dry weather or frost. In pasturing these crops it is always well to understand these conditions and as a precautionary measure some stockmen test a field of cane with some cheap animal before letting the rest of the stock in.

Sudan grass is rapidly coming into prominence and we believe is better suited to our correspondent's purpose than is cane. This grass belongs to the sorghum family but is of much finer growth than are the other sorghums. Many farmers are finding it a very valuable summer pasture crop. From all the reports we have been able to gather it apparently is much less apt to be poisonous than is cane. In fact no case is on record where Sudan grass in Kansas has resulted in poisoning cattle pastured on it. H. N. Vinall of the Federal Department of Agriculture, who addressed the Kansas Crop Improment Association in Manhattan during Farm and Home Week, stated that in all his experience, which covers the whole United States, only three fatalities had been reported from the use of Sudan as a pasture. At the Arizona Experiment Station, where it was grown under dry farming conditions, twenty sheep to the acre were pastured continuously for a hundred days on Sudan grass. The sheep on the Sudan grass fattened, while those pasturing on cane only made ordinary growth. A Southwestern Kansas farmer kept a hundred head of shoats growing rapidly on a half grain ration, allowing them to pasture on three acres of Sudan grass during the summer.

Mr. Vinall recommended seeding Sudan grass broadcast in Eastern Kansas, using about twenty to twenty-five pounds of good germinable seed to the acre. In order to make the good go farther it is sometimes seeded in rows and cultivated, using four or five pounds of seed to the acre in Eastern Kansas, three or four pounds in the central third of the state, and two or three pounds in the western third.

Even though Sudan grass does not as yet seem to be as dangerous as cane for pasturing, we believe that in order to be absolutely safe it would be best to keep cattle away from Sudan grass that has been subjected to a sudden stoppage of growth. A normal, continuous growth may be considered as safe to pasture with all kinds of stock.

The scheme our correspondent has for getting bluegrass started on this thirty acres adjoining the bluegrass pasture, would undoubtedly work. It would probably take several years, however, to get the new land well sodded. If there is no clover in the bluegrass pasture, we believe it would be advisable to sow some on the thirty acres to be seeded.

Sweet Clover on Wheat

C. K., Cloud county, asks if a stand of sweet clover can be secured by sowing the seed this spring in wheat that was sown last fall.

In favorable seasons good stands are quite often secured in this way. The seed should be sown early, just as red clover is sown in wheat. The freezing and thawing of the early spring usually covers it so it will germinate.

There is considerable risk, however, in trying to get a stand in wheat for if it should be very dry and hot immediately following harvest the young plants are apt to perish. For this reason it is not generally considered advisable to attempt to seed any kind of clover or alfalfa with a nurse crop in the part of the state in which our correspondent lives. Whether to take the risk or not will depend on how important it is to get the clover started at once. If badly in need of pasture it might be worth while to risk sowing some sweet clover seed in the wheat this spring.

Silage Crop Tests

The results of this season's silage crop tests made by members of the Montgomery County Farm Bureau corroborate those of last year. We can depend upon such crops as Kansas orange cane and sumac cane to make large yields. Judgment must be exercised in the proper ripeness for cutting. If cut too green, sour silage will result.

In the test made by J. F. Towle, blackhull white kafir made a yield of 5.3 9tons per acre; Kansas orange cane, 7.48 tons per acre. The soil was Bates fine sandy loam and the crop was cut early before its maximum growth had been reached.

Samuel Drybread, Elk City, made a silage test with home-grown seeds. Red kafir yielded 5.74 tons; Freidline's tall kafir — selected — 8 tons; local cane double drilled, 8.62 tons; Kansas orange cane, 9.96 tons. The seed used in planting the Freidline tall kafir was secured from two tall growing rows of kafir that were in a head-to-row test conducted by F. P. Freidline in 1915. This shows the possibility of increasing the yield by selection.

Winners of Butter Prizes at Manhattan





THESE silver loving cups are the special prizes offered by the Kansas Farmer Company for the butter contest of the Kansas State Dairy Association, the annual meeting of which was held in connection with Farm and Home Week at the Kansas Agricultural College, Manhattan.

The cup at the left was won by Mrs. George Downie, Lyndon, Kan., for the best five pounds of country butter. Mrs. Downie's score was 94. She also won the De Laval Separator Company's prize of $10. The second prize in this class, which was a metal barrel churn given by the Kennedy Supply Company, was won by Mrs. Thomas Marks, Emporia, on a score of 93.5; third prize, Minnetonna butter printer given by Minnetonna Supply Company, Mrs. J. R. Ladlie, Independence, whose score was 93.25; fourth prize, four steel stanchions given by Harbison Manufacturing Company, Mrs. Charles Long, Stockton, score 92.5; fifth prize, Pelouze dairy scales offered by Cherry Creamery Supply Company, Mrs. William Newlin, Hutchinson; sixth prize, 14-quart Champion milk pail offered by Kennedy Supply Company, Mrs. C. A. Berry, Manhattan.

The right-hand cup offered for the best 10-pound tub of creamery butter, was won by the American Butter Company, Kansas City, on a score of 94.25; this company also won $12 offered by the Kansas Creamerymen's Improvement Association. Second prize, $8 in cash, offered by the same association, was awarded the Ottawa Condensing Company, Ottawa, on a score of 92; third prize, stag horn carving set given by the J. B. Ford Company, was won on a score of 91 by the DeCoursey Creamery Company, Kansas City; fourth, $5 in cash, given by Kansas Creamerymen's Improvement Association, Merritt-Schwier Creamery Company, Great Bend, score 90.5; fifth, a silk umbrella, offered by the J. B. Ford Company, Swift & Company, Hutchinson, score 90.25.

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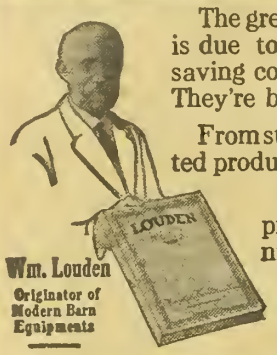

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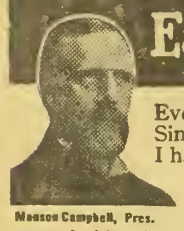

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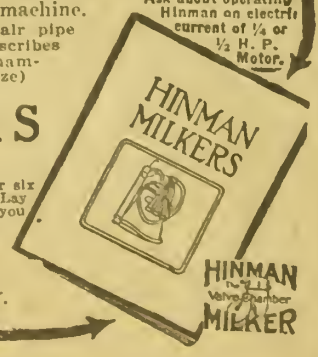

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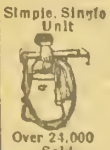

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Kansas Farmer Dairy Club

Club Members Visit Agricultural College.

THESE five members of the Dairy Club attended the meetings of Farm and Home Week at the agricultural college: Elise Regier, Whitewater; Harvey Russell, Scott City; George Stahl, Manhattan; Harry Lenhert, Abilene; and Harold Bentz, Peabody. As planned, we met at Professor Reed's office Thursday afternoon and went to the live stock parade which took place in the big live stock judging pavilion. This building was so crowded that we had difficulty getting inside so we could have a good view of the animals shown. Here we saw fine types of the different breeds of beef cattle, dairy cattle, draft and saddle horses, and hogs, and listened to the histories of these animals given by Professors Cochel and Reed.

The Shorthorn steers sired by Matchless Dale, one of the finest Shorthorn bulls in the United States, has made some great records in the big live stock shows of the country, and it was a splendid lesson in animal breeding to see this fine bull and the steers that have won so many prizes. Of course, our Dairy Club boys and girls were specially interested in the dairy cattle. The best animals of the college herds of Holsteins, Jerseys, Guernseys and Ayrshires, were shown.

We were able to go back of Professor Reed's time in telling the boys and girls some interesting things about the dairy cows shown. The Ayrshire cows were specially admired by all. One of the best of these was Bangora 2d, and this brought to our mind that fifteen years ago as foreman of the live stock at the college, we fed an Ayrshire heifer calf which Prof. D. H. Otis had named Bangora. Bangora's mother was Star of Hillview, one of two Ayrshire heifers that had just been purchased by the college to start a herd of this breed. In those days we were all very proud of Star because she demonstrated her capacity for producing milk profitably with her first calf, even though she had not become accustomed to the climate of Kansas, which is so different from the far northeastern state which was her former home. Both Star and her first heifer calf, Bangora, are now dead, but we found seven cows, young heifers and calves in the college herd descended from Bangora, and four from College Maud, which was Star's second calf.

Being specially interested in seeing the calves and young heifers descended from Bangora and College Maud, we visited the dairy cattle barn the following day in company with Professor Reed. We were sorry every member of the Dairy Club was not with us. Professor Reed called our attention to the fact that the successful dairyman nearly always finds that some one cow has become the foundation of his herd. The important thing is to be able to recognize the possible founder of a future herd or strain and mate her with sires that will also transmit the capacity to produce milk in large quantities. In your work in the Dairy Club you are learning how to do the things necessary in order to recognize the good cows. It is possible that some of you now own in the cow you are milking in the club work, the founder of a profitable herd. We know that some of you are feeding heifer calves of which you are very proud.

The other Ayrshire heifer purchased by the college fifteen years ago has long since been forgotten. She was not a profitable producer herself and none of her offspring was worth saving. She and her progeny were soon sent to the butcher, and every dairyman who studies the business will find it profitable to dispose of some of his cows in this way.

After the live stock parade in the judging pavilion we were taken through the college flour mill by Proffessor Fitz, who explained the operation of the machinery used in making the wheat into the different grades of flour.

We next visited the state club boys' and girls' exhibits of sorghums, corn, potatoes, sewing and bread. Among these we found a plate of potatoes sent in by Harvey Russell. Harvey was also in a poultry club this last year, so you see he is a worker.

We then called on Professors Fitch and Tomson of the dairy department to see if the milk scores had been finished, but found we could not get these before Saturday.

It was then supper time and on our way to the college cafeteria we stopped to call on the State Club Leader, Otis E. Hall, but found he was hungry, too, and had gone home. We found the cafeteria very crowded but a special table had been reserved for us by Miss Treat, the director. At supper we had a good visit together about the Dairy Club and many other things in which we were all interested.

We were glad indeed of this opportunity to become acquainted with this many more of our Dairy Club members and feel sure those who attended the meeting are glad they went and will look forward to their next visit to the agricultural college. There are many things there of interest to boys and girls and they are always welcome.

We are indeed proud of the way you responded to the invitation to send in your milk samples for the state contest in market milk. We found that of the thirty-three entries made, twenty-one were by boys and girls of the Dairy Club, and best of all of the seventeen scoring above 80 per cent, eight were samples entered by club members. If you did not receive a prize in this contest, don't be discouraged. Remember, all can't be winners, and try harder next time.

We were interested in hearing two of the boys tell about how carefully they try to produce clean milk by wiping their cows' udders with damp cloths before milking and then protecting the milk from dust and germs. One of these boys has a city milk route and the other sells butter fat to a creamery, but both know the importance of marketing a clean product.

Another Has Bad Luck

I have had bad luck with my contest cow. On December 20 one quarter of her udder began swelling and as I was afraid it might affect her milk flow, I took her



EIGHT-YEAR-OLD HIGH GRADE HOLSTEIN OWNED BY GEORGE R. STAHL, RILEY COUNTY

to the Kansas Agricultural College hospital and had the veterinarians look at her. They said it might be either a bruise or she might have caught cold in it. They blistered it and this reduced the swelling somewhat but not altogether. Along with this she got indigestion and of course I had to take the grain away from her for a couple of days. She hasn't gotten back her appetite yet.

She dropped to about one-third the amount of milk she had been giving. She has increased her milk flow a little but not much.

I am enclosing a picture of the cow. I had my picture taken with her once but it wasn't very good, as she had her head turned. This picture was taken soon after she freshened.

I enjoy reading the club page of KANSAS FARMER and the letters from the club members. With best wishes for the club, I remain — G. R. STAHL, Riley County.

One of our dairy club members, Harvey Russell of Scott County, won third honors in the State Poultry Club for the year just closed. In his letter naming the winners in the poultry club, Otis E. Hall, State Leader of Boys' and Girls' Club Work, says: "Harvey won first honors last year and would have given somebody a close race this year had he not been so busy with other work during the summer. He is in the Kansas Farmer Dairy Club and we hope he will finish this contest as a winner."

Complete awards of the market milk contest of the Kansas State Dairy Association are on another page of this issue.

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It's our famous redwood covered model, and outside of our metal covered **OLD TRUSTY** it never had an equal in quality. Frankly, I do not know how we could improve it so far as making big average hatches are concerned. Has same pure copper tank, automatic regulator, and redwood case as our higher priced machines. There are over 700,000 **OLD TRUSTY** owners. Write for catalog.

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The estimated profits made by Mrs. F. M. Anderson of Melvina, Wis., with OLD TRUSTY.

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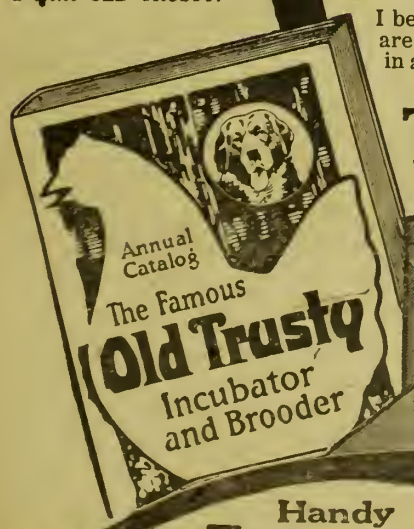



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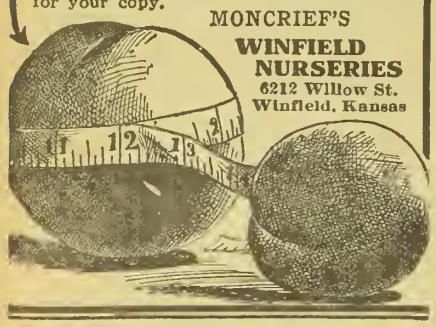

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More Cow Testing Associations

AT THE field meeting of the Kansas State Dairy Association at Mulvane last fall steps were taken to organize a cow testing association for that section of the state. O. E. Reed, professor of dairy husbandry in the agricultural college, showed the benefits of such an association and urged that one be formed. Following this meeting representatives from Mulvane, Wichita and Newton met to report the progress that had been made in securing members for an association. It was found that enough members had already been secured in the vicinity of Mulvane to start an organization. It was then planned to secure enough members along the interurban in the Wichita and Newton territory to form another association.

We have just received a letter from Prof. O. E. Reed in which he states that Kansas now has four cow testing associations in operation. This fact is sufficient evidence that they are successful and practical under our conditions. The first association was organized in 1912 by the dairy department of the agricultural college and local men at Abilene, Kansas. This association has been in operation for four years and has organized for another year's work.

The fact that farmers have kept this association running and have had such good results has made it possible to organize other associations. Three new associations have been organized and started during the past thirty years under the direction of the dairy department of the college. The Mulvane association started January 1; the Sedgwick and Harvey County association, with headquarters at Wichita, started January 2; and the Montgomery County association started the latter part of January. Following are the names and addresses of the secretaries of the various associations: Al Howard, Mulvane, Kansas; F. L. Huxtable, Wichita; W. W. Castello, Independence; A. H. Diehl, Enterprise.

The association in Montgomery County followed a series of special meetings held in that county in which H. M. Bainer, agricultural and industrial agent for the Santa Fe Railroad, assisted. E. J. Macy, county agricultural agent of Montgomery County, wrote as follows to Mr. Bainer concerning this cow testing association:

"The committee that was appointed at the dairy round-up meeting, with my help, was able to complete the cow testing association. This organization was perfected Saturday, January 13, with the following officers: J. R. Ladley, president; W. W. Castello, secretary-treasurer; T. M. Ewing, vice-president. The address of each is Independence. At the present writing we have four names on the waiting list and, should any vacancy occur, these men will be elected by those already in the organization. The work is planned to start February 1, and Mr. Costello will temporarily serve as tester until the college can prepare a young man for the place.

"We have four days' testing in the adjoining county — Labette — which includes two days at the Banks herd at Oswego and two days in the near vicinity of Cherryvale. The latter we regard as almost the same as Montgomery County.

"Mr. Elling did not get his men around Parsons rounded up, on account of the presence of abortion in their herds.

"I gave a talk not long ago at Oswego relative to the cow testing association, and some effort will be made to organize one there. I believe this will be the preliminary effort which next year will be made to perfect their organization."

The dairy division of the United States Department of Agriculture furnishes record books for the members of the association free of charge. The indications now are that there will be several more associations organized within the state in the next few months.

State Milk Contest Winners

There were thirty-three entries in the market milk contest put on by the Kansas State Dairy Association this year at its annual meeting held in connection with Farm and Home Week at the agricultural college.

The six winners and their scores follow, in the order of the placings:

	Score
Harold Bentz, Peabody	97.5
Mark L. Borror, Manhattan	96.6
George Newlin, Hutchinson	96.5
William Newlin, Hutchinson	94.0
J. W. Berry, Jewell	91.5
Thereso O'Mara, Colony	91.25

Kansas Farmer's Dairy Club made a very good showing in this milk contest. Twenty-one of the thirty-three entries were made by members of the club, eight of the seventeen samples scoring above 80 belonged to them, and they won first and sixth places in the awards.

Records Help Sales

Buyers of dairy cattle are becoming more exacting. The present sharp competition in the dairy business and the increased price of feed force the successful dairyman to secure the greatest return possible from his outlay. If he has registered cows, he expects more for his progeny than if he had only grades. But to obtain more and enough more to pay to keep pure-bred stock, the dairyman should be able to answer the following questions from the prospective buyer of a herd sire. Is the sire registered? What is the record of his dam? How many advanced registry daughters and proven sons has his sire? And what are the records of his grand dams and grand sires? If the breeder is selling a registered cow, he must answer: What is her record; the record of her dams and grand dams and the ability of her sire and grand sires to produce advanced registry daughters and proven sons?

To answer these questions and meet the demands of buyers, the breeder of pure-bred dairy cattle must do official testing. This testing is under the supervision of the various state colleges of agriculture. Breeders ready to take up this work or wishing further information should write to the dairy department of the agricultural college at Manhattan.

Comparatively few can start with all pure-bred stock, but if the value of good blood is appreciated, good animals will replace the poorer ones as fast as the earnings will warrant. This is a slow process but a very remunerative one, both in profits and satisfaction.

The more the dairyman knows about his business, the better will his business be and the greater will be his profit.



GROUP OF DAIRYMEN IN ATTENDANCE AT THE BRANCH MEETING OF KANSAS STATE DAIRY ASSOCIATION HELD IN MULVANE LAST FALL



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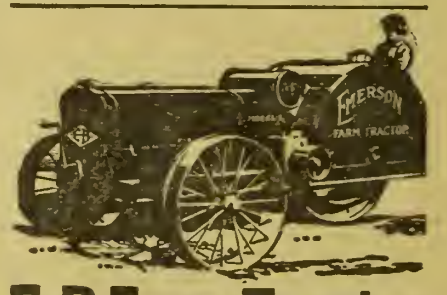

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Will reduce Inflamed, Strained, Swollen Tendons, Ligaments, or Muscles. Stops the lameness and pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone and horse can be used. $2 a bottle at druggists or delivered. Describe your case for special instructions and interesting horse Book 2 M Free.

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Strained, Torn Ligaments, Swollen Glands, Veins or Muscles; Heals Cuts, Sores, Ulcers. Allays pain. Price $1.00 a bottle at dealers or delivered. Book "Evidence" free.

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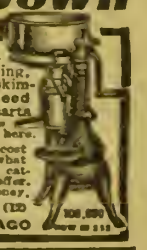
One Year to Pay!



$24 Buys the New Butterfly Jr. No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 95 quarts per hour. Made also in five larger sizes up to No. 8 shown here.

30 Days' Free Trial Earns its own cost and more by what it saves in cream. Postal brings Free catalog, folder and "direct from factory" offer. Buy from the manufacturer and save money.

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BUY A WITTE High-Grade Engine

I can ship immediately—any size or style—WITTE Kerosene or Gasoline Engine—2 to 22 H-P., Stationary, Portable or Saw-rig—all ready to run on arrival. Why wait 6 to 8 weeks, or longer, when I can ship you a better engine Now! Today!!—so that it will be earning a part of its cost. Cash or Easy Payments. Immediate shipment proves superior factory service. My Free Book, "How To Judge Engines," tells why I save you $25 to $100, and sell you a better engine. Yours for a post card. ED. H. WITTE.

E. H. WITTE.

WITTE ENGINE WORKS,
1607 Oakland Av., Kansas City, Mo.
1607 Empire Bldg., Pittsburgh, Pa.



Among the best perennials to grow for cut flowers are gaillardias, peonies, Shasta daisies, coreopsis, Giant daisies, aquilegias, especially the Rocky Mountain species, delphiniums and iris.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

CLOSER co-operation is being brought about between the automobile and the tractor engineers. During S. A. E. Day at the Tractor Show in Kansas City, standardization was the chief topic for consideration. The entire automobile industry has benefited by the standardization work carried on by the Society of Automobile Engineers, as has also the public. One of the biggest factors in reducing the price of motor cars without reducing quality has been this very work. Corresponding activity in the tractor field is certain to produce the samé results. The development and refinement of the mechanical details of tractor construction are relatively simple. The technical information necessary to design an efficient power unit has already been provided by automobile engineers, by motor truck engineers particularly. The great need of the tractor industry at this time is to combine this technical information with the information already secured through practical experience in the field with tractors and an intimate knowledge of farm conditions. This will be brought about very largely by the consolidation of the Society of Tractor Engineers, with headquarters at Minneapolis, and the Society of Automobile Engineers. The name has been changed to the Society of Automotive Engineers.

For Engineering Experiments

The engineering experiment station of the Kansas Agricultural College was established for the purpose of carrying on tests and research work of engineering value to the State of Kansas, and of collecting, preparing, and presenting technical information in a form readily available for the use of the various industries within the state.

All the equipment of the various engineering and scientific laboratories and shops is available for this work. The personnel of the experiment station is made up of professors and instructors from the various engineering departments of the college whose work is directly related to the work of this division.

Bulletins have been published as follows:

Bulletin No. 1—Illumination for Farm and Town Houses, by G. B. McNair.

Bulletin No. 2—Boiler Room Economics, by A. A. Potter and S. L. Simmering.

Bulletin No. 3—Tests of Kansas Sands for Use in Mortar and Concrete, by R. A. Seaton and I. I. Taylor.

Bulletin No. 4—The Water Supply of the Farmhouse, by J. D. Walters.

Bulletin No. 5—Sewage Disposal for Country Homes (in press), by F. F. Frazier.

Bulletin No. 6—Inexpensive Plumbing for Farm Kitchens (in press), by W. A. Etherton.

The following investigations are now in progress:

Economy of internal combustion engines with various fuels.

Tests on concrete.

Tests of insulating materials for refrigeration.

Tests on oil traction engines.

Wind mills as prime movers for rural electric light plants.

Coal tests.

Research in rural architecture.

Comparative tests of lubricating oils.

Highways National Resources

Good roads can properly be considered as national resources. Roads have always had an important part in the development of nations. President Wilson in a speech voiced his ideas on this question.

"My interest in good roads," said the President, "is not merely an interest in the pleasure of riding in automobiles, it is not merely an interest in the very much more important matter of affording the farmers of this country and the residents in villages the means of ready access to such neighboring markets as they need for the economic benefit, but it is also the interest in weaving as complicated and elaborate a net of neighborhood and state and national opinions together as it is possible to weave. It is of the most fundamental importance that the United States should think in big pieces, should think together, should think ultimately as a whole, and I feel, in my enthusiasm for good roads, something of the old opposition that there always has been in me to any kind of sectional feeling, to any kind of class feeling. The reason that city men are not more catholic in their ideas is that they do not share the opinions of the country, and the reason that some countrymen are rustic is that they do not know the opinions of the city, and they are both hampered by their limitations. I believe that the development of great systems of roads is, psychologically speaking as well as physically speaking, a task of statesmanship. I believe that it is the proper study of the statesman to bind communities together and open their intercourse so that it will flow with absolute freedom and facility.

"No one argument ought to be omitted; every class has its argument for good roads and putting them all together they form an irresistible mass of arguments, but the result of the whole reasoning to my mind is simply this: The United States has up to this time simply let the energies of its people drift. It has thrown the reins on our necks and said: 'Now here is a continent of unexampled richness; do what you please with it, we will try to see that you are restrained until you get so powerful that we cannot restrain you. We will try to see that you do justice until you so combine with one another that justice is impossible, but we are not going to lend the aid of the government to the actual task of development.'

"That has been the general attitude of our government up to this time. It cannot be that attitude any longer. I remember having a very interesting and, for me, enlightening conversation with a mountaineer once in North Carolina. He was very hot against the excise taxes, which made it practically impossible for him, without becoming a criminal, to make whisky out of his corn, and I discussed it somewhat minutely with him in order to get his point of view. His point of view was simply this: He had a little farm that was a fertile pocket in a remote part of the mountains. It did not pay him to take his corn to the market as corn, because by the time he got to the market, the very horses that were hauling it would have eaten it up, but he could profitably get it to the market as whisky, and his point was simply this, that it was unreasonable for the government to forbid his getting a market for his corn in the only way in which it was possible for him to get a market. Now, while we might say that it was not desirable that there should be any market at all for the product that he wished to sell, nevertheless the illustration will point my moral, namely, that it is not worth while producing until you can release what you produce, and that the only way of releasing it is by the most facile means of intercommunication and transportation."

No Other Six Resembles Hudson Super-Six

Don't Be Misled—It Is a Hudson Invention

Sixes have come into renewed popularity since the Super-Six won the top place. But the Super-Six invention—controlled by our patents—added 80 per cent to the six-type efficiency. And that 80 per cent is what gave it supremacy, when the V-types threatened to displace the Six.

Late in 1915, remember, the Six was a waning type. Even the Light Six, which Hudson gave first rank, had revealed some vital engineering limitations.

It had not solved the problem of motor vibration. It had not minimized friction and wear. Its endurance had proved disappointing.

Sixes at that time held hardly a single record. They were mostly held by Fours.

And leading engineers, including the Hudson, were seeking a remedy in Eights and Twelves. At that time the Six, for high-grade cars, seemed verging on displacement.

What Saved the Day

It was the Super-Six invention, remember, which then saved the day for the Six.

Hudson engineers discovered the shortcoming. By a basic invention they corrected the fault. They ended nearly all the vibration. They doubled the motor's endurance. Thus they created a motor which has since won all the worth-while records.

But that doesn't mean that the old-type Six is any better than it was.

'Twas the Super-Six That Won

The Super-Six, in a hundred tests, has out-performed all other motor types. It has not merely broken records. It has made new records which, a year ago, no man considered possible.

It broke the 24-hour endurance record by 52 per cent. It broke the transcontinental record twice in one round trip. A Super-Six touring car went from San Francisco to New York and back in 10 days and 21 hours.

It beat twenty famous rivals up Pike's Peak. It broke all stock-car speed records, and all for quick acceleration.

Then, after 7,000 record-breaking miles, it showed itself in new condition. Not a part or bearing showed evidence of wear.

No other motor ever built has shown anywhere near such endurance.

All By Saving Waste

The Super-Six develops no more power than other like-size motors. It simply delivers more. It almost eliminates motor friction and wear by ending nearly all the vibration.

That vibration, which wasted power, was the great fault of the Six. It is that which led to the Eight and Twelve as a possible solution. Any motor in which that fault remains can't compare with the Super-Six.

A New Gasoline Saver

The Hudson Super-Six, in endurance and performance, stands foremost in the world. The new style bodies which we have created make the car look its supremacy. A new exclusive feature—a gasoline saver—gives it this year another advantage.

It now outsells any other front-rank car. It has 25,000 enthusiastic owners, who know that no rival can match them.

You can prove in one hour, at any Hudson showroom, that this car deserves its place. And that no other car, at any price, can be classed with it. Do that before the spring demand overwhelms us.

Phaeton, 7-passenger, $1650 — Touring Sedan . . . $2175 — Town Car $2925
Limousine . . . . . 2925 — Town Car Landaulet . 3025
Landolet, 3-passenger, 1950 — *(All prices f. o. b. Detroit)* — Limousine Landaulet . 3025

HUDSON MOTOR CAR COMPANY, DETROIT, MICHIGAN

Anthony Fence

Under stress of action each wire within a considerable radius is brought into play, affording, to an extraordinary degree, the resistance of a flexible wall of steel—due to the perfectly balanced woven fabric, in which each wire is drawn under equal tension with machinery of special design. Thoroughly galvanized.

American Steel Fence Posts last a lifetime. Hold fence secure against all conditions.

Sent Free—Our Book, "How to Build a Fence."
Dealers Everywhere

AMERICAN STEEL & WIRE COMPANY
Chicago New York Pittsburgh Cleveland Denver

Awarded Grand Prize at Panama Pacific International Exposition
The Supreme Award of Merit

ARROW COLLARS



MARLEY 2½ inches
DEVON 2¼ inches

ARROW Collar styles are not only most correct, but the collars are the most durable and perfect fitting it is possible to produce.

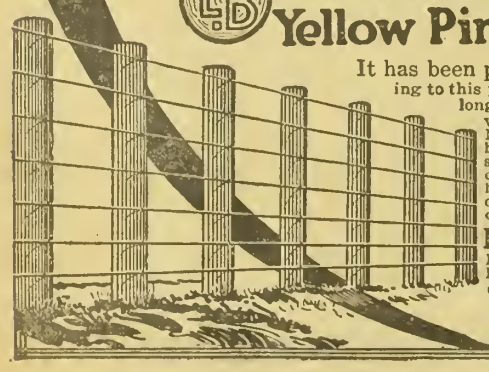
15 cts. Each—6 for 90 cts.

CLUETT, PEABODY & CO., Inc., *Makers*

Save Fence Post Money

You can make your fencing practically everlasting by using posts that have been treated with pure distilled creosote with the Long-Bell hydraulic vacuum process. Ordinary fence posts last only eight years and are gone—must then be replaced. Wire fencing costs money; your time and labor cost money. Make your fence practically everlasting by replacing all decayed posts on your farm with

L-B CREOSOTED Yellow Pine POSTS



It has been proved that posts treated according to this process will last as long as 40 years or longer. Your lumber dealer can supply you with L-B Creosoted Yellow Pine Posts. Notice how straight and strong these posts are—because they are cut only from selected trees of slow growth, air-dried and yard seasoned. They cannot decay. They are treated right to the heart. Look for the L-B trade mark branded on the end of each post—this is a guarantee of thorough treatment with pure creosote.

Free Book Write us for free copy of our book "The Post Everlasting" describing L-B posts and the Long-Bell system of treatment.

The Long-Bell Lumber Company
122 R. A. Long Bldg., Kansas City, Mo.

For WHEAT and CORN

ALFALFA and all other crops, a perfect seed bed is as important as to seed or plant. The Western pulverizes, packs and mulches—makes a perfect seed bed—at one operation, without extra horsepower. Especially adapted for breaking crust on winter wheat or other grain—forms the hardest crust into a granular surface mulch without burying the grain. Stops evaporation—preserves moisture.



Western Pulverizer, Packer and Mulcher Three Machines in 1

Made in 8 sizes, 1 and 3 sections. Sold direct, price $20 and up. We want every farmer to have our free catalog before buying a roller or packer. It will prove we can save you money and have far the best machine. Contains full description and price direct to you, letters from many farmers proving its advantages over other makes, and much other valuable information. Send for it today.

WESTERN LAND ROLLER CO., Hastings, Nebr. Box 210

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

SAMPLE STOCK-SHARE LEASE

THIS sample lease was adopted at a landlord-tenant conference held in Rockford, Illinois, January 31, 1916, under the auspices of the Winnebago County Farm Improvement Association. It covers most of the points required in a contract involving joint ownership of live stock by landlord and tenant. It includes all the essential details of a legal contract and yet does not restrict the tenant or the landlord in any way that would prevent them from making the highest profit and at the same time maintain the fertility of the land.

This Indenture made and entered into this —— day of ————, 191—, by and between ————, party of the first part, lessor, and ————, party of the second part, lessee. Witnesseth:

Description of the Land.

That the first party in consideration of the agreements and stipulations hereinafter mentioned to be kept and performed by the second party, has leased and does by these presents rent and lease unto the second party, the following described real estate situated in the County of ———— and the State of ————, to wit: (Example: N. E. —, Sec. —, Town —, Range —), containing —— acres.

Length of Tenure.

To have and to hold the said premises unto said second party from the first day of March, 191—, at 12 m., to the first day of March, 191— at 12 m., being a term of one year, with the privilege of renewal for each succeeding year, as long as both parties agree.

Plan of Farming Business.

This leasing arrangement is known as a stock-share plan. The parties to this contract shall be partners and will co-operate fully according to the terms of this lease, in order that each may receive the largest returns consistent with a practical system of cropping and soil management which shall maintain and even increase the fertility of the land, with the purpose that this farm shall not decrease in productiveness and value.

The type of farming as agreed upon is live stock and ————. The plan is to feed most of the crops on the farm depending upon the sale of live stock and dairy products as the principal source of income. (Here give as fully as desired the kind and number of live stock to be kept on the farm; also the plans for crop rotation and soil fertilization.)

The following shall be furnished and shared by:

Lessor.

The first party will furnish above described farm, including the improvements thereon, and shall pay all taxes and insurance on said property. He shall furnish material needed for repairs and improvements, and shall build new permanent fences and make other permanent improvements as required and shall furnish all phosphate and limestone fertilizers required on said farm. He shall pay stallion service fees on mares owned by lessee; colts to be owned in common.

Lessee.

The second party shall furnish all horses (not to exceed ——), harness, implements, farm machinery and labor necessary to do all work required to properly conduct this farming business and described in this agreement. He shall make all repairs and improvements where skilled labor is not required, except as herein specified. He shall haul, from railroad station or ———— source of supply, all material for repairing buildings and fences, which may be needed in the operation of said farm. He shall haul from ———— railroad station or ———— source of supply and spread on the land limestone, phosphate and other fertilizers purchased by lessor for use on said farm. He shall deliver to ———— market all produce from the farm free of cost to lessor. Lessee agrees to operate said farm in a workmanlike manner and to do the necessary work in good season and to properly care for the crops and live stock, preventing all unnecessary waste or loss or damage to lessor's property. He further agrees that he will not burn any cornstalks, straw or other vegetable matter grown upon said farm but that all this material shall be spread upon the land as manure.

Lessee may have potatoes and garden truck and such fruits as the farm affords, milk, poultry and eggs, for family use only.

Lessor and Lessee.

Shall furnish jointly all seed grain, grass seed, clover and alfalfa seed sown on said farm during the period of this lease; also all live stock other than work horses, and feed, including hired pasture, if such becomes necessary, for the same, including lessee's horses. They shall furnish binder twine and all fuel for tank heater, threshing, corn shredding, silage cutting, hay baling, corn shelling, clover hauling and pay machine bills for the same; they shall also pay jointly all veterinary fees and stallion service fees on mares owned in common. Each party shall pay one-half of all taxes and insurance on all personal property owned in common;

Shall share equally in all the proceeds from the sale of live stock, poultry, grain and other produce raised on said farm. Milk and cream checks shall be divided by purchaser. The butter used by each party shall be taken out of his share. Each party may gather and keep his own share of fruit. Buying and selling of materials, live stock and other farm produce shall be left largely with the lessee, but all sales and purchases of more than $—— shall be made with the knowledge and consent of the lessor. All joint business in the way of payments and receipts shall be through ———— Bank of ————.

Number, Sale and Purchase of Live Stock Held in Common.

Both lessor and lessee shall own in common, each an undivided one-half, all live stock, excepting as hereinbefore provided for, owned and produced upon said farm; and such of said stock as the parties shall agree upon shall be sold at such time as may be satisfactory to both.

When Crops or Stock Are Sold and How the Money Is to Be Divided (or Invested).

Whenever any cattle, hogs, grain, corn or hay or any other product of said farm shall be sold, the proceeds shall be equally divided between the parties, or, if agreed upon, it way again be invested in other stock, grain or material for the common use and benefit of the parties.

Noxious Weeds to Be Destroyed.

Lessee further covenants and agrees that he will farm said land in a good, farmlike and workmanlike manner; that he will commit no waste nor suffer injury to be done to the premises; that he will allow no noxious weeds to go to seed on said premises, and will keep the weeds and grass cut in the roads adjoining the land.

Manure to Be Scattered.

Lessee also agrees that he will draw out and scatter on said premises, on or before December 1st of each year, on the fields where most needed, following out the plan of farming agreed upon in this contract, all manure being and made on said premises up to December 1st next preceding the end of the term, and that in default of so drawing out and scattering said manure, he shall pay to lessor as penalty the sum of $——.

Acres to Be Left Plowed.

That he will leave as many acres plowed on said premises at the end of his term as he finds plowed when he takes possession, and in default of so doing, he shall pay to lessor $——— an acre for each acre short of such number.

Care of Premises.

That he will keep the buildings, fences and other improvements on said premises in as good repair and condition as the same are when he goes into possession, or as good as they may be put in during said term, loss by fire, or inevitable, and ordinary wear excepted; that he will not assign this lease or sublet any part of said premises without written consent of lessor; that he will not bring mortgaged property on said premises without the consent of said lessor; that he will not sell or remove any of the farm crop from said premises without the consent of lessor; that he will not break up any established water courses or ditches or undertake any other operation which will injure said land.

Surrender Possession in Case of Default or at End of Lease.

That in case he shall, from any cause, neglect, refuse, or be unable to properly prepare said land, sow, plant, harvest, or care for any and all crops to be raised on said land, said lessor, his agents, heirs, or assigns, may at their option, take possession thereof and of the crops growing or being grown thereon, and properly care for the same, and sell the same, and the proceeds remaining after payment of the rents, cost and expenses and damages shall go to lessee. That he will surrender the stubble land, for the purpose of plowing, in the fall preceding the termination of this lease, as soon as the crop has been removed from the same; that he will surrender possession of said premises at the end of the term, or sooner termination thereof, and if immediate possession be not given, that he will pay lessor, or assigns, the sum of $——— for each and every day possession is thus withheld as damages for non-surrender.

Lien on Property of Lessee for Amount Due Lessor.

That a failure to keep and perform any of the agreements hereinbefore mentioned shall, at the option of said lessor, or assigns, operate as a forfeiture of this lease and terminate the term, and lessor may take possession of the premises at once without process of law, or he may bring an action at law for possession, said lessee being, from the date of such failure, a tenant holding over after the expiration of his term; that in consideration of this lease, and the agreements herein contained on the part of the lessor, said lessee covenants and agrees to keep and perform the agreements hereinbefore set forth, hereby covenanting that moneys due from him to said lessor for plowing, or damages, or otherwise, shall be and hereby is declared and made a perpetual lien on any and all crops, stock and other personal property of lessee at any time kept, had or used on said premises, whether the same are exempt from execution or not, such lien to attach from the commencement of the term.

Lessor's Right of Entry at Any Time.

Said lessor reserves the right of himself, his employes or assigns to enter upon said premises at any time for the purpose of viewing the same or making repairs or improvements thereon, the same not to interfere with the occupancy of the lessee; and reserves the right to himself or agent to enter upon said premises for the purpose of plowing the stubble land, from which the crops shall have been removed, in the fall preceding the termination of this lease.

Lessee's Reward for Farm Improvements.

It is understood and agreed by both parties that the lessee's reward for all farm improvements which he is required to make according to the terms of this contract shall come in the increased yields and greater returns which should result and which will be shared by lessee if he continues to operate said farm.

But in case this lease is terminated before lessee receives the benefit from such improvements, he shall receive reasonable compensation for such improvements. For example, hauling and spreading rock phosphate and ground limestone, seeding clover and alfalfa, laying drainage, tile, stump pulling, etc.

(Here state reward to be given lessee for unexhausted improvements.)

Landlord's Liability in Case of Default.

That in consideration of this lease and the agreements herein contained on the part of the lessee, said lessor covenants and agrees to keep and perform the agreements herein set forth, hereby covenanting that any compensation due from him to said lessee for improvement work, etc., shall be a lien on his share of the personal property, and must be paid before the proceeds are equally divided.

And likewise for failure to provide for and carry out any improvements on said farm which are agreed to in this lease, said lessor shall be liable for damages to said lessee to reimburse him for the loss which may result from such default.

How Division Shall Be Made at End of Lease.

At the end of the term of this lease an accounting shall be had between the respective parties hereto, and the produce, stock, etc., upon said farm, belonging to lessor and lessee shall be equally divided. Lessee shall divide each kind of live stock into two equal lots, as near as may be, and lessor shall have his choice of lots of each kind of live stock; which division shall be final and binding on both parties. And if a proper settlement cannot be made in this way, all parties hereto agree to have a public sale on the premises for the purpose of dissolution. After all joint debts of lessor and lessee and the expenses of having the sale are paid, the proceeds shall be equally divided.

But if one or both parties object to a sale and prefer a division of said property, then each shall select an arbitrator. They jointly shall select a third, and they three shall make such division of said property as to them shall seem equitable, giving each party one-half of the same, after deducting from each party's share such indemnities or adding such compensations as may be

Justly charged or credited to him according to the terms of this contract.

Liability of Each Party.

Neither party shall have the right to bind the other by any contract outside the scope of this agreement, or by any purchases made within the scope of this agreement except with the consent of the other, unless hereinbefore provided for.

Signed.....

Signed.....

BREEDING PERCHERON HORSES

(Continued from Page Four)

Chicago and New York who have used tractors for a while and have returned to horses. It is true that if you breed small horses such as I saw in Texas, Wyoming and Montana, you will not find any market for them. But since the war has helped those ranchers to get rid of those too small animals let them now breed their mares to draft stallions, preferably Percherons as, according to the opinion of many breeders, the Percheron horse is the best for crossing purposes. The proof of this is that all other countries now want to imitate North America, for we sell Percherons to South America, Japan and Russia. Even England, this year, has bought Percheron stallions and mares to export them at home, a fact which will surprise Shiremen and Clydemen, knowing the jealously of Englishmen for all their pure-breds. * * * I believe that you must not be content with using only your animals born and raised in this country, but you must continue to infuse imported blood.

AMERICAN HORSES GOOD

As to your work-horses, I have found them very good. I was even surprised to find such good horses, and I must confess that I bought lately on the St. Louis market, some remarkable geldings and mares, the mares as good as those of our own production. I do not speak of geldings, for the reason that we do not castrate our colts. I was even jealous to see that they could produce such good animals outside of Le Perche, and I blame the American farmer for getting rid of such animals.

I hope that as soon as the exportation will be re-opened and the war over, again we shall send many stallions to your country. I have read in several American papers, articles stating that the French War Office had taken a great number of Percheron horses. Do not believe one word of it. The government has not mobilized one stallion, not one mare used for breeding purposes. A few animals have been taken, but they were inferior or did not breed any more. The government was very careful indeed to spare all breeds of horses, cattle, sheep, etc. I shall not say that we have on hand now as many Percheron horses as we had before the war. The main reason is that most of the breeders have joined the army, and their breeding establishments are managed by their wives who, of course, cannot buy. The shortage of help also does not allow us to have as many horses as formerly. For two or three years after the war, we shall not have such an abundance of horses for exportation; but the Percheron horse of Le Perche will remain with its qualities as pure as in the past.

How to Smoke Meats

Pickled and cured meats are smoked to aid in their preservation and to give flavor and palatability. The creosote formed by the combustion of the wood closes the pores to some extent, excluding the air, and is objectionable to insects.

House and Fuel.—The smokehouse should be eight or ten feet high to give the best results, and of a size suited to the amount of meat likely to be smoked, six by eight feet being large enough for ordinary farm use. Ample ventilation should be provided to carry off the warm air in order to prevent overheating the meat. Small openings under the eaves or a chimney in the roof will be sufficient if arranged so as to be easily controlled. A fire pot outside of the house proper with a flue through which the smoke may be conducted to the meat chamber gives the best conditions for smoking. When this can not well be arranged a fire may be built on the floor of the house and the meat shielded by a sheet of metal. Where the meat can be hung six or seven feet above the fire this precaution need not be taken. The construction should be such as to allow the smoke to pass up freely over the meat and out of the house, though rapid circulation is at the expense of fuel.

Brick or stone houses are best, though the first cost is greater than if they are built of lumber. Large dry goods boxes and even barrels may be made to serve as smoke houses where only small amounts of meat are to be smoked. The care of meat in such substitutes is so much more difficult and the results so much less satisfactory that a permanent place should be provided if possible.

The best fuel for smoking meat is green hickory or maple wood smothered with sawdust of the same material. Hardwood of any kind is preferable to soft wood. Resinous woods should never be used, as they are likely to impart bad flavors to the product. Corn cobs are the best substitute for hard wood and may be used if desired. Soft wood and corn cobs give off large amounts of carbon in burning, and this is deposited on the meat, making it dark in color and rank flavored. Juniper berries and fragrant woods are sometimes added to the fire to flavor the meat.

Meat that is to be smoked should be removed from the brine two or three days before being put in the smokehouse. If it has been cured in a strong brine, it will be best to soak the pieces in cold water over night to prevent a crust of salt from forming on the outside when drained. Washing the meat in tepid water and scrubbing clean with a brush is a good practice. The pieces should then be hung up to drain for a day or two. When drained they may be hung in the house. All should be suspended below the ventilators and should hang so that no two pieces come in contact, as this would prevent uniform smoking.

A slow fire may then be started, warming up the meat gradually. During the winter months in cold climates it is best to keep the fire going continually until the smoking is complete, holding the temperature at about the same point. If the fire is allowed to die down, the meat becomes cold and the smoke does not penetrate readily. This results in heavy smoke on the outside and very little on the inner portions of the meat. During the spring months and in the summer a light fire may be started every second or third day for two weeks, the meat being allowed to hang in the smoke house until sufficiently colored. When the fire is kept going steadily and an even temperature is maintained, twenty-four to thirty-six hours will be required to finish one lot of meat. Smoke will not penetrate frozen meat and it will be necessary to extract all frost from it before filling the house. The house should be kept dark at all times to prevent flies entering. As soon as smoked sufficiently the meat should be cooled by opening the ventilators or doors. When hard and firm it may be canvased or packed away for summer use.—U. S. Department of Agriculture.

The annual meeting of the American Guernsey Cattle Club will be held on May 16, 1917, in New York City.



DISKING CORNSTALKS IN ADVANCE OF PLOWING OR LISTING IS VALUABLE FARM PRACTICE.—ORGANIC MATTER IS GREATLY DEFICIENT IN MOST SOILS

I MET HIM ON THIS VERY SHIP!



It was within an hour of sailing time. I was on my way home from Europe five years ago. The Mauretania lay beside her Liverpool wharf. Everybody was hurrying to get on, as we were to sail at five o'clock. Suddenly, without warning—without a propeller turning—she commenced to pull away from her moorings. The gang planks creaked—broke loose—and there was quite a commotion as the mighty Mauretania tore loose from her moorings and floated out into the water. In the excitement I met a man who was leaning over the rail who looked at me and we laughed together. Then we just naturally got acquainted like people do when they are traveling. He was J. J. Berrigan of Orange, New Jersey, the famous cream separator expert and inventor. I had never seen him before but I had heard of him. I told him I was from Waterloo, Iowa, and he said, "You are Galloway." I soon found out he was the great cream separator expert and a man I was glad to meet. Naturally

WE BECAME WELL ACQUAINTED

He told me what he had done in perfecting cream separator patents and improvements. I told him he was just the man I was glad to get acquainted with. After the Mauretania had been lashed to her wharf again, the excitement was over, and we pulled out of Liverpool several hours late—Berrigan and I began to talk cream separator, and every day after that we spent several hours together visiting. I told Mr. Berrigan that we were perfecting what I thought was the best cream separator ever produced, and I also told him if he would come to Waterloo and put on the finishing touches, go over the separator, test it, criticize it, find fault with it wherever he could, and suggest any possible improvements, I would pay him well for his time. In a few days after we landed in New York he did come to Waterloo. He said our separator was one of the finest designs he had ever seen, and with the few recommendations which he made, he pronounced it O. K.—good as the best—and better than many of the separators on the market today. Our engineers, designers and separator builders had produced a machine with graceful lines, simplicity of construction, combined all the good features and left out all the faults. Mr. Berrigan commended us on the work and immediately put his stamp of approval upon this machine. That's why I say

"Read this little story. It was my turning point as a manufacturer of cream separators."—Wm. Galloway.



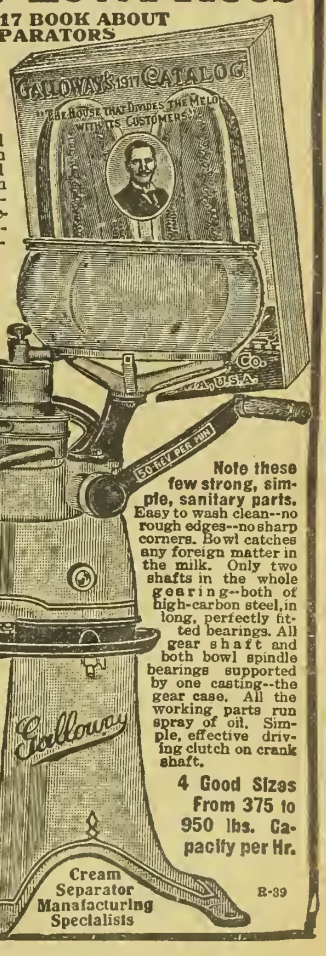
WE PERFECTED THIS SEPARATOR

before we offered it on the market. We put out in the hands of farmers and dairymen enough of these separators to know that they would stand up under any test, whether operated and used in the kitchen, the milk house, the creamery or elsewhere, used two or more times per day, every day, week after week, month after month. **I just want you to try it.** If you like it, buy it. If you don't, send it back. **We pay freight both ways.** If the New Galloway Sanitary Separator is as good as I say it is you can't afford to buy any other kind. If it is not as good as I say it is, I could not afford to make this **ninety day trial** offer and I could not afford to guarantee it for **ten years.**

Get My New Low Prices

AND READ MY 1917 BOOK ABOUT CREAM SEPARATORS

It tells of how we took four years to design and perfect this separator, to build into it every good cream separator feature and retain its beautiful proportions. How we did not build it down to a price, but built it up to a high standard in our own factories right here in Waterloo. It tells how we build Galloway Sanitary Separators from the ground up. How they are designed and many other separator secrets and facts. A meaty, exact, concise, truthful book about cream separators, gasoline engines, manure spreaders, tractors and other implements we manufacture. Why, by selling direct, I can make a machine as good or better than any high priced separator sold through other systems. These are a few of, the reasons why I want you to get this book. It tells the whole story. It tells the truth. It tells the facts. Ask for it today. A postal gets it. Don't delay. A reading will save you dollars in buying.



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Have operated several different kinds of separators. Galloway Sanitary skims as close and runs lighter than any. J. E. Ricketts, Paddensburg, Mo.

We know it skims close. It paid for itself. Wm. S. Brower, Farnum, Idaho. It is easier running and more easily cleaned than others. We made a saving of $23. I wouldn't exchange it for any high priced separator. E. F. Louthan, Carthage, Mo. Your No. 9 separates perfectly at rate of 800 lbs. per hour. (Only guaranteed for 750 lbs.) S. S. Brockway, Greenville, Pa.

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Stand it side by side with cheaper machines and you will see the difference in material and workmanship, design and skimming qualities. Stand it beside the highest priced machines, test them together for months! Higher priced machines will not run any easier or skim any closer and cannot be more perfectly sanitary or better built. We want you to be the judge—we will take your decision as final. Separators shipped from Waterloo, Council Bluffs, Kansas City, St. Paul, or Chicago, whichever is nearest to you.

Note these few strong, simple, sanitary parts. Easy to wash clean--no rough edges--no sharp corners. Bowl catches any foreign matter in the milk. Only two shafts in the whole gearing--both of high-carbon steel, in long, perfectly fitted bearings. All gear shaft and both bowl spindle bearings supported by one casting--the gear case. All the working parts run spray of oil. Simple, effective driving clutch on crank shaft.

4 Good Sizes From 375 to 950 lbs. Capacity per Hr.

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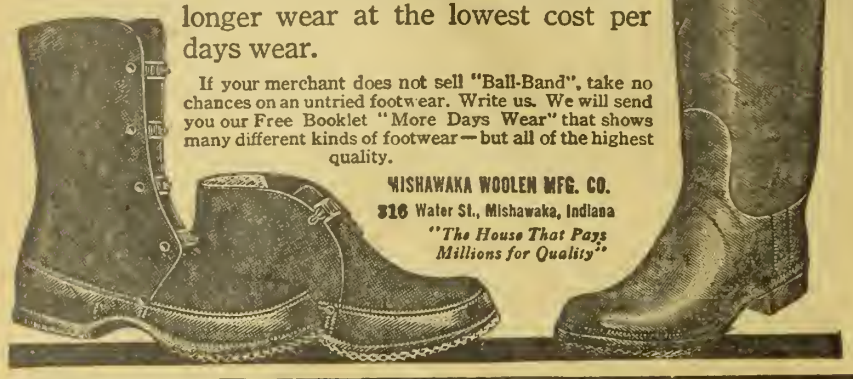

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The great demand for this tractor made necessary the erection of the largest tractor factory in the world, which is now in operation.

This proves that the Moline Universal meets the pressing need of American farmers for a practical machine that will take the place of horses.

You can rely upon this tractor for *All Field Work*, from preparing the seed bed to harvesting the crop—pulls the usual 5-horse load; gives you 10 to 12-H. P. for belt work. One man operates both implement and tractor.

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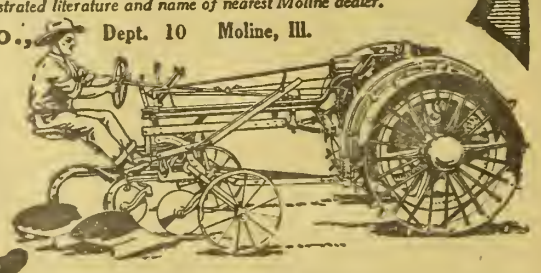

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Cattle Improvement

ENTHUSIASM for better cattle was a marked feature of the annual meeting of the Kansas Improved Stock Breeders' Association held in Manhattan, February 8. Over five hundred were present at the afternoon session and no address given was listened to with greater interest than that of F. D. Tomson, editor of The Shorthorn in America. Mr. Tomson made a strong plea for the breeding of pure-bred beef cattle and supported his statements by most convincing arguments. He said:

"There is a sentiment more or less general that the business of raising improved cattle is intended for a limited few. Let me correct this impression. It should be the business of every man identified with the live stock industry as a producer to produce and develop improved types and maintain improved standards.

"It is a business in which continuity of purpose and methods count for a great deal. It is not a business that may be engaged in one year and closed out the next. It does not admit of an intermittent identity or activity. By the very nature of the business it requires a steady, continuous, persistent application of thought and purpose. And for this reason the farmers in the British Isles have attained a degree of success that we have scarcely reached in this country.

"The making of a pedigree means an intelligent selection and mating of types which involves some knowledge of the preceding ancestry. For instance, we would hardly expect a breeder to produce cattle that would reproduce accurately if he used a small, fine-boned, smoothly-finished sire of uneven conformation and heavy bone, and continued this plan. The offspring would lack uniformity and could not be relied upon to reproduce type. The correct method would be for the breeder to form in his mind the conformation, the type, that he wished to perpetuate and then select his sires as nearly of this type as possible. Having done this, the perigree would be strengthened with each cross and the offspring would much more certainly reproduce the type desired.

"Let us suppose that a breeder has followed this plan and then, through lack of judgment, or for some unaccountable reason, permitted the use of a wire widely differing from his established type. In so doing he has destroyed the results of years. Now let us suppose that an inferior sire, representing indifferent blood lines, is placed in service. We can scarcely estimate the damage resulting.

"These are fundamental rules that should be applied to the breeding of registered cattle, but they are of no less value in the breeding of non-registered or grade cattle. The fact is that no man, however gifted he may be, can improve his cattle by any other method than a careful application of the principles just given. And the fact that we have so many inferior cattle, so many indifferent, angular, under-sized, flat-ribbed, sway-backed cattle all the way from Stillwater, Oklahoma, to the waters of the Atlantic and the Pacific is because the principles stated have not been applied persistently.

"The breeding of registered cattle leads to a broader contact with people. It induces more or less travel. It encourages the study of nature, of men, of books, and the effect is educational. I have never ceased to be impressed with its broadening, refining influence. So it is an inviting field and experience gleaned from many sources clearly demonstrates that the producing of registered cattle, improved cattle, enables the grower to command a larger cash return when his product goes to market.

"I know of a breeder in the Southwest who some years ago when he shipped his steers to the Fort Worth market and sold them, requested of the packer a careful report on their dressed weights, and especially as to the quality of their meat. This request naturally centered the interest of the packer and his buying department on this particular load of steers. When the live weights and the dressed weights were compared it was quite apparent that there was a justifiable reason back of the request for the report, as they proved splendid killers. Later, this man brought another shipment and recalled the killing qualities of the former load, saying that he desired a report also upon this load which was similarly bred. The result was that he received a considerable advance over the market price. And in the years since when his steers have shown up at the market they are readily purchased, always at an advance, no matter how heavy the market is glutted. This same party maintains a breeding ranch in Colorado and his experience at the Denver market is the same in this respect as at Fort Worth, and he says the reason is that he has been breeding pure-bred cattle for many years and the quality which they possess has been recognized and he is making a splendid profit as a result.

"This is a practical illustration of the value of the use of improved blood. Nothing that you can do as a cattle breeder will strengthen your position at the market so much as to furnish steers that are pure-bred or at least that have four or five pure-bred tops. So let the improved animal, the registered animal, be the basis upon which you build your breeding operations. This is vastly more important now than in the early days when the improved animal did not appear at the market in considerable numbers. Competition is keen today in this field and the man who attempts to make a success of raising inferior cattle on the assumption that they are profitable will find himself severely handicapped because cattle of the improved type go to market in large numbers and are given the preference by the buyers."

The speaker discussed at considerable length the great influence of the Shorthorn breed in cattle improvement the world over. "Who can estimate," said Mr. Tomson, "the extent of the improvement that the Shorthorn has brought about in American live stock and agriculture? Who can fail to recognize the enterprise and high character of the men who have been and are associated with the Shorthorns? I am inspired as I think of their names by the score. Who can foresee the breadth of the achievement in the years to come?"

He closed with these words: "The Shorthorn has no quarrel with any of the improved breeds, and it could, in no wise, benefit by their decline. Through the co-operation of the forces back of the Shorthorn and the other breeds, live stock husbandry in America is being rapidly placed on a higher and more profitable and enduring basis. It is through the use of improved blood that the corn belt farmer can profitably produce market steers on high priced land. Its use insures to the consuming public an adequate meat supply of the best quality. That the Shorthorn must always be relied upon as one of the most important factors in this achievement there is none to deny."

G. W. Howard, Oakley, has devised an elevator for elevating silage out of a pit silo, by the use of which he says he can elevate a ton of silage every fifteen minutes. Farmers in that vicinity desiring an easier and faster way of getting silage out of a pit silo would do well to visit Mr. Howard and learn about this elevator.

This is a good time of year to put in pit silos, while work is slack, and then they will be ready to fill next fall when the feed crop is ready to harvest. The digging and cement work can be done satisfactorily below the surface during freezing weather. The district agricultural agent, W. A. Boys, recently assisted F. E. Brooks, Winona, in making out specifications for the construction of two pit silos.

Now is the time to consider improving the farm poultry flock. It will cost no more to feed the good layers next winter than to board the hens which will make no return except in fat which is much less profitable than eggs.

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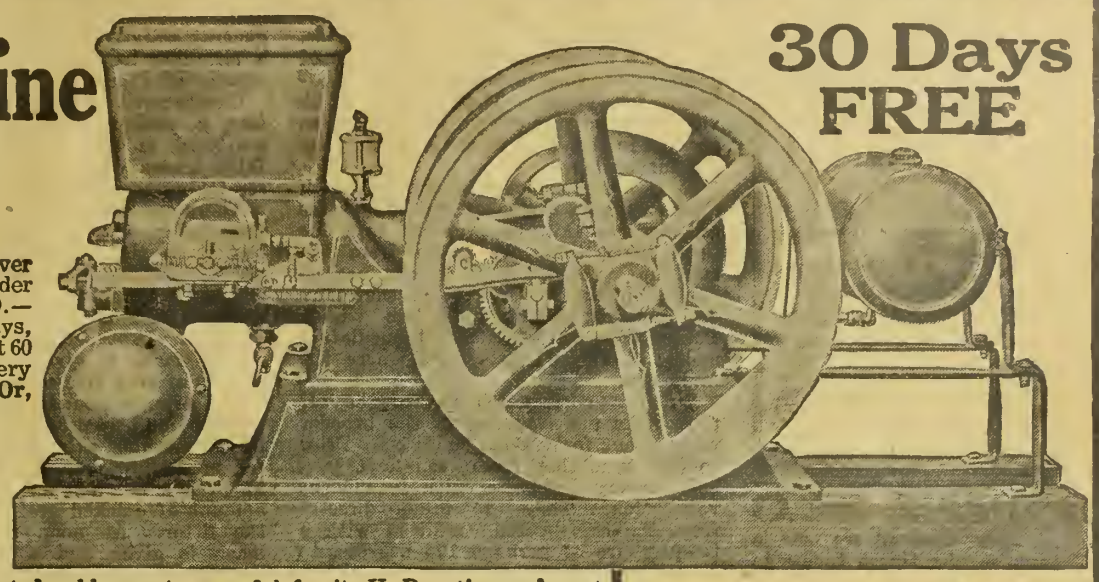

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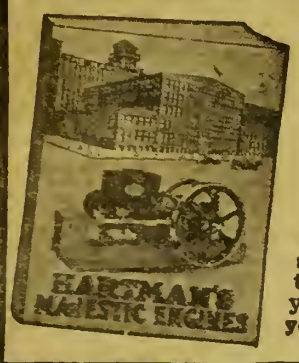

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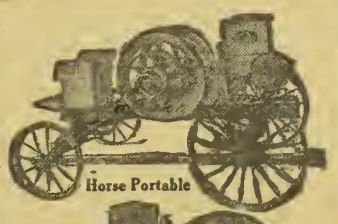

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By N. L. Harris, Poultry Department, K. S. A. C.

HOW often we hear the remark, "Incubator chicks are not as strong as hen-hatched." Unquestionably such statements are the result of experiences which seem to prove that such is the case. That it is not the case, is proven by the success of hundreds of poultrymen who have used the incubator for years. Their stock is as vigorous and their egg production as good as in the cases where hens are used for incubation.

It is not a difficult matter to hatch chicks with an incubator, but it requires considerable skill to properly care for them after they are taken from the machine. Thousands of chicks are so handled in the first few hours that they die during the following two weeks. That death does not result immediately makes it difficult to realize where the fault lies.

When a good hatch is brought off the chicks are removed to the brooder when about forty-eight hours old. Prior to this time they have been kept in a hot, steamy incubator with insufficient ventilation. They are taken directly from the over-heated condition with a temperature of perhaps 105 degrees, to a brooder or perhaps an old hen with a temperature of possibly 85 or 90 degrees. A baby chick subjected to such a sudden change of temperature usually becomes chilled and dies within a few days from bowel trouble. The more successful poultrymen remove the egg tray as soon as the hatch is completed, and open the incubator door a little at a time. In this way the chicks become accustomed to outside air conditions. In the early spring it will require ten or twelve hours to accomplish this result.

Good brooding requires plenty of fresh air and exercise. One compartment of the brooder should furnish a heat varying from 100 to 110 degrees. To confine chicks in such a heated compartment would result in a lowered vitality. For this reason a small outside run should be furnished where the air is cool and fresh. If the chick becomes slightly cool, a few moments under the hover will thoroughly warm it and it is again ready to go out and rustle. Where the hover temperature is too low, it requires some time to warm the body and the chicks huddle around the heat. This is not a desirable condition and should be avoided.

In cases where small flocks are to be cared for, the lamp-heated brooders or the old hen will be found sufficient, but where large hatches are brought off perhaps no more satisfactory arrangement can be found than the colony brooder stove. These are both oil and coal-heated and are used extensively.

The first few feeds require care. Where possible, sour milk should be given before any feed. In fact, to insure best results a constant supply of clean, sour milk should be furnished. The first feed may consist of a small quantity of corn or kafir meal, wheat bran, bone meal and beef scrap. This feed should be scattered dry on a clean board or paper. If the chicks do not readily begin to eat, the board may be tapped with the finger nail. This will attract their attention and as they see the particles of feed being disturbed, they will pick at them and thus learn to eat. No chick should be fed all it will eat until it is several days old. After this it may be allowed all it will keep cleaned up until noon, when it should be allowed to become quite hungry. This gives the system time to become cleaned out once a day.

Some sort of green feed is essential to the best development of growing chicks. Nothing else fills this requirement as well as does a sliced onion once daily. Incubator chicks often get the habit of bunching and drooping. The feeding of onion will quickly break up this habit. Slice the onion crosswise so as to form rings. After the first feed or two there will be a wild rush for the rings. Each ring furnishes an object over which to struggle. Each chicks seeks to secure a piece and run with it. In his greediness he may get the leg of another chick and start with that, which adds to the general activity. Aside from acting as a stimulus to activity, the onion is a wonderful appetizer.

Chicks must be kept active. To aid in this, a portion of the feed should be scattered in some sort of litter. Alfalfa leaves or meal furnish the best scratching material.

There are many good rations and systems for growing baby chicks. One that has given the writer more than ordinarily good results is to give the chicks, when about forty-eight hours old, a drink of sour milk and a small amount of sand. In a short time a light feed of dry mash is given, composed of 18 pounds of very fine corn chop, 21 pounds wheat bran, 4 pounds bone meal, and 2 pounds fine beef scrap. The second day, in the morning as much of this mash is fed in shallow troughs as will be eaten in twenty minutes. With this a small amount of cracked grain is scattered in the litter. At noon another feed of mash is given and a good supply of sliced onion furnished. Nothing more is fed until night, when a liberal supply of both grain and mash is given.

The most important principle is to keep growing chicks busy. If not, they will acquire evil habits, the most pernicious of which is toe-picking. Once this habit is started, whole flocks are often ruined. There is one sure cure, which is simply to dip the toes that are bleeding in a can of pine tar. This not only proves distasteful to the chicks that are doing the picking, but it is very healing.

To sum the matter up, to be successful with incubator-hatched chicks, it is necessary to secure eggs from hens that are not too fat. Be sure the incubator does not run too high. Accustom the chicks to outside air conditions before removing them to the brooder. Furnish plenty of exercise and fresh air. Keep everything clean and do everything that adds to the chicks' comfort.

Feeding for Eggs

Systematic feeding is just as necessary in the poultry yard as it is in the steer pen or hog lot.

Grain for chickens should be clean and free from mold. Moldy grain will often cause death or result in any one of several diseases common to the digestive tract. Birds affected become weak and inactive and often manifest an intense thirst. Such an individual may be given a teaspoonful of Epsom salts and if recovery is not rapid it should be killed.

There is always danger of underfeeding. The birds should go on the roosts at night with crops well filled. Only a little grain need be scattered in the straw litter each morning to induce exercise during the day. The total amount of grain to be supplied daily will depend largely upon the palatability of the dry mash which is fed as an adjunct to the grain ration and also the housing facilities. If the dry mash is not relished or if none is fed at all, a greater amount of grain is required to satisfy the appetite of the birds and at the same time they cannot utilize the feed efficiently for production purposes. When insufficient protection is given, especially during the winter months, by undue exposure of houses or by allowing drafts, more grain is required to keep up the body heat.

It is questionable whether chickens may be overfed. An improper balance, however, between mash and grain will often result in an excessive deposition of fat, so much in fact that the function of the reproductive organs is interfered with and the bird does not lay. It is believed that laying hens should eat half as much mash as they do grain, but experience based on year round feeding shows that the dry mash consump-

TO BE successful with incubator-hatched chicks, it is necessary to secure eggs from hens that are not too fat. Be sure the incubator does not run too high. Accustom the chicks to outdoor conditions before removing them to the brooder. Furnish plenty of exercise and fresh air. Keep everything clean and do everything that adds to the chicks' comfort.

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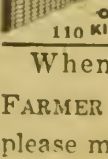
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tion is only about one-third of the total ration. A wet mash consisting of bran and sour milk may be fed two or three times weekly during the late summer and during the winter as an appetizer and in this way the total amount of mash eaten may be increased.

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Chickens hatched early in the season should be brooded in a poultry house or shed while the outside weather conditions are unfavorable. After the weather becomes settled, they can be reared in brood coops out of doors. Brood coops should be made so that they can be closed at night, to keep out cats, rats, and other animals, and enough ventilation should be allowed so that the hen and chicks will have plenty of fresh air. Details and specifications for building a good coop are given in Federal Department of Agriculture Farmers' Bulletin 574, "Poultry-House Construction," which is to be had on application.

The hen should be confined in the coop until the chicks are weaned, while the chickens are allowed free range after they are a few days old. Where hens are allowed free range and have to forage for feed for themselves and chicks, they often take them through wet grass, where the chicks may become chilled and die. Most of the feed the chicks secure in this manner goes to keep up the heat of the body, whereas feed eaten by those that are with a hen that is confined produces more rapid growth, as the chicks do not have so much exercise. Then, too, in most broods there are one or two chicks that are weaker than the others, and if the hen is allowed free range the weaker ones often get behind and out of hearing of the mother's cluck and call. In most cases this results in the loss and death of these chicks, due to becoming chilled. If the hen is confined the weaklings can always find shelter and heat under her, and after a few days may devolop into strong, healthy chicks.

The loss in young chicks due to allowing the hen free range is undoubtedly large. Chickens frequently have to be caught and put into their coops during sudden storms, as they are apt to huddle in some hole or corner where they get chilled or drowned. They must be kept growing constantly if the best results are to be obtained, as they never entirely recover from checks in their growth even for a short period. Hens are usually left with their young chicks as long as they will brood them, while some hens frequently commence to lay before the chickens are weaned.

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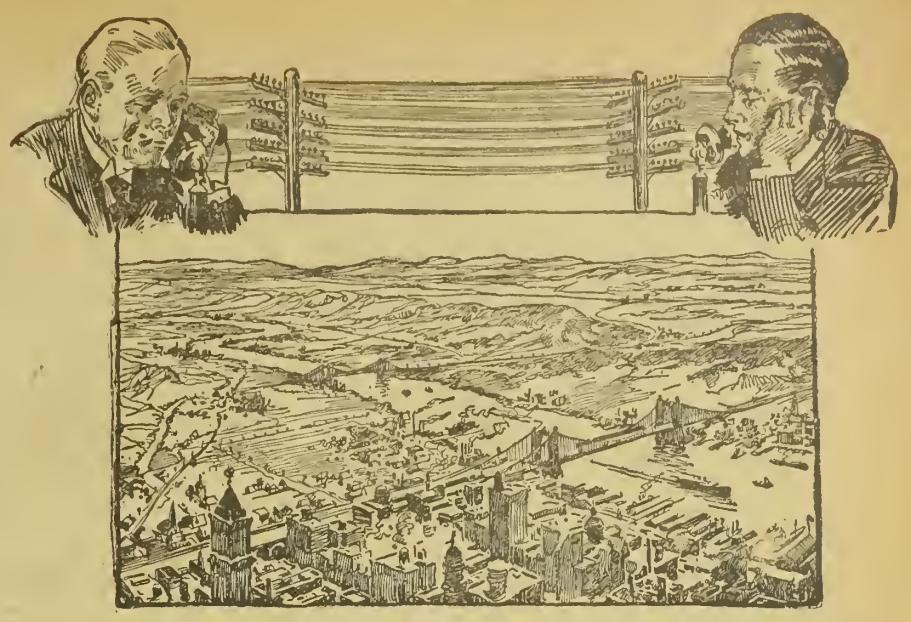

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Nutritive value and flavor of many foods are lost because they are not cooked long enough to release these properties as they should be released. Cereals are so neglected probably more than any other class of foods. The reason for this is that it is impossible to start breakfast early enough in the morning to allow the cereals sufficient time to cook thoroughly, and few people will bother to partially cook the breakfast food the night before. In the fireless cooker is the ideal way to cook cereals.

A home-made fireless cooker is within the reach of all. In a recent bulletin of the Federal Department of Agriculture suggestions for a practical home-made cooker are given. These suggestions have been carefully worked out by the Office of Home Economics of the department.

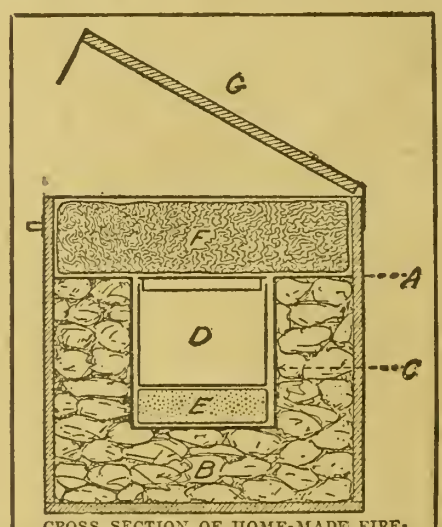
The outside of the cooker may be a tightly built wooden box, an old trunk, a small barrel, a large butter or lard firkin or tin, or a large galvanized iron bucket with close-fitting cover. In general, a well-built, conveniently sized box is perhaps most satisfactory, though the cookers entirely encased in metal have the advantage of being fire-proof.

If a box is to be used, its size will depend on the size of the cooking kettle to be used in it and on whether there are to be one or two compartments. It must be large enough to allow for at least four inches of packing material all around the "nest" in which the cooking kettle is to be placed. For the sake of cleanliness and convenience the nest should be lined with metal and should be a trifle larger than the cooking utensil. If an extra source of heat, such as a hot brick or plate, is to be used, a metallic lining for the nest is imperative. For this purpose a galvanized iron or other metal bucket may be used or, better still, a tinsmith can make a lining of galvanized iron or zinc which can be provided with a rim to cover the packing material. In case no hot stone or plate is to be used in the cooker, the lining can be made of strong cardboard.

For the packing and insulating material a variety of substances may be used. Asbestos and mineral wool are good and have the additional advantage that they do not burn. Ground cork—such as is used in packing Malaga grapes—hay, excelsior, Spanish moss, wool, and crumpled paper may also be used satisfactorily. Of the inexpensive materials that can be obtained easily, crumpled paper is probably the most satisfactory, since it is clean and odorless and, if properly packed, will hold the heat better than some of the others. To pack the container with paper, crush single sheets of newspaper between the hands. Pack a layer at least four inches deep over the bottom of the outside container, tramping it in or pounding it in with a heavy stick of wood. Stand the container for the cooking vessel, or the lining for the nest, in the center of this layer and pack more crushed papers about it as solidly as possible. When an extra source of heat is to be used, it is much safer to pack the fireless cooker with some non-inflammable material, such as asbestos or mineral wool. A cheap and easily obtained substitute are the small cinders sifted from coal ashes, preferably those from soft coal, which may be obtained at the boiler house of any mill. The cinders from hard coal will do, however. Experiments with this material made by home economics specialists of the department showed that it is very nearly as satisfactory as crumpled paper as packing. If fireproof packing is not used, a heavy pad of asbestos paper should be put at the bottom of the metal nest and a sheet or two of asbestos paper should be placed between the lining of the nest and the packing material. Whatever packing material is used, it should come to the top of the container for the kettle, and the box should lack about four inches of being full. A cushion or pad must be provided to completely fill the space between the top of the packing and the cover of the box after the hot kettles are put in place. This should be made of some heavy goods, such as denim, and stuffed with cotton, crumpled paper, or excelsior. Hay may be used.

The kettles used for cooking should be durable and free from seams or crevices, which are hard to clean. They should have perpendicular sides and the covers should be as flat as possible and provided with a deep rim shutting well down into the kettle to retain the steam. It is possible to buy kettles made especially for use in fireless cookers. These are provided with covers which can be clamped on tightly. The size of the kettle should be determined by the quantity of food to be cooked. Small amounts of food cannot be cooked satisfactorily in large kettles, and it is therefore an advantage to have a cooker with compartments of two or more different sizes. Kettles holding about six quarts are of convenient size for general use. Tinned-iron kettles should not be used in a fireless cooker, for, although cheap, they are very apt to rust from the confined moisture. Enameled-ware kettles are satisfactory, especially if the covers are of the same material. Aluminum vessels may be purchased in shapes which make them especially well adapted for use in fireless cookers and, like enameled ware, they do not rust.

The fireless cooker must be used with intelligence to obtain the best results.



CROSS SECTION OF HOME-MADE FIRELESS COOKER.—A, OUTSIDE BOX; B, INSULATING MATERIAL; C, METAL LINING; D, COOKING KETTLE; E, HOT PLATE OF OTHER SOURCE OF EXTRA HEAT; F, PAD FOR TOP; G, HINGED COVER.

It is best suited to those foods which require boiling, steaming, or long, slow cooking in a moist heat. Foods cannot be fried in it, pies cannot be baked successfully in the ordinary fireless cooker, nor can any cooking be done which requires a high, dry heat for browning. Meats, however, may be partially roasted in the oven and finished in the cooker, or may be begun in the cooker and finished in the oven with much the same results as if they were roasted in the oven entirely. The classes of food best adapted to the cooker are cereals, soups, meats, vegetables, dried fruits, steamed breads, and puddings.

EDITOR'S NOTE.—In a later issue we will tell of the use of the fireless cooker. Recipes suitable for it will also be given.

Extension Schools Popular

The Kansas Agricultural College is being taken to the women of the state. It isn't necessary to go to Manhattan. Busy persons are given the opportunity of studying for a week under trained teachers. In 1916 nearly 1,000 housewives and others attended extension schools in home economics in twenty-six communities, and in 1917 the attendance is expected to show a material increase because of additional courses offered.

Last year some drove from ten to fifteen miles to attend the schools. One woman got up at 4 o'clock in the morning to do her washing and get her other work out of the way so she could go to the extension school.

An extension school may be organized by the school authorities of a community if it is to be conducted in connection with the school, by women's clubs, by committees representing any organization, or by individuals who

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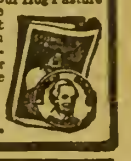

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wish to take the responsibility upon themselves to organize a school. It is usually better to have a committee of from three to five to do the local planning for a school than to leave it to a single individual.

Schools will be held only where there are fifteen or more members enrolled, as it would be inadvisable to spend the time with a smaller class and as it is necessary for the schools to be self-supporting in every locality as far as local expenses are concerned. Girls under sixteen years of age are not admitted.

Courses in food preparation, home management, home nursing, sewing, canning, dietetics, home problems, and home art will be offered in the schools which will be held between March 1 and October 1. Application should be made immediately so that the work may be well organized. Whenever an application is made signed by fifteen or more representative women of a community, it will be given immediate consideration and the dates for the school assigned.

Full particulars may be had by addressing Miss Frances L. Brown, director of home economics in extension, Kansas Agricultural College, Manhattan, Kansas.

A good way to test the quality of silk, to see whether or not it is filled, is to crush it and pull it through the hand. If it is filled the creases will remain and when held toward the light it will show breaks. By applying this test before buying silk, money may be saved as well as time which would be spent in making up the worthless material.

We should never work so hard that we are tired to the point of having no interest in the lives of those about us. We should reserve some strength each day for the things that build family life and family interest, as these are quite as important as shelter, food and clothing.

Baked Bananas

Remove the skins and place in buttered baking dish. Sprinkle with sugar and bits of butter, and a few drops of lemon juice if desired. Cover bottom of dish with water and bake until slightly brown.

Hot Water Sponge Cake

2 eggs
1 cupful sugar
⅔ cupful hot water or milk
1 cupful flour
1½ teaspoonfuls baking powder
¼ teaspoonful salt
¼ teaspoonful lemon extract

Beat yolks of eggs until thick and lemon-colored, add half the sugar gradually, beating continually. Next add water, balance of sugar, extract, the stiffly beaten whites of the eggs, and flour mixed and sifted with baking powder and salt. Bake twenty-five minutes in a moderate oven in shallow pan which has been buttered and floured.

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This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 7966—Girls' Apron: Cut in sizes 6 to 12 years. One of the season's ideas in aprons for a girl of school age is here illustrated. The first advantage is its being cut in one piece. The back straps cross at the waistline and extend to the shoulders, where they button to the ends of the front section. **No. 7980—Ladies' Waist:** Cut in sizes 34 to 42 inches bust measure. This waist with the becoming open neck will draw favorable attention whether made of one or two materials, for it is cut in two sections at front and back, the front having the more novel treatment with the lower section in uncertain outline. **No. 7991—Boys' Norfolk Suit:** Cuit in sizes 4, 6 and 8 years. A suit with a maximum of merit. The coat is made with a yoke front and back and wide box plaits, these being left loose at the waistline for a belt to pass underneath, as pictured. Straight trousers are well cut, pocketed and buttoned at sides. **No. 7978—Ladies' Kimono:** Cut in sizes 36, 40 and 44 inches bust measure. Just looking at this will arouse the desire to have a garment like it. The body portion is in bolero style, the skirt section gathered at the upper edge under the bolero. This creates the graceful folds that make the model a charming one. **No. 7932—Ladies' Skirt:** Cut in sizes 34 to 44 inches bust measure. A worthy feature of this model is the yoke belt arranged over the top of the skirt, but you may mount the three gores on a slightly raised waistline and omit the belt. Buttons that are importantly placed tell that the closing is at front. **No. 8003—Maternity Dress:** Cut in sizes 34 to 44 inches bust measure. From the fashion standpoint this dress lacks nothing in appeal. The surplice waist with rever fronts in contrasting note—to show an attractive chemisette that fills the long V neck—adds much to the graceful lines of the garment.

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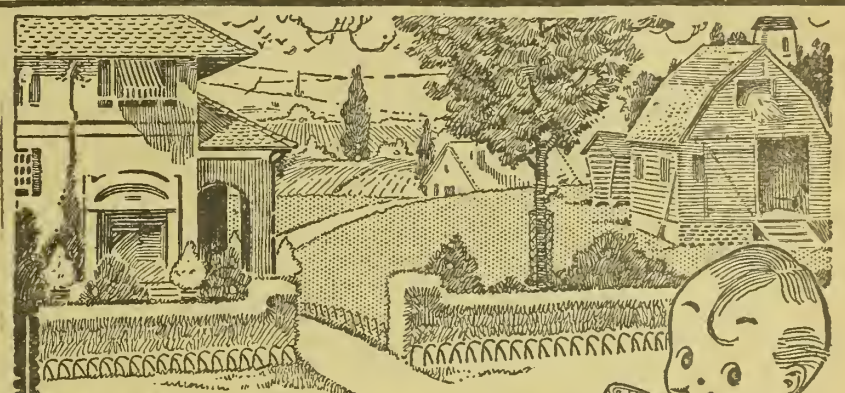

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PRIZE WINNING S. C. WHITE LEGhorns at two state shows. Eggs, $2, $3 and $5 per fifteen. Eggs from flock, $5 per 100. Chicks. Send for free mating list. C. G. Cook, Box F, Lyons, Kansas.

S. C. W. LEGHORN COCKERELS FROM hens with records over two hundred eggs; one, two, three dollars each. Baby chicks, 12½c each. Eggs, $5 per hundred. Hyperion White Leghorn Farm, Route 1, Des Moines, Iowa.

YOU WANT GOOD LAYERS. MOORE'S strain of S. C. Brown Leghorns are prize winners and winter layers. Eggs, $1 for fifteen and $4 for 100 postpaid. John W. Moore, R. R. No. I, Poplar Bluff, Mo., formerly of Hendrickson, Mo.

SINGLE COMB WHITE LEGHORN EGGS for sale. Range raised. Famous Yesterlay hens mated to Barron cockerels from two hundred forty egg stock. $1.25 per setting; two or more, $1 each; $5 per hundred. Shady Pine Leghorn Farm, Rossville, Kan.

SIX DOLLARS PER HUNDRED FOR eggs from prize winning Single Comb White Leghorns. Test shows one forty-four fertile eggs out of one fifty-five. Three fine yards. Send postal for complete description. G. R. McClure, McPherson, Kansas.

ANCONAS.

SINGLE COMB ANCONAS—EGGS, FIFteen for $1.25 or $6 per hundred delivered. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

SEVERAL BREEDS.

REDS, ROCKS, LEGHORNS; 12½c. REquest folder. McCune Hatchery, Ottawa, Kansas.

FREE—1917 PRICE LIST OF EGGS. ALL leading breeds of chickens, turkeys, ducks, geese and guineas. Monroe Poultry Yards, Monroe, Iowa.

EGGS FROM PURE-BRED PRIZE WINning Bourbon Red turkeys, both combs. S. C. R. I. Reds, White and Black Langshans, Anconas and Light Brahmas. Write for mating list. Mr. Henry Gillen, Route No. 1, Osborne, Kansas.

FOR SALE, EGGS—EGGS FROM PUREbreds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

POULTRY WANTED.

EGG CASES AND POULTRY COOPS loaned free to our shippers. Paying prices published daily in Topeka Capital. Next week, No. 1 fowls: Turkeys, 24c; capons, 22c; hens, 17c. The Copes, Topeka.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

FARM AND HERD.

W. W. Otey of Winfield, Kansas, has claimed Thursday, March 29, for his annual Duroc Jersey bred sow sale. On this date he will offer the farmers and breeders forty head of tried sows and fall yearling gilts, all bred and safe to All Col. 2d and Day Dream by Otey's Dream and out of a Red Wonder dam. They will also offer twenty head of summer and fall boars and gilts.

Oliver & Doran, owners of the famous Dornwood herd of Jersey cattle, report the herd making a splendid record this year. This is one of the Jersey herds that is noted for heavy production and has few equals as a profit producing herd. A feature of the herd at this time is the choice lot of young stock, including some very richly bred young bulls.

H. A. Johnson of Red Cloud, Neb., is one of the leading jack breeders of that state and his herd of mammoth black jacks is one of the best in the West. A feature of his herd at this time is the choice lot of young jacks and a number of extra good ones of serviceable age.

The average production of butter fat of the junior two-year-old class leaders has been increased 5.4 pounds by the record just completed by Pearl Rose of the Glen 47414, a two-year-old Guernsey heifer owned by Henry W. Howe, Bedford Hills, New York. This cow produced in one year of her first lactation period 12,378.8 pounds of milk and 711.43 pounds of butter fat, which entitles her to third place in her class. The sire of Pearl Rose of the Glen 47414 is Missy's May Rose King of the Glen 19660, a son of Beau Regal 13448 and Missy of the Glen 18390. Beau Regal 13448, an Advanced Register son of an Advanced Register cow and by the great May Rose bull, Imp. May Rose King 8336, which in turn is a son of May Rose 2d 3251 P. S., the foundation cow of the May Rose family. Pearl Malden of the Glen 23622 is the dam of the new leader and has two excellent official records, one of 13,032.5 pounds of milk and 621.47 pounds of fat as a junior three-year-old, and the other of 14,591.1 pounds of milk and 695.73 pounds of butter fat as a mature cow. She is sired by a bull with ten tested daughters and out of an Advanced Register daughter of Fernwood of Homestead 7448, which sired eight Advanced Register daughters with good records.

A Guernsey cow has just completed a record which secures for her sixth place in the junior three-year-old class. Langwater Desire 40709, owned at Langwater Farms, North Easton, Mass., is the cow that has done this by producing 14,219.8 pounds of milk and 708.69 pounds of fat. Her sire, Langwater Monarch 20899, is an Advanced Register sire by Imp. Yeoman 8618 and out of Dolly Bloom 12770, making him a full brother of that great cow, Dollie Dimple 19144, the highest producing cow of the breed in the senior three-year-old class. She produced 18,458.8 pounds of milk and 906.89 pounds of fat in a year under official test at the age of three years and nine months. The dam of Langwater Desire 40709 is Langwater Dairymaid 26377, which sold to C. L. A. Whitney of Albany, New York, at the recent Langwater sale for the highest price ever paid for a Guernsey cow, $6,150.

Leon A. Waite of Walnut Breeding Farm, Winfield, Kansas, is one of the progressive workers in the interest of improved live stock. Mr. Waite's 1,200-acre Walnut bottom farm is the home of one of the great herds of pure-bred Hereford cattle in Kansas and also of good flocks of Cotswold and Shropshire sheep, and his herd of Berkshire hogs is as good as the best of that breed. The blood lines of his Hereford herd include all of the popular families of the breed. His herd is headed by Concentrate 289644, a sire that has attracted the attention of all leading Hereford breeders. Walnut Hereford herd is drawn upon heavily for breeding stock. Among the recent sales reported are a choice double bred Concentrate calf to Blain Adams of Dexter, Kansas, to head his choice herd of young cows. This calf weighed 1,340 pounds at fourteen months of age and sold for $1,250. A choice yearling son of Beau Brae to head the herd of Victor Sandstrom of Atlanta, Kansas, at $600; eleven choice cows to J. H. Keith of Coffeyville, Kansas; five choice bulls to go to Mexico, and three bulls to John Gosling of Kansas City, Missouri. The herd now consists of ninety head. Mr. Waite has recently completed a modern farm home at a cost of $8,500. The house contains fourteen rooms and bath, modern plumbing and electric lights throughout, and is heated by a furnace.

The widespread interest in the Hereford breeders' consignment sale to be held at Manhattan on March 3 under the management of W. A. Cochel, assures a successful sale. The offering was selected from the very best herds in Kansas and every animal to be sold has been inspected by some member of the animal husbandry department and the breeding represented will be the best of the breed.

The Holstein-Friesian heifer Miss Valley Mead De Kol Walker 250936 has broken the record for fat production in the senior two-year class of the division covering tests begun not less than 240 days from freshening, by producing in seven consecutive days 407.1 pounds milk containing 16.942 pounds fat, with the test still in progress. She freshened at the age of 2 years, 6 months, 25 days, and began her test 243 days from freshening. Her prior record, begun fifty-eight days from freshening, is 534 pounds milk containing 20.546 pounds fat. Her sire is Prince Gelsche Walker 81663; her dam is De Kol of Valley Mead 51218. In the senior two-year class of the eight months division she displaces O K L Pearl Tula 265487. If computed on the 80 per cent basis, the equivalent butter so far claimed for Miss Valley Mead De Kol Walker would amount to 21.18 pounds.

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 300,000 readers for 4 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks, for bona fide seekers of employment on farms.**

HELP WANTED.

BE A GOVERNMENT FARMER. GOOD pay; steady, interesting job. Write Central Institute, 44-F, St. Louis.

MAN OR WOMAN TO TRAVEL FOR old established firm. No canvassing; $1,170 first year, payable weekly, pursuant to contract. Expenses advanced. G. G. Nichols, Philadelphia, Pa., Pepper Bldg.

FARMERS 18 OR OVER—GET GOVERNment jobs, $75 to $150 month. Vacations with full pay. Spring examinations everywhere. Education unnecessary. Sample questions free. Write immediately. Franklin Institute, Dept. W-82, Rochester, N. Y.

AGENTS WANTED.

MEN TO WEAR FINE SUIT. ACT AS agent. Big pay, easy work. Banner Tailoring Co., Dept. 534, Chicago.

WE PAY $80 MONTHLY SALARY AND furnish rig and expenses to introduce guaranteed poultry and stock powders. Bigler Company, X 671, Springfield, Ill.

REAL ESTATE.

TRADES EVERYWHERE — EXCHANGE book free. Bersie Agency, El Dorado, Kan.

TWO RARE BARGAINS NEAR TOPEKA —160-acre farm, $60. Forty acres, $70. Terms. J. E. Thompson (The Farmer Land Man), Tecumseh, Kansas.

FREE GOVERNMENT LANDS—OUR official 112-page book. "Vacant Government Lands," lists and describes every acre in every county in U. S. Tells location, place to apply, how secured free. 1917 diagrams and tables, new laws, lists, etc. Price 25 cents postpaid. Webb Publishing Co., Dept. 16, St. Paul, Minn.

YOUR CHANCE IS IN CANADA.—RICH lands and business opportunities offer you independence. Farm lands, $11 to $30 acre; irrigated lands, $35 to $50; twenty years to pay; $2,000 loan in improvements, or ready made farms. Loan of live stock; taxes average under 20 cents an acre; no taxes on improvements, personal property, or live stock. Good markets, churches, schools, roads, telephones; excellent climate — crops and live stock prove it. Special homeseekers' fare certificates. Write for free booklets. Allan Cameron, General Superintendent Land Branch, Canadian Pacific Ry., 234 Ninth Ave., Calgary, Alberta.

NEW FARM OPPORTUNITY IN ONE OF the greatest states in the Union. A new line of the Santa Fe is tapping a rich and fertile prairie section of Northwest Texas, where already many farmers have made good in a big way with wheat, hogs and live stock. Here, if you act now, you can get first choice—get in on the ground floor of a great opportunity. You can get in ahead of the railway—ahead of the people whom the railway will bring—ahead of those who act more slowly than you do. This is the chance of a lifetime for a man of moderate means. A certain number of thrifty, far-seeing farmers can acquire good land at an astonishingly low figure and on long, easy terms. If you have confidence that a great railroad, like the Santa Fe, would only recommend what it considers a good thing, and because it wants to see new territory developed and wants newcomers to prosper and produce—then write me today for particulars about this district. Mild climate, social advantages, schools, churches, telephones, good roads. Everything there but enough men with their families. Will you be one of the fortunate first comers to reap the advantages of a section that has been minutely inspected by a Santa Fe agricultural agent and pronounced right? Write me now and let me send you a copy of the special illustrated circular we are getting out. C. L. Seagraves, Industrial Commissioner, A. T. & S. F. Ry., 931 Railway Exchange, Chicago.

BUSINESS CHANCES

INVESTORS' MAGAZINE FREE TO YOU. $10 invested with us has made others $290 in few months. "Hoffman's Investment Journal" tells how this was done. This magazine gives facts about the real earning power of money. Tells how many have started on the road to fortune. We will send it three months free. If you want to make money, write for this magazine today. Hoffman Trust Company, 719 Carter Building, Houston, Texas.

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

SITUATION WANTED.

MAN AND WIFE WANT WORK ON farm. Experienced with live stock. Have no children. Good references. Address W, care Kansas Farmer.

HEDGE POSTS.

FOR SALE—FIFTY THOUSAND OSAGE hedge posts. H. W. Porth, Winfield, Kan.

HEDGE POSTS—SALE, CARLOAD GOOD hedge posts. B. C. Day, Sibley, Kansas.

TREES, SEEDS AND PLANTS.

SEED CORN. — LAPTAD STOCK FARM, Lawrence, Kansas.

TREES AT WHOLESALE—CATALOGUE free. Agents wanted. Peyton Nurseries, Boonville, Mo.

WATERMELONS—GUARANTEED PURE. Both Halbert Honey and Rubber Rind. H. A. Halbert, Originator, Coleman, Texas.

BOW CREEK FARM SEEDS—ALFALFA, feterita, kafir, Sudan grass, corn. (Sudan, sweet clover wanted.) Logan, Kansas.

BLACK-HULLED WHITE KAFIR SEED, recleaned, tested and sacked, $2 per bushel. Grover Lee, Pratt, Kansas.

TEN ELBERTA AND FIVE CHAMPION peach trees, postpaid, $1. Send now. Wellington Nurseries, Dept. C, Wellington, Kan.

SEED CORN—BOONE COUNTY WHITE, carefully selected. $2.50 per bushel shelled. J. W. Taylor, Edwardsville, Kansas.

NURSERY STOCK OF QUALITY THAT bears the choicest. Send for free catalog. Alpha Nursery, Alpha, Ill.

SEED CORN—WON FIRST AND SWEEPstakes, Missouri State Corn Show, 1917. For catalog, write George Manville, Faucett, Mo.

TIMOTHY SEED—FANCY, NEW CROP, recleaned timothy seed at $2.50 per bushel. Write today for samples. Watson Bros., Seed Merchants, Milan, Mo.

ALFALFA SEED, NEW CLEAN UPLAND, 14 cents per pound for one bushel or more. Bags, 25 cents. Sample on request. W. M. Hixon, Berryton, Kansas.

SEED CORN — DIAMOND JOE WHITE, excellent drouth resister, and Reid's Yellow Dent. Graded, $2.50 bushel. D. D. Denver, Milford, Kansas.

IOWA GOLD MINE AND BOONE CO. White seed corn, selected, shelled, graded, $2 per. Choice alfalfa seed, $7.50 per. Samples free. J. F. Feigley, Enterprise, Kan.

REID'S YELLOW DENT, BOONE COUNTY White seed corn. Genuine Red Texas seed oats, clover, timothy and alfalfa seed. S. G. Trent, Hiawatha, Kansas.

TREES, SHRUBS, PLANTS, VINES, seeds. Everything at lowest prices direct to you. All tree peddlers' commissions cut out. Free book. Wichita Nurseries & Seed House, Shell Bldg., Wichita, Kansas.

SEND $1.00 FOR 100 PROGRESSIVE strawberry plants and get our Twentieth Century Berry Book absolutely free. Worth dollars to you. E. W. Townsend, Box 3, Salisbury, Md.

SEED CORN—IMPROVED HIGH YIELDing varieties. Guaranteed and priced reasonable. Let us send you pictures of this great corn. Write J. T. Bristow Seed Corn Farms, Wetmore, Kansas.

PURE WHITE BLOSSOM SWEET CLOver seed direct from grower. Hulled, $15; scarified, $16 per hundred pounds. Circulars and samples free. Willis Conable, Axtell, Kansas.

RED TEXAS RUST-PROOF SEED OATS, recleaned and carefully graded. You buy nothing but oats. Grown here one year. They are fine. Let me send you a sample and price. Warren Watts, Clay Center, Kan.

SEED CORN—PURE-BRED REID'S YELlow Dent and Boone County White, Alsike, Mammoth and Medium Red Clover, Kherson and Iowa 103 Oats, new crop timothy seed. Folder and prices free. F. M. Riebel & Son, Arbela, Mo.

ALFALFA SEED FROM HIGH PRODUCing fields. 370 bushels threshed from forty acres. Quick to recover after each cutting. 95% germination, 99 purity. Test made by County Agent Schnacke. Won first at our fair. Price, $8 per bushel; new sacks, 25c. Stockwell Farms, Larned, Kansas.

KAFIR SEED — WE HAVE TWO CARS fine white kafir seed testing over 90 per cent germination, which we will sell while it last in 2-bushel sacks at $1.85 per bushel. Sacks free. It is going to be hard to find good kafir like this this year. If you will need kafir, better order quick. Brooks Wholesale Co., Ft. Scott, Kan.

GET VALUE FOR YOUR MONEY. Plant Brodbeck Sweet Cherry Trees, that bear where other sweet cherries fail. Larger and better than others. Only one failure in 23 years. Wake up to facts. Don't stand in your own light and wonder if this is true. We will return every dollar you pay for Brodbeck Sweet Cherry Trees if you are not well pleased. Write for its history. S. S. Brodbeck, Gallatin, Mo.

MISCELLANEOUS.

YOU CAN MAKE A GOOD LIVING IN your back yard raising Belgian hares. Full particulars and price list of all breeds, 10c. W. G. Thorson, Aurora, Colo.

FOR SALE — 16-HORSEPOWER GASOline engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost $480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

PATENTS.

PATENTS. PICTURE OF PATENT OFfice, three-year calendar, and 64-page book free. Fitz Gerald Co., Patent Attorneys, 841 F St., Washington, D. C. Estab. 1880.



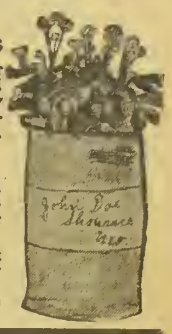
Box Everbearing Strawberries

Will You Enjoy a Fine Bed of Fancy, Heavily Fruiting, Everbearing Strawberry Plants at Our Expense? See Our Offer Below

THESE guaranteed **true to name Everbearing Strawberry** plants are just what their name implies and if set in your garden during the spring months will bear a heavy crop of fine, big, red, deliciously flavored strawberries all through July, August, September and October of same year.

Everbearing Strawberries Now a Commercial Success

The berries are of good size, fine color, firm flesh and of much better flavor than the average June berries. The plants fruit very heavily, running a good 20% more than the regular once a year fruiting sorts bear at regular strawberry time, but instead of stopping fruiting at end of regular season, these new everbearers keep right on and fruit heavily all through the summer and fall months.



Wonderful Root System

The Everbearing varieties have a much heavier root system than the common sorts, often going into the soil to the distance of a foot and a quarter. This gets the roots down into the moist soil and enables the plants to produce fine large berries right along during hot, dry summer weather.

We are glad to help introduce these valuable plants, and if you will accept our offer and fill out the coupon and mail to us at once, we will have our nursery send you the DOZEN ASSORTED EVERBEARING PLANTS at proper time for planting in your locality and include with them a plant of a new $1,000 variety for good measure on the deal.

KANSAS FARMER CIRCULATION DEPT.,
Topeka, Kansas.

Gentlemen.—Please find enclosed $1.50 for two years' subscription to KANSAS FARMER. Send me absolutely free of charge one dozen assorted EVERBEARING STRAWBERRY PLANTS and the NEW $1,000 PLANT as advertised in above offer.

NAME. . . ..

POST OFFICE .....

STATE..... R. F. D.....

Are you now taking KANSAS FARMER?.....

CATTLE.

FOR SALE—ONE HIGH BRED JERSEY bull calf, born January 24, 1917. Write H. H. Starr, Claflin, Kansas.

FOR SALE — EIGHT HEAD CHOICE high grade Polled Durham cows, heifers and bull. C. M. Albright, Overbrook, Kan.

FOR SALE — REGISTERED HOLSTEIN bulls, ready for service. Prices right. G. H. Ross, Independence, Kansas.

HOLSTEINS FOR SALE — ONE PUREbred heifer calf and four grades, nicely marked and colored. Arthur Findlay, Whitewater, Wis.

FOR SALE—TEN HIGH GRADE GUERNsey cows and 150 pure-bred Duroc hogs. Bred sows, gilts, boars and fall pigs. Write for information. George M. Newlin, Hutchinson, Kansas.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $20 apiece. Frank M. Hawes, Whitewater, Wis.

FOR SALE—SEVERAL GRADE POLLED Durham yearling bulls at $50. Two fullblood yearlings at $65. My herd bull coming four years, gentle, recorded in both books, at $100. One hundred western ewes five years old, bred to Shropshire bucks to lamb in March, at $9. David Baumgartner, Halstead, Kansas.

DOGS.

HIGH CLASS PEDIGREED ST. BERnard pups, price $25. F. J. Lefferdink, Hickman, Neb.

FOR SALE—PAIR GUARANTEED COON hounds. Send 2 cents for prices. John Rash, Centerville, Kansas.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

TRAPPER POISON

GOES' LIQUID POISON CAPSULES KILL foxes, coyotes, wolves, on spot. Eleventh season in use. Mention this paper and I send free circulars. Edmund Goes, Milwaukee, Wis., Station C.

WISCONSIN LAND FOR SALE

LANDOLOGY, A MAGAZINE GIVING the facts in regard to the land situation. Three months' subscription free. If for a home or as an investment you are thinking of buying good farm lands, simply write me a letter and say, "Mail me Landology and all particulars free." Address Editor Landology, Skidmore Land Co., 301 Skidmore Bldg., Marinette, Wis.

HORSES AND MULES.

CLOSING OUT SALE OF SHETLAND ponies. Geo. Aid, Gallatin, Mo.

FOR SALE — PURE-BRED MORGAN stallions. Iver K. Johnson, Goff, Kan.

SHETLAND PONIES, FIFTY HEAD, moderate prices. Charles Clemmons, Coffeyville, Kansas.

FOR SALE OR TRADE—ONE COMING four-year-old black registered Percheron stallion. Bert Donley, Oxford, Kansas.

FOR SALE—THREE REGISTERED PERcheron stallions, coming 2 years old. W. E. Dustin, Route 1, Topeka, Kansas.

SALE OR TRADE FOR YOUNG STOCK, 15-16th Belgian stallion 9 years old, weight 2,000 pounds; 65 per cent breeder. W. G. Shideler, Silver Lake, Kansas.

FOR SALE—TABASCO 5936, AMERICAN saddle horse, perfect beauty, gentle, five years old. Will exchange for Holstein cows or heifers. R. A. Bower, Eureka, Kansas.

WANTED — TO TRADE 1,000-POUND registered blue ribbon jack, 7 years old, black, for good draft stallion. J. E. Itschner, Box 122, Sayre, Okla.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

FARM AND HERD.

The Jersey cow, Venita's Figgis, of the famous Longview Jersey herd, Lee's Summit, Mo., made the highest butter fat record in Missouri during the year 1916 and won the silver loving cup awarded annually by the Missouri State Dairy Association. Her record for the year was 12,216.9 pounds milk and 769.02 pounds butter. The Longview herd is made up largely of animals imported from the island and includes members of proven families such as Raleigh, Noble of Oaklands, Oxford You'll Do, Golden Fern's Noble, Oxford Majesty and others of note. The herd is headed by Fontaine's Chieftain and Flora's Queen Raleigh. Fontaine's Chieftain is an impoted son of Noble of Oaklands out of a daughter of Raleigh. He won first over the Island of Jersey, 1909, and was grand champion at the National Dairy Show, Chicago, 1912. Has eighteen daughters and one sin in the Register of Merit and a number on test. His highest testing daughter at the present time is Imp. White Heart, 711 pounds 13 ounces butter, 10,120.2 pounds milk in three-year-old form. Flora's Queen's Raleigh is a son of Queen's Raleigh, grand champion at the Kansas State Fairs in 1915. He was first prize two-year-old bull at the National Dairy Show, Springfield, Mass. Since the establishment of the herd in May, 1914, seventy cows have been placed in the Register of Merit.

HOLSTEIN CATTLE.

CLYOE GIROD, At the Farm

F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN-FRIESIAN FARM, TOWANDA, KANSAS

Breeders of pure-bred Holsteins. Special attractions in choice young bulls ready for service, with fashionable breeding. Write for pedigrees and prices. We maintain a breeding herd of pure-bred females and offer a grand lot of young springing heifers and cows, a number with A. R. O. records at prices within reason.

IT WILL PAY YOU TO SEE OUR OFFERING

Of choice extra high grade young cows and heifers, all springers in calf to pure-bred sires; large developed females, good udders, well marked and the right dairy type at prices that will challenge comparison for Holsteins of their breeding and quality. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone.

GIROD & ROBISON

MAURER'S HOLSTEIN FARM

We have a choice lot of high grade cows, fresh and springers. Also grade and pure-bred calves of either sex. We can please you in good Holsteins.

T. R. MAURER & COMPANY -:- -:- EMPORIA, KANSAS

HOLSTEIN CATTLE

We offer for sale 200 choice, high grade Holstein cows, heifers and service bulls of various ages; well marked and in good condition. Also can furnish a few choice, beautifully marked, 15/16ths pure-bred heifer or male calves, 1 to 2 weeks old, out of heavy milk-producing dams, at $15 each, crated f. o. b. cars. First draft takes them. Write

W. C. KENYON & SONS, ELGIN, ILLINOIS

CORYDALE FARM HERD

Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.

L. F. CORY & SON, BELLEVILLE, KAN.

Sunflower Herd Holsteins.

Watch for Date of Big Public Sale.
150 head bred for production. Get catalog early.

F. J. SEARLE - OSKALOOSA, KANSAS

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

The Cedar Lane Holstein Herd

We are now offering some exceptionally good bulls of serviceable ages at very attractive prices. These calves are sired by our 29.4-pound grandson of Pontiac Korndyke.

T. M. EWING, INDEPENDENCE, KANSAS

LILAC DAIRY FARM

Route No. 2, Topeka, Kansas.

BREEDERS OF PURE-BRED HOLSTEINS

Bulls from A. R. O. cows, all ages, for sale.

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

REGIER'S HOLSTEINS

Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.

G. REGIER & SONS, WHITEWATER, KAN.

HOLSTEIN CALVES—Ten heifers and two bulls, 15-16ths pure, beautifully marked, 5 weeks old, from heavy milkers. $20 each, crated for shipment anywhere. Write EOGEWOOO FARM, Whitewater, Wis.

CEDAR LAWN FARMS

C. A. Schroeder & Sons, Props.

Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.

W. C. SCHROEDER - WEST BEND, WIS.

Braeburn Holsteins A. R. O. BULL CALVES

H. B. Cowles, 608 Kansas Av., Topeka, Kan.

HIGH GRADE HOLSTEIN CALVES

Five to six weeks old, nearly pure, well marked, $20, express paid.

COLD SPRINGS FARM, Whitewater, Wis.

HOLSTEIN CALVES.

Very high grade heifer calves, five weeks old, nicely marked, $20 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

Look to the future.

Tredleo Bulls
(Holsteins)

Kingman, Kansas

NEMAHA VALLEY HOLSTEIN FARM

Choice yearling bulls and bull calves. World's record blood lines. Price reasonable. We invite inspection of our herd.

H. D. BURGER, Route 2, SENECA, KANSAS

HOLSTEIN COWS

Holstein cows, springers or bred heifers. Very large, good markings, out of best milking strains, bred to pure-bred bulls of the very best blood. Special prices on enrload lots. J. C. ROBISON, TOWANDA, KANSAS

REGISTERED HOLSTEINS

We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.

M. E. MOORE & CO. - CAMERON, MO.

If on the market for pure-bred stock, read KANSAS FARMER live stock advertisements. You will find what you want.

Real Estate For Sale

Have been in business here nine years. Can serve you, should you wish to buy land in Eastern Oklahoma. Write us.

SOUTHERN REALTY CO., McAlester, Okla.

A GENUINE BARGAIN

Fine 320 Acres, Unimproved. All good wheat land. Three and one-half miles to center of Leoti, the county seat of Wichita County. One-half mile to school. Not a draw between this half section and town. Price, $12 per acre, cash.

D. F. CARTER, Leoti, Wichita Co., Kansas

IMMEDIATE POSSESSION OF

Splendid 360-acre farm, fine soil, well located, and a bargain.

160-acre farm, good improvements, good soil.

80-acre farm, good improvements, land in high state of cultivation.

Come at once. These farms are priced worth the money.

MANSFIELD LAND CO., OTTAWA, KAN.

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

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CLAIM SALE DATES.

Combination Sale.

Feb. 26 to March 3—F. S. Kirk, Manager, Wichita, Kansas.

Jacks and Jennets.

March 13—H. T. Hineman & Sons, Dighton, Kansas.
March 15—L. M. Monsees & Sons, Smithton, Mo. Sale at State Fair Grounds, Sedalia, Missouri.
March 19—G. C. Roan, La Plata, Mo.

Jacks, Jennets and Percherons.

March 17—Oakland Stock Farm, Chillicothe, Missouri.

Holsteins.

March 7—J. A. Engler, Chapman, Kansas.
April 7—Breeders' consignment sale, Newton, Kan. W. H. Mott, Herington, Kan., sale manager.

Jersey Cattle.

March 8—F. J. Scherman, Topeka, Kansas.

Shorthorn Cattle.

March 7—Andrew J. Howitt & Son, King City, Mo.
March 30, 1917 — Combination Sale, South Omaha, Neb. H. C. McKelvie, Lincoln, Neb., Manager.
April 4-5, 1917—Central Shorthorn Association at Stock Yards Pavilion, Kansas City, Mo.

Hereford Cattle.

Feb. 26—Combination sale at Hays, Kan. Prof. W. A. Cochel, Manhattan, Mgr.
March 3—W. A. Cochel, Manhattan, Kansas.
March 6—Moses Bros. & Clayton, Great Bend, Kansas. Combination sale.

Polled Durhams.

March 29, 1917 — Combination sale, South Omaha, Neb. H. C. McKelvie, Lincoln, Neb., Manager.

Durocs and Polands.

April 25—Fred G. Laptad, Lawrence, Kan.

Durocs.

March 6—Richard Rothgeb, Pleasant Green, Mo.
March 15—W. T. McBride, Parker, Kan.
March 29—W. W. Otey & Son, Winfield, Kansas.

O. I. C. Hogs.

March 8—F. J. Scherman, Topeka, Kansas.

Hampshire Hogs.

March 1—Missouri Hampshire Breeders' Association, C. I. Ward, Cameron, Mo., Mgr.; sale at St. Joseph, Mo.

The management of Edgewood Farm, Whitewater, Wisconsin, one of the leading dairy cattle farms in that state, report the heaviest demand in recent years for Holstein cattle. This is one of the Wisconsin herds that is drawn upon heavily for breeding stock of all ages. Their shipments during the past month include consignments to buyers in Florida, New Mexico, Louisiana, Texas, Montana, Colorado and Kansas.

George S. App of Archie, Missouri, is succeeding as a breeder of registered Percheron horses and Shorthorn cattle and his herds are among the good ones in that state. A feature of his Percheron herd at this time is the choice lot of yearling and two-year-old stallions and fillies.

H. T. Hineman & Sons, the well known jack breeders and showmen of Dighton, Kansas, have announced March 13 as the date of their annual jack and jennet sale. They have catalogued twenty-five jacks and twenty-five jennets for this sale. The jacks range in age from weanlings to tried jacks from 14½ to 16 hands standard. The jennets are bred to the world's grand champion Kansas Chief 9194. Some of them have colts at side by Kansas Chief. The offering will include jacks and jennets that were first prize winners at the big fairs. They will also sell ten good Percheron stallions. This herd is noted for its big winnings at the Panama-Pacific Exposition.

C. I. Ward of Cameron, Missouri, sale manager for the Missouri Hampshire Breeders' Association, announces a public sale of Hampshire bred sows to be held at the sale pavilion, South St. Joseph, Mo., March 1, 1917. One hundred head of bred sows from the best Hampshire herds in Missouri will be catalogued for this sale.

J. S. Turner and T. W. Strickler of Fairfax, Missouri, held one of the most successful Poland China bred sow sales held in North Missouri this winter. The offering was presented in splendid condition. A large crowd of breeders from several states were in attendance. Bert E. McMillon of Blanchard, Iowa, topped the sale on Lot No. 1 at $200, and the forty-three head sold for an average of $90.68, which was very satisfactory to Messrs. Turner and Strickler.

L. C. Walbridge of Russell, Kansas, is one of the oldest Poland China breeders in Kansas and one of the progressive breeders. During the thirty years that he has been in the business Mr. Walbridge has been breeding along scientific lines and has succeeded in developing a type of Polands that mature quick and that have the size and quality to make them profitable feeders. He has one of the big herds in this state and this year he has bred sixty cows for spring litters. The blood lines of his herd are the best of the big-type breed.

T. M. Clouser, St. Joseph, Mo., administrator of the estate of C. W. Clouser, has announced a public sale of seventy-two head of Jersey cattle to be held February 21 at the farm near St. Joseph. The offering will consist of forty-four cows, twenty-five heifers and heifer calves, and three bulls.

Findlay Bros., of Cold Springs Farm, Whitewater, Wis., and owners of one of the great Holstein herds in that state, report their herd making good records. This firm owns one of the Wisconsin herds noted for heavy production.

The consignments of Hereford cattle to go in the Hereford Cattle Breeders' Sale to be held at Manhattan, Kansas, March 3, under the management of W. A. Cochel, are from the best herds in Kansas. Every animal catalogued has been inspected by some member of the Animal Husbandry Department and it will be a choice offering.

The Holstein-Friesian heifer, O K L Pearl Tula 265487, has broken the record for fat production in the senior two-year class of the division covering tests begun not less than 240 days from freshening, by producing in seven consecutive days 373.4 pounds milk containing 15.235 pounds fat, with the test still in progress. She freshened at the age of 2 years, 8 months, 17 days, and began her test 245 days from freshening. Her prior record, begun sixteen days from freshening, is 378.4 pounds milk containing 16.806 pounds fat. Her sire is Ormsby Korndyke Lad 102469; her dam is Pearl De Kol Tula 146422. In the senior two-year class of the eight months division she displaces K P Gem 201634, whose record, begun 364 days from freshening, is 336.6 pounds milk containing 15.063 pounds fat. If computed on the 80 per cent basis, the equivalent butter so far claimed for O K L Pearl Tula would amount to 19.04 pounds.

Kansas has gained a reputation for buying good jacks that has attracted the attention of the leading jack breeders of the country, and the result is that a lot of the best jacks are being shipped to this state. A recent shipment was a carload of Kentucky jacks shipped to Newton, Kansas, by E. P. Maggard, formerly of the well known Kentucky firm of Saunders & Maggard. This firm has placed many choice jacks in Kansas in recent years.

We have just received Volume 50 of the American Berkshire Record. The volume contains 5,000 pedigrees from Number 210-001 to 215000, and other information of interest to Berkshire breeders.

W. T. McBride of Parker, Kansas, announces March 15 as the date of his Duroc bred sow sale. Mr. McBride owns one of the good Duroc herds and will catalog a choice offering for this sale.

March 17 is the date claimed for the sale of jacks, jennets and Percherons to be held at Oakland Stock Farm, Chillicothe, Mo. Twenty-two head of two and three-year-old jacks, six jennets, six Percheron stallions and six Percheron mares will be catalogued for this sale. Oakland Stock Farm is noted as the home of herds of Percherons and jacks that are among the best in the state.

M. E. Moore & Co. of Cameron, Mo., owners of one of the great herds of pure-bred Holstein cattle now assembled, report that the demand by Kansas buyers for high-class Holsteins is very heavy. This firm has placed a large number of choice Holsteins in this state and among the recent sales were six pure-bred sows to F. W. Ankerman of Norcatur, Kansas. They also sold two choice bulls to go to Provo, Utah.

W. H. Mott, Herington, Kansas, sale manager, has announced a breeders' consignment sale of pure-bred Holsteins to be held at the Dr. Axtell Dairy Farm, Newton, Kansas, April 7, 1917. On that date fifty head of registered Holstein cattle will be sold. The consignments will be from the herds of Dr. Axtell of Newton, Kansas; Dr. Schuyler Nichols, and W. H. Mott. The sale will be held on the day following the meeting of the Kansas State Holstein Breeders' Association, which will be held in Newton on April 6. The fifty head of Holsteins to go in this sale will be carefully selected and will represent the best breeding of the Holstein breed. They will be backed by records and it will be one of the useful lots of Holsteins that will be sold this season. They are from heavy producing herds and are the kind that are profitable regardless of conditions.

J. W. Priestley of Bolcourt, Kansas, has announced a sale of registered Galloway cattle to be held March 6, 1917. On this date he will offer twenty head of choice Galloways.

H. D. Burger of Seneca, Kansas, owner of Nemaha Valley Stock Farm, is one of the very successful breeders of registered Holsteins in Kansas. During the past few years Mr. Burger has succeeded in building up a herd that is making production records that pince the herd with the best. He has world's record blood lines and a choice lot of individuals. The young stock in the herd at this time is a choice lot and includes young bulls backed by high records.

J. A. Engler of Chapman, Kansas, claims March 7 as the date of his public sale of Holstein springers. On that date Mr. Engler will sell fifty-seven head of choice high grade two and three-year-olds, all in calf to registered bulls and all to freshen in the near future. Some will have calves by sale day. This entire offering is tuberculin tested and are the type and breeding that make the production records.

W. T. McBride of Parker, Kansas, owner of one of the good herds of Duroc hogs in Kansas, announces a sale of Duroc bred sows to be held March 15. He will catalog thirty head of well grown March and April gilts for this sale. They were sired by Ladore Wonder and are bred to H. & B.'s Pathfinder and Jorgeson's Golden Model. He will also sell two choice coming yearling Red Polled bulls. Mr McBride has completed a fine new sale barn on his farm and will use it for the first time March 15.

ALPHA DELL FARM STOCK SALE

At Topeka, State Fair Grounds

Thursday, March 8, 1917

Twenty Registered Jersey Cows in milk and heifers. Best blood lines.

Twenty-eight Registered O. I. Chester White Sows and Gilts—open, bred, and with litters.

Two Good Boars.

Five Standard and Pro-Standard Horses.

Sale positive. Send for catalog.

F. J. SCHERMAN, Route 8, Topeka, Kansas

25 - Head Jersey Cows - 25

HEIFERS AND HEIFER CALVES, 10 HEAD

Extra good registered Jersey bull (Mazeta Pogis of Dornwood) at public sale to close out estate of Corwin J. Reed. Sale at farm seven miles north of Emmett, on

FEBRUARY 27, 1917

Four mares, twenty shoats, three brood sows with pigs. Registered Duroc Jersey boar. All farm implements, including De Laval Cream Separator, Blizzard Ensilage Cutter, Wagons, etc. Household goods.

The Jersey cows are especially well bred from best bulls. Careful records of production for inspection at farm.

ALVIN J. REED, Administrator, HAVENSVILLE, KAN.

HEREFORD CATTLE.



HEREFORD CATTLE

FOR SALE 35 BULLS, 10 MONTHS TO 2 YEARS OLD. 20 COWS AND HEIFERS.

Best breeding families. Bred to an Imported Bridlsher bull. Come and see me. Sale barns right in town.

T. I. WOODDALL, HOWARD, KANSAS

HEREFORD CATTLE.

STAR BREEDING FARM---HEREFORD PLACE



FOR SALE--100 BULLS 50 EARLY BULL CALVES 30 COMING 2-YEAR-OLDS 20 COMING 3-YEAR-OLDS

Herd headers and range bulls. Ten yearling heifers, twenty heifer calves and a carload of good cows. The very best breeding represented. Come and see me.

SAMUEL DRYBREAD, ELK CITY, KANSAS

Walnut Breeding Farms



Where real Anxiety 4th blood is found in abundance. The home of Concentrate 289644, a double Beau Brummel. Young stock always on hand for sale from this noted sire. Five extra herd headers on hand at reasonable price, blood lines considered. Twenty choice young bulls for sale. Come and see my herd. Satisfaction guaranteed. Also a few Berkshire pigs.

LEON A. WAITE, R. F. D. 8, WINFIELD, KAN.

POLLED DURHAM CATTLE.

DOUBLE STANDARD POLLED DURHAMS Bulls for sale. "Forest Sultan" at head of herd. C. M. HOWARD, Hammond, Kansas

HEREFORDS AND PERCHERONS

Choice 2-year-old bull, weight 1,600 lbs.; extra good bull calves. One May calf, weight 600 lbs., outstanding herd header prospect. Two choice yearling Percheron stallions. Priced to sell.

M. E. GIDEON - EMMETT, KANSAS

JERSEY CATTLE.

JERSEY CATTLE.



SEVENTY HEAD REGISTERED JERSEYS

FORTY COWS AND THIRTY HEIFERS FOR SALE.

Nothing over five years old. Richly bred Fox Signal and Fern Lad families. All bred to choice registered herd bull. Must reduce herd.

N. L. DUCHESNE - GREAT BEND, KANSAS

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. BERRY & SON, Jewell City, Kansas

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

REDMAN & SON - TIPTON, MISSOURI

DORNWOOD FARM JERSEYS

Some richly bred young Jersey bulls. Pedigrees and prices on request.

DORNWOOD FARM - TOPEKA, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. **Maxwell's Jersey Dairy, Route 2, Topeka, Kan.**

Bargains in Jersey Cows

From one to a carload of good, young, registered Jersey cows, mostly fresh or soon due. Offered at sacrifice prices because short of feed and cannot winter. Also a few open heifers and young bulls. Write your wants or come and see this stock.

The Ennis Stock & Dairy Farm, Horine, Mo.
(Just South of St. Louis.)

LINSCOTT JERSEYS

Kansas First Register of Merit. Estab. 1878. If interested in getting the best blood of the Jersey breed, write me for descriptive list. Most attractive pedigree.

R. J. LINSCOTT - HOLTON, KANSAS

20 - Registered Jersey Cattle - 20

Thirty O. I. Chester White Hogs and Five Horses at blooded auction stock sale at Topeka State Fair Grounds, March 8, 1917. Catalog ready February 10.

F. J. SCHERMAN, Route 8, Topeka, Kansas

LONGVIEW JERSEYS

SeventyThree in Register of Merit.
Why Take a Chance?

Buy from a responsible firm. Bulls all ages, type and production combined with Register of Merit backing. Guaranteed to be satisfactory and as represented. Otherwise money refunded and express charges paid both ways.

LONGVIEW FARM, LEE'S SUMMIT, MO.

AUCTIONEERS.

Live Stock and Farm Auctioneer

Write or wire for date. I can please you.

LAFE BURGER, WELLINGTON, KANSAS

FRANK J. ZAUN Live Stock Auctioneer. Write or wire for date. Independence, Missouri

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

MULEFOOT HOGS.

Buy Big-Type Mulefoot Hogs from America's champion herd. Low cash prices. Big catalog free. Jno. Dunlap, Williamsport, O.

Mulefoot Hogs. Choice bred sows and gilts, both sexes, all ages, for sale. Five families in herd. J. W. Cox & Son, Arapahoe, Neb.

SHORTHORN CATTLE.

Barber Shorthorns

Villager Junior and Curley Dals Head Herd.

For Sale—Twenty coming yearling bulls, 20 yearling bulls, 40 cows and heifers, Scotch and Scotch topped. We have what you want. Come and see our cattle. Three hundred head in herd.

F. C. Barber & Sons

SKIDMORE - - - - - MISSOURI

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

H. M. HILL - LAFONTAINE, KANSAS

CEDAR HEIGHTS SHORTHORNS

For Sale—One Lavender bull, 14 months old; one Orange Blossom, 10 months old; one Golden Drop, 10 months old.

HARRY T. FORBES
Bell Phone 59 N-1, Route 8, Topeka, Kansas

Lowemont Shorthorns — Bulls, including white 2-yr.-old; 18 cows and heifers; priced right. E. E. Heacock & Son, Hartford, Kansas.

RED POLLED CATTLE.

Red Polled Cattle

A few 1916 fall bull calves for sale. Also a few cows and heifers.

AULD BROS. - FRANKFORT, KANSAS

HAMPSHIRE HOGS

ATTEBERRY'S HAMPSHIRE HOGS

Choice July boars, best breeding, $12.50 each. They are bargains.



ATTEBERRY & SONS
Lancaster - Missouri

DUROC JERSEYS.

TWENTY FIVE SPRING BOARS

Sired by Crimson Wonder Again Jr., first prize boar at Topeka Fair, 1916, and G. M.'s Crimson Wonder. Big rugged fellows ready for service. Immunized and priced to sell.

G. M. SHEPHERD - LYONS, KANSAS

ROSE HILL HERD DUROCS

For Sale — Thirty spring gilts bred for March and April farrow; ten boars for service; a few fall pigs. All immune, eligible to record. Out of prolific sows and by boars of state fair prize blood. S. Y. THORNTON, Blackwater, Missouri, on Missouri Pacific Ry.

HORSES AND MULES.



German Coach Stallions and Mares

THE FARMER'S GENERAL PURPOSE HORSE

Twenty-three stallions from weanlings to 5-year-olds. Handsome, stylish, gentle, but powerful young stallions, 1,300 to 1,600-pound fellows, the right kind to produce durable, active farm horses and command attention in any stud. Priced where you will buy. Satisfaction guaranteed. Come or write at once.

BERGNER BROS., ROUTE 4, PRATT, KANSAS Waldock Lake Ranch

MARES AND FILLIES ABOUT ALL SOLD

A few good ones left. Fifty head of stallions and mares. Thirty head of stallions, including Percherons, Belgians and Coach stallions, 2 to 6 years old. All for sale at hard times prices. Come and see me.

J. M. NOLAN - - PAOLA, KANSAS

PRAIRIE VIEW STOCK FARM



Has 40 big, black Mammoth jacks and jennets. Every jack my own raising; two to six years old, 15 to 16 hands high, extra heavy bone, big bodies. I can sell you a better jack for $500 to $600 than most speculators can for a thousand. Come and see for yourself. They must sell.

ED BOEN, LAWSON, MO.
38 MI. E. of K. C. on C. M. & St. P.
40 MI. S. W. of St. Joe, on Santa Fe



PERCHERONS—BELGIANS

Imported and home-grown 4 and 5 yr. old stallions, ton and heavier, 3 yr. olds, 2 yr. olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. **Fred Chandler, R. 7, Charlton, Iowa.** (Above Kansas City.)

FOUR BIG JACKS FOR SALE

Also three jennets. Jacks are all blacks, 4 and 5 years old, 15½ to 16¼ hands, standard. All grandsons of Limestone Mammoth. Barns 3 blocks north of depot.

F. W. POOS - - POTTER, KANSAS

REGISTERED PERCHERON STALLIONS for sale at their actual cash value. Barn in town.

A. H. SEYMOUR, GREAT BEND, KANSAS



FOR SALE OR TRADE

Eight head of jacks from sucklers to eight years old. All black with white points; 15 to 16 hands high; weight up to 1,100 pounds. Can use a good draft stallion or other live stock.

H. A. JOHNSON
Red Cloud - Nebraska

POLAND CHINAS

DEMING RANCH POLANDS

We will not hold a spring sale. Our show herd will be at Wichita, Kansas, Oklahoma City, and Fort Worth, Texas. We have for sale forty bred sows and gilts bred to our four herd boars, also 125 high class fall pigs, boars and gilts.

H. O. SHELDEN, HERDSMAN

THE DEMING RANCH, - - OSWEGO, KANSAS

Poland China Boars and Gilts

Twenty-five early spring boars and twenty-five gilts. Sired by I Am King of Wonder and Watt's King.

WM. WATT & SON - GREEN CITY, MO.

IOWA KING BRED SOW SALE FEB. 1

Will Sell 40 Head of Tops. Am offering now some choice herd boar prospects, June and July pigs. All immune. Send for catalog of sow sale and price on boars.

P. M. ANDERSON, LATHROP, MISSOURI

Henry's Big-Type Polands

Fall pigs, either sex, sired by Mammoth Orange. Special price of $15 each to make room for spring litters.

JOHN D. HENRY, LECOMPTON, KANSAS

TOWNVIEW FARM
Big-Type Poland Chinas.

For Sale—25 summer and fall gilts, sired by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 25 summer boars. Come and see my herd.

C. E. GREENE - PEABODY, KANSAS

ARKELL'S BIG POLANDS

Fall boars sired by Longfellow Again and Chief Big Bone, out of choice big-type sows. Choice individuals. Some herd header prospects.

JAS. ARKELL, JUNCTION CITY, KANSAS

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

PROFITABLE TYPE POLANDS

Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.

L. C. WALBRIDGE - RUSSELL, KANSAS

LANGFORD'S SPOTTED POLANDS
Boars — Serviceable age, guaranteed to please. Breeding stock, both sexes.

T. T. LANGFORD & SONS, Jamesport, Mo.

ROSS & VINCENT BIG-TYPE POLANDS

Gilts bred for March and April farrow. Also both sexes of September and October farrow. These represent the breeding of Big Type Jr., Douglas Jr., Improved King Jr. and Cowles' Orange. All immune.

ROSS & VINCENT, STERLING, KANSAS

HORSES AND MULES.

Jacks, Jennets, Percherons

Two coming 6-year-old herd jacks, 9½ and 10-inch bone, 1,100 and 1,200 pounds. Two coming 4-year-old jacks. Eight jennets, most of them in foal. Two coming 3-year-old Percheron stallions. Write for prices and description.

W. S. DEARDOFF - HALE, MISSOURI

JACKS AND JENNETS



15 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. Fifteen good jennets for sale. Come and see me.

PHIL WALKER,
Moline, Elk County, Kansas

40 Head Percheron Stallions - Jacks and Jennets - 40

Two to six years old, heavy bone, right in every way. Imported Spanish jack, weight 1,200 pounds, at head of jennet herd. Come and see us. We mean business. Prices reasonable.

J. P. & M. H. MALONE

CHASE - - - - KANSAS

Barn Full of Percheron Stallions a. Mares. Twenty-five mature and aged jacks. Priced to sell. **AL. E. SMITH, Lawrence, Kansas.**

SHIRES AND PERCHERONS
Stallions and mares, registered.

JAMES AULD, Wakefield, Clay Co., Kansas

Home-Bred Draft Stallions, your choice $500 with the exception of two. Also mares for sale. **A. Latimer Wilson, Creston, Iowa.**

REGISTERED PERCHERONS

Yearling and two-year-olds, both sexes. Good breeding and individuals grown in a way to make useful animals. Would trade filley for Shorthorn bull good enough to head herd of registered cows.

GEO. S. APP, Route 2, ARCHIE, MISSOURI

POLAND CHINAS.

Breeders' Directory

ANGUS CATTLE.
Geo. M. McAdam, Holton, Kan.
Geo. A. Deitrich, Carbondale, Kan.
D. J. White, Clements, Kan.

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

DORSET-HORN SHEEP.
H. C. LaTourette, Route 2, Oberlin, Kan.

JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.

FARM AND HERD.

Catalogs are out for the sale of Jersey cattle and O. I. C. hogs to be held at the Topeka State Fair Grounds, March 8, by F. J. Scherman of Topeka. Twenty head of registered Jersey cows and heifers have been catalogued for this sale, also twenty-eight head of registered O. I. C. sows and gilts, some with litters, others bred, and a few open. He will also sell some standard-bred horses.

A. H. Seymour, Great Bend, Kansas, announces that he has arranged to sell ten head of choice Percheron stallions at Great Bend, March 9, immediately following Thos. Clayton's Hereford sale. The stallions are all blacks and grays. Some of them will weigh 2,000 pounds. He will also sell ten fine Percheron mares, a number of them heavy in foal.

Alvin J. Reed, administrator of the estate of Corwin J. Reed, has announced a sale of Jersey cattle to be held February 27 at the farm of the late Corwin J. Reed, seven miles south of Emmett, Kansas. The offering will consist of twenty-five head of very high class Jerseys that make up one of the good producing herds now in Kansas. The Jerseys in this herd are backed by records that prove them profit producers.

E. E. Frizell & Sons of Larned, Kansas, owners of one of the good herds of Red Polled cattle, report a heavy demand for high-class Red Polled breeding stock. They have supplied foundation stock for a number of new herds during the past few months. This firm also owns a fine herd of registered Galloway cattle.

James Auld of Wakefield, Kansas, owner of good herds of Percheron and Shire horses, reports his herds doing well. A feature of his herds at this time is the choice lot of young stallions and mares.

PUBLIC SALE OF HOLSTEIN SPRINGERS

AT CHAPMAN, KANSAS, MARCH 7, 1917

57 - Head of Carefully Selected High Grade Holstein Heifers - 57



This will be one of the best offerings of Holsteins that will be sold in Kansas this season. They are choice high grades, well marked, from two to three years old. All are in calf to registered bulls and all tuberculin tested. They were very carefully selected from the best Holstein herds in Green County, Wisconsin, the banner dairy cattle county in that state. If you want Holsteins that are producers, this lot will suit you and you cannot afford to miss this sale. Chapman is on the main line of the Union Pacific Railway, twelve miles east of Abilene and twelve miles west of Junction City. Easy of access from Santa Fe, Rock Island and M. K. & T. Railways. Remember the date, March 7, 1917.

J. A. ENGLER, CHAPMAN, KANSAS



DUROC JERSEY BRED SOW SALE

AT PARKER, KANSAS, THURSDAY, MARCH 15, 1917

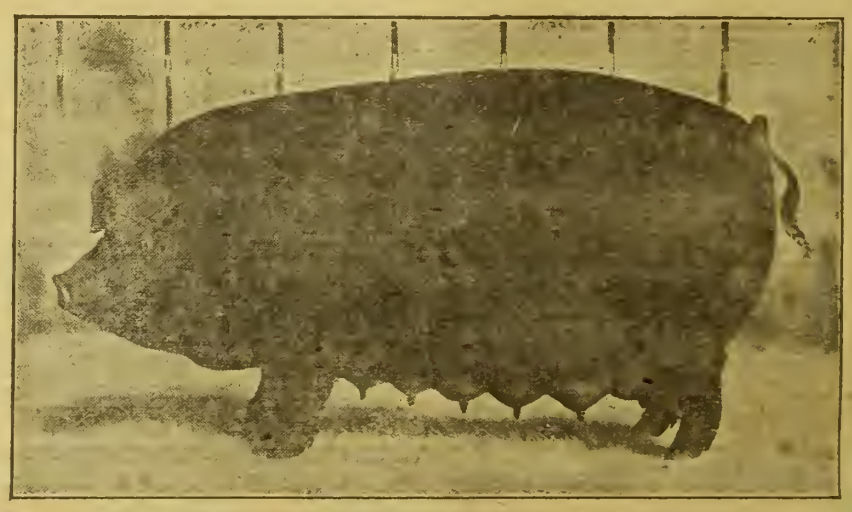
Thirty head March and April gilts sired by Parker Wonder, he by Ladore Wonder, and out of sows by such noted boars as Defender, Crimson Wonder and Kant-Be-Beat. All will be bred for March and April litters to my herd boars, H. & B.'s Pathfinder, bred by J. E. Davis, Knoxville, Ill., by Old Pathfinder and his dam was Orian Bell by Orian Chief 6th. A few of the gilts are bred to Jorgenson's Golden Model by Grand Model and out of Iowa Queen by King The Col. 2d. All these gilts are large and growthy and are showing safe for spring litters.

I will also sell two registered Red Polled Bulls coming yearlings. They were bred by D. F. Van Buskirk and sired by his great show bull, Kansas City Lad No. 23058 and out of my best herd cows. These calves will be yearlings on next June 12 and June 20. Well grown out and will make herd bulls. Sale starts at 10:30 a. m. Will be held in my new sale barn. Please send for catalog and arrange to attend. O. W. Devine will represent Kansas Farmer at sale.

W. T. McBRIDE, PARKER, KANSAS

Auctioneers:

Jas. W. Sparks, Marshall, Mo. L. S. Jackson, Parker, Kan.



World's Championship Blood at Auction

Fairview Stock Farm, Dighton, Kansas

Tuesday, March 13, 1917



TWENTY-FIVE JACKS from weanlings to tried jacks; from 14½ to 16 hands standard. Heavy boned, rugged kind, not fat nor pampered.

TWENTY-FIVE CHOICE JENNETS, bred to the world's grand champion, Kansas Chief 9194. Most all of them showing heavy in foal. A number with Kansas Chief colts at side.

TEN GOOD PERCHERON STALLIONS, MARES AND COLTS. Rugged, heavy boned, western raised horses.

The most useful offering of breeding stock we ever sold. Jacks and jennets, first prize winners of Kansas and Missouri State Fairs.

Sale will be held in new sale pavilion on farm, regardless of weather. Sale commences at 10 a. m., sharp.

H. T. Hineman & Sons, Dighton, Kan.

AUCTIONEERS—Col. Bob Harriman, Bunceton, Mo.; Col. Jno. D. Snyder, Hutchinson, Kan.; Col. Pete Powelson, Kiowa, Kan.; Col. Wiley Clonston, Ness City, Kan.

Public Sale Galloway Cattle

As I am going to Iowa, I will hold a public sale at my farm four miles east of Boicourt, Kansas, on the Frisco Railway, and four miles northwest of Amoret, Mo., on the Kansas City Southern Railway, and Pleasanton, Kansas, on Frisco and Missouri Pacific.

On March 6, 1917

Twenty head of registered Galloway cattle, six cows, two with calves at sides; three 2 year-old heifers; three yearling heifers; two heifer calves; one herd bull, two 2 year-old bulls; three bull calves. These cattle are large and heavy boned. Cars will meet all trains.

J. W. PRIESTLEY, - - - - - BOICOURT, KANSAS



Registered Percheron Stallions and Mares

On March 9, 1917

FOLLOWING THE THOMAS CLAYTON CATTLE SALE

I will sell ten Percheron stallions, age from 2 years to 5 years old, and ten Percheron mares from 2 years old to 7 years old.

A. H. SEYMOUR

GREAT BEND - - - KANSAS



LIMESTONE VALLEY FARM

Thirty-Eighth Annual Auction Sale of High Class Registered Mammoth Jacks and Jennets

THURSDAY, MARCH 15, 1917

At Missouri State Fair Grounds, Sedalia, Pettis Co., Mo.

TWENTY-NINE JACKS—Twenty-three old enough for service; six extra good yearling jacks. THIRTY JENNETS—Five with colts at foot; twenty-five jennets breeding age and now bred to the three noted jacks, Limestone Monarch 3254, Missouri State Fair champion and San Francisco World's Fair reserve grand champion, son of the undefeated show jack, Limestone Mammoth 298; Limestone Good Boy 6028, second prize three-year-old at San Francisco World's Fair, son of the undefeated and St. Louis World's Fair grand champion, Orphan Boy 696; De Wolf Hopper 3720, son of Orphan Boy 696. **We will also sell two good registered Percheron Stallions.** Sale begins promptly at 9:30 a. m. in Show Pavilion, with comfortable seats and other accommodations. For fine illustrated catalog, address

L. M. MONSEES & SONS

321 SOUTH OHIO STREET SEDALIA, MISSOURI, U. S. A.

Auctioneers: Cols. Harriman, Gross, Hieronymus Bros. & Logsden.



FOUNTAIN VALLEY FARM
Duroc Sow Sale

Tuesday, March 6, 1917



Aristo 55971, Missouri's Greatest Duroc Sire, Heads My Herd

Aristo was junior champion at Missouri State Fair, 1914. I will sell forty head of large sows and gilts and a few boars. The largest per cent of these gilts are sired by Aristo or bred to him. These are big Durocs with quality. Write for catalog and arrange to come to sale. O. W. Devine will represent Kansas Farmer at sale. W. D. Ross, Auctioneer, Otterville, Mo. All trains met at Otterville or Pilot Grove, Mo.

Richard Rothgeb, Pleasant Green, Missouri

Registered Kentucky Jacks



I have shipped from my home, Poplar Plains, Kentucky, eighteen head of jacks to Newton, Kansas, and they are for sale privately. This is a good load of jacks, with lots of bone and size, with all the quality and finish you would ever see in a load of jacks. Ages from two to eight years; height from 14½ hands to 16 hands standard, and good performers.

I have shipped jacks to Kansas since 1879 and I do not believe I ever shipped a better load.

Any one wanting a good jack, call and see me at Welsh's Transfer Barn, two blocks from Santa Fe Depot, one block from Interurban. Come and see me.

E. P. MAGGARD

Successor to Saunders & Maggard NEWTON, KAN.

Big Hampshire Bred Sow Sale

AT SALE PAVILION, SOUTH ST. JOSEPH, MISSOURI

THURSDAY, MARCH 1, 1917



Nearly 100 head of bred sows and gilts have been catalogued for this auction. Ten boars are also listed. The offering represents the best of the breed, consigned by fifteen Missouri breeders. Bred sows are scarce. This is your opportunity to get the best at your own price. The demand for Hampshires is increasing very rapidly. If you do not own Hampshires, you will "eventually." The BELTED HOGS have proven themselves the greatest rustlers, best sucklers and very prolific. The catalog will be ready to mail February 20. Write for one.

MISSOURI HAMPSHIRE BREEDERS' ASSOCIATION

W. J. BRINIGAR, Pres., Blythedale, Mo. C. I. WARD, Sale Manager, Cameron, Mo.
Thos. E. DEEM, Auctioneer.

GUERNSEY CATTLE.

A GUERNSEY BULL

used in a grade herd in Ohio *sired daughters* that produced *50% more milk* and *70% more butter fat as 2 year olds* than did their dams when mature.

GUERNSEY MILK contains 5% Butter Fat

Write for our beautiful free booklets about Guernseys

THE AMERICAN GUERNSEY CATTLE CLUB
BOX R. K. PETERBORO, N. H.



GUERNSEY CATTLE.

AYRSHIRE CATTLE.

AYRSHIRE — THE PERFECT COW

MR. H. J. DICKINSON of Osage, Iowa, says:

"We showed two cows at the Community Dairy Show and took first and second prizes in class open to all Dairy Breeds. The judges were Iowa State Dairy Experts." AYRSHIRES are prize-winners and profit-makers everywhere. Bring you prizes for beauty and ability—give you Profits in the Dairy. For information address

AYRSHIRE BREEDERS' ASSOCIATION
C. M. Winslow, Sec'y 33 Park St., Brandon, Vt.

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE

Twenty-five young bulls, also some good cows and heifers for sale. All registered.

D. J. WHITE, CLEMENTS, KANSAS
Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

When writing advertisers, please mention KANSAS FARMER.

Let Me Treat All Your Hogs For 60 Days FREE

PERRY STRATTON
BREEDER OF
BERKSHIRES

Momence Ill. Dec. 14/16

Avalon Farms Co.
Chicago, Ill.

Dear Sir.

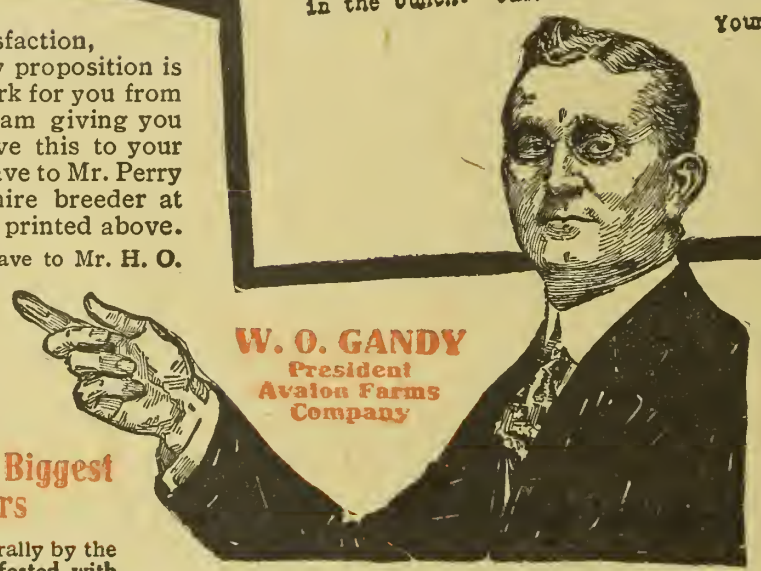
I thought I would drop you a line and thank you for the bottle of Hog-Tone that I received from you through the influence of the Frost Pub. Co. I didn't have much faith in it when it first arrived as I have tried so many different kinds of stock foods and so called worm powders with no results that I supposed they were all alike; but yours being in a liquid form I thought "Well now here's something different."

I took a couple of shoats that did not seem to be doing well from a larger bunch of hogs and began by feeding them some of your Hog-Tone and in about five weeks time you would not have believed they were the same hogs. They grew so rapidly and made such fast gains that now I have them back with the other hogs and when feeding time comes they are the biggest scrappers in the bunch. Thanks to you for your bottle of Hog-Tone.

Yours truly,
Perry Stratton

And—if I don't make your hogs make you **more** money, and prove it to your own satisfaction, I don't want your money! My proposition is to produce more pounds of pork for you from the same amount of feed. I am giving you the same opportunity to prove this to your **complete satisfaction** that I gave to Mr. Perry Stratton, the famous Berkshire breeder at Momence, Ill., whose letter is printed above.

It is the same opportunity that I gave to Mr. **H. O.** Michael, R. No. 2, Markle, Ind. He writes—"My first bottle of Hog-Tone made me one hundred dollars ($100.00) as it saved more than that many dollars' worth of hogs for me. I will not be without Hog-Tone, as I think it is wonderful what this remedy will do for hogs."



W. O. GANDY
President
Avalon Farms Company

Hog Raisers Face Their Biggest Opportunity in Years

Worms are killing off the hogs literally by the million. **"Nearly every hog is infested with worms,"** declares the U. S. Dept. of Agriculture. And **"More hogs may be lost from worms this year than from hog cholera, and many cases of apparent cholera are only worms,"** says Bulletin No. 470, of the South Dakota State College. The malignant Thorn Head Worms—Stomach Worms—Liver Worms—Lung and Bronchial Worms—weaken the hogs—affect every sow's litter—make millions of hogs **easy victims** of cholera, scours, thumps, rheumatism, enteritis, gastritis—rob surviving hogs of nourishment their food should bring, cut down their weight and quality at marketing time. Read the letters at the right—study this whole ad—and then—**grasp** this opportunity to try

Read These Letters

"I had a bunch of seven hogs. They took sick and two died. Three of them would not eat at all. After the first dose of Hog-Tone they commenced to improve and continued to do so. I thought these hogs had the cholera, as they acted like it and the neighbors had it all around me and their hogs died. My hogs never missed a feed after feeding Hog-Tone, and they made good hogs. I'll not be without Hog-Tone from this on as I cannot afford to take chances for what Hog-Tone costs."

GUY HOOPINGARNER
Rural No. 1 Uniondale, Ind.

"I bought two hogs the 20th of October; they weighed 270 lbs. I put them up and started feeding Hog-Tone. They made a remarkable gain. I am sure that they have gained 100 lbs. in 30 days and they are eating good and look thrifty.

I am well pleased, as I am satisfied Hog-Tone is a wonderful treatment."

ALBERT COLES, Warren, Ind.

"I have been feeding Hog-Tone and found it to be the best medicine for freeing hogs of the worms. I fed fourteen and at the age of six months they averaged two hundred pounds. I cannot recommend the Hog-Tone too highly and I never will be without it."

SILAS STAYER,
Arcola, Indiana

"Hog-Tone has surely benefited me in fattening my hogs. I experimented on one sow. At the time I weaned her pigs she weighed 150 lbs. live and in just 42 days I killed her and she dressed 273 pounds."

THEO. FORNWALT,
Baldwin, Indiana

AVALON FARMS HOG-TONE

—The Liquid Worm Killer and Hog Conditioner

for 60 days—on all your hogs—at no initial expense—**at my risk! Avalon Farms Hog-Tone costs very little.** I will ship you one $1.00 bottle of Hog-Tone for each eight hogs in your herd—the day the coupon below, filled in, reaches this office. That will be sufficient to treat your hogs 60 days or more, according to size. This will mean just 12½ cents per hog for all the treatment and that treatment is guaranteed by me to free your hogs of all worms—to enable them to put on more weight from the same feed—to fill them with strength and vitality—to resist disease attacks.

Avalon Farms Hog-Tone is a highly concentrated liquid medicine FOR HOGS ONLY. It contains highly important medical ingredients which are liquids and which cannot be combined in Medicated Salts, Stock Foods or Condition Powders of any kind. It is very easy to treat your hogs with Avalon Farms Hog-Tone. It is EASILY MIXED WITH ANY KIND OF SLOPS, WITH THE DRINKING WATER OR DAMPENED FEED. It is given only every third day for the first six weeks and after that only once a week. 100% strong.

Really **does** clean out all and every kind of worms that infest hogs. By doing so, it gives **protection** to your hogs from easily contracting Cholera, Rheumatism, Scours, Thumps caused by worms, Enteritis, Indigestion and a score of other diseases. Also will prove **a simply wonderful tonic and conditioner**—gives the hogs voracious appetites, aids their digestion, helps them thrive, grow and put on fast increases of flesh. **Splendid for pregnant sows—helping to assure fine, strong litters.**

Don't Send Me a Penny! Simply tell me how many head of hogs you have—write down your name and address and mail to us. I will immediately ship you enough **Avalon Farms Hog-Tone** to treat your hogs for 60 days! You simply pay transportation charges. Feed **Hog-Tone** according to directions. If at the end of treatment you are not completely satisfied—simply return the labels and you don't owe me a cent.

Grasp This Opportunity—Mail Me the Coupon Today

W. O. GANDY, Pres., Avalon Farms Company
623 Rand McNally Bldg. Chicago, Illinois

SEND NO MONEY—TAKE NO RISK

W. O. Gandy, Pres.

Avalon Farms Co.
623 Rand McNally Bldg., Chicago, Ill.

Just Mail Me This FREE COUPON

I have_____ hogs. Ship me immediately enough AVALON FARMS HOG-TONE to treat them for 60 days. I am to pay nothing now except transportation charges. I agree to report results to you at end of 60 days and pay for the Hog-Tone at that time if it has done all you claim. If it does not, I will return the labels, you agree to cancel the charge.

Name_____

P. O._____

R. R. No._____ State_____

Ship to_____

Name and address of my druggist_____



50.5
AF

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 7. TOPEKA, KANSAS, MARCH 3, 1917. Established 1863. $1 a Year

SELLING PURE-BRED SWINE

A Business Which Involves More Than the Offering of Good Stock

By F. B. Caldwell, Breeder, Before Kansas Swine Breeders' Association

THE successful man's business is naturally divided under three heads: first, his place of business—in this case the farm; second, his goods—in this case his hogs; and third, that mysterious personality known as self.

The country home approaches the closest to the ideal of God and is the cornerstone of our nation. The ideal country home I shall picture is the breeder's home. It must be well located as to shipping facilities. the soil must be deep and productive, and there must be running water. This home should be on a sightly building place, and if it is in Kansas it will be on a good road.

While it is not necessary to be a landscape gardener in order to equip a few farm buildings, artistic taste should be used in equal proportions with principles of usefulness, permanence and cost.

It seems easy for some to overbuild, but underbuilding is a common failure. Overbuilding increases the upkeep and decreases the net profits of the farm. Underbuilding permits losses that can never return. Good buildings on even a poor farm are a great asset when used in the breeding and selling of pure-bred swine, but from the farmer's standpoint the better the farm is the better buildings it will support.

A prospective hog buyer always sees the buildings and surroundings before he sees the hogs, and the owner who shows his hogs in shabby buildings amidst insanitary conditions, is working under a handicap that is very hard to overcome. A good background strengthens any picture and in order to sell hogs to men who visit our farms we must keep the background in harmony with our offerings and ourselves.

We are now ready for the second essential—the pure-bred hogs. I shall not advocate any particular breed or type, as all hogs look good to me. But from the breeder's standpoint there are a few points to be considered.

The first is uniformity of type, and every breeder should know what he is trying to produce and do nothing haphazardly. The great hogs are not freaks or accidents, but the natural result of selecting and mating superior individuals. We do not all favor the same type any more than we favor the same breed, but the man who will sell hogs to his honor as well as to his profit is the man who shows that he believes in his judgment by selecting hogs that come nearest to conforming to his favorite type. That is, he must practice what he preaches.

The second point to consider in selecting hogs is utility. By this I mean that the hog must be useful and practical from the standpoint of the farmer and packer or all the types and fancies of the breeder are of no avail. Comparatively few men record hogs, but they are not the men who make or break the popular breeds. This is done by the grain belt farmer who applies the acid test in his search for a hog that will develop the most pork in the shortest time at the lowest cost. And be it said to the credit of the farmer who produces only pork, that he has never boosted a breed or sent one to oblivion unless from an economic standpoint, in which case he was justified. In a sense hogs are like laws—they may be on record, but it is left to the masses as to their popularity.

We are now to the third division necessary to success in business, which is the breeder himself. It is generally conceded, but often doubted, that a breeder is above his hogs. If he is above his hogs, it is because he uses a different code of morals and manners than those of his hogs. I believe the honest breeder tells the truth when he answers mail inquiries, but he often gets so circumscribed by the mists of egotism when he looks at the hogs he is describing that he fails to record the faults and defects and then is mad if the customer is not satisfied.

I believe that the honest breeder intends to furnish correct pedigrees for the hogs which he sells, but often through the loss of a record book or the destruction of an ear mark he is forced to rely entirely upon memory, and memory is not infallible.

I also believe that the honest breeder tries to tell the truth when he advertises in the breed papers. The lamentable thing is that it takes a two-page spread to convince the public that he is telling the truth, and really has something to sell.

There seems to be a movement among the breeders of swine to overcome some of these old practices and to raise the standard of the business, and there is hope for us as there is always help for the repentant sinner.

If we are going to make a success of our business, we will have a better system of keeping records and use some simple system of bookkeeping. Lack of knowledge on the financial side of our business is to be lamented and condemned.

Perhaps one of the most annoying and the least justifiable habits of the breeder is the almost universal practice of delaying for weeks, and often months, in sending pedigrees to parties who have made purchases. The man who has bought his first pure-bred hog experiences a special thrill and if he has the papers before the thrill wears off he can be depended upon to give them careful study. As members of the different breeders' associations, and as breeders, we should give a recorded pedigree with every hog we sell, for if a hog is not worth the additional cost he should be sent to the packer.

Another thing we should watch is the guarantee. While we should be liberal in our guarantee, we should not say things that we do not expect to do. We should never do less than we guarantee.

And above all, we should cultivate a manhood that will accept the dictates of a free and justified conscience and in this way find a record—a personality that will draw men and business.

Summing up, we find that it is a great asset to have a good farm well located and well improved, it is a great credit to any breeder to have a herd that is uniform throughout and high class. But it is not the hogs or the farm that make or break the breeder—it is the power or lack of power to assert one's self.

The United States leads the world in the export of fruit, according to statistics just published by the U. S. Department of Agriculture in Bulletin No. 483. The fruit exports from this country were valued at $18,505,000 in 1910 and $34,230,000 in 1915. Fresh and dried apples comprised one-third of the value of these exports. Italy and Spain are second and third, respectively. During the five years from 1909 to 1913, the average value of the fruit exports from Italy was $21,492,000, and from Spain $21,353,000. Lemons constituted in value one-third of the fruit exports from Italy, and oranges one-half of those from Spain.



THESE BUILDINGS ARE LOCATED NEAR THE CENTER OF THE WALNUT BREEDING FARMS, WHICH CONSIST OF 1,200 ACRES OF WALNUT VALLEY LAND IN COWLEY COUNTY. PURE-BRED HEREFORD CATTLE, BERKSHIRE HOGS, SHROPSHIRE AND COTSWOLD SHEEP ARE BRED.—THE HOUSE HAS FOURTEEN ROOMS AND BATH, IS PLUMBED THROUGHOUT, AND IS EQUIPPED WITH ELECTRIC LIGHTS AND CENTRAL HEATING PLANT. — LEON A. WAITE IS THE OWNER OF THIS ESTABLISHMENT

The Only Way to Buy Trees
Direct From Grower to Planter

Why pay three or four profits to wholesaler, retail dealer, and agent, when you can order trees, vines and plants DIRECT FROM MY BIG NURSERY at lowest grower's prices? I deal with **you** instead of through three or four other people who must have their share before the stock reaches you — the planter.

Just suppose you give an agent $20.00 for trees. He turns $12 over to the retailer who in turn counts off $5 for himself and hands over $7 to the wholesaler. The wholesaler has sticky fingers, too, so he hangs onto $2 and passes on exactly $5 to the grower. In other words—the grower gets $5 to fill your $20 order and you simply donate $15 in hard cash to three strangers. That's the OLD way—the money wasting way of buying nursery stock.

Now, my way is entirely different. You simply order from this page or my complete 1917 Catalog and you send me just enough to cover my low grower's prices—not a red cent more. You save all middlemen's profits and expenses—you are sure of getting fresh stock.

Look where you will, you can't get better bargains in trees than I offer you right here. Compare my 'way down prices —compare the quality I offer and *absolutely guarantee* and remember that I save you all middle profits and I'm sure and certain that you'll say "Dunbar has the right idea—he gets my orders from now on."

Trees By the Million From Nursery to You---Saving all Middle Profits

APPLES

	Each	10	100	1,000
2 yr. 5-6 ft.	$0.20	$1.80	$17.00	$160.00
2 yr. 4-5 ft.	.15	1.40	13.00	120.00
1 yr. 3-5 ft.	.16	1.40	13.00	110.00
1 yr. 2-3 ft.	.12	1.00	9.00	80.00

Yellow Transparent, Grimes Golden, Delicious, Winesap, Liveland Raspberry, Early Harvest, Cooper's Early White, Jonathan, Rome Beauty, Gano, many others.

PEARS

Keiffer and Garber.

	Each	10	100	1,000
2 yr. 5-6 ft.	$0.30	$2.40	$20.00	$160.00
2 yr. 4-5 ft.	.24	2.00	17.00	140.00

PEARS—15 LEADING VARIETIES

	Each	10	100	1,000
2 yr. 5-6 ft.	$0.32	$3.00	$25.00	$210.00
2 yr. 4-5 ft.	.25	2.25	20.00	170.00

CHERRY

	Each	10	100	1,000
2 yr. 5-6 ft.	$0.40	$3.75	$33.00	$280.00
2 yr. 4-5 ft.	.35	3.25	27.00	226.00
Extra 1 yr. 4-5 ft.	.36	3.50	28.00	230.00
Large 1 yr. 3-5 ft.	.34	3.30	26.00	220.00
Med. 1 yr. 2-3 ft.	.25	2.20	19.00	170.00

Early Richmond, English Morello, Montmorency, Wragg, and other standard sorts.

COMPASS CHERRY PLUM

	Each	10	100	1,000
4-5 ft.	$0.25	$2.30	$22.00	.....
3-4 ft.	.20	1.90	18.00	.....

PEACH

	Each	10	100	1,000
1st class 4-5 ft.	$0.20	$1.80	$15.00	$140.00
1st class 3-4 ft.	.13	1.20	11.00	90.00
1st class 2-3 ft.	.10	.90	8.00	75.00

Mamie Ross, Alton, Elberta, Crawford's Late, Krummel's October, Red Bird Cling, Carman, Champion, Chinese Cling, Heath Cling, Belle of Georgia, Elberta Cling, Late Elberta, and many others.

EARLY WONDER PEACH

	Each	10	100	1,000
3-4 ft.	$0.40	$3.50	$30.00	.....
2-3 ft.	.35	3.00	25.00	.....

PLUMS

	Each	10	100	1,000
Extra 5-6 ft.	$0.32	$3.00	$24.00	$200.00
Large 4-5 ft.	.27	2.50	20.00	170.00
Medium 3-4 ft.	.21	1.90	17.00	130.00
Stocky 2-3 ft.	.15	1.40	13.00	110.00

Red June, Abundance, Burbank, Wickson, Wild Goose, German Prune, Lombard, Damson, Gold, and other standard sorts.

Note These Wonderful Bargains

10 Select Apples Trees—2 yr. 5 to 6 ft. trees. 1 Delicious, 2 Stayman, 1 Black Ben, 2 King David, 1 Jonathan, 3 Winesap. Agents ask $5.00. Collection No. 1..... **$1.50**

20 Select Apple Trees, extra size—2 year, 5 to 6 foot, Stayman, Black Ben, Winesap and other best varieties. Fine, big, extra heavy trees. Agents ask $8.00. Collection No. 2..... **$2.50**

10 Select Peach Trees—4 to 5 foot trees. 5 Elberta, 1 Chinese Cling, 1 Belle of Georgia, 2 Champion, 1 Carman. Agents ask at least $3.00. Collection No. 3.... **$1.25**

20 Select Peach Trees—3 to 4 foot. 10 Elberta, 3 Champion, 2 Mamie Ross, 5 Belle of Georgia, the cream of good varieties. Agents ask $5.00. Collection No. 4.... **$2.00**

20 Peach Complete Family Orchard 2 to 3 foot stock, well rooted. 2 Early Wonder, 2 Mamie Ross, 2 Champion, 7 Elberta, 3 Belle of Georgia, 2 Heath Cling, 2 Late Elberta. Covers all season latest to earliest. Agents ask $4.50. Collection No. 5..... **$1.60**

5 Apricot Trees—3 to 4 foot. 5 Moorpark or 5 Royal. Hardiest and best. Agents ask $2.50. Collection No. 6..... **$1.10**

10 Select Pear Trees—2 yr. 5 to 6 ft. 8 Keiffer, 2 Garber, biggest money-makers for the middle west. Agents ask $5.00. Collection No. 7..... **$1.60**

10 Select Plum Trees—4 to 6 foot. Burbank, Abundance, Red June and Wickson, all fine, quick bearing varieties. Agents ask $5. Collection No. 8..... **$2.00**

10 Select Cherry Trees—4 to 5 ft. 4 Montmorency, 4 Early Richmond, 1 English Morello, 1 Wragg. Agents ask $6.50. Collection No. 9..... **$2.90**

10 Choice Grape Vines—2 year. 1 Catawba, red; 3 Concord, black; 2 Niagara, white; 1 Moore's Early, black; 3 Worden, black. Agents ask $2.00. Collection No. 10..... **$ .75**

25 Concord Grape Big Vines—Most widely planted black grape. Easily cultivated. Agents ask $2.50. Collection No. 11.. **$ .90**

100 Everbearing Strawberries — Best variety Progressive. Bear till snow flies. Hardy, vigorous. Agts. get $5. Col. 12.. **$2.00**

300 Everbearing Strawberries — 200 Progressive, 100 Superb. Bear till frost. A wonderful bargain. Agents ask $15.00. Collection No. 13..... **$4.50**

RASPBERRIES

	Each	25	100	1,000
Cumberland and Plum Farmer	$0.07	$0.80	$2.50	$18.00
Kansas and Cuthbert.	.06	.70	2.10	15.00
St. Regis Everbearing	.10	1.00	3.00	20.00

STRAWBERRY PLANTS

	By mail postpaid. 25	50	100	By express, charges collect, f.o.b. Ark. 250	500	1,000
Excelsior	$.30	$.65	$.80	$1.50	$2.25	$4.00
Klondyke	.30	.65	.80	1.50	2.25	4.00
Senator Dunlap	.35	.70	.85	1.80	2.50	4.50
Warfield	.30	.65	.80	1.50	2.25	4.00
Aroma	.30	.65	.80	1.50	2.25	4.00
Gandy	.30	.65	.80	1.50	2.25	4.00

3,000 to 5,000 plants, 5% discount.
5,000 to 10,000 plants, 10% discount.
10,000 to 25,000 plants, 15% discount.
25,000 to 50,000 plants, 20% discount.

EVERBEARING STRAWBERRY

	Prices postpaid 25	50	100	Prices f.o.b. Kansas and Iowa farms, charges collect 250	500	1,000
Progressive	$1.00	$1.50	$2.50	$4.00	$8.00	$15.00
Superb	1.00	1.50	2.50	4.00	8.00	15.00

GRAPES

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	Each	25	100	1,000
Early Harvest, Eldorado and Dewberry	$0.05	$0.90	$2.75	$18.00
Mercereau	.06	1.00	3.00	20.00
Ward and Blower	.08	1.25	4.00	25.00

GOOSEBERRIES

	Each	10	100	1,000
One year	$0.15	$1.00	$ 8.00	$70.00
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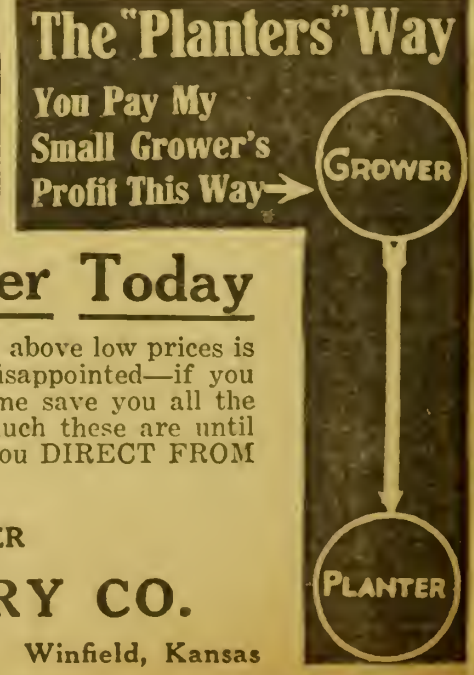

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KANSAS NEEDS MORE TREES

People cannot be happy and contented where there are no trees. Kansas farms are the homes of the people as well as the source of the agricultural wealth of our state. The planting of trees will add much to the pleasure and comfort of the farm family. It takes time to grow a tree and perhaps many neglect to set out trees because they must look so far into the future in order to see any benefit from their effort to beautify their home and the surrounding country.

The past few years have been hard on trees in Kansas. In the introduction to a bulletin on tree planting in Kansas, just issued by the extension division of the agricultural college, attention is called to the fact that during the seasons of 1912-13-14 many trees in Central Kansas were killed as a result of the unusually dry weather and the attacks of insects. The trees originally planted were in many instances soft maple, boxelder, and cottonwood, all of which cannot be expected to live much more than thirty years on upland. These trees have just about lived their natural lifetime and little is being done to replace them.

Now is the time to replace these trees with better ones. One of the valuable lessons of the dry seasons is that the more valuable trees, such as black walnut, oak, sycamore, elm and hackberry, have shown a greater resistance than have the more common trees. We are therefore warranted in replacing the less valuable trees with these better and more permanent varieties.

Another encouraging observation is that in high and dry locations it is worth while to plant seeds where the trees are to stand. These better trees make a slower growth but the thought of permanence should be given more consideration in tree planting.

This work of tree planting should have proper guidance and we hope it will be pushed vigorously the coming spring. Kansas should not be allowed to become a treeless state.

Tree planting is a matter of community interest. If on all the farms in a neighborhood a systematic effort is made to plant trees and shrubbery, that neighborhood will in time be sure to become a much more attractive place in which to live. All the groups in the community—the school, the churches, the town commercial organizations, farmers' institutes, the local grange, farmers' union, and others—might well unite in a tree-planting campaign. Why not start such a campaign in your home community, and do it now? Communities wishing to do systematic work in promoting tree planting can secure the services of C. A. Scott, state forester, and Walter Burr, director of the rural service work of the agricultural college.

Let's plant trees in every country school yard in Kansas this year, whether we do anything else along this line or not.

* * *

SOIL BASIS OF PROFITABLE FARMING

At the live stock conference held in Fredonia last week, Prof. L. E. Call, of the agricultural college, gave some figures showing how various cropping methods affect soil fertility. It was shown that simply growing live stock is not an infallible remedy for soil depletion. Some of the worst soil robbers are live stock men.

A study of the charts shown made it evident that removing the whole corn crop as silage, depleted the soil of its nitrogen, phosphorus, potash and organic matter more rapidly than husking out the crop, selling the grain on the market and plowing under the stalks. It stands to reason that when the whole crop is hauled from the field more fertility is removed than when only a part is hauled away. The figures given showed exactly how much of the various kinds of plant food was taken from the soil by the different parts of the crop grown.

Live stock farming, to build up the soil, involves caring for the manure and getting it out onto the fields with as little waste as possible. Sometimes cattle can be fed various kinds of forage out over the farm, thus scattering the fertility themselves. It was shown that manure loses its fertility very rapidly when allowed to leach for months in the barnyard before hauling to the fields.

The room in which Professor Call spoke was packed full and the numerous questions asked at the close of this talk on soil indicated that the farmers of Southeastern Kansas are keenly alive to the need of giving more consideration to the keeping up of soil fertility.

Live stock as a factor in farming was the central theme of this whole meeting, and the soil talk, with the discussion following, brought out most clearly that while producing live stock and live stock products makes it possible to retain a maximum of fertility on the farm, there must be systematic planning to get this back into the soil where it can become available for increasing crop yields.

* * *

While we have no definite figures on the condition of wheat in Kansas at the present time, it is undoubtedly far below normal. Some have estimated that wheat is not more than 50 per cent of normal, assuming 100 to represent a satisfactory stand and growth for the time of year. We know from experience that wheat can be "killed" a good many times and still make a fairly satisfactory crop. The soft wheats are more seriously affected than are the hard wheats.

In many instances that have come under our observation the crown is still alive even though the plants have all the outward appearances of being dead. If weather conditions are favorable, such wheat can be expected to come out and make good yields. The most serious danger comes from soil blowing. Reports have come to us that some damage has already occurred from this cause. Spreading strips of straw across the field at right angles to the way the soil is drifting will sometimes check the blowing. Disking strips across the field or running a few lister furrows will accomplish the same result. The straw will stick to the ground better and be more effective if a packer is run over it, thus mashing it down into the soil.

* * *

Kansas is rapidly coming to the front in pure-bred live stock. Nearly all the leading breeds now have state or sectional organizations. This year the first annual meeting of the Kansas Ayrshire Breeders' Association was held in Manhattan, February 6. A number of herds of this breed are being developed in the state. At the meeting L. E. Johnson of Waldron told of his experience with grade Ayrshires. His method of starting a herd is unique and well worth the consideration of those who have few females to start with. He got several of his neighbors to use his sire on their best milk cows and then he bought the heifer calves when dropped. In this way be obtained a good sized herd in a short time. This is a method that can be practiced with any breed of stock. The usefulness of a really high class sire should by all means be extended as widely as possible. A man full of enthusiasm for better stock can do much in his home community toward increasing the use of better animals on the farms of his neighbors.

* * *

FUTURITY HOG SHOW

Herd nominations for the futurity hog shows to be held at Topeka next fall close March 15. Both the Duroc Jersey and the Poland China record associations are planning futurity shows for this fair. Last year the Duroc Jersey Association conducted fourteen futurity shows. This year it is taking on a much larger program. Three kinds of shows will be held—a national futurity at Omaha, state futurities, and district futurities. Any Duroc Jersey breeder is eligible to register for the national, one state and one district futurity.

The time for making nominations is short, and breeders who have not already sent in their nominations must act quickly. The demand for good pure-bred hogs is certain to be strong the coming year, and breeders of Duroc Jerseys and Poland Chinas cannot afford to neglect this opportunity to promote the cause of their respective breeds. The National Duroc Jersey Record Association at Peoria, Illinois, and either the American Poland China Record Association at Chicago or the Standard Poland China Association at Maryville, Missouri, will furnish full details concerning these shows.

Twenty nominations must be made to secure the show at Topeka. We would urge breeders to send in their nominations at once and begin to develop the litters selected in the best manner possible.

* * *

SCHOENLEBER LEAVES MANHATTAN

Dr. F. S. Schoenleber, who for twelve years has been Professor of Veterinary Medicine at the Kansas Agricultural College, has handed in his resignation to take effect at once. To Doctor Schoenleber must go much credit for the present condition and standing of the veterinary school of the college, which school was organized by him and has been built up into one of the strongest of its kind in the West. In addition to this, much research work has been conducted. A modern, sanitary hog-serum plant has been built, and a new and reliable method of protecting cattle against blackleg has been worked out and put on a practical basis.

Doctor Schoenleber has been interested in Ayrshire cattle and has developed a good herd of this breed on his farm near Linwood. It is with regret that we learn he has severed his connection with the college and experiment station.

* * *

The sale of stock in the twelve Federal Land Banks is now completed. The law required that the stock of each of these twelve Federal Land Banks should remain on sale for thirty days and at the end of that time the Government should purchase all of the remaining unsold stock. This thirty-day period ended with the close of business February 9, and the Secretary of the Treasury, acting for the United States Government, will purchase the unsold part of the $9,000,000 capital stock of these twelve banks. D. F. Callahan, a prominent banker of Kingman, Kansas, has been appointed president of the board of directors of the Farm Loan Bank at Wichita. Miles Lassater of Oklahoma City is vice-president; T. J. Guilfoil, Albuquerque, secretary; Ralph Voorhees, Denver, treasurer, and W. P. Z. Gorman, Muskogee, Okla., registrar and attorney. T. A. Hubbard, a retired farmer of Wellington, Kansas, is one of the directors. The banks will soon be ready to issue charters to applying farm loan associations and then proceed with the business of lending money on first mortgages secured by farm lands.

* * *

When we buy tomatoes for 12½ cents a can, we pay at the rate of $3 a bushel. The canning factory contracted for these at the rate of 25 cents a bushel. At this rate one pays 12½ cents for a little more than 1 cent's worth of food. If he buys the cheaper grades, he only purchases one-half cent's worth for his 12½ cents. No goods that have to stand manufacturing, transportation, jobbing, and retail spreads can be purchased as cheaply as they can be grown, and the farmer who makes that statement admits he does not figure closely. The next few years will be critical ones for the farmer who is following a one crop system.

* * *

On another page in this issue an article appears telling of the fight being made in Congress to throw down the bars so oleo can be colored and sold as butter. Do not fail to read this article, and what is more important, let your interest in the matter be known. It is not the philanthropic desire of the manufacturers of oleo to reduce the high cost of living, that inspires the Underwood amendment. It is to the "folks back home" that the congressman listens most attentively, so let him know what you think of making it possible to sell oleo as butter.

PASTURE IMPROVEMENT

Deferred Grazing System Practical Means of Maintaining Kansas Pastures

FOR every hundred acres of land cultivated in Kansas, forty acres are devoted to pasture. The total pasture area of the state amounts to at least twenty million acres. The value returned from these pasture lands is an important part of our agricultural wealth. Good pasture is almost essential to profitable live stock production. Care of pastures thus becomes a most important subject.

Two years ago at the District Farming Congress held at Emporia, W. M. Jardine, director of the Kansas Experiment Station, presented the question of pasture improvement, basing his remarks largely on what had been accomplished by the federal government in bringing back the pastures in the forest reserves by a system of "deferred grazing." We were present at that meeting and were much impressed with what Director Jardine had to say, as were also the cattlemen in attendance. We reproduced the substance of his address in KANSAS FARMER of April 10, 1915, and were much gratified to learn later that the way had been opened for the experiment station to do some work in solving the problems of pasture management and improvement. Last spring we gave a partial report of what had been accomplished and are glad now to be able to report still further progress in this important work. Ralph Kenney, associate professor in farm crops at the agricultural college, who has had direct charge of this work, practically lives in the big pasture being studied during the grazing season. During Farm and Home Week Mr. Kenney told of the work of the first two years, and we quote from his address as follows:

"Kansas is known far and wide for her tremendous crops of wheat and equally valuable crops of corn, but few persons realize that the grass lands of the state cover an area almost twice as great as the annual acreage of winter wheat and corn combined and represent a total value of approximately 500 million dollars.

"When the Kansas Agricultural Experiment Station at Manhattan began to study pasture management problems early in March of 1915, the native pastures of the state were fast entering a condition of low productivity. The land could not be used profitably for other crops and owners of pasture land were scarce who could make interest even on the valuation at which they purchased such land years ago. At that time gratifying results from certain methods of controlling stock and regulating the grazing season on national forest reserves in the Western States were being obtained by the grazing service of the Bureau of Forestry of the United States Department of Agriculture.

"Careful consideration of such methods as has been found most practical by these men who control herds of thousands of cattle and sheep convinced experiment station men that their work could be adapted to Kansas conditions. During the last ten years the forest service has developed what is called the 'deferred and rotation grazing system,' and this has been adopted here.

"Dan D. Casement proffered the use of whatever lands might be needed and two years' work have been completed on his pasture ten miles north of Manhattan in Pottawatomie County.

"Grasses grazed heavily in the fore part of the season have no opportunity to strengthen their roots and consequently produce either no seed or a few seeds that are weak in germinating power. By protecting a given area until seed matures, the roots of the plants are strengthened and vigorous seeds with higher germinating power are produced.

"Heavy grazing of the protected area after seeds are matured makes use of all forage grown that year. At the same time the seeds produced are scattered and more or less covered by trampling.

"During the second year of protection the grasses may be expected to mature seeds a little earlier than the previous year and to produce seeds of stronger vitality. When this area is grazed the second year some consideration must be given the seedlings established the previous year. For that reason, animals should not be allowed on it long enough to do any damage by trampling.

"After an area has been protected two or three years, another area should be protected during the early season and the pasture protected at first may be grazed at the normal rate throughout the season. The rotation thus started should be kept up indefinitely. The plan followed by the experiment station requires the division of the entire pasture into three parts, which are treated as shown in the table.

Year	Field 1 (Early)	Field 2 (Mid-season)	Field 3 (Late)
1916	First	Second	Third
1917	Second	First	Third
1918	First	Third	Second
1919	Second	Third	First
1920	Third	Second	First
1921	Third	First	Second
1922	Second	First	Third

"In adapting this system to Kansas conditions, take, for example, a man who owns 640 acres of grazing land in Lyon County. He can divide the tract into two fields of approximately 200 and 400 acres respectively, by means of two or three strands of wire fence, allow one of the fields to remain ungrazed until after most of the plants have set seed, which will be some time in August, then turn all his animals in and graze it close, taking care only that they do not trample it badly. He can graze the other field in the ordinary way from the beginning of spring grazing. He would lose about three and a half months grazing on two hundred acres, but would finally graze off every bit of forage produced on it that year. Every grazier knows that grass in August and September is immensely better for putting fat on a steer's ribs than grass in May, June, and even July, while at the same time the ripe seeds are well tramped in and the other two-thirds of the pasture is doing nothing. It will not be necessary to divide the second and third areas until after the first is protected two or three years and is ready to be grazed first while another portion is protected.

"Under this plan of grazing the larger portion of the Casement pasture was grazed normally throughout the season. A smaller area of 140 acres was protected until September 2, 1915, when eighty cows and seventy calves were turned on this protected area. The protected area was then grazed continuously until November 5, a period of sixty-three days.

"The animals showed no particular choice of grasses during several days of close observation in the early part of this period. All ate the matured grasses with great relish and by November 5 it was estimated that 95 per cent of all seeds produced on the area had been scattered on the ground and pretty thoroughly tramped in. At the same time, in the large pasture, grazed throughout the season, 50 per cent of the seeds produced were on the stalks high above the ground with no opportunity of being covered and producing seedlings.

"Although many seed stalks and a considerable quantity of seed were produced on the large pasture, yet the effect of grazing was to delay the production of seed stalks about two weeks later than on the protected area. On August 10 there were five times as many Side Oats Grama seed stalks to a given area on the protected side as on the grazed pasture, and three times as many Short Grama seed stalks on the protected side as on the other. On August 25 there were three times as many Big Blue Stem and four times as many Little Blue Stem stalks on the protected side as on the other.

"The season of 1915 probably produced more and better seed than all that matured in five years immediately preceding. Notwithstanding the most bountiful rains and sunshine with a general cool season which was extremely favorable to perfect development of grass plants, germination tests of several hundred samples of seeds gathered on the two pastures above referred to show very low vitality for all important grasses. Side Oats Grama averaged less than 20 per cent in germination; Big Blue Stem about the same; Little Blue Stem, 3 per cent; and the Short Gramas about 2 per cent. Kentucky Bluegrass germinated 50 per cent on the protected side and 27 per cent on the grazed side in late June. The annual grasses such as little barley, foxtail, etc., give much higher germination than the valuable perennial species. Protection of the grasses until September 1 resulted in the production of seeds averaging twice the germination of those produced on the large pasture grazed all the season.

"Tame grass seeding on undisturbed native grass land has been attempted in thousands of instances in Central and Eastern Kansas and almost invariably results in failure. Seeds of our native grasses cannot be bought on the market, and even if they could be, it would be impossible for man to scatter and cover them as thoroughly as is done naturally by pastured animals. Mixtures of all the most vigorous tame forage plants have been scattered on the experimental fields and nothing but sweet clover has been able to make a stand as far as the records show."

It is common practice to burn pastures in the spring. Mr. Kenney's studies lead him to believe that under the burning system of pasture land management, the early growth of grass is left without any protection from the previous year's growth, which, with early grazing while the soil is damp, provides ideal conditions for the weakening of many plants and the total elimination of the choicest, tenderest of them sooner or later.

Some work has been done in mowing to control weed growth, pointed out Professor Kenney. Results to date indicate that weeds can be effectively controlled especially on the level areas where weeds are growing to the exclusion of all forage plants. Where the grass stand is good and weeds are few, mowing has been detrimental to the growth of grass even when cut as late as August 15.

> GRASS is fundamental to the live stock industry. It is the basis of profitable beef production. We must pay more attention to building up and maintaining our native pastures. Because of the difficulty of getting at the value of pastures in a concrete manner, we do not fully appreciate what good grass means to the beef business. There is no definite measure of its productive capacity and for that reason its importance has been overlooked.
>
> To make beef production profitable we must pay more attention to grass improvement and the growing of forage crops. The development of a permanent and profitable system of live stock production requires good farming methods. No country has become noted for its live stock whose farms did not yield abundant crops, and live stock is essential to the maintenance of soil fertility. No breed of horses, cattle, sheep, or swine, of economic importance, has ever been produced on an impoverished soil.—W. A. COCHEL at Annual Meeting, Southeast Kansas Live Stock Association, Fredonia, February 20-21.

Personal Credit

In Bulletin No. 409 of the Federal Department of Agriculture, entitled "Factors Affecting Interest Rates and Other Charges on Short-Time Farm Loans," its author, C. W. Thompson, gives the following discussion of the bearing that the borrower's personal characteristics have on his ability to obtain short-time loans on satisfactory terms.

The borrower who is known to be a man of honesty and integrity and who shows ability and judgment in the conduct of his farm business will ordinarily command the confidence of his banker and obtain credit on terms relatively favorable for his class of loans, whereas the individual who is uncertain in his personal character, erratic in his judgment, and irregular in his business habits will be considered a less desirable risk and, if he obtains a loan at all, usually must pay a higher rate of interest. In any case, if credit is to be extended wisely it is just as important to discourage its use among those who can not be trusted as it is to grant credit to trustworthy borrowers who will use the borrowed money profitably and repay it promptly.

Oftentimes the borrower may be honest and upright in his intentions, but may fail to appreciate the importance of being prompt in meeting his obligations. Possibly he thinks that a few days after the date of maturity is soon enough to make payment, and that a little delay is unimportant. He may not stop to consider that extra work and expense are involved when notice must be given of overdue paper, or that bank examiners do not take kindly to notes that are overdue.

Again, the business ability and business habits of the farmer are tested when the banker asks for a statement of the borrower's business. This information is needed by the banker as a basis for intelligent rating. If the borrower is in the habit of keeping accounts and can explain the nature of his resources and liabilities and thus indicate accurately his financial standing, the wisdom of granting a desired loan as well as the proper terms thereon readily can be determined. On the other hand, if this information is lacking and the banker is in doubt about the safety of a particular loan, he is likely to charge up his uncertainty to the borrower's account in the form of a higher rate of interest.

The requirement that a borrower shall submit a statement of his business is being applied by bankers in their dealings with merchants and manufacturers. Accordingly, business men in general have become more or less familiar with this requirement, and are prepared to furnish such a statement whenever it is called for. Some bankers, in inaugurating a similar plan in connection with their farm loan business, are supplying farmers with especially prepared blanks, or rate sheets, on which the farmers furnish the desired information.

Pure-Bred Stallions Increase

Six years ago when the Kansas stallion law became effective, 2,599 pure-breds and 3,766 grades and scrubs were licensed to stand for public service, according to the report, while during 1916 licenses were issued for 3,160 pure-breds and 2,130 grades and scrubs. This means that 43 per cent fewer grades and scrubs and 21.5 per cent more pure-breds were licensed in 1916 than in 1910. Rice County leads in per cent of registered stallions.

Other counties having fifty or more stallions in which a comparatively high per cent of pure-bred stallions were licensed to stand for public service during 1916, rank as follows: Mitchell, 74 stallions, 78 per cent pure-bred; Cowley, 92 stallions, 75 per cent pure-bred; McPherson, 86 stallions, 72 per cent pure-bred; Reno, 95 stallions, 71 per cent pure-bred; Sedgwick, 83 stallions, 71 per cent pure-bred; Pawnee, 54 stallions, 71 per cent pure-bred; Clay, 60 stallions, 70 per cent pure-bred; Butler, 90 stallions, 69 per cent pure-bred; Jewell, 97 stallions, 68 per cent pure-bred.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

EVERY persons who drives an automobile should be familiar with the working of the generator. In most cars nowadays, the generator is the primary source of all the current used in the car. It supplies the electricity to charge the storage battery, to ignite the charges of explosive mixture in the engine cylinders, and to light the lights, under certain conditions.

The generator consists of two essential parts, a revolving part, called the armature, and a stationary part, called the field. The armature consists of a frame of iron on the shaft, carrying windings of copper wire. These windings are all brought out to a device at the end of the armature, just inside of one of the end bearings, called the commutator. The electric current is generated in these windings, as they revolve, and led out to the commutator, from which it is collected by carbon brushes bearing upon its surface. These brushes are stationary, being generally fastened to the end bearing plate of the generator. From the brushes, the current is led out to the various parts of the automobile where it is to be used.

The field consists of a magnet, usually of the general shape of a horseshoe, between the poles of which the so-called magnetic field exists and the armature revolves. The current is generated as the armature conductors revolve in this magnetic field. The field magnets are usually electro-magnets; that is, iron with current-carrying windings of copper wire. These windings magnetize the field magnets to make them carry out their functions.

In connectio with the standard automobile generator, it is an automatic switch which makes a circuit whenever the engine runs fast enough for the generator to operate properly, and allows the current to flow from the generator. When the speed drops below the operating point, the switch is again automatically opened so that current will not flow backwards from the storage battery into the generator.

Some machines have a separate generator for the ignition, called the magneto, which is entirely separate from the starting and lighting system, and The principle of the magneto is the same as that described for the generator furnishes exclusively, except sometimes for starting, current only for ignition. above, but it generally has a permanent magnet for the field. In the regularly equipped Ford car, the magneto also supplies the current for lighting.

Some cars also reverse the generator function and also use the generator as a motor to start the engine, the generator automatically beginning again as the engine comes up to speed.—F. E. ANDREWS, Colorado Agricultural College.

Need Bridges and Culverts

"Much as we need improved roads," said W. S. Gearhart recently, "we need permanent bridges and culverts more. It is more important that all of the bridges and culverts be in good condition than that all the roads be kept in first class repair, for if the road is to be used at all, the drainage structures must be kept up. At the present time it is not practical, nor is it necessary, to surface all of the road, but a 'junk pile' of wood or tin for a culvert, or a 'scrap heap' of wood or steel for a bridge, is just as much out of place, and just as expensive to maintain, on an earth road as on a highly improved boulevard, for the bridges and culverts in the lane rot out and rust out and wash out as fast as on the most important state roads. It is not the traffic in most instances that destroys these structures, but the elements."

Daily use of public highways in Kansas has developed more rapidly than any other single activity within the state.

Ten years ago there were practically no automobiles, while today there are more than 114,000 in Kansas, or one for each three families, and more than one for each mile of road. This means that the highways of Kansas are carrying approximately 4,000,000 more horsepower than ten years ago. The auto truck and tractor business has scarcely been touched, but it is now generally recognized that this new form of traffic is destined to more and more replace the horse on the highway.

These methods of transportation require new and adequate systems of road and bridge construction and maintenance. The condition of the roads and bridges are many years behind the traffic.

Our roads were planned for horse-drawn traffic, moving at a maximum speed of about ten miles an hour, and we have not even rounded off the right-angle corners, in most cases. Even the weeds and hedges are not cut at these corners and we are only beginning now to talk about the elimination of the railroad grade crossings. The old drainage structures we call bridges and culverts were not designed in most cases to carry any given load. They were just built. Then fast driving signs were put on the bridges to prevent the boys, when out driving with their best girls, from rattling these old structures to pieces.

A great deal of trouble is caused in automobile motors by poor grades of fuel. The cylinders will miss explosions while the engine is cold, allowing the poor grade of fuel to remain in a liquid form in the cylinder. This fuel then works down past the pistons and gets into the crank case oil. This dilutes the oil and burned-out bearings result. The oil in the crank case should be drained out and a fresh supply added every 500 or 1,000 miles traveled. This is very important, especially on new cars, which have their bearings fitted tightly.

At the head of all the sciences and arts, at the head of civilization and progress, stands not militarism, the science that kills, not commerce, the art that accumulates wealth, but agriculture, the mother of all industry, and the maintainer of human life.—Garfield.

A farmer living just over the line in Oklahoma, south of Caldwell, has adopted the parcel post to a new use. During the busy season on the farm he sends in two or three cases of eggs a week by the mail carrier. These cases hold thirty dozen eggs each and the cost, this farmer claims, is much less than taking the time to drive to town.

$1150 F. o. b. Racine
Mitchell Junior—a 40 h. p. Six
120-inch Wheelbase

Mitchell SIXES

$1460 F. o. b. Racine
7-Passenger—48 Horsepower
127-inch Wheelbase

Now an $1150 Six

Much Like the Larger Mitchell

John W. Bate believes that efficiency requires two sizes in Mitchells.

A seven-passenger car, to be roomy, must measure 127 inches from hub to hub. And 48 horsepower is the proper power.

But a 5-passenger car will be just as roomy with a 120-inch wheelbase. And a 40-horsepower motor gives it power enough.

So, to meet both conditions, we this year build a Mitchell and a Mitchell Junior. You don't need to pay for room or power not wanted.

Every Penny Counts

The Mitchell advantages lie in making every penny count. John W. Bate, the great efficiency expert, has spent years here to attain that.

He designed this whole 45-acre plant to build Mitchell cars economically. He equipped it with thousands of special machines. Every part is built here at the lowest factory cost. On this year's output his methods will save us at least $4,000,000.

There is no other factory like this building high-grade cars.

Hundreds of Extras

You see the result in hundreds of extras—all paid for by factory savings.

There are 31 features—like a power tire pump—which are practically unique to the Mitchell.

We have doubled our margins of safety. This year every vital part has 100 per cent over-strength.

Over 440 parts are built of toughened steel. Many parts are oversize. Many are built of costly Chrome-Vanadium.

In luxury and beauty the Mitchell excels any other car in its class. The finish coats are fixed by heat, to give a deep, enduring lustre. A rare-grade leather is employed. This year we have added 24 per cent to the cost of these items alone.

See What Men Miss

See what men miss who buy cars without these extra features. See the 31 attractions, most of which are found in Mitchells only. See what luxurious bodies we can give you at these prices, because of our own body plant.

Then consider the value of this double-strength. It means a lifetime car.

See what it means in the Bate cantilever springs. In two years of use, on thousands of cars, not one of these springs has broken.

Those are the reasons why men are choosing Mitchells in such an ever-increasing way. This year our output is increased 2½ times over. Men don't want to miss these extras.

If you don't know the nearest Mitchell dealer, ask us for his name.

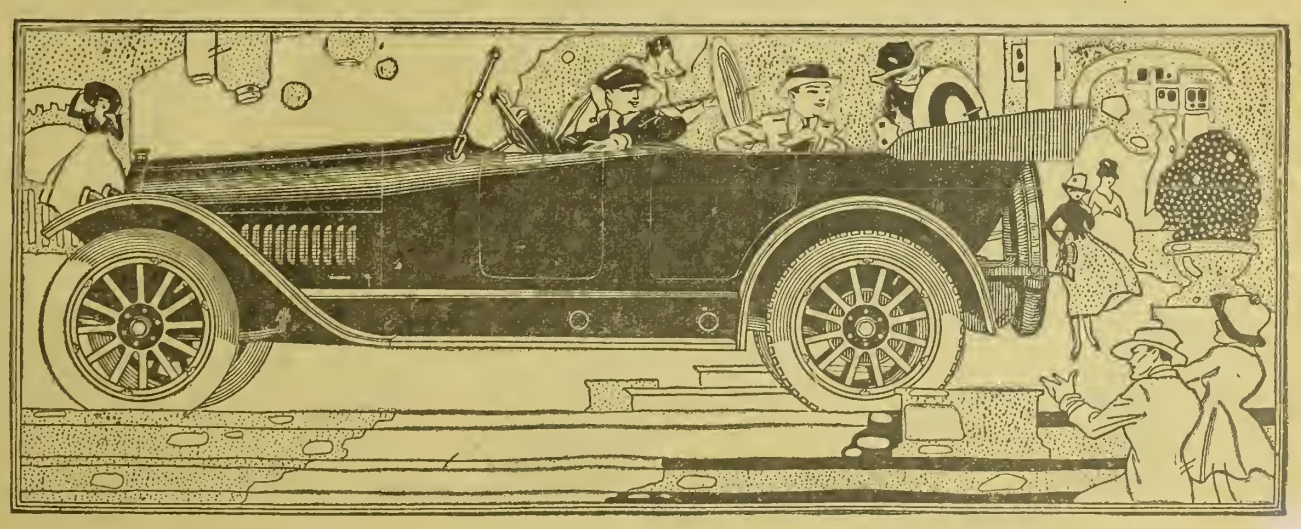
MITCHELL MOTORS COMPANY, Inc.
Racine, Wis., U. S. A.

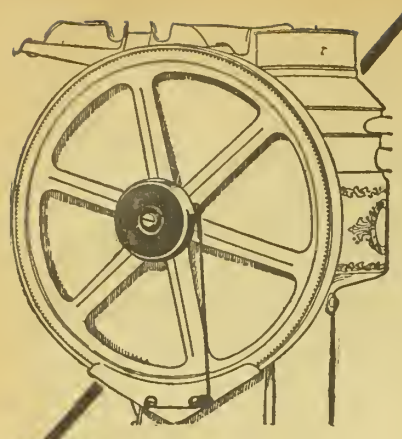
TWO SIZES

Mitchell—a roomy, 7-passenger Six, with 127-inch wheelbase. A high-speed, economical, 48-horsepower motor. Disappearing extra seats and 31 extra features included.
Price $1460, f. o. b. Racine

Mitchell Junior—a 5-passenger Six on similar lines, with 120-inch wheelbase. A 40-horsepower motor—¼-inch smaller bore than larger Mitchell.
Price $1150, f. o. b. Racine

Also all styles of enclosed and convertible bodies. Also demountable tops.





This "Warning Signal"

Insures proper speed on every NEW De Laval Cream Separator

NINE people out of ten turn the separator handle too slowly.

Thousands of tests with experienced separator operators show this to be the case.

Other tests made by the highest authorities have shown conclusively that there is a big cream loss when the cream separator is not turned fast enough.

You will avoid such a possible cream loss if you buy the New De Laval. The Bell Speed Indicator on the New De Laval is a "warning signal" that insures proper speed at all times. No matter who runs your De Laval, this "warning signal" will tell you when the speed is not right. You hear it, and do not need to see it. This one feature alone may easily save you the cost of a cream separator in the next few months.

But that is only one of the big advantages of the New De Laval. Other advantages are greater capacity, closer skimming and easier turning, simpler bowl construction, and easier washing.

If you haven't the spare cash right now, that need not stand in the way of your getting a New De Laval right away. We have an arrangement with De Laval agents which makes it possible for any reputable farmer to secure a De Laval on the partial payment plan—a small payment at the time of purchase and the balance in several installments—so that your De Laval will actually pay for itself while you are using it and getting the benefit from it.

Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for any desired information.

The De Laval Separator Co. 165 Broadway, New York 29 E. Madison St., Chicago

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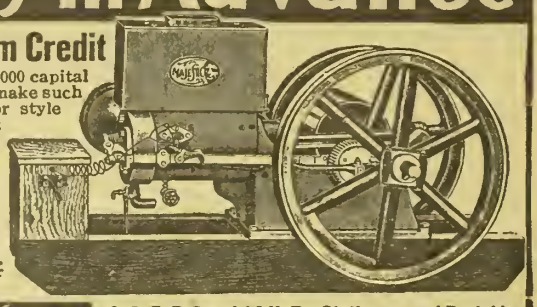
Only Hartman's with their $12,000,000 capital and over two million customers can make such an offer as this. Order any size or style Majestic engine you want—no deposit—no C. O. D., or security. When the engine comes, work it 30 days, and if you are not fully satisfied with it, send it back at our expense and you will not be out one cent. If you are completely convinced that the "Majestic" is a wonderful bargain and just the engine you want, then keep it and pay one-tenth in 30 days, or one-sixth in 60 days, and balance in equal payments monthly or every two months—giving 10 months or



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The excellent grasses, full of nutrition, are the only food required either for beef or dairy purposes. Good schools, churches, markets convenient, climate excellent. Military service is not compulsory in Canada but there is an unusual demand for farm labor to replace the many young men who have volunteered for the war. Write for literature and particulars as to reduced railway rates to Supt. of Immigration, Ottawa, Can., or to

GEO. A. COOK
2012 Main St., Kansas City, Mo.
Canadian Gov't Agt.



Kansas Farmer Dairy Club

Your Banker Is Your Friend

ARE you well enough acquainted with the banker who loaned you the money to buy your cow, to call him your friend? If not, you are missing one of the valuable experiences made possible by the Dairy Club work.

We should all know as much about business as possible, should know business men and their methods. Bankers should be—and usually are—the best type of business men, and for this reason you should talk to your banker as often as you go to the bank if he has the time to give to you. And most bankers will take the time to talk to a boy or girl who is anxious to learn about business, for the banker understands perhaps better than anyone else, the value of this knowledge. He sees men lose everything they have because they are poor business managers. Many times these losses come wholly from a lack of business training, and the banker realizes the need for this training and he makes it a part of his business to help people get it. He realizes, too, that the earlier in life this training is received the greater is the opportunity for success, and he is glad to see the boy and girl learning the value of business methods and money and you will find him glad to talk with you about these matters.

The bankers who are co-operating with us in the Dairy Club work have been faithful and we gladly give them credit for their important part of the work. They have not only loaned money for buying the cows, but in many cases have helped to find the cows. And we have not heard of a single banker who is sorry he showed this interest in you girls and boys. We have heard from several who are willing to loan the money for a second cow. This speaks well for both the banker and the girl or boy.

We are going to name here the bankers who are co-operating with you and with us in the Dairy Club work as we believe you will be glad to have this list of your business associates:

Wulfekuhler State Bank, Leavenworth; State Bank of Parsons; Fort Scott State Bank; Peabody State Bank; Oswego State Bank; Abilene National Bank; State Bank of Douglass; Thayer State Bank; Midland National Bank, Newton; State Bank of Kechi; Rawlins County State Bank of Atwood; De Soto State Bank; Sedgwick State Bank; Kipp State Bank; First National Bank, Oakley; Citizens Bank, Abilene; Colony State Bank; Security State Bank, Ottawa; First National Bank, Scott City; Bank of Topeka; Citizens State Bank, Scott City; Halstead Bank; State Savings Bank, Leavenworth; First National Bank, Norton; Berryton State Bank; Leon State Bank. Some of these banks loaned money to as many as seven boys and girls.

The Dairy Club has many other banker friends, too—those who offered to cooperate but who could not find boys and girls who were willing to take the responsibility of paying for a cow. Still others were willing, and found boys and girls, but they could not find the cows.

We feel sure that when our next Dairy Club is organized there will be boys and girls for all the bankers who are willing to loan them money for cows. We also feel sure that the men who own good cows will be willing to sell them to the boys and girls at prices which they can afford to pay, for these men have been watching your work and know it is well worth while. We know several men who did this for some of you.

As you milk your cow month after month and make your records, remember you belong to the first club of this kind and that the business training you are receiving will always be valuable to you. Remember, too, the banker and KANSAS FARMER are your friends and are watching and hoping for your success.

This Cow Enjoys Warm Water

I am sending you a picture of my cow getting a drink on one of these cold mornings. You will notice the tank has a heater in it and it also has a top. Since we got the tank heater I notice my cow has increased her milk flow about one-fifth.

I go to Sunday School nearly every Sunday and the nearest Sunday School is in Leavenworth, five miles away.

The Y. M. C. A. of which I am a member, has organized a junior and senior basket ball league. Two others of my Farm Boy Cavalier troop and I play on the Baptist junior team and we'll land second or third place, which isn't so bad considering the teams we had to play.

I would like to exchange letters or pictures with Dairy Club members.—PAUL STUDDARD, Route 4, Box 27, Leavenworth, Kansas.

The picture which Paul sent us is not clear enough to make a cut so we cannot show you his tank heater. But it is clear enough so we can see his cow is enjoying her good drink that is not cold enough to make her teeth ache.

Care of Milk

As we looked through the entry blanks sent in by our Dairy Club members for the state contest, we were pleased to note the care many of you had given your samples. Care has much to do with making a success of milking cows and you should remember this and consider nothing too hard to do that will help you produce more or better milk.

Two of the answers to the question, "How soon was milk cooled after being drawn from the cow?" attracted our attention particularly. One of these answers was "One hour," the other "Two hours." Both these members had cleaned their cows and the barns in which they milked and had made sure their clothing and hands were clean when milking. However, they did not seem to realize the danger of allowing the milk to hold the heat from the cow's body for this length of time. This heat permitted the development of many germs that were in the milk and thus lowered the score. If milk is immediately cooled to the temperature of good cold well water the development of any germs in it will be very much slower and the keeping quality will be much improved. Milk fresh from the cow with the animal heat in it, should never be set away in a closed vessel. If this is done, bad flavors will develop because of the growth of germs and the milk will remain sweet only a short time.

A good way to cool milk, if you do not have a regular milk cooler, is to set it in a tub of fresh well water and stir it thoroughly with a long-handled dipper, adding fresh water to the tub until the milk is as cool as the water fresh from the well. When it has reached this temperature it is safe to cover it. All this is as true of cream as of milk.

One authority on milk says that in twelve hours one germ will have multiplied ten times as fast in milk allowed to cool naturally as in that cooled with cold water.

There are a number of things that affect the quality of milk and cream as you will learn by studying the score card covering your sample entered in the contest. Many of these things you can control by using due care. When you produce milk you are producing human food and you should never forget this. With this thought in mind it will not be so hard to be careful.

Produces Good Grade Cream

My last shipment of cream tested 33 per cent, graded number one, and I received 38½ cents for butter fat.

The clover hay is good quality but my cow simply does not care for it. She never seems to get enough silage. You will also notice by my feed record that I did not feed oil meal the latter part of the month. This was because I was unable to get it. I bought cotton cake instead and she wouldn't touch it. However, I have received oil meal now and will again mix it in her ration.—THERESA O'MARA, Anderson County.

When you think that the feed which you are giving your cow seems expensive, remember that if she makes it into high-priced butter fat it will more than pay for it. Never think of the feed cost only but of the profit it will bring you through butter fat.

Harold Bentz, who won first prize in the market milk contest at Manhattan, had three-fourths of the expense of his trip paid as second prize in the corn club.

WHAT EVERY FARMER WANTS

Cheap and Efficient Transportation His Great Need—How It Can Best be Assured

THE present situation of the railroads presents two alternatives, efficient federal regulation or federal ownership.

The experience of other countries proves conclusively that government ownership of railroads is more costly and less efficient than the system of private ownership in this country. The railroads of the United States have the lowest freight rates, the smallest capitalization per mile, the highest operating efficiency and pay the highest wages of any railroads in the world.

High Rates on Government Roads

The charge for hauling a ton of freight one mile on the government owned roads of various countries and on the privately owned roads of the United States is shown in the following table:

	Average Freight rate per ton mile
Germany (Gov't Railways)	1.24 cent
France "	1.30 cent
Australia	
New South Wales "	1.59 cent
South Australia "	1.75 cent
Switzerland "	2.63 cent
Canada (Private ownership)	.76 cent
United States "	.73 cent

No railway system under government ownership can show a record for cheapness and service approaching that of American Railroads under private ownership. What the railroad situation needs is the adoption of a system of national regulation that will encourage initiative and investment and enable the carriers to meet the growing requirements of American business.

Keep Railroads Out of Politics and Politics Out of the Railroads

It is to the interest of the railroads and the interest of the whole country that the railroads keep out of politics and that politics be kept out of their management.

Government ownership under our political system would make the control of the railroads a partisan issue at every election. It would bring political and economic disaster.

No man in the country stands to lose more by the adoption of a political system of railroad management than the farmer. None will profit more from efficient national regulation that will do away with the present conflicts and waste of local control and enable the railroads to make the extensions and improvements necessary to keep pace with the business progress of the nation.

We invite discussion of this question and shall be glad to answer questions and to supply information on request.

RAILWAY EXECUTIVES' ADVISORY COMMITTEE

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Trees for Western Kansas

J. T. R., Rush County, asks what varieties of trees are best to plant in that section for yards and for windbreaks or protective plantings.

Our correspondent is in a section of the state where the annual rainfall is less than twenty-five inches. There are many varieties of trees that will thrive under these conditions if given a fair chance. Of the evergreens suitable for either protective or ornamental planting, we would recommend red cedar, Chinese arbor vitae, Austrian pine, Scotch pine, and western yellow pine. Of the broad-leaved trees suitable for yard planting, the following will give good results in this section: Thornless honey locust, hackberry, white elm, green ash, Russian wild olive, Osage orange, Russian mulberry. It is advisable to plant only the non-fruiting variety of this mulberry.

The soil should be taken into consideration as well as the rainfall in selecting trees to plant. On heavy loam upland soil plant the red cedar, Scotch pine, Austrian pine, Western yellow pine, Chinese arbor vitae, white elm, hackberry, honey locust, Osage orange, Russian wild olive, green ash. For planting along water courses or ravines, black walnut, cottonwood and Kentucky coffee bean can be added to the above list. In very light sandy soil, such as the sand dunes or very sandy river bottom soil, plant the red cedar, the Austrian pine, the Western yellow pine, Scotch pine and jack pine.

Such trees as boxelder, soft maple, Carolina poplar and others of the more rapidly growing varieties are not to be recommended because they are too short-lived in this section of the state. Even in Central Kansas many trees have perished during the past few years as a result of insect attacks and the unusually dry seasons that have prevailed. In planting trees to take the places of those that have died, more attention should be given to selecting longer-lived and more hardy varieties and such varieties as are reasonably free from insect attacks. A bulletin on tree planting in Kansas has been prepared by Prof. C. A. Scott, state forester, and Walter Burr of the rural service department of the agricultural college. This bulletin can be procured by addressing the extension division of the college, at Manhattan.

Stopping Soil Drifting

A. J., Lincoln County, asks if there is anything he can do to stop the soil from blowing on his wheat fields. The wheat made very little growth last fall owing to the dryness of the season, and the soil is drifting badly on windy days.

This is one of the serious things with which the Western Kansas farmer has to contend. When soil begins to drift, the momentum of the drifting particles increases in proportion to the distance they can blow or slide along without meeting with any interruption. The running of a series of lister furrows across the field at right angles to the direction in which the soil is drifting will help to check it. Sometimes running a disk across will produce sufficient obstruction to stop soil blowing. The thing to do is to prevent it from getting started across a big stretch of land and thus gaining momentum. Another method of preventing soil drifting is to spread straw across the field in strips. Of course it would have been better if the field had been all covered with a light dressing of straw last fall. This method has been very successful at the Hays Experiment Station. There a packer is run over the straw to press it into the ground so it will not blow away.

"Pleasure rides for cattle" is the way J. E. Payne of Oklahoma expresses the system of shipping stock from one place to another from the time the calves are weaned until they are ready to be slaughtered. The buyers ship the calves to a central market where they are bought and shipped somewhere to be kept a year or more on pasture. They are again sent to market, and again shipped to some feed lot for fattening. After fattening, the cattle take their fifth and last pleasure ride. They then go to the slaughter house. We often wonder if beef cannot be made without paying so much for car rides which must be anything but pleasant to the cattle, and which must cause much of the loss to the feeder. Many of the men who raise the calves could have enough feed on their farms to grow them out and in some years at least even fatten them for market.



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At your lumber dealer's you can see the new, big Curtis catalog. It pictures every Curtis design, each one the combined work of an artist and skilled workmen. Other makers will struggle to imitate and duplicate. Failing, they may offer you something called "just as good" with the lure of lower price. But not a price that's much lower—a mere handful of small change per year when distributed over the lifetime of your home.

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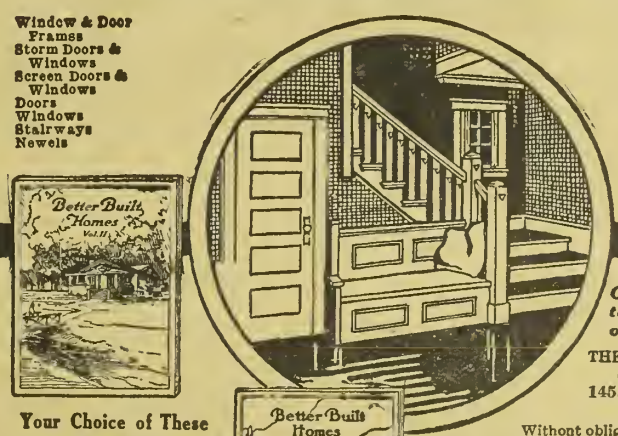

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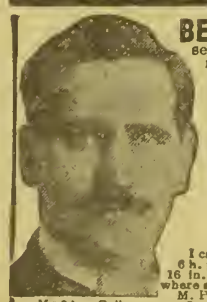

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HERE'S THE REAL PROOF!

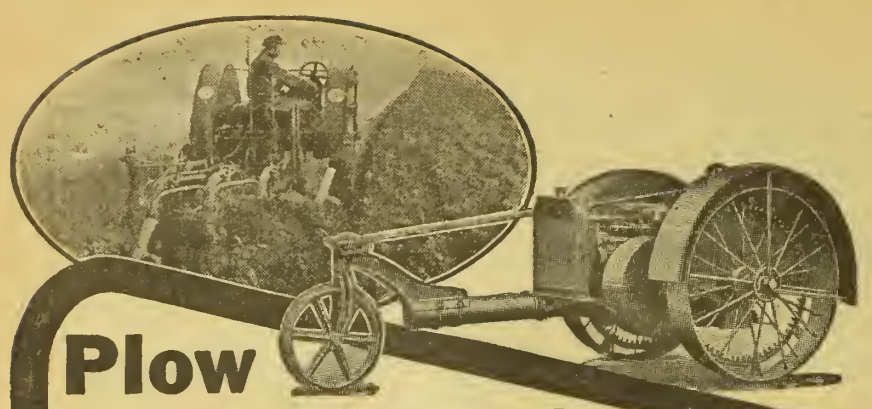
I can't give it praise enough. I had a 6 h. p. Galloway engine belted to my 16 in. corn mill and it does the work, where an 8 h. p. of another make did not. M. P. SHOEMAKE, DEFEATED, TENN.

My 6 h.p. Galloway was 5 yrs. old this fall. Works perfectly—good for 15 yrs. yet. HAROLD W. BARNES, DELPHI, IND.

It has not cost me one cent for repairs. Am now buying a 2 1-4 h. p. engine and washing machine for the home. Consider the Galloway simplest engine made. ADOLPH DRINOVSKY, TRAER, IA.

I found the 16 h. p. Galloway simplest, most powerful, best governed engine I ever saw and $225 cheaper. HENRY WENHAM, MILTON, WIS.

THE WM. GALLOWAY CO., 215 Galloway Station, Waterloo, Iowa



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DON'T let a slow team hold up your crop. Get a La Crosse Happy Farmer Tractor and be ready with power that does not have to stop to rest—power that you can drive to the limit all day long, regardless of conditions, and repeat the same performance day after day until the work is done. You can get a La Crosse Happy Farmer Tractor for the price of two or three horses, and make it do the work of six or eight in the field. Write for catalog.

La Crosse HAPPY FARMER Tractor

Two Models—Honestly built of high class materials — Do honest work.

Model "A" pulls two plows—weighs only 3500 lbs. 88 per cent on drive wheels. 1500 lbs. guaranteed drawbar pull. Burns gasoline—or kerosene with special attachment.

Model "B" our **wonderful kerosene burner.** Perfect combustion. One ton drawbar pull. Twin Cylinders, Overhead Valves, Economical of Fuel, Completely Water Cooled, Automatic Oiler — All gears steel cut and inclosed—every part easily accessible. One-piece unbreakable cast steel frame—contracting clutch—**Hyatt Roller Bearings**—universal hitch—self-steering — turns square corners, right or left. **Also ask about La Crosse Tractor-Drawn Implements.**

LA CROSSE TRACTOR CO., Dept. 6, MINNEAPOLIS, MINN.

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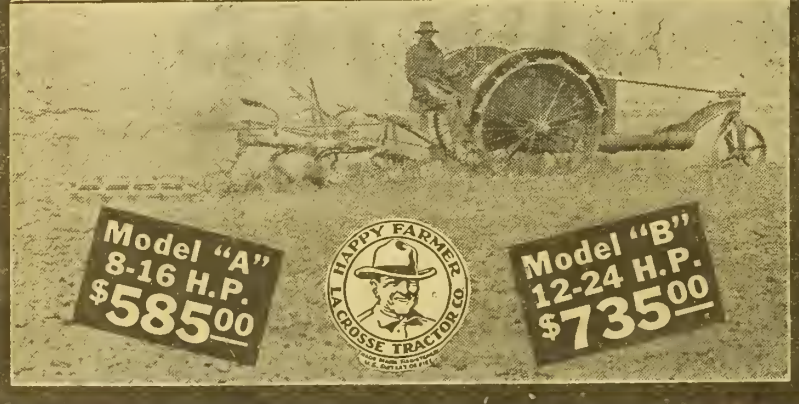



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I consider it equal to a prominent machine sold for $140. One neighbor who has used both says he would rather have the Galloway. W. O. Cracraft, Eckley, Colo.

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THE WM. GALLOWAY CO., 213 Galloway Sta., Waterloo, Iowa

OLEO FIGHT IN CONGRESS

AS WE have many times pointed out, the producers of dairy products are vitally concerned in the matter of permitting oleo to be colored and sold in imitation of real butter, which costs much more to produce than the bogus article. The big fight in Congress to change the present law is on. What is known as the Underwood Bill has been introduced in the senate as an amendment to the revenue bill. According to G. L. McKay, secretary of the American Association of Creamery Butter Manufacturers, this bill is even more vicious than the one proposed in 1910. That bill required that oleo be sold in the original package and provided heavy penalties for breaking the seal of the package. It also provided that it be put up in from one-fourth to five-pound packages. The Underwood amendment permits the ten-pound package, which offers a greater temptation to sell the product as butter.

The whole proposition hinges around the matter of coloring oleo so that it will look like butter. The oleo interests in this fight are playing up the great benefit it will be to the people who must buy oleo, or have the tax reduced, thus lowering the price they will have to pay for the product. The Underwood amendment lowers the tax on colored oleo from ten cents a pound to two cents a pound, and provides that it may even be reduced to one cent a pound. It increases the tax, however, from one-fourth cent a pound to two cents a pound on uncolored oleo. Under the present law only 2¼ per cent of the oleo sold pays the ten-cent tax.

No thinking person, however, should be misled by this arrangement, the intention of which is to convey the impression that all oleo sold is taxed ten cents a pound. James H. Maurer, president of the Pennsylvania Federation of Labor, has made exhaustive studies during the past six months into the labor interests of the oleo controversy, and has shown repeatedly that the poor man's interest lies in compelling oleo to sell on its merits and forbidding it to be colored in imitation of butter and sold at butter prices. In a letter addressed to Samuel Gompers, president of the American Federation of Labor, Mr. Maurer presents the results of his investigations as follows:

"Looking at the question from every angle possible, I can see but two reasons why some dealers and manufacturers want a law giving them the right to color their product in imitation of butter; one is to charge more for their product, and the other, to give them a monopoly of the butter market.

"Let oleomargarine and butterine and all other substitutes stand on their own feet and sell for what they are and not for what their manufacturers can make people believe they are."

The amendment is continually being referred to by the oleo interests as an act to reduce the ten-cent tax on oleo to two cents. The real facts are that the tax effect would be to increase the taxes paid on oleo 700 per cent. In the formal protest made by the National Dairy Union to the Finance Committee of the senate, this effect was clearly pointed out, but the misleading statements in the press continue and serve to deceive the public generally and place the opposition of the dairy interests in a false light. Here are the facts as presented by the National Dairy Union:

"Over one hundred and forty-five and three-fourths million pounds of oleomargarine paid only one-fourth of one cent tax this year, and less than three and one-half million pounds paid the ten cents tax. Reducing the tax from ten cents to two cents per pound on less than three and one-half million pounds, and increasing the tax from one-fourth cent to two cents per pound on over one hundred and forty-five and three-quarters millions, is not tax reduction.

"We call particular attention to Section 401 of the Underwood amendment relating to 'manufacturers' original packages.' This has nothing to do with revenue. In our opinion the effect of this section is to seriously modify the 'original package' safeguards of the present law by making it possible to sell colored oleo in the states having state laws forbidding the sale of oleomargarine colored in imitation of butter. The present law expressly provides that all oleomargarine shipped into any state, whether in original package or otherwise, shall be subject to the operation and effect of the state laws.

"The purpose of the Underwood amendment is not revenue. It has no rightful place as part of an emergency measure to increase the federal revenue. Its purpose is to wipe out the governmental restrictions that prevent oleomargarine being colored to imitate butter and sold as such. The oleomargarine laws were designed to protect the public against fraud in its manufacture and sale. The Underwood amendment removes this protection. It increases the tax on honest oleomargarine—the poor man's oleomargarine and the kind used by the housewife in cooking, etc.—700 per cent and reduces the tax on the dishonest oleomargarine from ten cents to two cents.

"The dairy interests are not in favor of the tax on oleomargarine. If this country will follow the practice of the leading nations of the world and forbid its being colored in imitation of butter, the power to defraud the public or injure the dairy interests will be removed. Oleomargarine will then have to be sold on its merits, for whatever benefit it may be to the people who cannot afford to buy butter. To increase the tax on 97¾ per cent of all the oleomargarine sold, and then call it a tax reduction amendment, is a gross misrepresentation."

Every man selling cream is vitally concerned in this fight to permit oleo to sell in competition with butter made from his product. With the tax on colored oleo reduced to two cents, all oleo manufactured will be colored and will enter directly into competition with real butter. This is bound to decrease the price received for the cream. Every dairyman should wire or write his senators and representatives at once, demanding that they recognize his interest in this oleo fight.

Soil Washing Steals Fertility

Soil washing by heavy rains is probably the most important cause of the loss of soil fertility on rolling upland farms. The amount of this loss is difficult to measure accurately. Figures obtained at the Missouri College of Agriculture during the last two years indicate that as much as 5 per cent of the really fertile soil may be lost in one year on a gently sloping field if the surface is left bare. This means that continuous cultivation for one generation may result in the loss of all the fertile soil on even gently rolling land unless some measures are taken to restore it. On steeper lands the loss is much more rapid.

Some idea of the loss of plant food may be obtained by considering the loss of nitrogen. The supply of this element in the soil is contained in the organic or vegetable matter present. Nitrogen is made available for the use of plants by the decay of organic matter. It is estimated that 2 per cent of the total amount present becomes available each year. It is this 2 per cent which may be removed by the crops, by leaching, and in the form of gas. As the availability of the other elements of plant food in the soil is closely associated with the decay of organic matter, it is evident that the washing away of that part of the soil richest in organic matter results in a lack of all the really valuable soil plant food. In addition to the loss of plant food, the poorer physical condition of the soil resulting from the removal of organic matter and the inconveniences caused by ditches in the fields are to be noted.

Practices tending to control erosion are systematic rotations containing fewer cultivated crops and more hay and pasture crops, the gradual deepening of soil by occasional deep plowing, the use of barnyard and green manures, winter cover crops such as rye and wheat, and prompt attention to gullies and ditches. Terracing and contour farming are coming into favor as preventive practices as lands increase in value. Tiling poorly drained sloping lands such as spouty hillsides, helps by opening up the subsoil and carrying part of the water off through the tiles.

As lands increase in value reclamation becomes profitable. Steep, badly washed hillsides may be set to hardy forest trees. Small ditches may be filled with litter and soil and seeded down to grass. Large ditches may be filled by obstructing with brush and coarse litter staked and weighted down, by planting willows, or by specially constructed dams protected by tile and so laid that most of the water passes under the dam while the sediment is deposited in the ditch.



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WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

Rural Phone Switching Rights

We have the following inquiry from a subscriber concerning the rights of a rural telephone company in the matter of switching charges and regulations:

"We have some rural telephone lines built and owned by farmers, and having no switchboard of our own we have had our lines connected to a switchboard of an incorporated company and have been paying it switching charges. This company is now putting up lines of its own and would prefer to rent us 'phones instead of switching our lines. It is endeavoring to put into effect switchboard rules that would compel us to discontinue the use of our phones and lines and either do without or rent of the company. Does such a company have the right to switch some lines and refuse to switch others, and do they have the right to charge us as much for switching our lines as to rent us their own phones? What is the customary price charged by telephone companies for switching rural 'phone lines?"

This company cannot make changes in its rates or rules regarding switching without the consent of the Public Utilities Commission. All questions affecting public utilities in Kansas come under the jurisdiction of this commission and rural telephone companies should take up with the commission such questions as come up affecting their rights. The law now in operation with reference to the making of changes in rates is as follows:

"No change shall be made in any rate, charge, rule, or classification or schedule of charges, joint rates, or in any rule or regulation or practice pertaining to the service or rates of any such public utility or common carrier, without the consent of the commission, and within thirty days after such changes have been authorized by said Public Utilities Commission, then copies of all tariffs, schedules and classifications and all rules and regulations, shall be filed in every station, office, or depot of every such public utility and every common carrier in this state, for public inspection."

If the rights of these rural telephone lines are being infringed upon, those interested should by all means make their complaints at once to the Public Utilities Commission, Topeka.

A bill has just passed the house which will make some changes in the law in case it passes the senate and becomes a law. This bill permits telephone companies and other utilities, with some few exceptions, to raise rates and make other changes and regulations by filing with the commission their intention and publishing in an official paper the proposed changes. If those affected make objections these are taken into consideration by the commission in acting on the case. The general tendency of the bill seems to be to restrict the powers of the commission and some of the farmer members of the house voted against it, believing that it was not to the best interest of their constituents.

Pruning and Spraying Pays

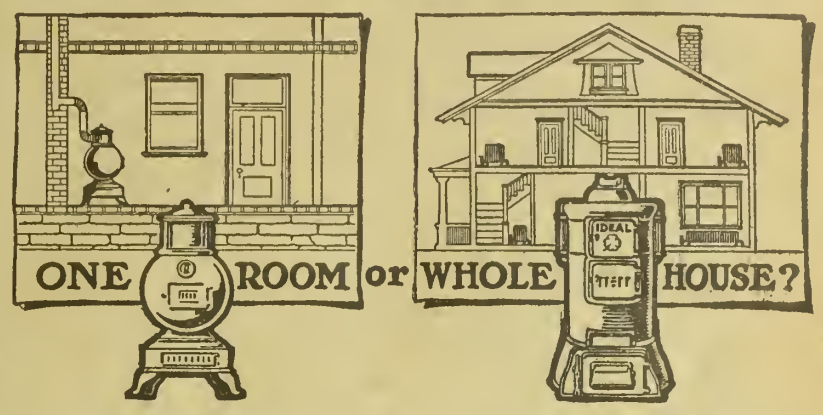
Does orchard pruning and spraying pay? The answer is found in the results of co-operative experiments conducted in forty Missouri orchards. These experiments extended over a period of three years. They show, first, that a neglected orchard is about the most unprofitable thing on the farm; second, that the best managed orchards in Missouri are producing more profit per acre than any other farm crop.

The average returns per acre of these forty orchards during the last three years has been as follows: Properly pruned and sprayed trees, total received, $176 per acre; net profit, $143 per acre. Untreated areas, total received, $18 per acre; net profit, nothing.

In order to obtain records of the results part of each orchard was allowed to remain in its previous condition—not pruned and not sprayed. The experiments, in view of the results obtained, show conclusively the advantages of doing the right kind of orchard work.

A well worked out spraying system in the apple orchard, if thorough applications are made, will practically insure a clean crop of fruit when unsprayed orchards produce almost no marketable fruit. This applies to the small home orchard the same as to the large commercial orchard. We must spray and otherwise combat the insects and diseases of the orchard if we are to expect any returns. The day has passed when an orchard will take care of itself and produce crops of fruit free from worms and disease.

Do you want to heat—



You have fussed and shivered long enough—trying to heat your house with old fashioned methods which yield little comfort with great labor and many disappointments. Why not make your whole house just like June, even in below-zero weather? An IDEAL heating outfit will do this for you and will last as long as the building stands and never need repair or overhauling.

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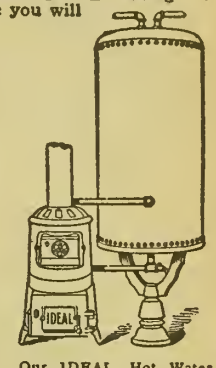

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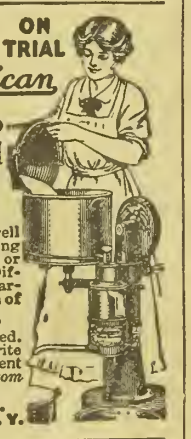

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Ayrshire Now Record Kansas Cow

ONE of the best Ayrshire herds in the country has been developed at the Kansas Agricultural College. A new dairy cow record for Kansas has just been completed by a cow of this herd. Canary Bell completed her year's work January 17, 1917, and produced during the year 17,406.4 pounds of milk containing 668.16 pounds of butter fat, which is equivalent to 786 pounds of average butter. This is the second highest record ever made in Kansas. Maid Henry, a Holstein cow, made the highest record when she produced 19,600 pounds of milk and 837 pounds of butter as a thirteen-year-old. Maid Henry is dead and therefore Canary Bell holds the highest record in the state for a living cow.

Last year Canary Bell produced six times as much butter as is produced by the average Kansas cow. The cow was purchased from Sam Jones of Wisconsin when she was six months old. She is now eight years old and consequently has been raised and developed by the agricultural college.

This record does not come as a surprise because Canary Bell has always been a good producer. Last year she produced 651 pounds of butter and with her first calf she produced 436 pounds. Her total production for life to date amounts to 63,903.6 pounds of milk and 2,801 pounds of butter, or an average of 560 pounds a year for the five years. In addition to this production of milk and butter, Canary Bell has produced three bull calves and two heifers.

Melrose Canary Bell, a two-year-old daughter of Canary Bell, also finished a splendid record last month. She produced 13,891.1 pounds of milk and 505.5 pounds of butter fat, equivalent to 589 pounds of butter. Melrose Canary Bell now holds third place in production among two-year-old Ayrshire heifers of the world. She was born and raised on the college farm and is sired by the senior Ayrshire herd bull, Melrose Good Gift. Melrose Canary Bell produced 131 pounds more butter fat than her mother did at the same age.

Another two-year-old Ayrshire heifer sired by Melrose Good Gift has just finished a record of 12,588.8 pounds of milk and 484 pounds of butter fat, equivalent to 566 pounds of butter. This heifer ranks seventh among the two-year-old Ayrshire heifers of the world.

The Ayrshire herd of the Kansas college has gained quite a reputation outside of the state. Prof. O. E. Reed tells us that the state universities of Missouri, Indiana and Minnesota have purchased Ayrshire bulls here to place at the head of their Ayrshire herds.

At the annual meeting of the Kansas Ayrshire Breeders' Association held on February 6, the following officers were elected: L. E. Johnson, Waldron, Kansas, president; H. H. Hoffman, Abilene, Kansas, vice-president; James W. Linn, Manhattan, Kansas, secretary-treasurer; and Drs. F. S. Schoenleber and E. E. Kubin, fourth and fifth members of the executive committee. Professors O. E. Reed and J. B. Fitch were elected to honorary membership in the association.

Champion Butter Blood

Breeders of Jersey cattle may well be proud of the records that have been made by such cows as Pogis Irene 2d 146435, and her even more famous daughter, Jacoba Irene 146443. Both of these cows hold world records for butter fat production. Pogis Irene 2d is a conspicuous example of the cow that continues her capacity for high production for cows over fifteen years of age. The last was 694 pounds 10 ounces of butter, the year's record ending when she was eighteen years and eleven months old. She will be twenty-one years old, May 28, 1917, and is still breeding and producing milk.

When this famous cow freshened the first time at the age of twenty-two months, the heifer calf she dropped was named Jacoba Irene. This heifer held for eight years the world's official record for a year's production — 1,126 pounds 6 ounces butter, and 17,253 pounds of milk. She made a 37-months' consecutive record of 2,755 pounds of butter, producing during that time three living calves, and a 25-months' consecutive record of 2,053.2 pounds butter and two living calves, the world's greatest official record. Many breeders claim that a young heifer's first calf is of little value, but this remarkable cow was dropped when her dam was only twenty-two months old.

Jacoba Irene was a handsome cow, scoring 94¾ by the official judges of the National Dairy Show. She has also made good in transmitting to her offspring high production. She is the dam of two sons, one of which—Irene's King Pogis—is the sire of twenty-nine cows with official year's records averaging 509 pounds of butter, the highest being 893. The average age of these daughters at the time the records were made was three years six months. This is a record which we believe is not equaled by any American-bred bull with daughters as young. Three daughters of this bull now on test bid fair to average 800 to 900 pounds of butter for the year's work. When his heifers are tested as mature



CANARY BELLE, EIGHT-YEAR-OLD AYRSHIRE COW.—TOTAL PRODUCTION TO DATE, 63,903.6 POUNDS OF MILK AND 2,801 POUNDS OF BUTTER.—THE MOTHER OF THREE BULL CALVES AND TWO HEIFER CALVES

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cows, the records will all without doubt be considerably raised.

Jacoba Irene's Premier, the other son, is just starting on his career. His first heifer to be tested qualified with a record of 406 pounds 13 ounces of butter in a year.

Three of Jacoba Irene's daughters have made remarkable records, and four of her granddaughters have higher records at an average age of six years and seven months than ever reached by any other cow of equal age. Jacoba's Loretta, now coming eight years of age, has produced 3,321 pounds of butter and five living calves to date. Jacoba's Mona and Jacoba's Corinne at the age of six and a half years have produced five living calves each, and 2,316 and 2,428 pounds of butter, respectively. Jacoba's H. L. K. Devila at the age of six years and five months had produced 2,203 pounds of butter, four living calves, and a fifth calf is due in about three months.

It is evident that the outstanding characteristics of Jacoba Irene are being transmitted to both her sons and daughters. Every breeder has observed how a single individual often becomes the founder of a strain or family.

Itinerary of Lecture Train

The Santa Fe dairy and poultry demonstration and lecture train will make its first stop at Sedgwick, Kansas, at 8:20 a. m., March 6. The complete itinerary of the train for the first eleven days is given below:

Tuesday, March 6—Sedgwick, 8:20 to 10.15 a. m.; Newton, 10:45 a. m. to 12:35 p. m.; Halstead, 12:55 to 2:40 p. m.; Burrton, 3 to 4:45 p. m.

Wednesday, March 7—Hutchinson, 8:30 to 10:15 a. m.; Darlow, 10:30 a. m. to 12 m.; Pretty Prairie, 12:25 to 1:55 p. m.; Kingman, 2:20 to 4:05 p. m.; Carvel, 4:25 to 5:55 p. m.

Thursday, March 8—Norwich, 8:30 to 10.15 a. m.; Viola, 10:40 a. m. to 12:10 p. m.; Peck, 12:40 to 2:10 p. m.; Goddard, 3:25 to 4:55 p. m.; Cheney, 5:20 to 6:50 p. m.

Friday, March 9—Mulvane, 8:30 to 10:30 a. m.; Udall, 10:50 a. m. to 12:20 p. m.; Oxford, 1:05 to 2:45 p. m.; Wellington, 3:20 to 5:20 p. m.

Saturday, March 10—Anthony, 8:30 to 10:15 a. m.; Harper, 10:40 a. m. to 12:10 p. m.; Danville, 12:35 to 2:05 p. m.; Argonia, 2:20 to 3:50 p. m.; Mayfield, 4:15 to 5:45 p. m.

Monday, March 12—Arkansas City, 8:30 to 10:05 a. m.; Winfield, 10:35 a. m. to 12:10 p. m.; Burden, 12:55 to 2:25 p. m.; Grand Summit, 2:55 to 4:25 p. m.; Moline, 4:55 to 6:15 p. m.

Tuesday, March 13—Severy, 8:30 to 10:15 a. m.; Eureka, 11 a. m. to 12:45 p. m.; Hamilton, 1:25 to 3 p. m.; Madison, 3:30 to 5:15 p. m.

Wednesday, March 14—Toronto, 8:25 to 10:15 a. m.; Fredonia, 11 a. m. to 12:45 p. m.; Longton, 1:25 to 3:10 p. m.; Elk City, 3:35 to 5:20 p. m.

Thursday, March 15—Benedict, 8:25 to 10:15 a. m.; Erie, 12 m. to 1:30 p. m.; Walnut, 1:50 to 3:20 p. m.; Girard, 3:50 to 5:35 p. m.

Friday, March 16—Thayer, 8:30 to 10.10 a. m.; Chanute, 10:45 a. m. to 12:30 p. m.; Humboldt, 1 to 2:30 p. m.; Iola, 2:45 to 4:15 p. m.; Colony, 4:35 to 6:05 p. m.

Saturday, March 17—Yates Center, 8:30 to 10:15 a. m.; Neosho Falls, 11 a. m. to 12:45 p. m.; Garnett, 2 to 3:45 p. m.; Richmond, 4:05 to 5:50 p. m.

Cow Test Report

The number of cows in the Dickinson County Cow Testing Association producing more than forty pounds of butter in a month is becoming so large that we are here printing the records of only those making forty-five pounds of butter or over in one month.

The increase in production is evidence of the value of cow testing work. The standard of production among the herds of the members is becoming higher each year.

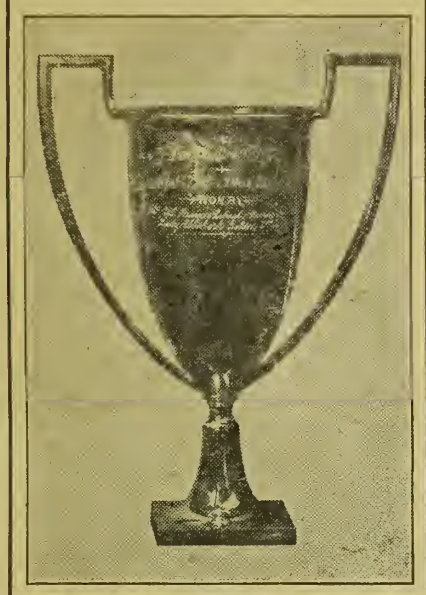
The following is a record of the cows reaching the forty-five-pound mark for the month ending November 30, 1916:

Owner—	Pounds Milk	Per Cent of Fat	Pounds Butter 80% Fat
Smeltz & Gish, H.	960	3.8	45.6
Ira Zercher, H.	1,605	3.2	61.7
Hoffman Bros., H.	1,086	3.5	47.5
Hoffman Bros., H.	873	4.8	52.4
Hoffman Bros., H.	846	4.6	49.9
George Lenhert, H.	1,089	3.7	50.4
Harry Engle, H.	990	4.1	50.7
Harry Engle, H.	1,074	3.7	49.6
Harry Engle, H.	1,185	5.0	74.1
Harry Engle, H.	1,191	3.5	52.1
D. S. Engle & Son, H.	936	4.3	50.3
D. S. Engle & Son, H.	1,050	4.2	55.1
D. S. Engle & Son, H.	1,041	3.6	46.9
D. S. Engle & Son, H.	1,251	4.0	62.5
D. S. Engle & Son, H.	1,110	3.3	45.8
A. B. Wilcox, H.	1,116	4.1	57.3
A. B. Wilcox, H.	1,566	4.0	78.3
J. A. Engle, H.	1,071	3.9	52.3
E. S. Engle & Son, H.	1,365	3.4	59.7
E. S. Engle & Son, H.	1,530	3.5	67.0
E. S. Engle & Son, H.	1,644	4.2	86.2
E. S. Engle & Son, H.	1,038	3.5	45.4
J. R. Collins, H.	1,113	3.4	47.3
J. R. Collins, H.	867	4.4	47.6

The following is the record for the month ending December 30, 1916:

Hoffman Bros., H.	927	4.7	54.5
H. S. Engle, H.	1,215	3.1	47.1
H. S. Engle, H.	1,014	4.2	53.3
H. S. Engle, H.	1,026	3.8	48.8
H. S. Engle, H.	597	6.1	45.5
H. S. Engle, H.	1,176	4.2	61.8
H. S. Engle, H.	1,182	4.3	63.5
D. S. Engle & Son, H.	1,095	3.4	46.5
J. A. Engle, H.	1,257	3.1	48.8
J. A. Engle, H.	1,452	3.0	54.5
J. A. Engle, H.	948	3.8	45.0
J. A. Engle, H.	1,263	3.1	49.0
J. A. Engle, H.	1,080	3.9	52.6
A. B. Wilcox, H.	1,062	4.1	54.4
A. B. Wilcox, H.	1,164	4.5	65.5
A. B. Wilcox, H.	1,437	3.3	71.8
A. B. Wilcox, H.	1,920	3.9	93.6
A. B. Wilcox, H.	1,395	4.6	80.3
A. L. Eshelman, H.	753	4.8	45.1
E. S. Engle & Son, H.	1,461	3.2	58.5
E. S. Engle & Son, H.	1,629	4.0	81.5
E. S. Engle & Son, H.	1,629	3.7	75.3
George Lenhert, H.	1,488	3.8	70.6
George Lenhert, H.	1,230	4.2	64.6
George Lenhert, H.	1,281	3.5	56.0
George Lenhert, H.	1,653	3.0	62.0
George Lenhert, H.	1,434	3.3	59.1
George Lenhert, H.	1,044	3.5	45.6
George Lenhert, H.	1,080	3.6	48.6
Smeltz & Gish, H.	1,272	3.6	57.3
Almah Smith, H.	1,050	4.1	53.9
Almah Smith, H.	960	4.9	58.8
Almah Smith, H.	1,047	4.4	57.6
J. A. Welshar, H.	1,161	3.4	49.4
J. A. Welshar, H.	1,104	3.3	45.5
Hoffman Bros., H.	1,035	4.2	54.4
Hoffman Bros., H.	951	4.1	48.8
Hoffman Bros., H.	1,011	3.8	48.0

For several years a three-day butter fat test has been held in connection with the Topeka Fair. This competition is open to both pure-bred and grade cows and the awards are placed on a basis of butter fat production. In 1916 there were fifteen $10 prizes offered—$150—



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besides this special KANSAS FARMER prize.

In 1916 the winning cow was Lady Abbekerb Golden 2d, a four-year-old registered Holstein owned by the Federal Indian School at Genoa, Nebraska. Her record for the seventy-two hours was 111.6 pounds milk, testing 4.75 per cent, or a total of 5.29 pounds of butter fat.

Time to Prune Fruit Trees

February and March are the best months in which to prune fruit trees, because the wounds are then exposed to the elements but a short time before they begin to heal.

The pruning saw which is found now in the best orchards is one made especially for the pruning of trees. It has an arched frame similar to that of a meat saw. The blade is narrow, about fourteen inches long as a rule, and will turn at any angle. This swivel action will allow the operator to cut in any direction, irrespective of the position of the frame, and he can thus get the blade into tight crotches and make a smooth clean cut that does not leave a stub. Owing to the narrowness of the blade, there is little friction and therefore the saw will cut easily and quickly. The saw is not expensive. It will repay its price many times, not only by doing better work than any other saw, but also by saving time. It is a good plan, too, to have a regular carpenter's saw for use in cutting large limbs that are four or more inches in diameter.

Next to a good saw, a person should have a pair of hand pruning shears. These should be strong and otherwise of good quality, as poor shears give no length of service and are likely to do poor work.

The average farmstead can well afford a good planting of evergreen trees, both for shelter purposes and for landscape effect. If properly planted and cultivated they will soon make good shelter and greatly add to the comfort and satisfaction of the farm home.


More and Better Corn


Moline Four-Wheel Planter

has gained the favor of farmers throughout the corn belt, because it always increases the yield per acre where other conditions are right.

Has a reliable drop—no bunching or scattering.

Deposits every kernel at uniform depth. Four wheels cover the seed evenly and pack the moist earth around it leaving the top of the ridge open and loose to insure quick germination.

Operator has clear view of the work at all times.

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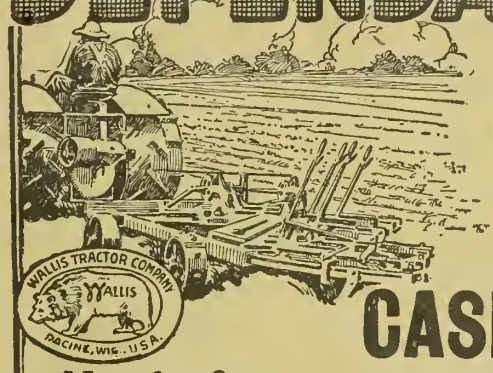

Not the first year — nor the second year, but many years service determine the ultimate economy of a tractor or farm implement. Long, dependable, economical service is "built in" Wallis Tractors and Case Plows.

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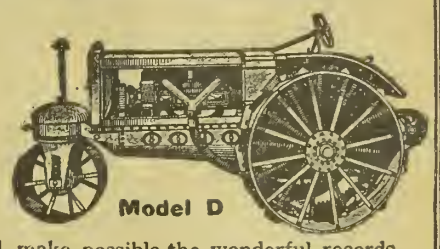
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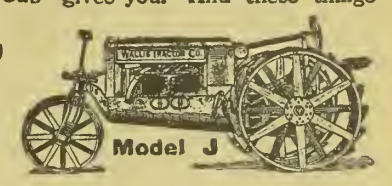
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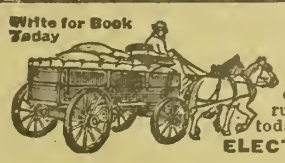

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Enthusiastic Meeting of Hogmen

THIS year's meeting of the Kansas Swine Breeders' Association was pronounced by all as the best swine breeders' meeting ever held in Kansas and was considered one of the best association meetings of the Farm and Home Week. It was held on February 6.

At this meeting Prof. C. M. Vestal, who has charge of the nitrition work with hogs at the Kansas Experiment Station, gave a short summary of the experimental work with self-feeders. The results will soon appear in bulletin form. Senator F. B. Caldwell, of Howard, Kansas, gave a very interesting paper on "The Business of Selling Pure-bred Swine." Mr. Caldwell brought out the importance of having the buildings, lots, and surroundings as well as the hogs in the very best condition. Prof. E. N. Wentworth gave a talk on "Inheritance of Size of Litter in Swine." Prof. J. M. Evvard, associate chief in the animal husbandry department of the Iowa State College, Ames, Iowa, gave the principal talk on the subject, "Feeding the Pure-bred Pig." His talk was very instructive and brought out very forcibly the importance of feeding some protein supplement to brood sows before farrowing. He showed some figures obtained at the Iowa station where sows were fed alfalfa, tankage, and other protein feeds in connection with corn, with the result that the litters were larger, the pigs heavier and stronger, and the cost of the ration less than where corn alone was fed. He also took up the matter of the self-feeder for fattening hogs, and showed that by the use of the self-feeder or free choice system of feeding, hogs put on gain faster and with less grain than where fed by hand.

He also brought out the fact that brood sows could be successfully fed by the self-feeder if enough ground alfalfa hay was mixed with the ration to make it bulky so the brood sows would not get too much corn.

We gave in our issue of February 17 the names of the new officers of this association. The secretary, Carl P. Thompson, who is connected with the extension department of the agricultural college, expects to do considerable work for the members of the Kansas Swine Breeders' Association during the coming year, and would be glad to receive any information that the members can give. Every breeder of swine in Kansas is urged to send 50 cents for membership to the secretary-treasurer and help make the Kansas Swine Breeders' Association the largest and best breeders' association in the state.

Pigs That Pay

We have all been doing about the same thing in the hog business. We have been selling the tried brood sow because of her great value on the market. Now we are breeding a bunch of gilts. A litter of pigs from an old sow is worth much more than a litter from a gilt. They are stronger and there are generally more of them. A strong pig has a good possibility of developing into a growthy, profitable hog. A weak pig is a hard proposition. They frequently develop into runts which are an abomination to the hog man. We must calculate on having a bunch of weak pigs coming this spring. Besides this, we are about 20 per cent short on brood sows. We cannot possibly have as many pigs, and they are not likely to be as strong. Besides this, we are marketing our hogs while still under size.

If all of the above statements are true, we estimate that we will be short about one-third on pork supply the coming year. Then how about the demand? Greater than ever before. Some are glad that they haven't many hogs because corn is so high. But pork is high, too. Hogs sold in Kansas City last week for $13 a hundred.

It would bankrupt any one to raise hogs on corn alone, though the price of pork is high, but there is a way out. It is Nature's path, the pasture route. It does not cost much more to raise alfalfa and Bermuda and rape than it did when corn sold for 25 cents a bushel. On this farm we never would think of raising hogs without alfalfa. We never pasture alfalfa, however, as hogs will kill it. We cut it for the hogs and feed it to them in racks either green or as hay. They will eat it in any form. They will not eat all of it, nor do they have to do so to make it profitable. We want to think we could not raise alfalfa on our upland prairie soil, but we find that we can; not as much per acre, but of a better quality for hogs.

It is not best to raise hogs in a close pen, though they might be supplied with alfalfa in the rack. Hogs want to move about and be in the open field upon soil more recently turned. It's their nature to root, so give them the opportunity.

We need a pasture grass and for this section we have it in the big Bermuda grass. It can not be killed by the rooting or tramping or grazing of the hogs. It never gets too hot nor too dry nor too wet for Bermuda. It will graze from twenty to fifty hogs per acre, depending upon the size of the hogs and the fertility of the soil and the humidity. It will last for a generation. It is the nearest to a perfectly balanced ration of any of the grasses.

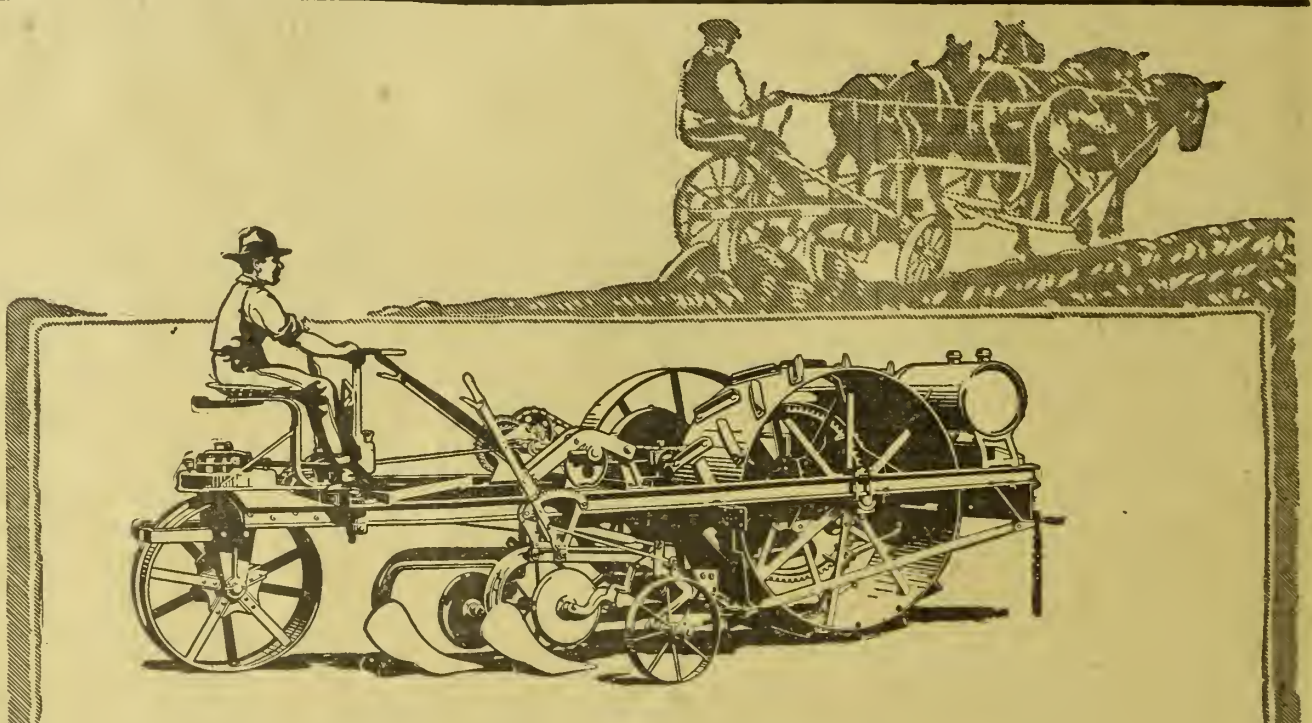
We plow our Bermuda hog pasture every February. Upon the sod we sow two bushels of oats and five pounds of rape per acre. The oats will pasture the hogs until in June. Upon the Bermuda and rape they will graze until freezing weather. Bermuda grows better for being plowed. This thirty-acre hog pasture was on our poorest land, but it is becoming our best. From it we receive our best returns.

A pig grazed upon Bermuda has stamina. He develops into a big-boned well-muscled hog. When he is big enough in frame and strong enough inside to digest all the corn he can eat, we open the gate and he walks into the fattening pen. Here he finds a self feeder filled with corn. The hog fills himself as he empties the feeder. We keep filling the feeder so the hog never gets empty. When he is well filled with corn we fill the tankage self feeder and he eats some tankage and then gets a drink, eats some more corn and gets another drink. Then he sleeps, dreaming angel-haunted dreams, as he is in hog paradise. He will eat every few hours and eat slowly, thoroughly masticating his corn, as he has learned that there is plenty, and while he is making a hog of himself, it is not necessary that he should be piggish about it. This is Nature's way and these are the pigs that pay.—"BERMUDA" MITCHELL, Chandler, Okla.

There are few farm operations that pay better in proportion to the time required than does the testing of seed grain. A few hours spent now in testing the germination of seed to be planted may mean the difference between a 20 per cent crop and a 90 per cent crop. For even a much less difference than this, it pays to test the seed to be planted.

Co-Operate in Selling Horses

About a year ago Dr. C. W. McCampbell, secretary of the Live Stock Registry Board, suggested that a Kansas Percheron breeders' consignment sale be held in Manhattan during Farm and Home Week. He felt that such a sale would offer the small breeder an opportunity to sell his surplus Percherons at



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Then consider the work—6 to 8 acres in an average ten hour day can be plowed with our "8-16"—clean, even plowing at the right depth. With the Advance-Rumely you can back up with your plows, make short turns and cut square corners.

But a tractor must do more than plow to make a profit for you. The Advance-Rumely will handle your draw bar jobs—discs, drills, binder, etc., also your belt work, silo filler, sheller, small separator, with a reliable, steady, economical power. The removing of two pins detaches the plows for other jobs than plowing.

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Santa Fe Land Improvement Co.,
1802 Santa Fe Bldg., Topeka, Kansas.

A windbreak will stop a lot of snow which largely soaks into the ground when it melts. This makes a good place for a garden and for small fruit. The roots from the trees will extend out to a distance at least equal to the heights of the trees, which means that the strip next the trees will not be good for most crops. But beyond this strip there will be four or five rods in width and in many cases more which will have a better moisture supply than if there were no trees. The windbreak will also protect whatever is grown in this belt. This protection enables crops to grow better and especially vegetables and fruits. If your garden does not have a windbreak, plan to set one this spring. Red cedar or Chinese arbor vitae are good varieties to plant.

There are so few cockerels for sale this spring that breeders are asking much higher prices than usual. It has cost considerable more to winter birds on the high-priced grains. Many breeders are going to find it extremely difficult to get cockerels for the utility flock.

better prices than he could otherwise command. This suggestion appealed to a number of Kansas breeders and eighteen of them consigned forty-two head of Percherons to the Kansas Percheron breeders' sale held at the college pavilion on February 9. The fact that these horses, including the weanlings, sold for an average of $503.16, proves the value and advantage of such sales. It was demonstrated in this sale that there is a keen demand for good, sound, useful Percherons, and that the small breeder can raise just as good Percherons as the larger breeder.

When brought together in numbers sufficient to attract as many buyers as attend the larger breeders' sales, the small breeder's Percherons sell for just as much money as those of the large breeder.

In any sale a horse must be fat to sell to the best advantage. Several fat and well fitted horses sold for more in this sale than others that were better but in poorer condition.

Such a sale is a great advertisement for the consignor. Nearly every consignor took buyers home and made additional sales.

Another Kansas Percheron breeders' consignment sale will be held next year during Farm and Home Week the afternoon following the meeting of the Kansas Horse Breeders' Association. Entries for this sale must close at least two months before the date of the sale in order to properly catalog and advertise the horses consigned. All Percherons offered for this sale will be inspected by a representative of the horse breeders' association and only good, useful, sound Percherons will be accepted.

Stallions from one to four years of age, and mares from two to six years of age that have been bred early sell best at public auction. If you contemplate entering Percherons in next year's sale, select them now and feed and grow them to the limit for the next twelve months. It will pay you to bring them to the sale as big and fat as possible.

No charge is made for the use of the barns and pavilion or for personal services in planning and conducting this sale.

Putting Down Wells

In the shallow water districts a battery of wells is used almost exclusively as a water supply. These wells are ordinarily located at right angles to the general direction of the valley and are placed about forty feet apart. The large open well which was attempted in the early days of irrigation experiments is now entirely abandoned and the 15-inch casing and strainer is used in the water-bearing stratum and the well pit is made three feet in diameter. The more modern plants have the well pits lined with concrete blocks. A battery of three to twelve wells is most often used. These are connected to a common suction line and pumped with a centrifugal pump located in a central pumping pit.

The 15-inch casings are usually located in the first and second water-bearing strata. These casings are settled through the water-bearing material by the sand bucketing method. In the deep well districts the hydraulic process is still used for sinking the 24-inch deep-well casings and strainers. This is an expensive method of construction but at present represents the most practical type of well for deep-well installations.

In the neighborhood of Scott City some very promising wells have been constructed by excavating the well pits down to the water-bearing material and then sinking the casings into the gravel by the sand bucketing method. In other words the battery of wells is being used to some extent where the depth to water is over fifty feet.

The demand for pure-bred beef cattle far exceeds the supply. This is true of all the beef breeds. It is a most encouraging condition, for live stock farming is essential to the building up of run-down land. We note that the registrations and membership enrollments in the Angus Association have increased over 50 per cent since the International Live Stock Show. Angus breeders are especially proud of the fact that this breed just recently won grand championship honors as feeders at the Western Stock Show held at Denver. The load of cattle winning this prize sold at $14.50 a hundred. They went to Iowa, where they will be fitted for the 1917 International.

Test all field and garden seed now. It doesn't pay to plant dead seed. It costs little to make tests.



"Read this little story. It was my turning point as a manufacturer of cream separators."—Wm. Galloway.

I MET HIM ON THIS VERY SHIP!

It was within an hour of sailing time. I was on my way home from Europe five years ago. The Mauretania lay beside her Liverpool wharf. Everybody was hurrying to get on, as we were to sail at five o'clock. Suddenly, without warning—without a propeller turning—she commenced to pull away from her moorings. The gang planks creaked—broke loose—and there was quite a commotion as the mighty Mauretania tore loose from her moorings and floated out into the water. In the excitement I met a man who was leaning over the rail who looked at me and we laughed together. Then we just naturally got acquainted like people do when they are traveling. He was J. J. Berrigan of Orange, New Jersey, the famous cream separator expert and inventor. I had never seen him before but I had heard of him. I told him I was from Waterloo, Iowa, and he said, "You are Galloway." I soon found out he was the great cream separator expert and a man I was glad to meet. Naturally

WE BECAME WELL ACQUAINTED

He told me what he had done in perfecting cream separator patents and improvements. I told him he was just the man I was glad to get acquainted with. After the Mauretania had been lashed to her wharf again, the excitement was over, and we pulled out of Liverpool several hours late—Berrigan and I began to talk cream separator, and every day after that we spent several hours together visiting. I told Mr. Berrigan that we were perfecting what I thought was the best cream separator ever produced, and I also told him if he would come to Waterloo and put on the finishing touches, go over the separator, test it, criticize it, find fault with it wherever he could, and suggest any possible improvements, I would pay him well for his time. In a few days after we landed in New York he did come to Waterloo. He said our separator was one of the finest designs he had ever seen, and with the few recommendations which he made, he pronounced it O. K.—good as the best—and better than many of the separators on the market today. Our engineers, designers and separator builders had produced a machine with graceful lines, simplicity of construction, combined all the good features and left out all the faults. Mr. Berrigan commended us on the work and immediately put his stamp of approval upon this machine. That's why I say

WE PERFECTED THIS SEPARATOR

before we offered it on the market. We put out in the hands of farmers and dairymen enough of these separators to know that they would stand up under any test, whether operated and used in the kitchen, the milk house, the creamery or elsewhere, used two or more times per day, every day, week after week, month after month. **I just want you to try it.** If you like it, buy it. If you don't, send it back. **We pay freight both ways.** If the New Galloway Sanitary Separator is as good as I say it is you can't afford to buy any other kind. If it is not as good as I say it is, I could not afford to make this **ninety day trial** offer and I could not afford to guarantee it for **ten years.**

Get My New Low Prices

AND READ MY 1917 BOOK ABOUT CREAM SEPARATORS

It tells of how we took four years to design and perfect this separator, to build into it every good cream separator feature and retain its beautiful proportions. How we did not build it down to a price, but built it up to a high standard in our own factories right here in Waterloo. It tells how we build Galloway Sanitary Separators from the ground up. How they are designed and many other separator secrets and facts. A meaty, exact, concise, truthful book about cream separators, gasoline engines, manure spreaders, tractors and other implements we manufacture. Why, by selling direct, I can make a machine as good or better than any high priced separator sold through other systems. These are a few of the reasons why I want you to get this book. It tells the whole story. It tells the truth. It tells the facts. Ask for it today. A postal gets it. Don't delay. A reading will save you dollars in buying.



Indisputable Proof!

Have operated several different kinds of separators. Galloway Sanitary skims as close and runs lighter than any. J. E. Ricketts, Paddensburg, Mo.

We know it skims close. It paid for itself. Wm. S. Brower, Farnum, Idaho. It is easier running and more easily cleaned than others. We made a saving of $23. I wouldn't exchange it for any high priced separator. E. F. Louthan, Carthage, Mo. Your No. 9 separates perfectly at rate of 800 lbs. per hour. (Only guaranteed for 750 lbs.) S. S. Brockway, Greenville, Pa.

Try a Galloway Sanitary Cream Separator In Your Dairy for Ninety Days.

Stand it side by side with cheaper machines and you will see the difference in material and workmanship, design and skimming qualities. Stand it beside the highest priced machines, test them together for months! Higher priced machines will not run any easier or skim any closer and cannot be more perfectly sanitary or better built. We want you to be the judge—we will take your decision as final. Separators shipped from Waterloo, Council Bluffs, Kansas City, St. Paul, or Chicago, whichever is nearest to you.

Note these few strong, simple, sanitary parts. Easy to wash clean—no rough edges—no sharp corners. Bowl catches any foreign matter in the milk. Only two shafts in the whole gearing—both of high-carbon steel, in long, perfectly fitted bearings. All gear shaft and both bowl spindle bearings supported by one casting—the gear case. All the working parts run spray of oil. Simple, effective driving clutch on crank shaft.

4 Good Sizes From 375 to 950 lbs. Capacity per Hr.

Wm. Galloway, President
WM. GALLOWAY, COMPANY
213 Galloway Station, WATERLOO, IOWA

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Seed Corn Prize Winner at Ames College exhibit, also first on largest yield per acre with 139 and 116 bu. to acre. Every ear tested before shipped. Also choice lot of famous Ames College 103 Oats, Alfalfa, Rape, Millet, Clover and other farm seeds.

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That's what they call me because on my farms I raise only the finest quality farm seeds. Try my kind. Raise bumper crops. Write for my Free Catalog before you buy. It's different—makes seed buying safe. No disappointments. Write

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420 McKinley St., Jefferson, Iowa

There are scores of fruit-bearing ornamentals that can be planted. Many of these are not only ornamental, but furnish quantities of food for birds. Plant more of these in thickets about the home.

FREE ENGINE BOOK

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Save Half 2, 3, 4, 6, 8, 12, 16 and 22 H-P. Sizes.

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Kills Prairie Dogs, Ground Squirrels, G. Hogs, Pocket Gophers. Saves alfalfa. Experimental stations approve. 1400 tablets, P. P. $1.25. Warranted. Mole Tablets, 75c. Ask Druggist or send direct.

Booklet Free. Ft. Dodge Chem. Co., Ft. Dodge, Ia.

If on the market for pure-bred stock, read KANSAS FARMER live stock advertisements. You will find what you want.

Biggest Hatches Strongest Chicks

That's what you will get with my Hatching Outfit—and I can prove it.

Order direct from this advertisement—test the machines 90 days. Then if you are not thoroughly satisfied, I will order them back and refund your money. If you keep them—as you surely will—I guarantee them for 10 years more. Over 524,000 satisfied users, all bought on this plan. With this outfit you can make a big income — and



$8.55 Still Buys 140 Egg Size World's Champion Belle City Incubator

Double-walled—Hot-water—Copper Tank—Self-regulating—Thermometer Holder—Deep Nursery. The Prize Winning World's Champion Model with Paragon Fibre Board Construction that has led the field for 10 years—same as used by Uncle Sam—leading Agr'l Colleges—America's most Successful Poultry Raiseres. When ordered with my $4.85 Hot-water—Double-walled 140-chick Brooder both cost only $12.50.

Freight Prepaid East of Rockies Allowed that far to points beyond

Satisfaction Guaranteed

You can also share in my **$1,000 Cash Prizes** Conditions easy to get Biggest Prize. Start early—order now. With this wonderful hatching outfit and my complete guide book for setting up and operating, you are sure of success. And with it comes my Big Catalogue — "Hatching Facts", or I will send this book Free for the asking. Write me today. Jim Rohan, Pres.



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For Record Breaking Crops.

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FINEST YELLOW CORN

Matures in 95 to 100 days. Yields regularly 75 to **80 Bushels to the Acre** with good foliage. Does fine on upland or bottom land. We guarantee highest germinating power. Send for sample and information about Big Prize Contest.

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Demand for capable automobile and tractor men far exceeds the supply. Our graduates secure good paying positions as Salesmen, Demonstrators, Factory Testers, Garage Managers, Drivers and Tractor Experts.

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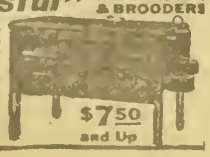
Twenty-three years leadership. Poultry lessons *free* to every buyer. Booklet, "How to Raise 48 out of 50 Chicks"—Catalog FREE. Make egg-making feed in "Grain Sprouters.



MO-RE INCUBATOR CO. Second St. Des Moines, Ia.



How Old Are Your Hens?

AT WHAT age should a hen be sold? In other words, how long will a hen be profitable? The general opinion among poultrymen is to sell all hens when two years old. On a plant where a thousand hens are kept, 500 are pullets and 500 one-year-old hens. This makes it necessary to reproduce one-half the flock each year. This is the most practical plan where hens are kept in large flocks for commercial purposes.

In numerous experiments it has been found that a hen lays a greater number of eggs in her pullet year than in any year following. If hens are forced for egg production in their pullet year, they are seldom profitable even the second season.

At the Kansas Agricultural College poultry farm where the hens are not forced but are given such care as any person can reasonably give his poultry, numerous hens have produced as many and in some instances more eggs in their second than in their first season. Especially is this true of the egg breeds such as the Leghorns. The heavier breeds are more prone to put on fat after their pullet year.

This matter of age in the farm flock is most commonly neglected. Nature has provided no means whereby the exact age of a hen can be told. There are no teeth to examine, no horns with their annual rings, or no gray hairs to give them away. There must be some artificial means of telling what year they were hatched. A very practical way to mark them is to punch a small hole in the web of the foot as soon as the chick is hatched. A punch for this purpose may be purchased for 25 cents. The first year punch a hole in the outer web of the left foot, the second year in the inner web of the left foot, and the fourth year in the outer web of the right foot. In this way if a hen is especially valuable for any reason, she may be kept for four years. If some such plan is followed, as soon as a hen is caught its age can be told. It is a wise plan to make a record in a book of the system of marking. If this is not done one is quite likely to forget which mark was for a certain year.

Ordinarily a hen must lay six dozen eggs to pay her board for a year. Very few of the general purpose breeds will lay more than this number after their second season. As most of the farm flocks are of these breeds, it will be readily seen that few hens will be profitable after this period.—N. L. H.

Eggs for Hatching

It is seldom necessary and never desirable to use eggs for hatching from all of the fowls on the farm. A sufficient number of the choicest fowls should be selected for use as breeders. The breeding fowls may be separated from the main flock two or three weeks before it is necessary to begin to save eggs for hatching. They should be housed in a temporary pen and yarded at one end of the regular poultry house or in portable colony houses and returned to the main flock as soon as the breeding season is over.

No matter how carefully the breeding stock has been selected, it will usually be found advisable to make a careful selection of the eggs to be incubated, basing the selection on their size, shape, color, condition of shell and uniformity. The first three of these characters are hereditary and a careful selection of eggs of good size, shape and color continued through several generations will result in greatly improving the average quality of the eggs produced by the flock.

Use of Incubators Increases

In a circular from the Colorado Experiment Station C. S. Anderson points out that the modern hatching of eggs is getting to be almost exclusively an incubator proposition. There are no large commercial poultry plants or specialized poultrymen conducting businesses of any consequence that are not using artificial incubation. The number of side-line poultrymen and farmers buying incubators is rapidly increasing. In fact, it is a question whether even the city poultryman, with a few hens in his back yard, can afford to be without one. To meet his need, there is the small electric-heated, fifty-egg capacity machine successfully operated in most any room in the house, or even on the back porch. Going to the other extreme, the mammoth commercial hatchery machine of 5,000 to 10,000 egg capacity is not uncommon.

Between these two extremes is the 250 to 300-egg machine, the kind best suited to the needs of the farmer-poultryman. The initial cost of a reliable machine of this size will vary between five and ten cents per egg capacity. To operate a 300-egg incubator for three weeks will cost approximately 75 cents for gas, oil, or electricity, and ought not to require more than ten minutes a day for attention. This represents the work of twenty hens for three weeks, and at least half that many hens for a six weeks' brooding period. If these hens were all kept at work during this time they would lay at least 500 eggs. Valued at only 15 cents a dozen, these eggs would amount to between six and seven dollars, and if sold for hatching, could easily bring $50.

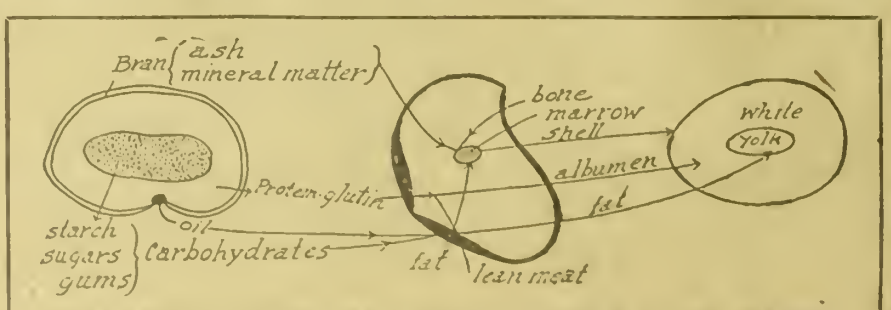
Looking at artificial incubation from this viewpoint, can you afford to be without a good dependable incubator?

Hints on Growing Geese

In a recent circular from the Washington Experiment Station some useful suggestions are given on the handling of geese. In this circular it is stated under favorable conditions geese are the easiest of all domestic fowls to handle. They do best and are grown at least cost when they can have good pasture.

Geese do not breed well if moved just prior to the breeding season. After a breeding flock is once established it can be maintained for several years without change. In mating, young geese generally pair. As the ganders grow older they will mate with from one to four or even five females. When once mated geese are generally faithful to their mates and if separated often refuse to mate again for a long time. After the fowls have been mated a large flock can be run together in one pasture, but an unmated gander or goose can make no end of trouble in the flock. While access to a large bathing pool or running stream is an aid to fertility, good results may be obtained without it.

Geese breed best on pasture with water accessible. They make valuable scavengers if turned into an orchard after the crop has been harvested. They not only destroy the insects and worms that would infest the next crop, but they turn to profit the leavings of fruit.



THIS DIAGRAM ILLUSTRATES THE MANY USES OF GRAIN IN BUILDING THE BODY OF THE FOWL AND MAKING THE EGG

20 New Improvements Positively Assure Record-Breaking Hatches



Five new 1917 improvements—20 exclusive X-Ray patented betterments in all. X-Ray Gas Arrestor—ingenious device that prevents lamp fumes entering egg chamber; X-Ray Nursery Tray, new feature that assures sanitation; protects little chicks; X-Ray Egg Tester, most perfect, handy tester ever conceived; New Handy Height; New 1917 Quick Cooling Egg Tray. All new, exclusive X-Ray features that make poultry success sure. And—nevertheless the price of the 1917



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has not been advanced a penny. Learn all the details of this marvelous hatcher. Express Prepaid to practically all points. Write for

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Go now, before Spring work begins, and visit the

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where the whole district is rapidly settling up with good farmers from the Northern states—where Winter is Springtime and the planting season is weeks ahead of the land of snow and ice. A trip now will open your eyes; it will show you the possibilities of a country where the climate is **with** you instead of **against** you.

Book FREE On More Acres for Less Money

Write today for this book, "*Where Soil and Climate Are Never Idle*", with information about low excursion rates from **your** town, and a map of Louisiana in full colors. A postal card will bring them all—MAIL IT.

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Nests won't cost you 1c. Your hens will pay for them in More Eggs

You will get 20 to 50 per cent more eggs with **KNUDSON Galvanized Steel Lice Proof Nests** These wonderful sanitary nests last a lifetime. Satisfaction—Unlimited Guarantee. The illustration shows our leader—6 Nest Set. Cost Less Than Wood Nests. Don't Wait. Make Big Money on Poultry. Write

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Digs post holes faster than the man behind can set posts, without hard back-breaking labor. Digs wells also.

The two interlocking sharp crucible steel blades easily cut through any soil.

DIGS QUICK AND EASY

and saves time and trouble. Don't be imposed upon. Refuse the poorly made, flimsy imitations. A poor tool is dear at any price. Reliable dealers sell the original, patented, "guaranteed Iwan" for only $2. It pays for itself in one day's work.

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Durable, Powerful, Reliable, Massive. Built to last; to do hard, heavy work. Uses Cheapest Fuels. Pull ¼ to ⅓ horse-power more than rated. ***3 Months Trial. Easy Terms.*** Sizes 1½ to 22 H-P. Easy to start. No Cranking. No batteries. **10 Year Guarantee.** Most practical engine ever built. Engine book free. A Postal brings it.

THE OTTAWA MANUFACTURING CO.,
561 King Street, OTTAWA, KANSAS

They require little grain if the pasture is abundant. If the pasture is short they should be fed mostly on cut clover, alfalfa, cabbages, raw beets, turnips, or potatoes, with some oats or barley and bran added. Corn is generally considered too fattening for breeding stock. Those breeders who recommend a mash use equal parts, by weight, of shorts and corn meal, with 10 per cent of beef scrap added and mixed with cold water to the consistency of a stiff dough. Grit should be freely provided as well as fresh drinking water.

Geese usually begin to lay in March and if not allowed to sit will lay from twenty to thirty eggs each. The first goslings should not be hatched until the grass begins to come in green. A hen will cover not more than five goose eggs, while the mother goose may hatch from twelve to fifteen. The period of incubation varies from twenty-eight to thirty-three days, but averages thirty days.

In hatching under hens three points should be noted:

Since the time for hatching is once and a half as long as for hen's eggs, only hens that are in good condition and kept free from lice and properly fed will stay on the nest long enough to bring off a good hatch.

Since the first goslings may appear as early as the twenty-eighth day and the last one not until the thirty-third or even the thirty-fifth day, it is a good plan to remove the goslings from the nest to a warm, flannel-lined basket as fast as they hatch or else the hen will become restless before the hatch is finished and leave the nest.

It is not wise to assist goslings from the shell. Let Nature take her own time but see that the eggs are kept moist.

In hatching in an incubator these points should be noted:

All non-fertile eggs should be tested out on the sixth day.

Goose eggs need more cooling than hens' eggs.

After the tenth day the eggs should be sprinkled daily with luke-warm water, and from the fifteenth to the twentieth day they should be dipped in luke-warm water for thirty seconds every other day and every day for the last ten days of the hatch.

Bring off the hatch at a temperature of from 105 to 106 degrees.

When cooling after the fifteenth day reduce the temperature to from 80 to 85 degrees.

Do not feed the goslings until forty-eight hours old, but give them tender, finely-cut grass and water. If with a hen, give her a box large enough so that the goslings can get out from under her and move about, and yet not large enough for them to wander off and get chilled. Their first feed should be rolled oats or stale bread slightly moistened with water. Some breeders recommend bran, corn bread, or chick food. In any case, tender grass or green shoots from oats or rye or barley cut very fine should form at least three-fourths of their ration. Over-feeding or lack of grass will cause leg-weakness and probably death. After goslings are a week or ten days old they may be safely turned out to live on good pasture, while fresh drinking water should be supplied at all times. Under no circumstances should goslings be allowed in the water before their breasts are fully feathered. When quite young they should be kept under cover on wet mornings and in case of rain, and green food should be liberally supplied. If rapid growth is desired for quick marketing, grain may be added to their ration. Goslings reach marketable age when twelve weeks old and if well-grown should average eleven pounds.

What is the best breed of poultry? "There ain't no sech thing." There is much more in the breeding than in the breed. As an illustration: In one pen of birds that have been trap-nested for the past two years there are two hens of the same breed. There has been no difference in the care or feed of these two individuals. One has laid 413 eggs. The other one has actually produced three eggs in the two years. The difference is in the breeding. With the one, every effort has been exerted to secure heavy egg production. The breeding for generations has been in this direction. With the other no attention was given to egg production. No amount of feed or care will secure eggs from a hen that has not been bred for egg production.

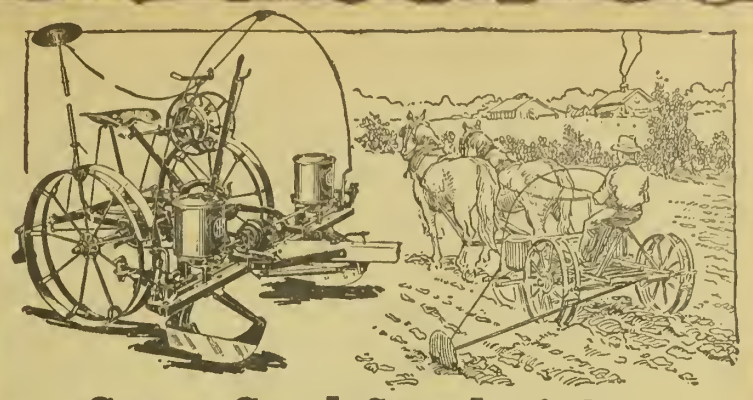
Under the federal regulations there is a closed season from February 1 to September 6, inclusive, each year throughout the United States on water fowl and other migratory game birds; the season for hunting is further restricted in various parts of the country to periods not exceeding three and one-half months. The open season on water fowl in the states of Ohio, Indiana, Illinois, Iowa, Nebraska, Kansas, and Missouri, is from September 16 to December 31, inclusive, and it is unlawful to hunt or kill water fowl in those states at any other time. Persons committing violations of the regulations may be prosecuted at any time within three years after an offense is committed.

Not many had the nerve to set the incubator with 30 and 40-cent eggs. This will make the crop of early broilers scarce. Will this have a tendency to cause the price of late-hatched chicks to be more attractive than usual?

At a public sale recently hens sold at $12 a dozen, or $1 each. This seems like a big price to pay for hens, yet it will only take a short time for a hen to lay a dollar's worth of eggs at the present prices. Most of us can remember when 25 cents was the usual price for a hen and we paid from 50 cents to a dollar for our breeding cockerels. "But then, times are not what they used to be."



INTERIOR OF LAYING HOUSE ON FARM WHERE HENS FILL THE EGG BASKET DURING THE WINTER



Get a Good Stand of Corn

TO get an even stand of corn—2, 3, or 4 sturdy stalks in each hill and no hills loafing through the summer—use an **International or C B & Q corn planter.**

They plant corn accurately whether used with edge drop, flat drop, or full hill drop plates; whether the corn is checked or drilled. The drop clutch can be changed, while the planter is working, to drop 2, 3, or 4 kernels to a hill. The tongue is easily adjustable to the height of the horses. A handy foot drop lever makes head row planting easy.

When you look over the **International or C B & Q** planter, don't miss the *automatic marker*, a handy feature that saves a lot of work and time. There are fertilizer attachments if you want them, combination pea and corn-planting hoppers, open wheels or closed—your planter will be equipped just as you want it. You can plant rows 28 to 44 inches wide by 2-inch adjustments, with four distances between hills.

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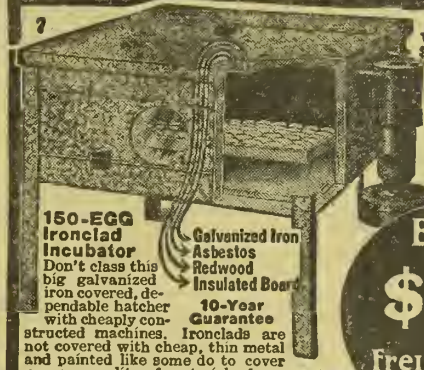

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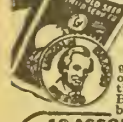

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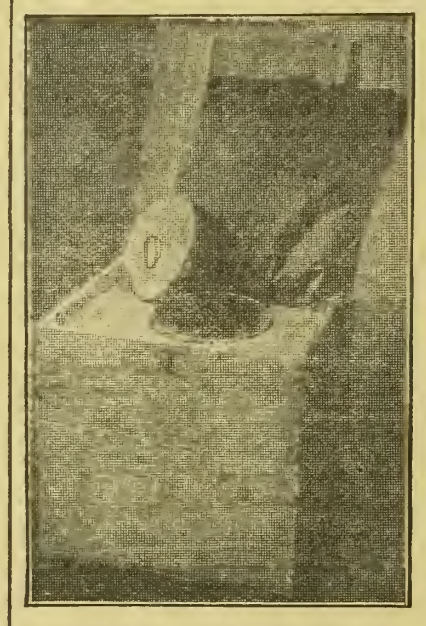
How to Use Fireless Cooker

A Continuation of Last Week's Article on the Home-Made Cooker

When different foods are cooked together in the fireless cooker they must be such as require the same amount of cooking, since the cooker cannot be opened to take out food without allowing the escape of a large amount of heat and making it necessary to reheat the contents. It would not do to put foods which need about one and one-half hours to cook, into the cooker with a piece of meat which would stay several hours.

Small quantities of food cannot be cooked satisfactorily in a large kettle in the fireless cooker. If a large kettle must be used, better results will be obtained if some other material which holds the heat fairly well is used to fill up the empty space. This may be accomplished in several ways. One is to put the small quantity of food to be cooked into a smaller, tightly closed kettle, fill the large kettle with boiling water and put the small kettle into it, standing it on an inverted bowl or some other support. This boiling water will take up and hold the heat better than



HOME-MADE FIRELESS COOKER READY FOR USE

air would. Several smaller dishes—if tightly covered—may be placed in the kettle surrounded by boiling water. Baking-powder cans or other tins are useful for this purpose. Another way is to place one food in a basin which just fits into the top of a large kettle and to let something else cook in the water in the bottom of the kettle. Two or more flat, shallow kettles placed one on top of the other so as to fill the cooker, enable the cooking of small amounts of different foods successfully. Such kettles, made especially for use in fireless cookers, may be purchased.

TIME REQUIRED FOR COOKING

The time which each kind of food should stay in the cooker depends both on the nature of the food and on the temperature at which it remains inside the cooker, and before recipes for use with the fircless cooker can be prepared one must have some means of knowing how temperatures are preserved in it. In experiments made in the Office of Home Economies a six-quart kettle was filled with boiling water and put into the cooker, the packing of which happened to be newspaper. The temperatnre of the water, which was 212 degrees F. when put into the cooker, was found to be 172 degrees F. after four hours had elapsed. This shows the advisability of the common custom of allowing food to remain undisturbed in the cooker for at least six or eight hours, or in some cases over night. If a soapstone, hot brick, or other extra source of heat is used, less time will be required. Materials which are denser than water—sugar syrup as used in cooking dried fruit—and therefore can be heated to a higher degree, will keep up the temperature longer when put into the cooker. Thus the density of the food material, as well as the amount and the length of time that the apparatus retains the heat, must be taken into consideration in determining how long different materials must be cooked in the cooker.

The recipes for dishes to be prepared in the fireless cooker differ somewhat from those for foods cooked in the ordinary way, chiefly in the amount of water or other liquids called for. Less liquid should be put into the food to be prepared in an ordinary fireless cooker, since there is no chance for water to evaporate. The cook must be guided largely by experience in deciding how long the food should be heated before being put into the cooker and how long it should be allowed to remain there.

The following recipes are used by the Department in connection with the extension work in the Northern and Western States:

SOUPS

The cheap cuts of meat are rich in the food materials that make palatable dishes, and the bones and scraps are good for making wholesome soup. The long-continued, slow cooking which a tough piece of meat gets in the fireless cooker, and the thorough extraction to which bones and soup meat are subjected, mean that this method of cooking makes stews, similar dishes and soups cheap foods.

For making soup stock or broth, the soup bones should be well split up or the soup meat should be cut into small pieces. Wash the meat, place in the kettle and cover with cold water. Bring to a boil on the stove and boil fifteen minutes. Do this at night if the soup is to be used at noon the next day. Place in the cooker over night. In the morning remove meat and bones from soup. Strain and remove the fat. Return soup and meat to kettle, adding whatever seasoning is desired. Bring to the boiling point again, return to the cooker until noon. This stock may be used as a foundation for several soups, such as vegetable soup, clear soup, or noodle soup.

Dried lima beans and peas make good soup without meat. Since they require long cooking, they are well adapted to fireless cooker methods. Cook the dried vegetables with less water and no meat, rub through a coarse sieve and make into proper consisteney with milk or thin cream and season to taste. Soups made by thinning the cooked legumes with water and seasoning with onion—fried until pale brown—with celery tops and other vegetables are very good also.

MEATS

The experimenter will soon learn that in cooking meats the amount of boiling over the flame and the time in the box will depend upon the size of the pieces of meat being cooked. Meat cut into pieces for stew will heat through more readily and cook in a shorter time than will a large ham. Most recipes for stews, pot roasts, boiled meats, and similar dishes can be readily adapted to the fireless cooker and save time and fuel. The following recipes are well adapted to the cooking box as all of them are dishes which require considerable time for their preparation.

POT ROAST.—Use any preferred cut. Scar in hot fat in a skillet. Place the meat in the cooker kettle and cover with boiling water. Boil gently for 30 minutes. Place in the cooker over night. Reheat in the morning, season, and return to the cooking box until noon. Thicken some of the liquor for gravy. If it is desired to slice cold for next dinner, return meat to liquor and let stand until wanted.

ROAST MEAT.—Prepare a four-pound rib roast as for oven roasting. It can be tied more compactly if the ribs are removed. Place in pan in very hot oven for half an hour, or sear the roast until brown in a frying pan and then place it in the oven for twenty minutes. Place the seared and heated roast in a pail into which it will fit as closely as possible, and set it into the large kettle used in the cooker, with enough boiling water to come well up around the small pail. Leave in the cooker for three hours.

Carrots, peas, string beans, onions, beets, turnips, parsnips, salsify, and in fact all vegetables may be cooked in the cooking box. They must be given time according to their age. A safe rule for all green vegetables is two and a half times as long in the cooker as if boiled on the stove. This method is partienlarly good for such vegetables as onions, cabbage, and cauliflower, as there is no escape of odor from the cooker. A further advantage with cabbage, cauli-

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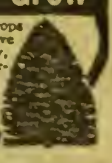

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flower, and other green vegetables is that overcooking is avoided. When green vegetables are cooked too long in boiling water they turn yellow and lose their fine flavor. This they do not do so readily at the same temperature of the cooking box.

In the case of dried fruits, long continued slow cooking is desirable. When fruit is cooked in the cooker, it should be washed well and allowed to soak in cold water until it has regained its natural size, heated in the water in which it has been soaked, not quite to the boiling point, and then placed in the cooker for five or six hours. Because less water evaporates than when cooking on the stove, a smaller proportion of water will be needed for good results. If too much is used the syrup will not be quite so rich as usual. Fruit should always be cooked in an enamelware or an earthenware dish, as tin or iron may impart an unpleasant flavor to acid fruit, and also give it an undesirable color.

School and Spring Work

Each year as the spring work is begun the attendance records of many rural schools are badly broken. It may be necessary that the work be done at a certain time or else its value is lost, but is it not more necessary that the child be constantly encouraged in securing all the educational training possible? If taken from school each time there seems to be need of his extra help on the farm, he will become discouraged and finally lose all interest in his studies because of his inability to keep at them.

It is the right of every child to be surrounded with influences and opportunities which will help him make the best use of his life, and the responsibility is theirs who have it within their power to encourage or discourage in those years when the child is gaining his first impressions of the importance of things and their value to him. If the members of his family, especially the parents, show a deep interest in his school work, he will be much more apt to pursue his studies than if they discount the value of educational training to the credit of manual labor. Both are good and neither is complete in itself, and the after effects should be pondered when the need for spring labor seems urgent to the point of depriving the schoolboy or girl of a part of the year's school work.

Save the spots on the tablecloth made by the drippings from the cream and syrup pitchers, by rubbing a very little butter on the outside of the pitchers.

Now is a good time to put up some bird houses about the place.

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This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8023—Girls' Coat: Cut in sizes 8 to 14 years. One of the late arrivals in coats is seen in this picture—a model with panel front the entire length and having a plaited skirt section. The collar presents the new fashion in neck finishes, cut deep and round and made with an inlay of contrasting goods. **No. 8022—Ladies' Waist:** Cut in sizes 36 to 42 inches bust measure. A very fetching waist on the basque order, buttoned at back. The compelling features are: An exceedingly well-cut collar, novel sleeves stylishly cuffed, and the strap girdle buttoning to the side front. The neck may be filled in with net, lace of a square of the material, or left well open as pictured. **No. 8037—Boy's Suit:** Cut in sizes 2, 4 and 6 years. Very much in style this season is the Russian suit for a small boy. The one pictured has a plaited back attached to a yoke, while at front the double-breasted effect is cleverly suggested by introducing a tuck and trimming with covered buttons as shown. Bloomer trousers are included in the pattern. **No. 8047—Ladies' Skirt:** Cut in sizes 24 to 30 inches waist measure. A very dressy and very fashionable skirt with its four gores joined to shaped yokes, and having the sides laid in plaits with noteworthy effect. Buttons down the side where the front yoke laps the back, decorates and designates the closing outline. **No. 8031—Ladies' Dress:** Cut in sizes 36 to 42 inches bust measure. A model that just snaps with smartness, and one having plenty of utility value. A handsome collar is displayed, in contrasting goods, adding style to the blouse gathered to shoulder and which has a decorative front closing. **No. 8053—Misses' Dress:** Cut in sizes 14 to 20 years. Strikingly original in design with a one-piece overblouse and gathered overwaist in novel outline joined to gathered skirt trimmed with banding. Two materials are used in making this dress.



You Cannot Break Them

The picture shown above was taken during a test of the celebrated Anderson Doubletree, made by Mr. J. F. Ellis, of Osage City, Kansas. Read what he has to say:

Osage City, Kansas.

To Whom It May Concern:

This is to certify that I own a team of horses weighing 2,640 pounds with harness on. They have been on heavy work for a number of years and are well used to pulling, and I will put them against anything their weight for a pull. I had the pleasure of testing a pair of doubletrees for the Anderson Manufacturing Company of Osage City, Kansas. The doubletrees in question weighed ten pounds, completely ironed. I hitched them to a traction engine, and the brake was set unknown to me. The horses made as hard a pull and repeated pulls on this doubletree as I ever saw them make. I made at least a dozen hard pulls and at a few times the team lunged, but could not break it. (Signed) J. F. ELLIS.

We, the undersigned, employes of the Anderson Manufacturing Company, witnessed the above when Mr. Ellis of this city tested the doubletrees, and will say that every word in the above statement is true.

(Signed) Oscar Johnson
(Signed) Carl Greenquist
(Signed) Fred Anderson
(Signed) Charles C. Anderson
(Signed) J. D. Ramzy.

Here is one of the most practical doubletrees ever made for all ordinary work on the farm: Plowing, harrowing, lead team work, road work—in fact any work requiring a doubletree of medium weight and extra strength.

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BARRED ROCKS, EXCELLENT IN SIZE and quality. Eggs, first pen, $5 for fifteen; range flock, $6 per hundred. Mrs. Myrtle Henry, Route 1, Lecompton, Kansas.

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BLUE RIBBON BARRED ROCKS — Twenty-eight years' experience; 110 premiums. Cockereis, $6.50, $8.50; eggs, fifteen, $3. Mrs. Chris Bearman, Ottawa, Kansas.

LINDAMOOD'S BARRED ROCKS, BOTH dark and light matings. Prices for eggs from special matings, $5 per fifteen. Utility eggs, $5 per hundred. Send for circular. C. C. Lindamood, Walton, Kansas.

BLUE RIBBON WINNERS, MISSOURI and Kansas state shows. Barred Rocks, Ringlet strain. Eggs and stock for sale. Satisfaction guaranteed. Hartman's, Route 1, Webb City, Missouri.

BARRED PLYMOUTH ROCKS — GENUine Thompson Ringlet prize winning strains. Pen eggs, either cockercl or pullet mating, also utility flock eggs. Circulars free. A. F. Siefker, Defiance, Missouri.

BRAHMAS.

LIGHT BRAHMAS—EGGS FOR HATCHing after February 1. Geo. W. Craig, 2031 N. Water St., Wichita, Kansas.

EGGS FOR HATCHING FROM PRIZEwinning Light Brahmas. Write for prices. R. W. Getty, Downs, Kansas.

LIGHT BRAHMA COCKERELS — 100 good heavy birds, have won prizes at leading shows. Can surely furnish you quality. Schreiber Farm, Sibley, Iowa.

FOR SALE — PURE-BRED LIGHT Brahma cockerels, prize winning stock. Price, $1 to $2.50, according to age. Mrs. Maude Lipe, Route 5, Salina, Kansas.

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ROYAL BLUE STRAIN ROUEN DUCKS, $1.75 each. James Cassell, Fremont, Neb.

GEESE, EMBDEN, TOULOUSE, CHINA; turkeys, ducks. All leading breeds of poultry. Emma Ahlstedt, Roxbury, Kan.

MAMMOTH PEKIN DUCKS, EXCELLENT layers, $2 each. Helen Harrington, Fairfax, Iowa.

PURE WHITE INDIAN RUNNER drakes, dandies, $1.50 each. Large vigorous Buff Rock cockerels, $1.50 up. G. W. Perkins, Newton, Kansas.

TURKEYS.

BOURBON RED TURKEY EGGS, $2.50 per eleven. Fred Watts, Havensville, Kan.

WHITE HOLLAND TURKEYS, SINGLE Comb White Leghorns, Single Comb Buff Orpington eggs. Baby chicks. Mrs. S. A. Warren, Reger, Mo.

MAMMOTH WHITE HOLLAND TURkeys—Eggs, $2.50 per eleven. Let us book your order early. Mrs. Roy Davisson, Sabetha, Kansas.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

BABY CHICKS.

ROSE COMB RED CHICKS — WHITE Runner duck eggs. Lily Robb, Neal, Kan.

PHEASANTS.

PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Booking orders. Eggs of these, $4 dozen; Golden, $5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

POULTRY WANTED.

POULTRY PRICES UNCHANGED. WE [illegible] your hens, capons, turkeys, guineas, [illegible] loan egg cases and coops free. Can [illegible]ly good breeding stock. The Copes, [illegible]ka.

RHODE ISLAND REDS.

EGGS FROM PRIZE WINNING ROSE Comb Rhode Island Reds. Catalog free. M. L. Puckett, Puxico, Mo.

LARGE BRILLIANT ROSE COMB RED eggs for hatching, $1 per fifteen; $6 per hundred. Mrs. Roy Davisson, Sabetha, Kan.

ROSE COMB RHODE ISLAND REDS—Large and dark red in color, $2 and $2.50 each. Chas. Jacob, Route 3, Chapman Kan.

ROSE COMB RHODE ISLAND RED eggs, one dollar per fifteen. R. R. Wilson, 2519 Grand Ave., Parsons, Kansas.

ROSE COMB RED EGGS FROM BLUE ribbon winners, $3, $5, $7.50 per fifteen. Best of guarantee. Fred Kelm, Seneca, Kan.

SINGLE COMB RHODE ISLAND RED eggs. Maple Hill Poultry Farm, Route 6, Lawrence, Kansas.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Mating list. L. E. Castle, Wichita, Kansas.

PURE-BRED ROSE COMB RHODE Island Reds. Eggs for hatching, $1 per fifteen, $5 per hundred. Mrs. L. F. Hinson, Stookdale, Kan.

EGGS FOR SALE—S. C. R. I. REDS.—Breeder for twelve years. $1.50 per setting of fifteen; $5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

WYANDOTTES.

WHITE WYANDOTTE COCKERELS. U. A. Gore, Seward, Kansas.

R. C. BUFF WYANDOTTE EGGS, $1.50 for fifteen. G. G. Wright, Langdon, Kan.

PARTRIDGE WYANDOTTE EGGS, $3.00 per fifteen; $5.50 per thirty. Mrs. O. E. Collins, Drexel, Mo.

WHITE WYANDOTTE EGGS, $1 PER 15. Martin Fishel strains. Fred Watts, Havensville, Kansas.

PURE-BRED SILVER WYANDOTTE stock and eggs for sale. Reuben M. Roddie, Ada, Okla.

ROSE COMB WHITE WYANDOTTE eggs, per fifteen, $1; one hundred, $4. H. A. Ritter, Route 2, Kiowa, Kansas.

EGGS FOR SALE FROM PURE WHITE Wyandottes, $6 per hundred. Mrs. D. J. White, Clements, Kansas.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuis, Fredonia, Kansas.

R. C. WHITE WYANDOTTE COCKERels, $1 each. Also eggs per fifteen, $1. Mrs. E. S. McCandless, Nashville, Ark.

CHOICE ROSE COMB SILVER WYANdotte eggs, $1 for 15; $5 for 100. Mrs. Phillip Schuppert, Arrington, Kansas.

WHITE WYANDOTTE EGGS FROM farm range stock, $4 per hundred. Vida Hume, Tecumseh, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Cockereis and hens. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $6. Baby chicks. Mrs. Edwin Shuff, Plevna, Kansas.

ROSE COMB WHITE WYANDOTTES — Pullets, $1.50 each; eggs, per fifteen, $2; flock, fifteen, $1; 100, $4.75. Mrs. Effie Acheson, Paico, Kansas.

PARTRIDGE WYANDOTTE EGGS, MAhogany strain, $1.50 per fifteen. Good cockerels, $3 to $5 each. Canaries, fine singers. Baby chicks. Mrs. Edith B. Taylor, Marion, Kansas.

SILVER WYANDOTTES. YES, I AM still selling Silvers. Have some good cockerels left. Eggs in season. Prices reasonable. Write me. M. B. Caldwell, Broughton, Kansas.

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SINGLE COMB BUFF ORPINGTON eggs from silver cup winners. Prices reasonable. Mrs. J. N. McDaniel, Arbela, Mo.

PURE-BRED WHITE ORPINGTONS — Eggs for hatching, $1 per fifteen, $5 per hundred. Frank Hinson, Stockdale, Kansas.

EGGS FROM PRIZE WINNING BUFF Orpingtons, $2 per 15; fine Barred Rock, $1 per 15, $5 100. Mrs. M. Ditto, Newton, Kan.

FINE BUFF ORPINGTON EGGS FROM my regular winners, reasonable. H. T. Farrar, Axtell, Kansas.

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EXHIBITION BUFF ORPINGTON EGGS, state, county winners. Bourbon Red turkeys. Prices reasonable. Write for catalog. Mrs. Rees Barton, Amoret, Mo.

WHITE ORPINGTON COCKERELS, A few pullets. Eggs reasonable. Also Indian Runner duck eggs. James Kennicott, Bunker Hill, Kansas.

LEGHORNS.

S. C. W. LEGHORN EGGS. STATE WINner. Mrs. W. R. Hildreth, Oswego, Kansas.

S. C. BLACK LEGHORN COCKERELS, William Cross, Utica, Neb.

WHITE LEGHORN EGGS (YOUNG'S $20 stock). Elsie Thompson, Mankato, Kan.

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PURE-BRED S. C. BROWN LEGHORN eggs, $1 per fifteen, $5 per hundred. Mrs. L. H. Hastings, Thayer, Kansas.

ENGLISH WHITE LEGHORN EGGS, cheap. Write for prices. I. M. Fisher, El Dorado Springs, Mo.

"BARRON'S 268-EGG LEGHORNS" — Eggs, $5 hundred. Sunlight Poultry Farm, Mt. Moriah, Mo.

EGGS, $1.50 PER SETTING. LEGHORNS, Reds, Rocks, Wyandottes and Orpingtons. Royal Poultry Yards, Coffeyville, Kansas.

SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

SINGLE COMB WHITE LEGHORN EGGS —English Barron strain. Baby chicks. F. B. Morger, Fowler, Colo.

R. C. B. LEGHORNS, WINTER LAYERS, vigorous stock. Eggs, $5 per hundred. W. C. Gilmore, Oneida, Kansas.

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EGGS FOR HATCHING FROM HOGAN'S laying strain of Single Comb White Leghorns, $5 per hundred. Roy Rhodes, Maize, Kansas.

SINGLE COMB BROWN LEGHORNS — Thirty-one prizes at Kansas State Show, 1917, including eight firsts. W. J. Roof, Maize, Kansas.

ROSE COMB WHITE LEGHORNS — Eggs for hatching, $1 for fifteen, $5 for 100. An extra grade of eggs, $2 for fifteen, $10 for 100. F. J. Nesetril, Munden, Kansas.

ROSE COMB WHITE LEGHORN COCKerels, scored birds. Write for prices. Eggs for hatching, $5 per hundred. Mrs. Joe Streeter, Route 5, Hamilton, Mo.

BROWN LEGHORNS — ROSE. SINGLE Comb. Bred to lay strain breeding. Eggs, fifteen, $2; fifty, $3; hundred, $6. Plainview Poultry Farm, Lebo, Kansas.

S. C. BROWN LEGHORNS — OH! YES, we have been raising them 21 years; the 222 to 266 trap nest egg record kind. Eggs, 15, $1.25; 100, $5.00. Gorsuch, Stilwell, Kansas.

EGGS FOR SALE FROM PURE-BRED heavy winter laying Single Comb White Leghorns, $2 fifteen, $10 hundred; 100% fertility guaranteed on seventh day of incubation. H. M. Blaine, Sylvia, Kansas.

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RUSSELL'S FAMOUS BROWN LEGhorns, single comb, prize winners, heavy layers. Write for catalog. Satisfaction guaranteed. Mrs. Geo. Russell, Chilhowee, Missouri.

S. C. W. LEGHORN COCKERELS FROM hens with records over two hundred eggs; one, two, three dollars each. Baby chicks, 12½c each. Eggs, $5 per hundred. Hyperion White Leghorn Farm, Route 1, Des Moines, Iowa.

YOU WANT GOOD LAYERS. MOORE'S strain of S. C. Brown Leghorns are prize winners and winter layers. Eggs, $1 for fifteen and $4 for 100 postpaid. John W. Moore, R. R. No. 1, Poplar Bluff, Mo., formerly of Hendrickson, Mo.

SINGLE COMB WHITE LEGHORN EGGS for sale. Range raised. Famous Yesterlay hens mated to Barron cockerels from two hundred forty egg stock. $1.25 per setting; two or more, $1 each; $5 per hundred. Shady Pine Leghorn Farm, Rossville, Kan.

S. C. BROWN LEGHORNS — WINTER layers and beauty strain. Booking orders for chicks to bo delivered April 1, any quantity, at $12.50 per hundred. Eggs at $5.50 per hundred, trap-nested stock. Pullets in laying contest. Paradise Poultry Farm, Carona, Kansas.

ANCONAS.

SINGLE COMB ANCONAS—EGGS, $1.50 per fifteen. Louella Blosser, Route 7, Independence, Kansas.

SINGLE COMB ANCONAS—EGGS, FIFteen for $1.25 or $6 per hundred delivered. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

MINORCAS.

S. C. BLACK MINORCA EGGS, FIFteen, $1; 100, $5. Frank Scherman, Route 8, Topeka, Kansas.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

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GET MY FREE MATING LIST OF MADison Square and Chicago prize winning Langshans. John Lovette, Mullinville, Kan.

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EGGS — PURE-BRED BLACK LANGshans exclusively from free range fowls, $1 for 15, $5 for 100. Mrs. John A. Roberts, Route 5, Stanberry, Mo.

WHITE LANGSHANS AND BLUE ORPingtons, bred to weigh, lay, win and pay. Chicks and eggs in season. Doerflinger, 5960 North Hall St., St. Louis, Mo.

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REDS, ROCKS, LEGHORNS; 12½c. REquest folder. McCune Hatchery, Ottawa, Kansas.

EGGS FOR HATCHING — PURE-BRED, high scoring Barred Rocks and Rhode Island Reds. No better birds anywhere. Send for mating list. Tom Leftwich, Winfield, Kan.

FREE—1917 PRICE LIST OF EGGS. ALL leading breeds of chickens, turkeys, ducks, geese and guineas. Monroe Poultry Yards, Monroe, Iowa.

EGGS FROM PURE-BRED PRIZE WINning Bourbon Red turkeys, both combs. S. C. R. I. Reds, White and Black Langshans, Anconas and Light Brahmas. Write for mating list. Mr. Henry Gillen, Route No. 1, Osborne, Kansas.

FOR SALE, EGGS—EGGS FROM PUREbreds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

Put Orchard on Paying Basis

Orchards cannot be kept in profitable bearing condition without pruning. Trees in heavy bearing condition will make stronger growth if pruning is done during late winter and early spring. Pruning during June and July will slightly check the rank growth on trees that are making too much growth and tend to throw them into bearing for the following year. J. C. Whitten, professor of horticulture in the Missouri College of Agriculture, gives directions for late winter and early spring pruning. Unpruned orchards must be attended to quickly or the rush of spring work will be on and there will be no opportunity to put them into proper condition.

In pruning the trees, first remove all dead or badly diseased limbs. Clean out all canker wounds on the trunk and main limbs with a tree scraper. Cut well into the rim of healthy wood on all sides of the wound, to get rid of the disease. Then paint the wound with common white lead and oil paint, to each quart of which has been added one teaspoonful of bichloride of mereury dissolved in turpentine—about one ounce. Paint all canker and pruning wounds as soon as made.

Begin at the top and prune the tree to secure a low, broad spreading branch system, with open center, to admit sunlight and air from above. Do not remove strong lower limbs if they can be given sufficient light from above. Aim to secure bearing branches throughout the main body of the tree. If the tree is shaded by too much growth at the top, the inner and lower twigs will weaken and die instead of bearing fruit.

Cut back the strong, upward growing central limbs to outward growing side branches. This induces the tree to spread laterally instead of growing too high. It admits light through the center to fruiting branches below. If limbs cross each other or crowd badly, thin them out enough to admit filtered sunlight to all parts of the tree.

In pruning, cut limbs close, so as to leave no stub or knot. A protruding knot will not heal. A wound cut close will allow the growing layer to close over the wound.

Paint all wounds over one-half inch in diameter with the disinfected paint. Disinfect saw or other pruning blades with carbolic acid after pruning cankered or diseased spots.

The following are good flowers for a fragrant garden: Sweet alyssum, mignonette, verbena, stock, heliotrope and nasturtium.

Lady bugs are allies of the farmer in his campaign against scale insects and other similar enemies of plant life. Let the lady bugs "fly away home" unmolested.

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks,** for bona fide seekers of employment on farms.

HELP WANTED.

BE A GOVERNMENT FARMER. GOOD pay; steady, interesting job. Write Central Institute, 44-F, St. Louis.

MAN OR WOMAN TO TRAVEL FOR old established firm. No canvassing; $1,170 first year, payable weekly, pursuant to contract. Expenses advanced. G. G. Nichols, Philadelphia, Pa., Pepper Bldg.

WANTED — SINGLE MAN FOR WORK on dairy farm. Must be a lover of stock. Send references and state wages expected. Address Lloyd T. Banks, The Banks Farm, Oswego, Kansas.

MEN—18 OR OVER BECOME RAILWAY mail clerks. $75 to $150 month. Vacations. Big chances farmers. Write immediately for list government positions easily obtainable. Franklin Institute, Dept. A-82, Rochester, New York.

FARMERS 18 OR OVER—GET GOVERNment jobs, $75 to $150 month. Vacations with full pay. Spring examinations everywhere. Education unnecessary. Sample questions free. Write immediately. Franklin Institute, Dept. W-82, Rochester, N. Y.

AGENTS WANTED.

GOOD MAN TO TAKE ORDERS, GET own clothes free, make big money. Knickerbocker Tailoring Co., Dept. 594, Chicago.

WE PAY $80 MONTHLY SALARY AND furnish rig and expenses to introduce guaranteed poultry and stock powders. Bigler Company, X 671, Springfield, Ill.

AGENTS — 100 PER CENT PROFIT guaranteed selling sprayers, gasoline pumps and auto washers. Write Rusler Company, Johnstown, Ohio.

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FOR SALE—360 ACRES ALFALFA LAND with good paying dairy. Plenty cows, hogs, sheep, live stock, corn, hay, implements and labor on place to work it. N. Scales, Macon, Miss.

NEW FARM OPPORTUNITY IN ONE OF the greatest states in the Union. A new line of the Santa Fe is tapping a rich and fertile prairie section of Northwest Texas, where already many farmers have made good in a big way with wheat, hogs and live stock. Here, if yon act now, you can get first choice—get in on the ground floor of a great opportunity. You can get in ahead of the railway—ahead of the people whom the railway will bring—ahead of those who act more slowly than you do. This is the chance of a lifetime for a man of moderate means. A certain number of thrifty, far-seeing farmers can acquire good land at an astonishingly low figure and on long, easy terms. If you have confidence that a great railroad, like the Santa Fe, would only recommend what it considers a good thing, and because it wants to see new territory developed and wants newcomers to prosper and produce—then write me today for particulars about this district. Mild climate, social advantages, schools, churches, telephones, good roads. Everything there but enough men with their families. Will you be one of the fortunate first comers to reap the advantages of a section that has been minutely inspected by a Santa Fe agricultural agent and pronounced right? Write me now and let me send you a copy of the special illustrated circular we are getting out. C. L. Seagraves, Industrial Commissioner, A. T. & S. F. Ry., 931 Railway Exchange, Chicago.

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offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

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LANDOLOGY, A MAGAZINE GIVING the facts in regard to the land situation. Three months' subscription free. If for a home or as an investment you are thinking of buying good farm lands, simply write me a letter and say, "Mail me Landology and all particulars free." Address Editor Landology, Skidmore Land Co., 301 Skidmore Bldg., Marinette, Wis.

MISCELLANEOUS.

HAIR SWITCHES AND MEN'S WATCH chains made from hair combings. Mrs. Ethel Hayes, Florence, Ark.

YOU CAN MAKE A GOOD LIVING IN your back yard raising Belgian hares. Full particulars and price list of all breeds, 10c. W. G. Thorson, Aurora, Colo.

FOR SALE — 16-HORSEPOWER GASOline engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost $480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

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WHITE BLOSSOM SWEET CLOVER, reasonable. John Lewis, Hamilton, Kan.

SEED CORN. — LAPTAD STOCK FARM, Lawrence, Kansas.

TREES AT WHOLESALE—CATALOGUE free. Agents wanted. Peyton Nurseries, Boonville, Mo.

WATERMELONS—GUARANTEED PURE. Both Halbert Honey and Rubber Rind. H. A. Halbert, Originator, Coleman, Texas.

BOW CREEK FARM SEEDS—ALFALFA, feterita, kafir, Sudan grass, corn. (Sudan, sweet clover wanted.) Logan, Kansas.

BLACK-HULLED WHITE KAFIR SEED, recleaned, tested and sacked, $2 per bushel. Grover Lee, Pratt, Kansas.

TEN ELBERTA AND FIVE CHAMPION peach trees, postpaid, $1. Send now. Wellington Nurseries, Dept. C, Wellington, Kan

WHITE SWEET CLOVER BOUGHT (ANY quantity) if priced attractively. State lowest price. Box 375, Emporia, Kansas.

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SEED CORN—WON FIRST AND SWEEPstakes, Missouri State Corn Show, 1917. For catalog, write George Manville, Faucett, Mo.

ALFALFA SEED, NEW CLEAN UPLAND, 14 cents per pound for one bushel or more. Bags, 25 cents. Sample on request. W. M. Hixon, Berryton, Kansas.

SEED CORN — DIAMOND JOE WHITE, excellent drouth resister, and Reid's Yellow Dent. Graded, $2.50 bushel. D. D. Denver, Milford, Kansas.

ALFALFA SEED FROM HIGH PRODUCing fields. 370 bu. from 40 acres. 99.74% pure; 95% germination. $8.00 per bu. Sample free. Stockwell Farms, Larned, Kansas.

REID'S YELLOW DENT, BOONE COUNTY White seed corn. Genuine Red Texas seed oats, clover, timothy and alfalfa seed. S. G. Trent, Hiawatha, Kansas.

SEED CORN — YELLOW DENT; ST. Charles White, carefully selected. Shelled, bushel, $2; bags free. Orders filled with care at once. Frank Crosby, Route 2, Belvue, Kansas.

RED TEXAS RUST-PROOF SEED OATS, cleaned and carefully graded. You buy nothing but oats. Grown here one year. They are fine. Let me send you a sample and price. Warren Watts, Clay Center, Kan.

FOR SALE — EVERBEARING STRAWberry plants, Progressive or Superb, 200 for $1.75; hardy forest trees right for shade or grove, $1.00 per 100. Wickham Berry Farm, Salem, Nebraska.

DIAMOND JOE BIG WHITE CORN—Drought proof; germination 98%; bags furnished for two bushels or more. Shelled, graded, $2.25 per bushel. Peter Hangley, Cameron, Missouri.

TREES, SHRUBS, PLANTS, VINES, seeds. Everything at lowest prices direct to you. All tree peddlers' commissions cut out. Free book. Wichita Nurseries & Seed House, Shell Bldg., Wichita, Kansas.

SEND $1.00 FOR 100 PROGRESSIVE strawberry plants and get our Twentieth Century Berry Book absolutely free. Worth dollars to you. E. W. Townsend, Box 3, Salisbury, Md.

SEED CORN—PURE-BRED REID'S YELlow Dent and Boone County White. Alsike, Mammoth and Medium Red Clover, Kherson and Iowa 103 Oats, new crop timothy seed. Folder and prices free. F. M. Riebel & Son, Arbela, Mo.

ALFALFA SEED FROM HIGH PRODUCing fields. 370 bushels threshed from forty acres. Quick to recover after each cutting. 95% germination, 99 purity. Test made by County Agent Schnacke. Won first at our fair. Price, $8 per bushel; new sacks, 25c. Stockwell Farms, Larned, Kansas.

CATTLE.

CHOICE POLLED DURHAM BULL AND seven high grade cows and heifers. Priced right. C. M. Albright, Overbrook, Kan.

FOR SALE—ONE PURE-BRED JERSEY bull calf, born January 24, 1917. Write H. H. Starr, Claflin, Kansas.

FOR SALE — REGISTERED HOLSTEIN bulls, ready for service. Prices right. G. H. Ross, Independence, Kansas.

REGISTERED HOLSTEINS — CHOICE bull calves from heavy producing dams and our $1,000 sire, $50 each. Nu-Born Farms, Jasper, New York.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $20 apiece. Frank M. Hawes, Whitewater, Wis.

ONE HUNDRED CHOICE BREEDY HOLsteins from six months to six years. Some fresh, a lot springing. Tuberculin tested, three-fourths white, dairy conformation. Yearlings extra large. C. S. Simmons, Belmont, Wisconsin.

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Box Everbearing Strawberries

Will You Enjoy a Fine Bed of Fancy, Heavily Fruiting, Everbearing Strawberry Plants at Our Expense? See Our Offer Below

THESE guaranteed **true to name Everbearing Strawberry** plants are just what their name implies and if set in your garden during the spring months will bear a heavy crop of fine, big, red, deliciously flavored strawberries all through July, August, September and October of same year.

Everbearing Strawberries Now a Commercial Success

The berries are of good size, fine color, firm flesh and of much better flavor than the average June berries. The plants fruit very heavily, running a good 20% more than the regular once a year fruiting sorts bear at regular strawberry time, but instead of stopping fruiting at end of regular season, these new everbearers keep right on and fruit heavily all through the summer and fall months.



Wonderful Root System

The Everbearing varieties have a much heavier root system than the common sorts, often going into the soil to the distance of a foot and a quarter. This gets the roots down into the moist soil and enables the plants to produce fine large berries right along during hot, dry summer weather.

We are glad to help introduce these valuable plants, and if you will accept our offer and fill out the coupon and mail to us at once, we will have our nursery send you the DOZEN ASSORTED EVERBEARING PLANTS at proper time for planting in your locality and include with them a plant of a new $1,000 variety for good measure on the deal.

KANSAS FARMER CIRCULATION DEPT.,
Topeka, Kansas.

Gentlemen.—Please find enclosed $1.50 for two years' subscription to KANSAS FARMER. Send me absolutely free of charge one dozen assorted EVERBEARING STRAWBERRY PLANTS and the NEW $1,000 PLANT as advertised in above offer.

NAME. . . ..

POST OFFICE .....

STATE..... R. F. D.....

Are you now taking KANSAS FARMER?.....

HORSES AND MULES.

CLOSING OUT SALE OF SHETLAND ponies. Geo. Aid, Gallatin, Mo.

FOR SALE — PURE-BRED MORGAN stallions. Iver K. Johnson, Goff, Kan.

SHETLAND PONIES, FIFTY HEAD, moderate prices. Charles Clemmons, Coffeyville, Kansas.

FOR SALE OR TRADE—ONE COMING four-year-old black registered Percheron stallion. Bert Donley, Oxford, Kansas.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

300 HEAD OF REGISTERED AND HIGH grade cows and heifers for sale, headed by the great 40-pound bull, Johanna King Segis. Neal Housiett, Oxford, Wis.

FOR SALE — ONE REGISTERED PERcheron stallion, bay, coming 3 years old, sired by Casino. Weight about 1,600 pounds. J. E. Regier, Whitewater, Kansas.

FOR SALE — REGISTERED FRENCH Draft Stock Percheron-bred stallion, age 4, weight 1,760. Two fillies, coming two. Frank Kratzberg, Sr., Greeley, Kansas.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

HEDGE POSTS.

FOR SALE—FIFTY THOUSAND OSAGE hedge posts. H. W. Porth, Winfield, Kan.

HEDGE POSTS—SALE, CARLOAD GOOD hedge posts. B. C. Day, Sibley, Kansas.

TRAPPER POISON

GOES' LIQUID POISON CAPSULES KILL foxes, coyotes, wolves, on spot. Eleventh season in use. Mention this paper and I send free circulars. Edmund Goes, Milwaukee, Wis., Station C.

SITUATION WANTED.

MAN AND WIFE WANT WORK ON farm. Experienced with live stock. Have no children. Good references. Address W, care Kansas Farmer.

DOGS.

COLLIE PUPPIES, $5. FRANK BARrington, Sedan, Kansas.

FOR SALE — SCOTCH COLLIE PUPS, farm raised, from good workers. I. P. Kohl, Furley, Kansas.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

THE STRAY LIST.

TAKEN UP — BY ROY J. PHILLIPS, Council Grove, Council Grove Township, Morris County, Kansas, on December 18, 1916, one red heifer, no marks or brands. Appraised at $25. Lee A. Moser, County Clerk.

TAKEN UP — BY HUGH JONES, OF Reading, Reading Township, Lyon County, Kansas, on December 16, 1916, one red and white steer, branded on left hip and piece out of right ear. Appraised at $60. G. L. Miller, County Clerk.

TAKEN UP—BY MRS. LAURA ATKINson, of Americus, Americus Township, Lyon County, Kansas, on February 12, 1917, one red steer, no marks or brands. Appraised at $40. G. L. Miller, County Clerk.

TAKEN UP—BY MAGGIE A. BOLTON, Council Grove, Council Grove Township, Morris County, Kansas, on December 21, 1916, one mare mule two years old, color brown, no marks or brands. Appraised at $55. Lee A. Moser, County Clerk.

TAKEN UP BY W. H. DE CROW, WAmego, Wabaunsee Township, Wabaunsee County, Kansas, one six-months-old heifer calf, red with brockle face. Both ears bobbed. 2½ feet high. Appraised at $20. Taken up on February 10, 1917. L. B. Burt, County Clerk, Alma.

Arrangement of Shrubbery

It will be well worth while to do some careful planning in the setting out of ornamental shrubbery.

Probably the first plantings of shrubbery should be close to the foundation of the house. The angle at each side of the steps and the space in front of the porch seem to demand the first work. In arranging this planting, the shrubs should not be in a straight line, but in a more or less irregular zigzag direction, with some extending out beyond the others, especially at exterior corners. It is preferable, in most cases, not to plant solidly, but to allow the foundation of the house to show at varying intervals.

Angles formed by the intersections of walks or of a walk and a drive are usually good places to plant shrubs. Sharp corners should be softened if possible. A turn in a drive can be made to look natural if a tree or clump of shrubbery is placed in front of the curve, making it appear that the change of direction was necessary.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN-FRIESIAN FARM, TOWANDA, KANSAS

Breeders of pure-bred Holsteins. Special attractions in choice young bulls ready for service, with fashionable breeding. Write for pedigrees and prices. We maintain a breeding herd of pure-bred females and offer a grand lot of young springing heifers and cows, a number with A. R. O. records at prices within reason.

IT WILL PAY YOU TO SEE OUR OFFERING

Of choice extra high grade young cows and heifers, all springers in calf to pure-bred sires; large developed females, good udders, well marked and the right dairy type at prices that will challenge comparison for Holsteins of their breeding and quality. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone.

GIROD & ROBISON

MAURER'S HOLSTEIN FARM

We have a choice lot of high grade cows, fresh and springers. Also grade and pure-bred calves of either sex. We can please you in good Holsteins.

T. R. MAURER & COMPANY -:- -:- EMPORIA, KANSAS



Purebred Registered

HOLSTEIN CATTLE

The highest prices ever paid in the St. Paul yards for a cow or a bull for beef were paid within a year for Holsteins. Two grade Holstein cows 13 years old brought $187, one 12 year old registered Holstein cow $116, and a registered 4 year old Holstein bull $168.93. In considering Holstein cattle as a dual purpose breed, the above authentic facts render further comment unnecessary. There is big money in the big "Black and White" Holsteins.

Send for FREE Illustrated Descriptive Booklets.
The Holstein-Friesian Association of America
F. L. Houghton, Sec'y. Box 114, Brattleboro, Vt.

CORYDALE FARM HERD

Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.

L. F. CORY & SON, BELLEVILLE, KAN.

Sunflower Herd Holsteins

Watch for Date of Big Public Sale.
150 head bred for production. Get catalog early.

F. J. SEARLE - OSKALOOSA, KANSAS

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

LILAC DAIRY FARM

Route No. 2, Topeka, Kansas.
BREEDERS OF PURE-BRED HOLSTEINS
Bulls from A. R. O. cows, all ages, for sale.

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

REGIER'S HOLSTEINS

Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.

G. REGIER & SONS, WHITEWATER, KAN.

Braeburn Holsteins

A. R. O. BULL CALVES

With De Kol-Netherland-Korndyke main blood lines, and Johanna, Walker, King Segis out-crosses.

H. B. COWLES - TOPEKA, KANSAS

HOLSTEIN CALVES—Ten heifers and two bulls, 15-16ths pure, beautifully marked, 5 weeks old, from heavy milkers. $20 each, crated for shipment anywhere. Write EDGEWOOD FARM, Whitewater, Wis.

CEDAR LAWN FARMS

C. A. Schroeder & Sons, Props.

Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.

W. C. SCHROEDER - WEST BEND, WIS.

HIGH GRADE HOLSTEIN CALVES

Five to six weeks old, nearly pure, well marked. $20, express paid.

COLD SPRINGS FARM, Whitewater, Wis.

NEMAHA VALLEY HOLSTEIN FARM

Choice yearling bulls and bull calves. World's record blood lines. Price reasonable. We invite inspection of our herd.

H. D. BURGER, Route 2, SENECA, KANSAS

HOLSTEIN COWS

Holstein cows, springers or bred heifers. Very large, good markings, out of best milking strains, bred to pure-bred bulls of the very best blood. Special prices on carload lots. J. C. ROBISON, TOWANDA, KANSAS

REGISTERED HOLSTEINS

We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.

M. E. MOORE & CO. - CAMERON, MO.

CEDAR LANE HOLSTEIN HERD

We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.

T. M. EWING, INDEPENDENCE, KANSAS

Birds may be attracted about homes by planting trees, herbs, and shrubs which produce seeds or fruits relished by the birds, and by exposing food in artificial devices.

HOLSTEIN CATTLE.

HOLSTEIN CALVES.

Very high grade heifer calves, five weeks old, nicely marked, $20 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

Look to the future.
Tredico Bulls
(Holsteins)
Kingman, Kansas

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE

Twenty-five young bulls, also some good cows and heifers for sale. All registered.

D. J. WHITE, CLEMENTS, KANSAS
Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

Real Estate For Sale

A GENUINE BARGAIN

Fine 320 Acres, Unimproved. All good wheat land. Three and one-half miles to center of Leoti, the county seat of Wichita County. One-half mile to school. Not a draw between this half section and town. Price, $12 per acre, cash.

D. F. CARTER, Leoti, Wichita Co., Kansas

IMMEDIATE POSSESSION OF

Splendid 360-acre farm, fine soil, well located, and a bargain.
160-acre farm, good improvements, good soil.
80-acre farm, good improvements, land in high state of cultivation.
Come at once. These farms are priced worth the money.

MANSFIELD LAND CO., OTTAWA, KAN.

For Sale

EIGHT-ROOM HOUSE, MODERN, in Kenwood Addition. The best residence district of Topeka. Good terms. Write

KANSAS FARMER, BOX 3
TOPEKA, - - - KANSAS

17 ACRES adjoining city McAlester. Pop. 15,000. 13 a. dry bottom. Fine for vegetables and poultry. $55 per acre. Terms.
SOUTHERN REALTY CO., McAlester, Okla.

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

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CLAIM SALE DATES.

Jacks and Jennets.

March 13—H. T. Hineman & Sons, Dighton, Kansas.
March 15—L. M. Monsees & Sons, Smithton, Mo. Sale at State Fair Grounds, Sedalia, Missouri.

Jacks, Jennets and Percherons.

March 26—G. C. Roan, La Plata, Missouri.

Holsteins.

March 7—J. A. Engler, Chapman, Kansas.
March 9—Robinson & Shultz, Independence, Kansas.
April 7—Breeders' consignment sale, Newton, Kan. W. H. Mott, Herington, Kan., sale manager.
April 10-11—F. J. Searle, Oskaloosa, Kan.
March 20—Oakland Stock Farm, Chillicothe, Missouri.

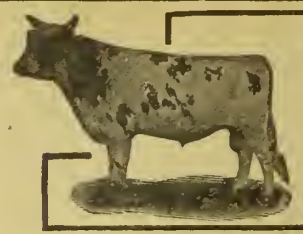
Jersey Cattle.

March 8—F. J. Scherman, Topeka, Kansas.

Shorthorn Cattle.

March 7—Andrew J. Howitt & Son, King City, Mo.
March 30, 1917 — Combination Sale, South Omaha, Neb. H. C. McKelvie, Lincoln, Neb., Manager.
April 4-5, 1917—Central Shorthorn Association at Stock Yards Pavilion, Kansas City, Mo.

AYRSHIRE CATTLE.



KILMARNOCK HERD OF AYRSHIRES

I have for sale bull calves, heifer calves, cows in milk and freshening, also bulls two and three years old at low figures for spot cash. Come and see my herd. If impossible to come, describe your wants in detail.

Wm. Galloway, Personal, Waterloo, Iowa

AYRSHIRE THE PERFECT COW

MR. HUGH F. WHITNEY of Pulaski, N. Y., was induced to buy a popular breed,

but after some time discarded it and bought AYRSHIRES. Those who once own AYRSHIRES seldom change. But just watch the number of breeders who will CHANGE TO AYRSHIRES the next year or two. If you will investigate this hardy, healthy, prolific, PROFITABLE breed, you will understand WHY. Address

AYRSHIRE BREEDERS' ASSOCIATION
C. M. Winslow, Sec'y 33 Park St., Brandon, Vt.

March 6—Moses Bros. & Clayton, Great Bend, Kansas. Combination sale.

Polled Durhams.

March 29, 1917 — Combination sale, South Omaha, Neb. H. C. McKelvie, Lincoln, Neb., Manager.

Durocs and Polands.

April 25—Fred G. Laptad, Lawrence, Kan.

Durocs.

March 6—Richard Rothgeb, Pleasant Green, Mo.
March 15—W. T. McBride, Parker, Kan.
March 29—W. W. Otey & Son, Winfield, Kansas.

O. I. C. Hogs.

March 8—F. J. Scherman, Topeka, Kansas.

F. J. Searle, of Oskaloosa, Kansas, owner of the famous Sunflower Herd of Holsteins, announces April 10 and 11 as the date of his big two days' sale of registered Holsteins. He will catalog 175 head of Holsteins for this sale and it will be the sale event in Holstein circles this season.

T. M. Ewing, of Independence, Kansas, is among the successful Holstein breeders in Kansas and while his herd is not the largest, it is noted for choice breeding and heavy production. Mr. Ewing reports his herd making a good record at present. A feature of the herd at this time is the richly bred heavy producing cows and choice lot of young stock, including choice young bulls.

John Gilmore, editor of the Wilson County Citizen, Fredonia, Kansas, has embarked in the pure-bred sheep business and is building up a flock of pure-bred Shropshires on his 800-acre ranch. That he is starting right is evidenced by the fact that he recently purchased a number of imported ewes and expects to add others. With proper care and attention, his flock of Shropshires will easily be the most profitable stock on his ranch, and there will be little cause for Mr. Gilmore to worry over the price of print paper. His flock of Shropshires will solve that problem, as well as financial problems in connection with running his ranch.

H. H. Holmes, of Great Bend, Barton County, Kansas, has sold his 550-acre Barton County farm and has bought the Alysdale Farm just west of Topeka, formerly owned by C. W. Merriam. This farm is one of the ideal cattle farms of Shawnee County and Mr. Holmes will move his fine herd of Scotch Shorthorns to this farm about April 1, including his show and breeding herd. His herd consists of a choice lot of cows, representing the best Scotch tribes. The herd bulls in use in the herd are Prince Valentine 4th and Clipper Braworth, both noted as good sires. Prince Valentine 4th is a noted winner at the big fairs. He was sired by the famous bull, Prince Pavonia. Clipper Braworth was sired by Clipper Model. The cows in the breeding herd are nearly all daughters and granddaughters of famous bulls of the breed.

Fred B. Caldwell, of Howard, Kansas, held one of the successful Poland China bred sow sales of the season. Sows bred to Caldwell's Big Bob were in great demand. Breeders from seven states were present and mail bids from breeders all over the corn belt were in evidence. The offering was presented in splendid breeding condition. Many compliments were heard around the ringside on the splendid lot of big broody sows. No. 2 in the catalog topped the sale at $325, going to J. R. Young, of Richards, Missouri. The entire forty head catalogued and sold made an average of $130. These prices were very satisfactory to Mr. Caldwell.

Samuel Drybread, of Elk City, Kansas, owner of Star Breeding Farm and one of the great herds of Hereford cattle in Kansas, reports the demand for high class registered Hereford cattle the strongest he has ever experienced during the eighteen years he has been breeding Herefords. He has one of the big herds in the state and a feature of the herd at this time is the 100 head of young bulls and heifers.

The sale of jacks and jennets announced by G. M. Scott, of Rea, Missouri, to be held at Savannah, Missouri, March 16, will be the fifty-fourth sale held by the Scott Breeding Farm. They have been breeding jacks since 1866. This year Mr. Scott will catalog twenty head of mammoth jacks, a number of jennets, and three registered Percheron stallions. The annual sale of the Scott Breeding Farm is always the leading sale event in Northwest Missouri and the attendance by breeders from Missouri and neighboring states is invariably large.

The date of the jack and jennet and Percheron sale announced by Oakland Stock Farm, Chillicothe, Missouri, for March 17, has been changed to March 20.

G. C. Roan, of La Plata, Missouri, announces March 26 as the date of his annual jack and jennet sale, and will catalog the best lot of jacks he has ever sold for this sale.

F. P. Wilson & Sons, of Doyle Spring Stock Farm, Peabody, Kansas, are among the successful Shorthorn breeders in Kansas and they have found their herd of Scotch and Scotch-topped Shorthorns very profitable. They have the beefy type that are the profitable kind. The young stock in the herd, including a lot of young bulls, is a very fine lot.

H. E. Huber, of Meriden, Kansas, held his annual Shorthorn cattle sale February 23. Twenty-one head of heifers and bulls sold for $2,835, an average of $135 per head. The offering was not fitted to command high prices. Mr. Huber is cutting down his herd to make room and expects to have a well-fitted high class offering for his next annual sale.

Robinson & Shultz, of Independence, Kansas, have announced a Holstein sale to be held March 9. This will be one of the events in Holstein circles this season, as Albechar Holstein herd is one of the noted herds in the West. This herd is headed by Sir Juliana Grace De Kol, one of the best Holstein bulls in service in this state. His dam has a record of 924 pounds butter in one year and a milk record of 22,087 pounds. His sire's dam made a year butter record of 1,021 pounds as a three-year-old, and over 3,000 pounds of butter in three years. They will catalog 116 head of Holsteins for this sale. Eighty-six head will be pure-breds, many from world's record ancestors. The offering will include daughters and granddaughters of the great bull, King Hengerveld Model Fayne, a brother to the world's best cow with a seven-day butter record of 50.68 pounds; daughters of their great herd bull, Sir Juliana Grace De Kol, Pontiac Korndyke, King Segis and other famous sires.

Hotbed for Early Vegetables

It does not cost much in time or money to make a hotbed, and it will be a great help in growing vegetables. A hotbed will enable the gardener to grow crops that require a long season to mature, such as tomatoes, celery, peppers, and egg plants. The hotbed also may be used to advantage in starting early cabbage, onion, cucumber, and muskmelon plants.

Hotbeds may be construeted in a number of ways. One of the most common and serviceable is the pit method. The hotbed should be placed on the south side of a building or some other good windbreak. Care should be taken that it has good drainage. Three feet by six feet is a convenient size for a sash and as many of them may be used as desired. The frame should be twelve to fifteen inches high at the back and eight to ten inches in front. The sash may be of glass but many persons prefer muslin. Muslin is much superior to the glass if the bed is used for sweet potato plants.

The heat for hotbeds is commonly supplied by the fermentation of horse manure. That from highly fed horses is best. Straw to the amount of one-third to one-half of the mixture should be added, as the manure will not heat if it is too solid. It should be piled in a long, narrow, square-topped pile, and if very dry should be moistened.

If the weather is cold and the manure does not ferment readily, add a little hen manure or warm water to one part of the pile. In order to insure uniform fermentation the pile should be turned occasionally and all lumps broken. When the pile is steaming throughout—which is usually in from ten to twelve days—it is ready for use.

Dig a pit two to three feet deep, depending on the time of year the bed is to be used, and the same size as the bed desired. For common use, such as growing early tomatoes, radishes, and lettuce, early in March is the time to start the hotbed. Hotbeds prepared after the first week in March should have an 18-inch pit.

Upon the bottom of the pit place a layer of straw or leaves two or three inches deep. Next place a layer of the fermented manure 18 to 20 inches thick. Above this put a layer of loam soil four to eight inches deep in which the plants are to be grown.—M. F. Ahearn, Kansas Agricultural College.

More gardens should be started this year than ever before. Well planned and well cared for gardens will cut down living expenses. Every home should have its garden.

HEREFORD CATTLE.

Walnut Breeding Farms



Where real Anxiety 4th blood is found in abundance. The home of Concentrate 289644, a double Beau Brummel. Young stock always on hand for sale from this noted sire. Five extra herd headers on hand at reasonable price, blood lines considered. Twenty choice young bulls for sale. Come and see my herd. Satisfaction guaranteed. Also a few Berkshire pigs.

LEON A. WAITE, R. F. D. 8, WINFIELD, KAN.

HEREFORD CATTLE.

HEREFORDS AND PERCHERONS

Choice 2-year-old bull, weight 1,600 lbs.; extra good bull calves. One May calf, weight 600 lbs., outstanding herd header prospect. Two choice yearling Percheron stallions. Priced to sell.

M. E. GIDEON - EMMETT, KANSAS

POLLED DURHAM CATTLE.

DOUBLE STANDARD POLLED DURHAMS Bulls for sale. "Forest Sultan" at head of herd. C. M. HOWARD, Hammond, Kansas.

JERSEY CATTLE.

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

REDMAN & SON - TIPTON, MISSOURI

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. BERRY & SON, Jewell City, Kansas

DORNWOOD FARM JERSEYS

Some richly bred young Jersey bulls. Pedigrees and prices on request.

DORNWOOD FARM - TOPEKA, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. **Maxwell's Jersey Dairy, Route 2, Topeka, Kan.**

LINSCOTT JERSEYS

Kansas First Register of Merit. Estab. 1878.

If interested in getting the best blood of the Jersey breed, write me for descriptive list. Most attractive pedigree.

R. J. LINSCOTT - HOLTON, KANSAS

LONGVIEW JERSEYS

SeventyThree in Register of Merit. Why Take a Chance?

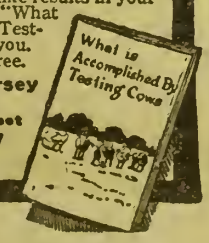
Buy from a responsible firm. Bulls all ages, type and production combined with Register of Merit backing. Guaranteed to be satisfactory and as represented. Otherwise money refunded and express charges paid both ways.

LONGVIEW FARM, LEE'S SUMMIT, MO.

What is Gained by Testing Cows



Testing your cows tells whether they are earning money for you. By the Register of Merit work you can now build up your herd from animals of known production. Science is driving guesswork out of the dairy business. Government records show that the average net profit per cow was increased 129% in eight years by testing. Selection based upon actual dairy merit will produce like results in your herd. Our booklet, "What is Accomplished by Testing Cows," will help you. Send for it now. It's free.



The American Jersey Cattle Club
375 West 23rd Street
New York City

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SHORTHORN CATTLE.

Barber Shorthorns

Villager Junior and Curley Dals Head Herd.

For Sale—Twenty coming yearling bulls, 20 yearling bulls, 40 cows and heifers, Scotch and Scotch topped. We have what you want. Come and see our cattle. Three hundred head in herd.

F. C. Barber & Sons

SKIDMORE - - - - - MISSOURI

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

H. M. HILL - LAFONTAINE, KANSAS

Doyle Spring Shorthorns

Scotch-topped Shorthorns. Ten bulls, age 9 to 11 months, sired by the famous Star Goods, Orange Marshall. Write your wants.

F. P. WILSON - PEABODY, KANSAS

RIVERSIDE SHORTHORNS.

Prince Valentine 4th and Clipper Braworth in service. Such popular tribes as Orange Blossoms, Butterflys, Queen of Beautys, and Violets. Choice young bulls, fit to head good herds, for sale.

H. H. HOLMES, Route 1, Great Bend, Kan.

Lowemont Shorthorns — Bulls, including white 2-yr.-old; 18 cows and heigers; priced right. **E. E. Heacock & Son, Hartford, Kansas.**

RED POLLED CATTLE.

Red Polled Cattle

A few 1916 fall bull calves for sale. Also a few cows and heifers.

AULD BROS. - FRANKFORT, KANSAS

HAMPSHIRE HOGS

ATTEBERRY'S HAMPSHIRE HOGS

Choice July boars, best breeding, $12.50 each. They are bargains.



ATTEBERRY & SONS
Lancaster - Missouri

DUROC JERSEYS.

TWENTY FIVE SPRING BOARS

Sired by Crimson Wonder Again Jr., first prize boar at Topeka Fair, 1916, and G. M.'s Crimson Wonder. Big rugged fellows ready for service. Immunized and priced to sell.

G. M. SHEPHERD - LYONS, KANSAS

ROSE HILL HERD DUROCS

For Sale — Thirty spring gilts bred for March and April farrow; ten boars for service; a few fall pigs. All immune, eligible to record. Out of prolific sows and by boars of state fair prize blood. **S. Y. THORNTON, Blackwater, Missouri,** on Missouri Pacific Ry.

AUCTIONEERS.

Live Stock and Farm Auctioneer

Write or wire for date. I can please you.

LAFE BURGER, WELLINGTON, KANSAS

Jas. T. McCulloch — Live Stock Auctionssr. I make sales anywhere. Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.



P. M. GROSS
LIVE STOCK AUCTIONEER
Pure Bred Sales a Specialty
MACON, MISSOURI
"Twelve Years on the Block"
Sales Made Anywhere

GUERNSEY CATTLE.

GUERNSEY CATTLE.

A GRADE GUERNSEY COW in Montana produced in one month 1815.1 lbs. milk and 87.71 lbs. butter fat, an average of over 3 lbs. of butter daily.



Grade up your herd with a Guernsey Bull

Write for our FREE BOOKLETS and a FREE POCKET HERD BOOK

The American Guernsey Cattle Club
Box R. K. PETERBORO, N. H.

HORSES AND MULES.



German Coach Stallions and Mares

THE FARMER'S GENERAL PURPOSE HORSE

Twenty-three stallions from weanlings to 5-year-olds. Handsome, stylish, gentle, but powerful young stallions, 1,300 to 1,600-pound fellows, the right kind to produce durable, active farm horses and command attention in any stud. Priced where you will buy. Satisfaction guaranteed. Come or write at once.

BERGNER BROS., ROUTE 4, PRATT, KANSAS
Waldock Lake Ranch

MARES AND FILLIES ABOUT ALL SOLD

A few good ones left. Fifty head of stallions and mares. Thirty head of stallions, including Percherons, Belgians and Coach stallions, 2 to 6 years old. All for sale at hard times prices. Come and see me.

J. M. NOLAN - - PAOLA, KANSAS

PRAIRIE VIEW STOCK FARM



Has 40 big, black Mammoth jacks and jennets. Every jack my own raising; two to six years old, 15 to 16 hands high, extra heavy bone, big bodies. I can sell you a better jack for $500 to $600 than most speculators can for a thousand. Come and see for yourself. They must sell.

ED BOEN, LAWSON, MO.
38 Mi. E. of K. C. on C. M. & St. P.
40 Mi. S. W. of St. Jos. on Santa Fe



PERCHERONS—BELGIANS

Imported and home-grown 4 and 5 yr. old stallions, ton and heavier, 3 yr. olds, 2 yr. olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. **Fred Chandler, R. 7, Charlton, Iowa.** (Above Kansas City.)

FOUR BIG JACKS FOR SALE

Also three jennets. Jacks are all blacks, 4 and 5 years old, 15½ to 16¼ hands, standard. All grandsons of Limestone Mammoth. Barns 3 blocks north of depot.

F. W. POOS - - POTTER, KANSAS



FOR SALE OR TRADE

Eight head of jacks from sucklers to eight years old. All black with white points; 15 to 16 hands high; weight up to 1,100 pounds. Can use a good draft stallion or other live stock.

H. A. JOHNSON
Red Cloud - Nebraska

REGISTERED PERCHERONS

Yearling and two-year-olds, both sexes. Good breeding and individuals grown in a way to make useful animals. Would trade filley for Shorthorn bull good enough to head herd of registered cows.

GEO. S. APP, Route 2, ARCHIE, MISSOURI

POLAND CHINAS

HORSES AND MULES.

Jacks, Jennets, Percherons

Two coming 6-year-old herd jacks, 9½ and 10-inch bone, 1,100 and 1,200 pounds. Two coming 4-year-old jacks. Eight jennets, most of them in foal. Two coming 3-year-old Percheron stallions. Write for prices and description.

W. S. DEARDOFF - HALE, MISSOURI

JACKS AND JENNETS



15 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. Fifteen good jennets for sale. Come and see me.

PHIL WALKER,
Moline, Elk County, Kansas

40 Head Percheron Stallions - Jacks and Jennets - 40

Two to six years old, heavy bone, right in every way. Imported Spanish jack, weight 1,200 pounds, at head of jennet herd. Come and see us. We mean business. Prices reasonable.

J. P. & M. H. MALONE
CHASE - - - - KANSAS



FOR SALE—Registered French draft stallion, **Badger 26999** by Homere 26997 by Danvergene 59713, dam Millie 16896 by Pepin 13909. Badger was foaled June 1, 1913. Dark gray, weighs 1,650 in ordinary breeding condition. **Also black Jack,** white points, 15.02 standard, weight 1,000 pounds.

W. M. TIBBETTS
Ocheitres - - Kansas

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. **AL. E. SMITH, Lawrence, Kansas.**

SHIRES AND PERCHERONS
Stallions and mares, registered.
JAMES AULD, Wakefield, Clay Co., Kansas

Home-Bred Draft Stallions, your choice $500 with the exception of two. Also mares for sale. **A. Latimer Wilson, Creston, Iowa**

POLAND CHINAS.

DEMING RANCH POLANDS

We will not hold a spring sale. Our show herd will be at Wichita, Kansas, Oklahoma City, and Fort Worth, Texas. We have for sale forty bred sows and gilts bred to our four herd boars, also 125 high class fall pigs, boars and gilts.

H. O. SHELDEN, HERDSMAN

THE DEMING RANCH, - - OSWEGO, KANSAS

TOWNVIEW FARM
Big-Type Poland Chinas.

For Sale—25 summer and fall gilts, sired by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 25 summer boars. Come and see my herd.

C. E. GREENE - PEABODY, KANSAS

ARKELL'S BIG POLANDS

Fall boars sired by Longfellow Again and Chief Big Bone, out of choice big-type sows. Choice individuals. Some herd header prospects.

JAS. ARKELL, JUNCTION CITY, KANSAS

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

PROFITABLE TYPE POLANDS

Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.

L. C. WALBRIDGE - RUSSELL, KANSAS

ROSS & VINCENT BIG-TYPE POLANDS

Gilts bred for March and April farrow. Also both sexes of September and October farrow. These represent the breeding of Big Type Jr., Douglas Jr., Improved King Jr. and Cowles' Orange. All immune.

ROSS & VINCENT, STERLING, KANSAS

When writing advertisers, please mention Kansas Farmer.

LANGFORD'S SPOTTED POLANDS
Boars — Serviceable age, guaranteed to please. Breeding stock, both sexes.

T. T. LANGFORD & SONS, Jamesport, Mo.

Breeders' Directory

ANGUS CATTLE.
Geo. M. McAdam, Holton, Kan.
Geo. A. Deitrich, Carbondale, Kan.
D. J. White, Clements, Kan.

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

DORSET-HORN SHEEP.
H. C. LaTourette, Route 2, Oberlin, Kan.

JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.

When writing advertisers, please mention Kansas Farmer.

MULEFOOT HOGS.

Buy Big-Type Mulefoot Hogs from America's champion herd. Low cash prices. Big catalog free. **Jno. Dunlap, Williamsport, O.**

Mulefoot Hogs. Choice bred sows and gilts, both sexes, all ages, for sale. Five families in herd. **J. W. Cox & Son, Arapahoe, Neb.**

LAST CALL

FOR ALPHA DELL FARM STOCK SALE, TOPEKA STATE FAIR GROUNDS

THURSDAY, MARCH 8, 1917, 1:15 P.M.

Twenty registered Jersey cows in milk and heifers. Thirty O. I. Chester White Hogs. Five Horses.

Get catalog and send bids to Col. Chas. Crews, Auctioneer, or W. J. Cody, Kansas Farmer, in my care.

F. J. SCHERMAN, Route 8, Topeka, Kan.

PUBLIC SALE OF HOLSTEIN SPRINGERS

AT CHAPMAN, KANSAS, MARCH 7, 1917

57 - Head of Carefully Selected High Grade Holstein Heifers - 57



This will be one of the best offerings of Holsteins tbat will be sold in Kansas this season. They are cboice high grades, well marked, from two to three years old. All are in calf to registered bulls and all tuberculin tested. They were very carefully selected from tbe best Holstein berds in Green County, Wisconsin, tbe banner dairy cattle county in tbat state. If you want Holsteins that are producers, this lot will suit you and you cannot afford to miss this sale. Chapman is on the main line of the Union Pacific Railway, twelve miles east of Abilene and twelve miles west of Junction City. Easy of access from Santa Fe, Rock Island and M. K. & T. Railways. Remember the date, March 7, 1917.

J. A. ENGLER, CHAPMAN, KANSAS



DUROC JERSEY BRED SOW SALE

AT PARKER, KANSAS, THURSDAY, MARCH 15, 1917

Tbirty head Marcb and April gilts sired by Parker Wonder, he by Ladore Wonder, and out of sows by sucb noted boars as Defender, Crimson Wonder and Kant-Be-Beat. All will be bred for March and April litters to my herd boars, H. & B.'s Pathfinder, bred by J. E. Davis, Knoxville, Ill., by Old Pathfinder and his dam was Orian Bell by Orian Chief 6th. A few of the gilts are bred to Jorgenson's Golden Model by Grand Model and out of Iowa Queen by King The Col. 2d. All these gilts are large and growthy and are showing safe for spring litters.

I will also sell two registered Red Polled Bulls coming yearlings. They were bred by D. F. Van Buskirk and sired by his great show bull, Kansas City Lad No. 23058 and out of my best herd cows. These calves will be yearlings on next June 12 and June 20. Well grown out and will make herd bulls. Sale starts at 10:30 a. m. Will be held in my new sale barn. Please send for catalog and arrange to attend. O. W. Devine will represent Kansas Farmer at sale.

W. T. McBRIDE, PARKER, KANSAS

Auctioneers:

Jas. W. Sparks, Marshall, Mo. L. S. Jackson, Parker, Kan.



World's Championship Blood at Auction

Fairview Stock Farm, Dighton, Kansas

Tuesday, March 13, 1917



TWENTY-FIVE JACKS from weanlings to tried jacks; from 14½ to 16 hands standard. Heavy boned, rugged kind, not fat nor pampered.

TWENTY-FIVE CHOICE JENNETS, bred to the world's grand champion, Kansas Chief 9194. Most all of them showing beavy in foal. A number with Kansas Chief colts at side.

TEN GOOD PERCHERON STALLIONS, MARES AND COLTS. Rugged, heavy boned, western raised horses.

The most useful offering of breeding stock we ever sold. Jacks and jennets, first prize winners of Kansas and Missouri State Fairs.

Sale will be held in new sale pavilion on farm, regardless of weather. Sale commences at 10 a. m., sharp.

H. T. Hineman & Sons, Dighton, Kan.

AUCTIONEERS—Col. Bob Harriman, Buncetон, Mo.; Col. Jno. D. Snyder, Hutchinson, Kan.; Col. Pete Powelson, Kiowa, Kan.; Col. Wiley Clouston, Ness City, Kan.



JACK, JENNET AND PERCHERON SALE

AT SAVANNAH, MISSOURI

FRIDAY, MARCH 16

Twenty large, heavy boned, thick bodied, black, Mammoth bred, registered Jacks. A few Jennets. Three black registered Percheron Stallions.

The jacks are from 2 to 8 years old, 14½ to 15¾ hands high.

This is our 54th sale. Write for catalog. Sale at Savannah, Mo., thirteen miles northeast of St. Joseph, on the C. G. W. and C. B. & Q. Railroads. Interurban from St. Joseph arrives and departs every hour.

G. M. SCOTT

ROUE NO. 2 REA, MISSOURI



Registered Percheron Stallions and Mares

On March 9, 1917

FOLLOWING THE THOMAS CLAYTON CATTLE SALE

I will sell ten Percberon stallions, age from 2 years to 5 years old, and ten Percheron mares from 2 years old to 7 years old.

A. H. SEYMOUR

GREAT BEND - - - KANSAS

PUBLIC SALE OF HOLSTEIN-FRIESIAN CATTLE

ALBECHAR HOLSTEIN FARM, INDEPENDENCE, KS.

Offers For Public Sale, Beginning at 10 A. M.

Friday, March 9, 1917



SIR JULIANA GRACE DE KOL

RECORD OF DAM (Semi-Official): Butter, 365 Days, 924 pounds; Milk, 365 Days, 22,087 pounds.

RECORD OF SIRE'S DAM (Semi-Official): Butter as Three-Year-Old, 365 Days, 1,021 pounds (World's Record); Butter Three Years Over 3,000 pounds (World's Record).

One Hundred and Sixteen Head Holstein Friesian Cattle.

This offering is made up of eighty-six pure-breds, many of which are from world's record ancestors, and consisting of cows in milk, bred cows and heifers, heifer calves, and bulls, from calves up to serviceable age. There will be daughters and granddaughters of King Hengerveld Model Fayne, who is a brother to the world's best cow, 50.68 pounds of butter in seven days.

Daughters of our herd sire, Sir Juliana Grace De Kol, whose sire's dam was a world's record three-year-old, and whose dam, as an old cow, made 924 pounds of butter in one year.

Granddaughters and great granddaughters of Pontiac Korndyke, King Segis, and Pieterje Hengerveld Count De Kol. These cows and heifers are all bred to high record bulls, and a great many of them will be heavy springers, by date of sale.

Six bulls ready for service, all from A. R. O. dams. Four by a great son of Pontiac Korndyke.

Nine heifers of high record ancestry are bred to a 35-pound son of Polly Posch and Pontiac Korndyke, and will freshen soon.

There will also be thirty head of high grade cows, fresh or springing. All of these cattle are of good size and capacity, and capable of turning a large amount of roughage into high priced dairy products.

Catalogs will be mailed on request. Will be glad to see you at the sale. Address correspondence to Robinson & Shultz, or

ALBECHAR HOLSTEIN FARM, INDEPENDENCE, KANSAS



LIMESTONE VALLEY FARM

Thirty-Eighth Annual Auction Sale of High Class Registered Mammoth Jacks and Jennets

THURSDAY, MARCH 15, 1917

At Missouri State Fair Grounds, Sedalia, Pettis Co., Mo.

TWENTY-NINE JACKS—Twenty-three old enough for service; six extra good yearling jacks. **THIRTY JENNETS**—Five with colts at foot; twenty-five jennets breeding age and now bred to the three noted jacks, Limestone Monarch 3254, Missouri State Fair champion and San Francisco World's Fair reserve grand champion, son of the undefeated show jack, Limestone Mammoth 298; Limestone Good Boy 6028, second prize three-year-old at San Francisco World's Fair, son of the undefeated and St. Louis World's Fair grand champion, Orphan Boy 696; De Wolf Hopper 3720, son of Orphan Boy 696. **We will also sell two good registered Percheron Stallions.** Sale begins promptly at 9:30 a. m. in Show Pavilion, with comfortable seats and other accommodations. For fine illustrated catalog, address

L. M. MONSEES & SONS

321 SOUTH OHIO STREET **SEDALIA, MISSOURI, U. S. A.**

Auctioneers: Cols. Harriman, Gross, Hieronymus Bros. & Logsden.

REGISTERED KENTUCKY JACKS



I have shipped from my home, Poplar Plains, Kentucky, eighteen head of jacks to Newton, Kansas, and they are for sale privately. This is a good load of jacks, with lots of bone and size, with all the quality and finish you would ever see in a load of jacks. Ages from two to eight years; height from 14½ hands to 16 hands standard, and good performers.

I have shipped jacks to Kansas since 1879 and I do not believe I ever shipped a better load.

Any one wanting a good jack, call and see me at Welsh's Transfer Barn, two blocks from Santa Fe Depot, one block from Interurban. Come and see me.

E. P. MAGGARD

SUCCESSOR TO SAUNDERS & MAGGARD - - - - NEWTON, KANSAS

FARM AND HERD.

James Arkell of Junction City, Kansas, owner of one of the choice herds of big-type Polands in this state, reports his herd doing well. A feature of his herd at this time is the choice lot of September boars by Longfellow Again and Chief Big Bone.

A. J. Erhart & Son, of Ness City, Kansas, held one of the highest Poland China bred sow sales made in the state this winter, fifty-four head of bred sows and gilts being sold for $8,075, or an average of $149.53. The top price was paid for No. 2, going to B. D. Hodson, Ashland, Kansas, at $335. The offering was presented in splendid breeding condition and breeders from several states were present and bought. The sale was one of the most satisfactory ever made by Erhart & Son.

Giant Poultry Industry!

Hundreds of millions annually. Tens of thousands are making good money out of their chickens. Are you getting your share? Are you making poultry pay?

Year in and year out I am preaching this doctrine: *Condition your poultry.* Give them a chance by keeping their health good; keep up the good feeling and good humor; keep up the singing and scratching and you'll keep up the laying. It's the singing, good-humored, industrious hens that lay the eggs—the strongly fertile eggs that will give you good, livable chicks and healthy, fully developed fowls.

Don't Make a Mistake

What you make out of your hens depends on how you treat them. Pin your faith to DR. HESS POULTRY PAN-A-CE-A. It's the 23-year-old poultry preparation that has spelled success for so many thousand poultry raisers. It will do the same for you.



Feed Dr. Hess Poultry PAN-A-CE-A

A Tonic—Not a Stimulant

Makes Poultry Healthy Makes Hens Lay Makes Chicks Grow

Now that mating time has arrived, it's up to you to see that your poultry get a tonic and internal antiseptics to make them vigorous and free of disease. *Therefore, feed Pan-a-ce-a.*

In that condition your hens will lay better, you will get more healthy, fertile eggs and the chicks will stand a better show of reaching maturity. *Therefore, feed Pan-a-ce-a.*

And, before the hatches come, I want to warn against gapes, leg weakness and indigestion, for these ailments are responsible for half the baby-chick losses. *Therefore, feed Pan-a-ce-a*—it will save you these losses.

My lifetime experience as veterinarian, a doctor of medicine and poultry raiser has taught me the needs of poultry under all conditions; that is why I urge you to try my scientific and long-tried prescription.

Prices: 1½ lbs. 25c; 5 lbs. 60c; 12 lbs. $1.25; 25-lb. Pail, $2.50
(Except in Canada and the far West)

Dr. Hess Stock Tonic

There's nothing better to put horses in trim for hard spring and summer work. Milch cows need it just now to prepare them for the heavy milking season ahead. Dr. Hess Stock Tonic makes all stock healthy, keeps them toned up and expels worms. Sold under money-back guarantee. 25-lb. pail, $2.00; 100-lb. drum, $6.50; smaller packages as low as 50c (except in Canada and the far West and the South).

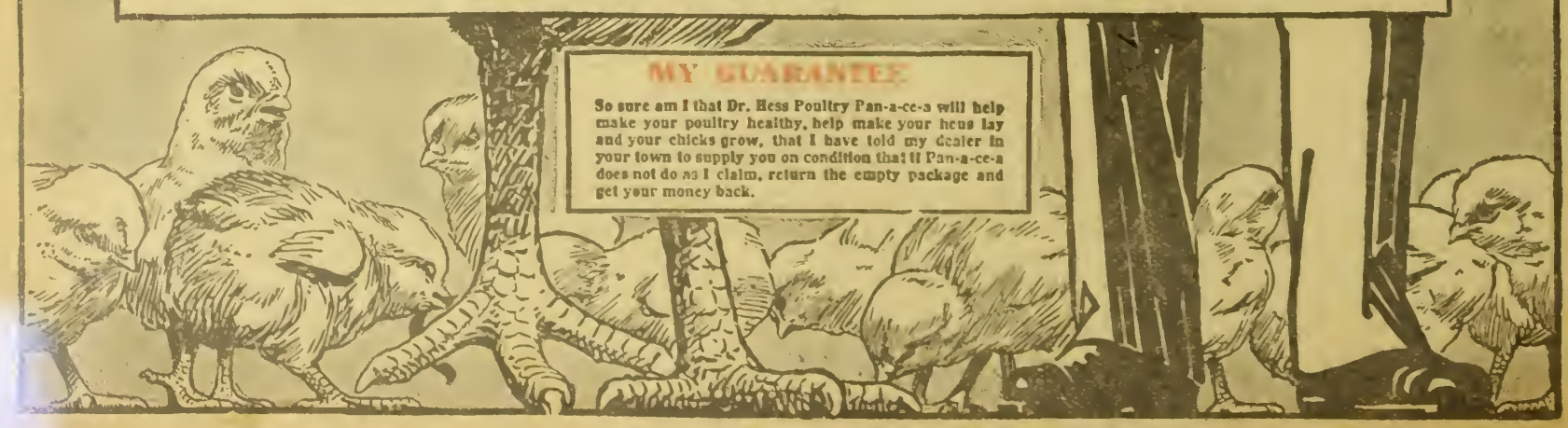
I'll Save Your Veterinary Bills

When you have a sick or injured animal or ailing poultry, write me, telling symptoms. Enclose 2c stamp for reply and I will send you prescription and letter of advice free of charge.

Dr. Hess Instant Louse Killer

Kills lice on poultry and all farm stock. Dust the hens and sprinkle it in the nests; or, if your fowl are provided with a dust bath, sprinkle Instant Louse Killer in the dust bath every other week—the hens will do the rest. Also destroys bugs on cucumber, squash and melon vines, slugs on rose bushes, etc. Comes in handy, sifting-top cans. 1 lb. 25c; 3 lbs. 60c (except in Canada). I guarantee it.

DR. HESS & CLARK, ASHLAND, OHIO



MY GUARANTEE

So sure am I that Dr. Hess Poultry Pan-a-ce-a will help make your poultry healthy, help make your hens lay and your chicks grow, that I have told my dealer in your town to supply you on condition that if Pan-a-ce-a does not do as I claim, return the empty package and get your money back.

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 8. TOPEKA, KANSAS, MARCH 10, 1917. Established 1863. $1 a Year

MAKING OF A STOCK FARM

Eastern Kansas Well Adapted to Breeding of Pure-Bred Cattle

THERE is no better place in the country for breeding pure-bred cattle than Eastern Kansas. For fifteen years Alysdale Farm, Shawnee County, has been the home of the widely known Alysdale herd of Shorthorn cattle developed by C. W. Merriam. This is one of the most attractive farms in this section of the state, as is clearly shown by the cut on this page. Owing to the fact that his health will not permit him to longer give it the required attention, Mr. Merriam has been compelled to disperse his herd of cattle and sell the farm.

The farm will still continue to be a Shorthorn breeding farm. It has been purchased by H. H. Holmes, of Barton County, who is well known as a breeder of high class Shorthorn cattle. The consideration was $29,000, or at the rate of over $200 an acre. This is a big price for a farm, but it is finely equipped to conduct a pure-bred live stock business such as that carried on by Mr. Holmes. In this new location his most excellent herd of cattle will give a good account of themselves.

This transaction involving the sale of Alysdale Farm is of more than passing interest. When Mr. Merriam bought the place fifteen years ago it was a fair sample of a farm that had been rented for a number of years. No special effort had been made to keep it up in good condition. The fences were poor and the place was overgrown with weeds and brush and presented a generally dilapidated appearance. The price paid, $75 an acre, looked big for a farm in such a run-down condition. Mr. Merriam immediately began to clear the place, gradually getting it in condition not only to suitably take care of a herd of pure-bred cattle but also making of it a show place where he could take his friends and visitors from out of town. He built carefully planned barns large enough to house all the live stock the place could support. The plan from the beginning was to make it distinctly a live stock farm. Fences were built where needed and every foot of land was gradually brought into condition where it would do its part in supplying feed for the stock. Sheds were built for the housing of the machinery and other needed buildings were constructed.

The Shunganunga Creek winds through the place and at the time Mr. Merriam purchased the farm there was a tangle of brush and undergrowth in the thirty acres of woodland along this stream. It was rich, productive land, but in so far as returning any income it was an absolute waste. By keeping steadily at it, the buckbrush and other undergrowth was finally killed out and in its place came the best of bluegrass pasture. The trees were thinned so the grass would grow, and this thirty acres of what was waste land is now highly productive pasture. The expense of cleaning up this tract of land and getting the grass started amounted to $1,300, but it was an investment that greatly increased the value of the whole farm. Instead of an unsightly growth of weeds and brush producing nothing of value, this tract is now a rich pasture and in addition has become a beautiful park as well.

In order to enjoy the beauties of the farm, Mr. Merriam built a bungalow near this piece of woodland pasture, where he and Mrs. Merriam have spent a part of the time each summer for a number of years. This bungalow is shown in the cut. There is also a comfortable farm house on the place which is occupied by the foreman, who has looked after the farm and stock and who has been responsible for carrying out Mr. Merriam's many plans for bringing the place up to its present condition of neatness and productivity.

It is with deepest regret that Mr. Merriam has disposed of his pure-bred cattle and sold the farm into which he has put so much thought and effort during the past fifteen years. This regret is tempered with a feeling that the farm is going into the hands of a man who will appreciate it and make the most of what has been done in the developing of a farm so admirably adapted to the business of handling pure-bred cattle. Mr. Holmes has just moved to the farm, bringing with him his herd of some forty head or more of Shorthorn cattle of pure Scotch breeding, headed by the two bulls, Prince Valentine 4th and Clipper Brawith.

Mr. Holmes had a good farm of 550 acres in the Arkansas River Valley near Great Bend, but he could not grow bluegrass or other pasture that could be safely grazed. It was a splendid alfalfa farm, producing big crops of hay. There is too much risk, however, in pasturing high-priced cattle on alfalfa. He found it necessary to feed his cattle in the barns and yards during the greater part of the year, whereas here in this section of the state breeders of cattle manage to have their stock running on pasture seven or eight months of the year. Every time Mr. Holmes came to Shawnee County and visited the farms of the Tomson Brothers or that of Harry Forbes or others of the Shorthorn breeders of this section, he coveted a farm where he could have grass for his cattle. The opportunity finally came and he is fortunate indeed in securing a farm that has been developed and equipped as has Alysdale Farm.

There is another factor to be considered and that is the advantage of being in a community where a number of well established breeders are handling the same kind of cattle. At Dover, John Tomson is on the farm where the Tomson herd of Shorthorns was started years ago. Near Carbondale is located James G. Tomson with a herd of Shorthorns from this same foundation. West of Topeka Harry Forbes is breeding Shorthorns on a farm having an abundance of bluegrass pasture and in other ways well fitted for handling pure-bred cattle. There are other less well known herds of Shorthorns in this locality. [illegible] breeders are in competition with each other in the sale of the pure-bred stock they produce, each is benefited by the fact that others are growing good cattle of the same breed in the community. More buyers are attracted to a community where a number of herds of the same breed are to be found, and more buyers mean increased competition and better prices. There is also a stimulating effect from being located where others are striving to bring about improvement in the breeding and development of the same kind of stock.

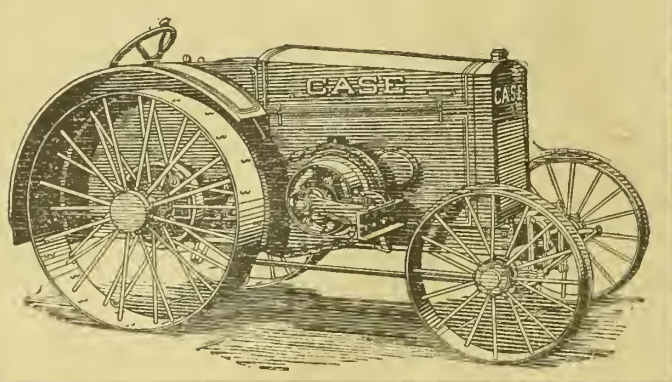
This community about Topeka might easily be developed into a Shorthorn center. The breeders now located here will welcome Mr. Holmes to Alysdale Farm and gladly co-operate with him in promoting the interests of the breed which they have all chosen.



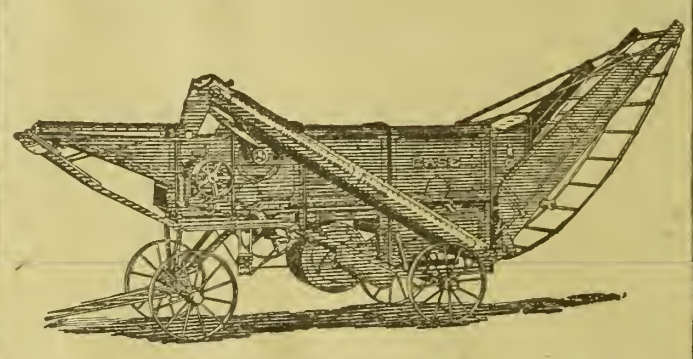
THE BUNGALOW ON ALYSDALE FARM IS BEAUTIFULLY LOCATED ON A GENTLE RISE NEAR A WOODLAND PASTURE

CASE

9-18 Tractor



20x28 Thresher



Every Farmer Wants a Combination Like This

Above we picture a Case 9-18 all-'round farm tractor and the new Case 20x28-inch thresher. Here is a combination which can't be beat. It brings to every farmer a new independence and greater economy. We are the first in the field to satisfy the growing demand for such a *handy team* of machines as this.

Even if you are not in the market today, you should be thoroughly acquainted with these remarkable labor-savers. They are described and pictured, together with the complete Case line, in our new 75th anniversary catalog, just off the press, which will be sent to you free upon request.

CASE, the Standard Tractor

The Case 9-18 tractor is truly an all-'round mechanical farm horse because this tractor is so useful.

It will pull manure spreader, gang plow, harrow, grain drill, planter, digger, mowing machine, rake, hay loader, harvester, haul crops and other materials.

It will drive a small thresher, a silo filler, feed grinder, fodder cutter, corn sheller, wood saw or hay baler. It operates a milking machine, also dynamo for electric lighting, and many more jobs.

This Case 9-18 has a four-cylinder valve-in-head special tractor motor, and is built for continuous hard pull without overheating. All gears are enclosed and run in oil. Center of gravity low down; therefore no danger of upsetting. Short wheelbase makes for easy turning in close quarters. A boy can operate it.

Don't buy a tractor before you've learned all about the Case. It pays to investigate thoroughly. If you're from Missouri, we "can show you."



The Sign of Mechanical Excellence the World Over.

Do Your Own Threshing

Thousands of farmers have asked us to add a smaller thresher to our line, so that they might do their own threshing. They have come to us because Case has long been the leader in the threshing machine business. So we have designed and built the Case 20x28-inch. It is especially adapted for small tractors. While we recommend the Case 9-18 all-'round tractor with it, this 20x28-inch separator can easily be driven by other power of like capacity.

With the Case 20x28-inch thresher there is no need to await your turn and run a risk. You may thresh as much as you please, whenever you please. This means absolute independence. Also extra profits, if you have time to handle some of your neighbors' crops.

The Case 20x28-inch thresher maintains the same standard of excellence as the larger models, which is sufficient proof of its performance, economy, durability and results.

We want You to know all about this Case 20x28-inch thresher before you purchase a machine. Samples will be gladly shown at all of our 44 Branch Houses.

J. I. CASE THRESHING MACHINE COMPANY, Inc.. 369 Erie St., RACINE, WIS.

FOUNDED 1842

(490)

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KANSAS FARMER

THE FARM PAPER OF KANSAS

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FARMER ON HIGHWAY COMMISSION

The present legislature has created a State Highway Commission as a part of the road legislation passed. This commission is to consist of the governor and two men appointed by him. It will be one of the most important commissions in the state. In the neighborhood of thirty-five million dollars will be spent on roads and bridges in Kansas this year.

In our issue of January 27, we said in reference to highway legislation: "This is most important legislation and should be worked out solely from the standpoint of those who pay the bills and use the roads." Now that the bill has become a law, we wish to reiterate this statement and go a step farther by pointing out that the farmers of Kansas are more vitally concerned in the roads of the state than any other single interest. The city man who enjoys riding over the country roads can stay at home when the roads are bad, but the people who live in the country must use them practically every day in the year, rain or shine. The produce of the farm must be hauled over the roads to the railway station. Needed supplies must be hauled over these same highways to the farm, and the children must each day go from their homes to the schoolhouse and back again—no matter what the weather may be or the condition of the roads. In scores of ways that might be mentioned, the rural population is profoundly interested in roads and in such legislation as has been enacted to direct the expenditure of the money used in road building and maintenance.

Farmers were justified in watching closely the progress of road legislation during this session of our legislature as the various plans were proposed and discussed. Now that the measure has been enacted into law and the governor is required to appoint two men to sit with him as a commission in directing the road- and bridge-building work of the whole state, the farmers are well within their rights in insisting that at least one place on this commission be filled by the appointment of a farmer. It should require no argument to establish the justice of recognizing the right of the farming interest to be represented in the make-up of this highway commission.

* * *

FEDERAL MARKET REPORTS ON MEAT

A new market news service on meat was begun by the Federal Department of Agriculture on February 19. This service should be of great value both to producers and consumers.

One of the demands made by the American National Live Stock Association was that more publicity be given to the matter of marketing live stock and live stock products. A marketing committee, composed of some of the strongest and most influential live stock men of the country, was appointed at the annual meeting of the association held in January, 1916.

The need for wide and authoritative information as to the actual market price of live stock of the various grades at the central markets, as well as information concerning the supplies of meats and provisions held in storage, is becoming more and more evident. At its last session, Congress appropriated $65,000 to be used in making regular government reports on these market conditions.

These reports will be available daily to the trade and to consumers in the cities of New York, Boston, Philadelphia, Chicago, Kansas City and Omaha.

The information has been collected experimentally for some time in order to test the system before attempting to put it into practical operation. In the three cities of New York, Boston and Philadelphia, where conditions are representative of those in other large consuming centers, government agents secure each morning all the information available and wire it to Washington and to the eastern and western local offices of the Office of Markets and Rural Organization of the Federal Department of Agriculture. This information is placed at the disposal of all interested persons and arrangements have been made whereby it will be published in many newspapers. Individuals or groups of individuals can also make arrangements to obtain the reports from the nearest local office. No charge is made for delivering this information by mail or messenger, but when the information is forwarded by wire, the telegraph tolls must be paid by those receiving it.

In addition to this daily service, the Department of Agriculture now issues a monthly report of the quantities of meat and meat products in storage and will issue a weekly summary of the prices in the larger markets in greater detail than is possible in the daily telegraphic reports.

This is a valuable service and should be greatly appreciated by producers and consumers who have in the past felt that all the information available came from prejudiced sources.

* * *

HOW TO PLANT ORCHARD

In this issue will be found some valuable instruction on planting the young orchard, by Prof. F. S. Merrill. It has been thoroughly demonstrated that an orchard can be a source of great profit in many parts of Kansas. There was a time only a few years ago when the value of land in Eastern Kansas was actually depressed because it was planted to apple trees. Orchards were being pulled up and the ground planted to corn because it was thought that it would produce larger returns in corn than had been coming from the orchard. As a result of the co-operative work of the Kansas Agricultural College and the Federal Department of Agriculture, these orchard lands of Eastern Kansas are now producing good returns. It was shown by actual field work that the introduction of proper spraying and pruning methods and giving the orchards suitable care, they could be made to produce large quantities of high class fruit. A horticulturist familiar with apple-growing conditions throughout the Middle West made the statement that apple-growing land in Eastern Kansas selling at $150 to $200 an acre was far cheaper and better for successful apple growing than lands in other sections selling for $500 an acre and upward. Success with orchard work is a matter of knowing how, and there is no corner on the knowledge required to so handle an orchard that it may be a profitable investment. No phase of the extension work of the agricultural college is more in demand than the orchard demonstration work being conducted by George O. Greene. He is dated weeks ahead for his orchard visits.

The article in this issue on planting trees should be read carefully by those who plan to plant some trees this spring, whether it be a small farm orchard or a large commercial orchard.

* * *

No more practical work could be done by agricultural classes in high schools than the testing of seeds for spring planting. Most high schools now have well organized courses in agriculture, and some use vacant lots in demonstrating agricultural work. Testing the germination of seeds is good practice for the students and the work can be made a service to the community in which the school is located. If you are near a high school teaching agriculture, try and make arrangements to have the classes do seed testing work for you. The students can be given credit for the work thus done and they will take more interest in doing something that is to be of some immediate practical value.

* * *

ARBOR DAY PROGRAMS

Last week we urged that more interest be taken in tree planting in Kansas the coming spring. A good way to arouse enthusiasm for growing more trees is to take it up in the schools. An arbor day program for schools is contained in the bulletin on tree planting in Kansas, to which we referred last week. This program supplies songs and appropriate recitations. Teachers can secure copies by writing to the extension division of the agricultural college.

The important thing is to have the tree planting program early enough in the spring so that some trees can be planted following the meeting. An arbor day program that ends in talk and song has failed in its purpose. Such programs should result in definite plans to plant trees and care for them so they will grow.

It is important in every tree-planting campaign that emphasis be placed on caring for the trees. Too often trees planted about public buildings are neglected because what is everybody's business is nobody's business. During the tree-planting campaign place so much emphasis on the necessity for giving the trees suitable care that public sentiment will demand that this be given continuous attention.

* * *

GOOD PASTURE CHEAPENS PORK

Good forage is essential to profitable pork production. Feeding tests at the Kansas Experiment Station have demonstrated that spring pigs having plenty of good forage will make four or five times as much profit as a pig fed in a dry yard. Of course, this involves the judicious use of grain in combination with the pasture. Pigs cannot be profitably fed on forage alone for any length of time.

In the tests referred to, alfalfa, rape and sweet clover were used. With corn at fifty cents a bushel, the cost of producing a hundred pounds of gain on young pigs ranged from $2.88 to $2.96. On older hogs the cost ranged from $4.23 to $5.31.

The amount of pork that can be accredited to an acre of pasture varies with the crop, the age of the hog, and the amount of grain fed. In the tests, an acre of sweet clover netted $42.07, corn being valued at fifty cents a bushel and pork at $5 a hundred. An acre of rape netted $37.50, an acre of alfalfa $67.50, and a combination of oats, peas and rape, $64.60.

While alfalfa is the best of all forage crops for hogs, emergency crops can be grown that will greatly add to the profits, as was shown by these station tests and as demonstrated by hundreds of farmers. By all means, plan to have plenty of good forage for the pigs.

* * *

Grapes cannot be expected to produce a good crop of fruit without proper pruning. The work is not difficult, but to be successful it must be done before the buds swell. This work cannot be delayed much longer. Of the several methods of pruning recommended, that known as the "fan system" is best for the hardy varieties, which include most of the hybrid grapes. This system consists of training from four to six arms or canes over the wire so that they resemble a fan. There is not much old wood left in pruning grapes by this system. The grapes are borne low on the vines, which makes it a little inconvenient to gather them, and sometimes they are not quite so well colored as when they are pruned by some other system. Old canes should be removed each year and the new canes which grow to replace them should be trained by heading back as in starting new vines.

* * *

The State Entomological Commission has just declared a complete quarantine against the shipment into Kansas of five-leafed pines, currants and gooseberries. The reason for this quarantine is that a dangerous imported disease of white pine trees, known as the "white pine blister rust," exists in a number of the Eastern States. Currants and gooseberries are carriers of this disease and as many eastern states have declared quarantines against the localities where the disease exists, the commission places this complete quarantine in order to prevent Kansas becoming the dumping ground of diseased stock.

* * *

Heavy spring work is close at hand. Knowing that farm machines, harness, etc., are in good working condition will prove to be a short cut in turning this work.

PLANTING YOUNG ORCHARD

Proper Care and Cultivation of Trees Will Bring Good Returns

By F. S. Merrill, Assistant Professor of Horticulture, K. S. A. C.

A YOUNG orchard may live and even grow when the trees are set with little care and no thought, but success in such cases is usually due to favorable weather and soil conditions. Any success will result in spite of, rather than because of, this poor practice, and in order to secure good results careful work must be done in the planting.

Both spring and fall planting is practiced. The advocates of fall planting argue that the trees become established during the fall and are ready to grow as soon as the soil warms up in the spring. As a result the trees can make a strong growth before the spring planted trees are set, and are consequently better able to withstand the unfavorable conditions of late summer.

A serious disadvantage of this plan in Kansas, however, has been found in the tendency of the trees to heave and the possibility of their being affected by the severe winter weather.

Spring planting does away with most of the objections to the fall planting system and if the trees are planted as soon as the ground can be worked, they should be able to start as soon as Nature intended they should.

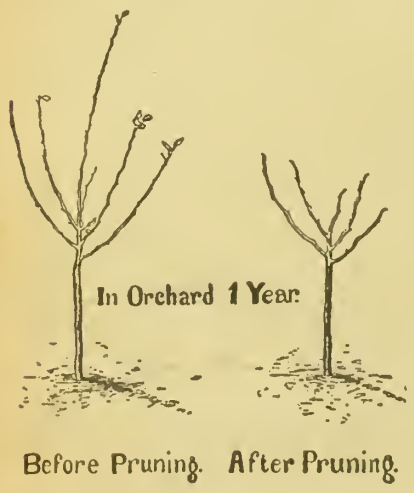
LAYING OUT ORCHARD

Several systems of planting are followed, but all may be placed under three general heads—the square, triangle, and hexagon. The square system calls for a tree on each corner of a square, the triangular has one at each corner of a triangle, and the hexagonal one at each angle of the hexagon. The last two methods permit of a slightly greater number of trees to the acre, but the cultural advantage of the square system and the ease with which the ground may be worked make it the most popular. It is considered to be the most productive.

Distance of trees will depend on the variety and kinds of fruit planted. The upright growing trees will require less room for their final development than will the spreading varieties. There is a tendency to plant too closely is more common than the fortunate mistake of giving the trees their maximum spacing. The following distances are usually accepted as best for the different kinds of trees: Apples, 30 feet; pears, 20 to 25 feet; peach 15 to 25 feet; plums, 20 feet; cherries 15 feet.

USE OF FILLERS

It is popular with growers to plant what may be called fillers in the orchard. In this plan a tree is set half way between each two permanent trees. The space between the rows may also be used. Quick maturing fruit, the peach, or an early apple such as the Missouri Pippin, is used for the semi-permanent trees. Of course these are to be removed before they injure the standard trees.



There are two factors in the make-up of every human being which prevent this plan from working out as it should. These two things are greed and cowardice. By placing the seen before the unseen the grower always wants one more crop and is afraid to cut the fullers at the proper time. As a result of this, not only the form but the bearing capacity of the permanent trees is often seriously injured.

When the ground will permit, the use of a cultivated crop will be found more successful. But the crop should be one which will make its most rapid growth at a different time from that of the trees and should not require late cultivation or stirring of the ground. The use of such crops as small grains should be avoided.

METHODS OF SETTING TREES

The usual "sight and set" method will not decrease the productivity of the orchard, but the grower who is willing to set his trees in straight rows more often will take good care of them after they are planted.

The tree row should be located along a permanent line such as a road or fence and on this place a row of stakes, one for each tree. In the middle of the field establish a line at right angles to the first one and stake as in the former case. The subsequent stakes may be set by means of a staking board. This should be made of two 1 x 2 strips fastened at right angles and each arm as long as the distance between the trees is to be. To use this, start at the junction of the right angle lines, placing an end of this square against a stake on each line. The position of the next stake will be established at the point of union of the two arms of this square.



PROFITABLE PEAR ORCHARD IN COWLEY COUNTY

If the trees have not been root pruned, the broken roots should be cut off so as to leave a smooth surface. This aids the formation of the callus. It is not advisable to cut off any of the healthy tissue. The trees should be protected against drying out and the best method for this is to puddle them in clay and carry them in a barrel partly filled with water.

In setting, the use of a planting board is advocated for growers who have used the stake method. This may be made from a board three inches wide and five feet long. It should be fitted with a V-shaped notch in the center and a slot at either end. The V-shaped notch is placed against the stake and a stake is driven in each of the end slots.

The board is then removed and the hole dug. This should be large enough to easily accommodate the roots of the tree. The board is then replaced, the tree placed in the V-shaped notch and the hole filled one-third. Care should be taken that the earth is firmly packed about the roots and under the crown either by raising or lowering the tree or by pressing the earth in place with the hands.

In placing the tree, it should be set slightly deeper than it was in the nursery. In filling the hole, firmly tamp the earth with the heels, packing all but the upper two inches of soil which may be left as a mulch. When well set, the tree should be absolutely immovable. An improper firming of the soil may neutralize all previous care.

CARE AFTER PLANTING

Soon after the young trees are set in place a cone of galvanized screen wire should be placed about the main stem of each. The wire can be fastened together before being placed about the tree and the branches pulled together enough to allow the slipping of the cone over the top. The wire should extend below the surface of the ground one or two inches and cover eighteen or nineteen inches of the stem above the ground. This screen will serve as a protection for the tree against borers, rabbits, and other young tree pests. About the first of June cheap cotton should be stuffed in the top of the wire cone as a further protection against borers.

After the tree has been set and before it begins its growth in the spring it should be headed. For the standard varieties this is from 18 to 24 inches.

The chief object in the care of the young orchard is to keep down all weeds. Trees need cultivation the same as does corn. Constant cultivation in the young orchard will induce a deeper rooting system in the trees. It is natural that where there is a great surface growth, as would be the case where the trees set in sod ground, the most moisture would be about the roots near the surface and the tree would never root deep enough to make it strong or the most productive.

In pruning young trees it will usually be found that there are from six to eight side branches. These should be thinned until not more than four or five are left. These are to form scaffold branches and several points should be considered in their selection. They should be the most vigorous and healthy on the young tree and so arranged that they form no crotches. This last may be guarded against by selecting the branches forming equal angles about the central stem and preferably several inches apart.

The branches which are left should be headed back from one-third to one-half their length, cutting off the growth just above a bud growing toward the outside. It is the usual tendency in growth to produce the strongest shoot from the terminal bud and the growth should be directed toward the point where the leader should be grown. A stub should never be left in removing the tip of a branch, as this dies back and causes decay in the heart. The cuts on this page illustrate pruning methods.

After pruning the young trees has been properly attended to, there is little to do except to see that the ground is well cultivated. Trees stunted in early growth seldom recover properly and never make the success that a well cultivated tree will.

If the new orchard is located near an old one it may be necessary during the second summer to protect the young trees against blotch and other diseases by spraying them. For this purpose a 2:3:50 solution of Bordeaux mixture will be found most beneficial. This solution is made by dissolving two pounds of copper sulphate and three pounds of stone lime, thoroughly slaked, in fifty gallons of water. The most effective way to make the mixture is to dissolve the copper sulphate in half of the required water and the lime in the remainder, running these two solutions into a third tank in equal quantities as needed for use in spraying. Spraying the young trees is not usually necessary but it is advisable in order to give them the best opportunity to develop.

How to Prune Grapes

To secure a good crop of grapes of the highest possible quality, the vines should be pruned before the buds swell. In most parts of Kansas this work must be done within the next few days to be successful.

The vine that is left unpruned may produce more fruit than the vine that has been pruned, but the size of the bunches and berries is greatly diminished and the quality of the fruit is inferior to that of the well pruned vine.

The fruit of the grape is borne on the new shoots which grow from buds formed on the preceding year's growth. The varieties vary somewhat in their behavior in different soils. In strong, heavy soils, grapes usually succeed better if set at a greater distance and may be allowed to carry more old wood than when grown in poor, light soils.

Upon the form of the trellis used will depend to a considerable extent the system of pruning required. Four systems that are most used are four-arm Kniffen, six-arm, fan, and Munson. For the hardier varieties of the American grapes the two-wire and four-cane trellis is largely used. When the plants are set they are cut back to one or two buds, but the growth the first year does not require a trellis. It is important to secure a strong growth of new canes.

The succeeding spring one of the canes should be left for training to the trellis and at the lower wire one or two canes should be retained to form a horizontal arm upon which the fruit may be borne the following season. Any bunches of grapes that grow the first year should be sacrificed to promote the greater strength of the vines. If a vine is strong the second year the arms may be trained on the second wire, but in many cases one pair of arms will be all the vines will mature in the second year's growth.

The following season the pruning will be restricted to the cutting back of the preceding year's growth on the second wire, and after these arms are well established the pruning will consist of cutting back the year's growth, leaving out a few buds. Subsequent pruning should be to remove all wood except sufficient wood along these arms to produce a maximum crop of fruit.

The number of buds to be left varies with the locality, variety, and strength of the vine, and the market for which the fruit is intended. Growers differ as to the number of buds to be left, some cutting back as close as twenty-five to thirty and others leaving double that number. In sections likely to have late frosts a large number of buds are left. If the first shoots are killed by frosts, others will be produced on the slower buds and a fair crop may be produced.

The six-arm system is similar to that of the four-arm system with the exception that three wires and six arms are used. It is suitable for varieties that make a rank growth and for vines that are growing in strong soil.



The Munson system, sometimes called the overhead system, has a different sort of trellis. When this system is used the posts are four or five feet high and cross-arms eighteen inches to two feet in length are nailed to the top. Holes are bored in the cross-arms and the wires are stretched through these holes for support to the vines. The third wire should be stretched either above or below their level of the wires that extend through the cross-arms. The vine is trained to the middle wire and the canes are trained to the side wires. More of the fruit is exposed to the sunlight and the picking of the fruit is easy by this method. It is also easy to cultivate under this system.—F. S. MERRILL.



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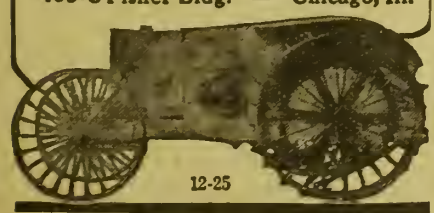



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Farm Inquiries

WE have been asked for suggestions about furnishing green forage to a couple of brood sows and their litters where there is no permanent hog pasture fenced.

Pasture is absolutely essential if the best results are to be secured in raising hogs. There is little or no profit in growing pigs in a dry lot. Where there is no pasture and no possibility of having any fenced, forage crops can be grown close to the pen and cut and carried to the pigs. Where only a few pigs are raised this is practical, although it means additional labor. J. E. Payne, demonstration agent for the Frisco Railroad in Oklahoma, tells how a farmer in Oklahoma solved the question. This man had no hog-tight fence, being a tenant, but he devised a plan whereby he kept his pigs in a movable pen and moved it about over a sorghum patch so that the pigs had fresh feed. He put an old cultivator wheel on each corner of the pen so that when it had to be moved one man could push it along.

Pasture for Hogs

P. L., a tenant farmer in Pottawatomie County, writes that there is no provision made for hog pasture on the farm he is now on and asks if there is anything he can plant that will make quick pasture that can be used this season.

There is probably nothing better for this purpose than the Dwarf Essex rape. This plant belongs to the cabbage family. It grows best in a rich soil such as an old feed lot. It will grow several feet high in this kind of soil. Its broad, fleshy leaves are rich in nutrients and it will furnish good grazing for hogs during the spring and early summer months. It should not be allowed to become tall and rank before turning in the hogs. Some complain that hogs will not eat rape. If they are turned in when it is not more than twelve or fourteen inches high, they will soon learn to eat it with a relish. If pastured too early, many of the plants will be killed by the hogs pulling them out by the roots. If the hogs are removed from the patch of rape when there are still a few straggling leaves left on the stalks, it will make a second growth and can be pastured down again later.

An acre of rape will supply pasture for fifteen or twenty hogs for two or three months. It can be sown in March or early April and will be ready to pasture in six or eight weeks. Prepare a fine, mellow seed bed and sow broadcast at the rate of about four or five pounds of seed to the acre. Rape does not do so well during the hot summer months as in the early part of the season.

Sudan grass is probably as good a forage as can be sown for immediate pasture during the hot summer months. A small patch of this will produce a very large amount of forage. Cane has been used a great deal for summer pasture but we believe the Sudan grass is better.

For early spring pasture, oats and rape can be sown together. Sow the oats first, drilling them in if possible, and then after they are up scatter the rape seed broadcast and harrow lightly to cover. Oats are particularly valuable because they come so early in the season and are specially good for sows with young pigs. It is claimed by some hog men that there is far less trouble from scouring in little pigs when they are pastured on oats than when they are on alfalfa.

Dairy Versus Beef

J. E. Kinzer, of Rooks County, writes the following letter relative to the respective merits of beef and dairy farming:

"I see the Santa Fe is going to run a dairy and poultry demonstration train. I would like to have someone who is up on figures, figure out the comparative results of dairy farming and beef farming. Let the start in dairying be made by taking four registered two-year-old heifers and one yearling registered bull of some dairy breed, a flock of hens and two registered yearling sows of any breed. In like manner start the beef farm with four two-year-old registered Hereford heifers and a yearling registered bull, with the hens and two brood sows as above. Assume placing the dairy stock on half the farms of the state, and the beef stock on half. Pour the kafir, milo, alfalfa, cane and corn into them, and see which group of farms will be ahead in five years. The writer

(Continued on Page Seven)



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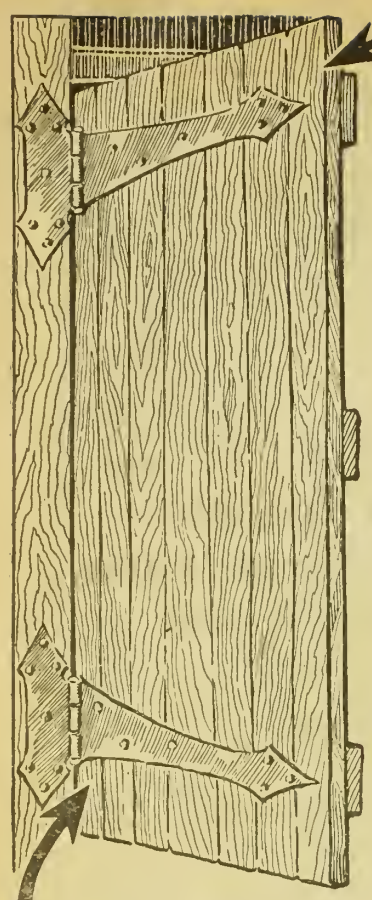

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THE hinges on the barn of the old homestead were hand-hammered by the blacksmith. The iron was slowly and carefully made and was free from most of the chemical impurities that cause rust. That is why those old iron hinges lasted to see many doors come and go.

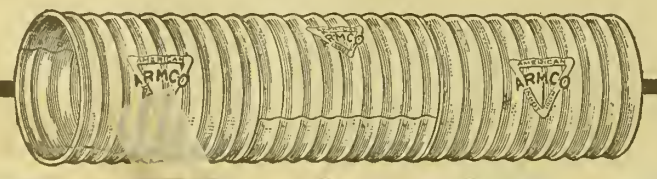
"ARMCO" IRON CORRUGATED CULVERTS

like grandfather's barn door hinges, are made of iron so pure that they resist rust. They will outlast many ordinary metal culverts and, like the old hinges, will endure after the men who place them have passed away.

"Armco" Iron Culverts mean true economy in road building and upkeep; they represent prudence in the use of public funds. The trade-mark on every section is a pledge of "value received".

For full information on "Armco" Iron Culverts, Flumes, Sheets, Roofing, and Formed Products, write the manufacturer in your vicinity, or

ARMCO IRON CULVERT AND FLUME MFRS. ASSOCIATION
Cincinnati, Ohio



Posts That Defy Decay

EVERY farmer in A... his share of the mi... ordinary fence posts is paying ... year for repairs and replacements due to decay. ... the per farm expense for this work amounts to at least $50 each year—t... 0 in ...rs and $200 in four years. This loss can be cut down to almost nothing by ...sts t... are specially treated with pure distilled creosote by the Long-Bell hydraulic ...m process.

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As your old posts d... place them with L-B Creosoted Yellow Pine Posts—a few at a time, if necessar... e all further work and expense by replacing all your old posts now.



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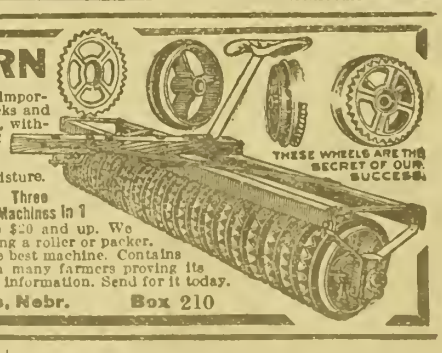
FREE BOOK Write your name on a post card and mail today for a copy of our free book "The Post Everlasting." Tells all about the tremendous loss each year and how you can save at least $50 a year. It explains fully the Long-Bell process.

THE LONG-BELL LUMBER COMPANY,
122 R. A. Long Building, Kansas City, Missouri.

For WHEAT and CORN



ALFALFA and all other crops, a perfect seed bed is as important as to seed or plant. The Western pulverizes, packs and mulches—makes a perfect seed bed—at one operation, without extra horsepower. Especially adapted for breaking crust on winter wheat or other grain—forms the hardest crust into a granular surface mulch without hurting the grain. Stops evaporation—preserves moisture.

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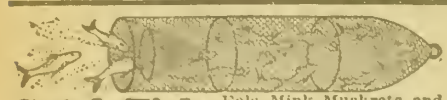

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Kansas Farmer Dairy Club

Did You Understand Your Score Cards

WHEN you read the score card showing the way the milk sample which you sent to the contest at Manhattan, was graded, did you understand it? We have been asked some questions about these cards and will try to tell you something about how these scores are made.

The first item listed is bacteria. These cannot be seen by the naked eye and can be counted only by a method which must be worked out in the laboratory. By reading at the top of the opposite side of your score card, you will see that in order to get a perfect score on this point the milk must not contain more than 400 bacteria to the cubic centimeter. If you could see a cubic centimeter of milk it would be a little less than one-half inch square. It hardly seems possible that 400 little animals could be found in so small a space, does it, but you will note on your card that there is milk produced that contains as high as 200,000 bacteria to the cubic centimeter, and even more. The milk produced by some very careful dairymen, if it is not pasteurized and held for a day, will sometimes show 6,000 to 8,000 bacteria to the cubic centimeter, so do not be discouraged if your card shows more bacteria than you think it should. Just remember that cleanliness and care are the two important things in controlling this bacterial count. Try just as hard as possible to keep all germs from getting into the milk from the outside, and keep any that may be in it from developing by cooling the milk as quickly as possible after it is produced. If the animal heat is left in, bacteria will develop and multiply fast. The less care given the milk, the more bacteria it will show.

In a test of this kind the flavor and odor are determined by heating the milk. Any odor or flavor in the milk can be readily detected if the milk is heated to 90 or 100 degrees after it is twenty-four or thirty-six hours old. The bacteria have much to do with the odor and flavor, and the different bacteria produce different odors and flavors.

You may have thought the sample of milk which you sent in was perfectly clean, and yet if it contained even a little lint from the straining cloth, this would gradually settle to the bottom of the bottle and any foreign substance—anything that is not milk—is dirt when the milk is scored as closely as it must be in a contest of this kind.

The scoring for fat content was in this instance done on a basis of 4 per cent representing a perfect score. Butter fat content is something you cannot control in your cow. If she is a low testing cow, there is nothing you can feed her to increase the test. Her test will be higher toward the end of the year than when she first freshens, but this is a part of her nature and is not influenced by her feed.

"Solids not fat" are milk sugar, casein and ash. These are beyond your control also, and are governed to a certain extent by the butter fat test. Low testing milk will contain less of these solids than will high testing milk. Milk sugar and ash cannot be seen in milk, but the casein is that part which, when sour milk is heated, becomes clabber—the part which is made into cottage cheese. In this process of heating sour milk the milk sugar is in the whey and the ash is in both the cheese and whey. These solids are determined by a little instrument called a lactometer. This has a graduated scale on it and is floated in the milk. The solids are heavier than the water in the milk and the distance the graduated scale floats above the surface of the milk indicates the per cent of the solids in the milk.

The acidity or sourness of your milk was determined by the amount of lactic acid which was found in it. This lactic acid can be controlled to quite an extent by the temperature of the milk. Milk that is well cooled develops less lactic acid and so remains sweet longer than warm milk. This lactic acid is very necessary in making butter or cheese, but does not improve whole milk. This is why your milk was scored down if it showed a great deal of acidity.

If you will read the paragraph at the bottom of the opposite page of your score card, you will understand the mark you received for "bottle and cap."

As all these points have an important bearing on the quality of milk, it is very necessary that the marking be done accurately and closely in a market milk contest. So if you are disappointed over your score this time, remember these points and the next time you are in a contest make sure you have used every precaution to make your score high on those points which you can control.

Is Coming to See Us

Enclosed you will find my records. The reason I charge pasture is that my cow is running in the stalk fields and meadow in the day. As the winter has been a good one, the cows get good pasture in the stalk field and meadow. But the stalks are not as good as they were and the meadow is pretty well eaten down, and father charged me only fifty cents for pasture in January.

Four or five of my friends and I are coming to Topeka between now and April 1, and we will stop to see you and your office and printing press.—ERNEST S. ASBURY, Leavenworth County.

Message to Club Members

I am sending you a picture of my cow and myself.

I am feeding my cow only six pounds of grain a day. I give her all the good alfalfa she will eat. We feed corn fodder in the lot.



CARY BURTON AND HIS GRADE HOLSTEIN COW

I sent some of my cow's milk to Manhattan. I was glad some of the Dairy Club members won prizes.

With best wishes to the Dairy Club members.—CARY BURTON, Butler County.

Banker Is This Girl's Friend

Received your letter about sending the milk to be tested for quality and I am sorry to say that my cow Martha is only giving about one quart of milk a day now. I am only milking her once a day. Martha is in good condition. I am feeding her good alfalfa hay. She has plenty of pure water to drink.

I have sold about $60 worth of cream from her, besides selling her calf for $30. It isn't quite three months until she will freshen again. I deliver my cream to my cream dealer in Beardsley, three miles from our place.

I would not sell my cow for a great deal more than I gave for her. The banker of whom I borrowed the money, said he figured that it would take me two years to pay for Martha and was surprised when I paid for her in eight months. He said any time I wanted to buy another cow he would loan me the money.

I am very sorry that I could not send the milk to be tested for quality, but my cow was not giving enough. I decided to let Martha go dry this time as she has not been really dry for over two years.—LELA MAE HAYNES, Rawlins County.

The score cards covering the milk samples sent in for the state market milk contest held at Manhattan during Farm and Home Week, have been mailed to the contestants. In our letters to you giving your February butter fat tests, we asked that you send us these cards so that we might make a record of them in this office, and we hope you will have done this before this paper reaches you. If not, won't you please mail your card to us right away?

Ever keep fresh in your mind that in producing milk you are producing food for the human family and that it is impossible to be too careful about keeping that food clean and pure. This will bring its reward financially, too, when it becomes known that you are careful.

Pull the Stumps

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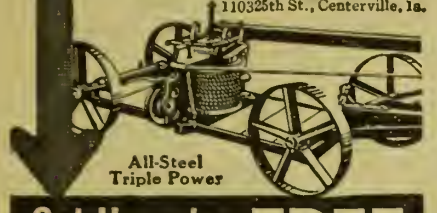

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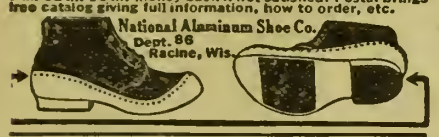

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I will send you these Bits on 10 days free trial, prepaid parcel post, if you furnish bank reference. If as represented, send $1.50 each, if not, return the Bits.

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Gives 6 to 9 feet more silo space and 15 to 40 tons more silage worth up to $160 each year. Delivered prices quoted. Special discount to March buyers. Act quickly. Write to day.

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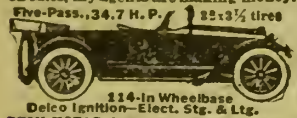

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WITTE ENGINE WORKS
1903 Oakland Ave., Kansas City, Mo.
1903 Empire Bldg., Pittsburgh, Pa.

(Continued from Page Five)

will stake the Herefords to win and at less labor cost. I would like to see this problem figured out by someone who has tried both ways, or by two men, one having had the dairy experience and the other the beef cattle experience. Whether you get anyone to figure this out or not, keep me posted on the Herefords and Poland Chinas through KANSAS FARMER."

We hardly believe the question of the relative merits of beef and dairy farming can be arbitrarily settled in the manner suggested by Mr. Kinzer. Success in either line requires certain personal qualifications on the part of the man. One man might do well with the Herefords who would fail absolutely if he tried to handle cattle of dairy breeding. The character of the farms and the amount of home help must be considered.

Perhaps some of our readers would like to discuss the question for the benefit of Mr. Kinzer and many of our readers interested in live stock farming. We are generally agreed that some form of live stock farming is essential if we are to get the best returns and maintain the fertility of our land.

Formalin Treatment for Smut

H. G., Greenwood County, writes that he is going to try treating his seed for smut this spring. He asks if corn and cane seed are treated the same as kafir and whether it makes any difference how long before planting time seed grain or seed potatoes are treated.

The smuts of our grains are the most common fungus diseases affecting them. The loss comes from the actual destruction of the kernels and from the decrease in the value of the whole crop because of its containing smutty grain.

The disease is carried from one year to the next by the dust-like spores which cling to the seed grain. These spores can be killed by the formalin treatment. Sometimes perfectly clean seed may become infected with smut spores from a threshing machine which has threshed smutty grain, or from coming in contact with bags, bins, or even the seed box of the drill.

To treat seed for smut, mix one pint of formalin—which is a 40 per cent solution of formaldehyde and can be secured at any drug store—with forty to fifty gallons of water. This makes a solution strong enough to kill smut spores without injuring the vitality of the seed. Spread the seed to be treated on a canvas or on a clean barn floor and sprinkle thoroughly with the mixture. Shovel the grain over, finally piling it into a heap and covering it for two hours with canvas, blankets or sacks so as to keep in the fumes of the formalin. After this time dry the grain by spreading it out and stirring it occasionally. Care should be exercised that it is not put back into bags or bins that have contained smutty grain or it will become reinfected.

Another method of treatment is to put the grain in loose bags and to suspend these in the solution for a couple of hours, drying it out after the treatment as described above.

It is always best to treat seed of various kinds just before it is used if possible, as there is less danger of reinfecting it.

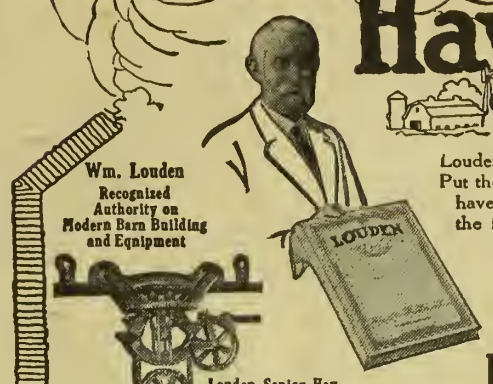
Scabby potatoes can be safely used for seed if they are immersed for an hour and a half or two hours in a solution consisting of a pint of the formalin mixed with about thirty-five or forty gallons of water. They should be spread out in the sun and dried before being cut and should never be put back in infected sacks or baskets.

This treatment of the seed will not prevent the production of scabby potatoes if the land is already infected. Land that has produced scabby potatoes must be planted to other crops for several years before it will be clean of the infection so that it will again grow clean potatoes.

The smut of corn cannot be prevented by treating the seed. This smut is scattered in the field and is transmitted to the crop through the soil. Use the formalin treatment for any of the sorghums and for oats that are infected with smut.

Due to congested freight conditions existing at present, all materials for spraying orchards, gardens and shade trees should be ordered at once for immediate shipment. Orders sent at the usual dates will likely result in shipments being received too late for early spring applications.

No Time Lost With Louden Hay Tools



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Louden Hay Tools are great economizers. Put them to work in field or barn and you'll have spare men and teams for other work on the farm, throughout the haying season.

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The Louden Senior Hay Carrier is the strongest swivel fork carrier made—simple as well as powerful. Never fails to register on account of kinking or twisting ropes.

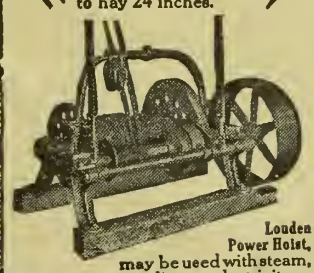
The Louden Balance Grapple Fork handles dry clover, alfalfa or threshed straw as perfectly as long, heavy timothy—holds it tight; drops it clean, and spreads it well in the mow.

The Louden Power Hoist is easily operated by one man from the load. Works quickly and accurately Available for any heavy lifting on the farm.

Louden Balance Grapple Fork, built of special high grade steel. Spreads 58 inches; tines go into hay 24 inches.

This combination cleans up a big load of hay in a few minutes. Efficient and dependable even in inexperienced hands, because of extreme simplicity and strong construction.

Illustrated catalog—224 pages—showing full line of Louden Hay Tools and other barn equipments, sent postpaid on request.



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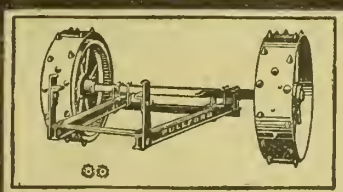



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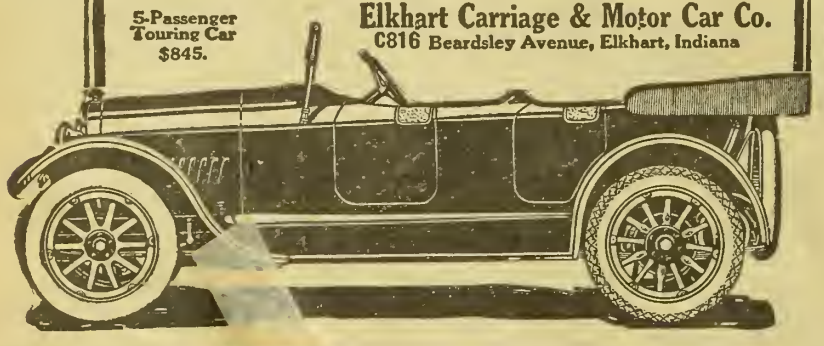

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BASIS OF BEEF PRODUCTION

"MORE and better live stock for Southeastern Kansas" is the slogan of the Southeastern Kansas Live Stock Association, and the attendance at the two-day meeting held in Fredonia February 20 and 21, and the interest shown, indicates that farmers of that section are keenly alive to the importance of introducing live stock farming in that part of the state. We were present at part of the meetings which were held in a building well adapted to displaying exhibits of live stock. The lectures and discussions were given in a room in one corner of the large building which housed the live stock exhibits, and this room was crowded at every talk. It is somewhat suggestive that this building, which was originally constructed as a factory for building farm machinery, should be appropriated to demonstrating and promoting the fundamental industry upon which all prosperity in Kansas depends.

No attempt was made to conduct a stock show in the ordinarily accepted meaning of the term, but a number of breeders of pure-bred live stock had gone to considerable trouble and expense to have representative animals from their herds on exhibition. W. J. Brown, of Fall River, had six Herefords; J. H. Keith, of Coffeyville, showed nine from his herd; Samuel Drybread, of Elk City, six. Howard Hill, of LaFontaine, had twelve Shorthorns, including one of his herd bulls, the son of the famous Avondale and full brother to Lord Avondale. I. L. Swinney, LaFontaine, who has been breeding Shorthorns for ten or twelve years, had some of his best cattle there.

An exhibit which attracted a great deal of attention was a pen of pure-bred Shropshires owned by John Gilmore, of the Gilmore Ranch, Fredonia. Mr. Gilmore is bringing to this ranch as foundation stock, some of the finest sheep of this breed to be found in the country, including a number of imported ewes. The agricultural college sent a car of live stock, including representative animals of the leading dairy and beef breeds of cattle, several breeds of hogs and sheep, and three first class stallions of the leading draft breeds.

Many good dairy herds are being started in this section of the state and we were sorry to note that with the exception of the college animals, there were no dairy exhibits. The program, however, made up for this lack, for most of the first day was devoted to discussions of dairying and dairy stock. In these discussions the importance of the dairy cow as a means of marketing the feed grown on the farms, and building up the soil fertility, was shown. Considerable emphasis was placed on the need for more efficient cows.

One of the strong talks of the meeting was that of Prof. W. A. Cochel on the subject, "The Basis of Beef Production." In introducing Professor Cochel, H. M. Hill paid a high tribute to the constructive experimental work being done by Professor Cochel and his able associates in the experiment station work both at Manhattan and at Hays. Reference was made to tests that have shown so conclusively how beef cows can be carried through the winter on silage, straw, and a little cottonseed meal, at a cost not exceeding $7 or $8 a head. Mr. Hill said he had visited at the Hays station when the calves were coming in the spring and had never seen stronger, healthier calves at birth. Such work as this which has been conducted during the past four years is of incalculable value to the cattlemen of the state, since it enables them to take advantage of the methods tested out experimentally and secure a wider margin of profit in their business of producing beef cattle for market.

Earlier in the session Prof. L. E. Call had shown how soil fertility was absolutely dependent upon live stock farming and what must be done to reap the benefits of live stock farming in building up the productivity of the soil. "We are all agreed," said Professor Cochel, "that live stock farming is essential to permanency in agriculture." He referred to the fact that the soil is fundamental to all agriculture. In order to have live stock develop successfully, we must first of all develop good farming methods. In other words, the live stock farmer must first of all learn how to handle his soil and grow crops. It is the exception to the general rule to find good live stock on a farm where poor farming methods are practiced. Live stock men are sometimes apt to think of the live stock business as separate and apart from farming. In proof of this statement of the relationship between good farming and live stock production, Professor Cochel called attention to the fact that no breed of live stock of any importance has ever been developed except where the soil has been productive and where pastures have been luxuriant. Grass is really the basis of the cattle business and far too little attention is paid in Kansas to the maintenance and improvement of our pastures. We hear a great deal of the breeding and improvement of our various grain crops, but very little is said concerning pasture improvement. It is difficult to find a concrete measure for the value of grass. The beef cattle man, however, to be successful, cannot overlook the matter of pasture improvement and the growing of forage crops suitable for feeding his stock.

The next point to which Professor Cochel directed attention was that of marketing the forage crops. He emphasized the point, however, that in marketing the cheap forage of the farm through cattle it must never be forgotten that the young animals must be well grown and developed in order to handle the low grade feeds with profit. The first year calves must be well fed. They make more growth during that period than in all the rest of their lives. You never hear of a champion animal in the show that was starved during his first year. As animals get older they should be kept up as much as possible on the cheapest feed that can be grown and special attention should be paid to get-



EARLY MORNING AT FREDONIA LIVE STOCK CONFERENCE.—PREPARING TO RECEIVE VISITORS.—PROF. W. A. COCHEL IN BACKGROUND AT RIGHT



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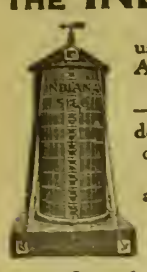

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ting as much reserve fat on breeding cattle during the summer as possible. Fat is the most expensive part of the animal. It was estimated by President Waters, in some experimental work conducted a few years ago, that a pound of pure fat on a beef animal cost at least twenty-five cents, and under present conditions this cost would be in all probability almost doubled. Fattening is the most expensive part of beef production and it is essential that growth be made as cheaply as possible on grass and roughage. Under present methods of management it is probably best to grow and fatten at the same time as far as possible.

The beginner in live stock farming must recognize the fact that not every man is fitted to handle pure-bred animals. He may learn how later, but it is essential that methods be improved with the improvement in the breeding of the cattle. Until the live stock man is able to feed out everything that is bred into the animal he is a failure as a breeder of pure-bred stock.

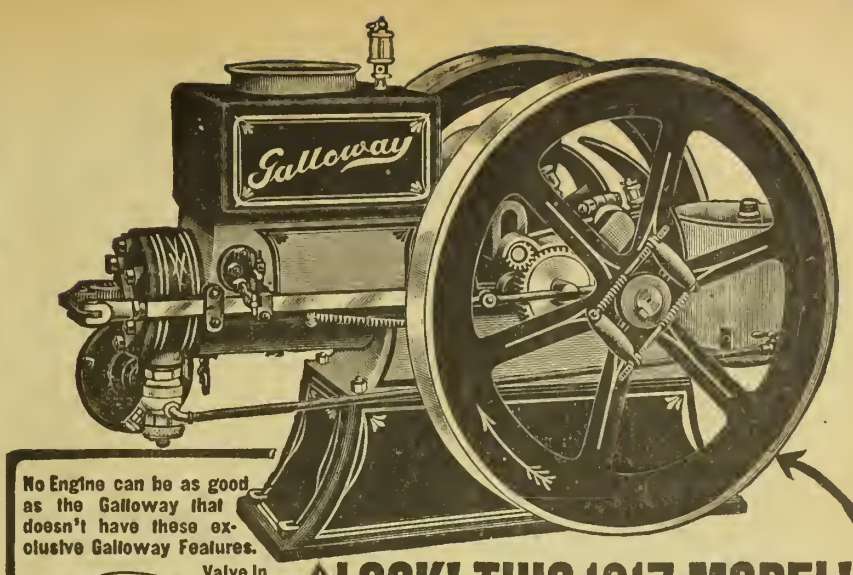
To succeed with good stock, pastures must be improved and good feed grown. Some go to the other extreme and assume that feeding is everything. The better the animal, the more value will be secured from good feeding. It is a part of the business to know when the animal has been fed to the point where it will be worth the most.

Professor Cochel made the point that in marketing feed through cattle it is possible to secure two profits. He illustrated by calling attention to the fact that during the fall and winter of 1915-16 corn was shipped from Kansas to Iowa feeders. These feeders had to pay the market price for this corn and in addition a shipping cost. An opposite condition has prevailed the past winter and feeders in Kansas have been compelled to ship in corn. Professor Cochel stated he had just purchased a thousand bushels of corn at ninety-nine cents a bushel. It was grown in North Central Nebraska, and upon investigation he found that the Nebraska man who grew the corn received but seventy-eight cents a bushel. In order to make a profit from feeding this corn, the Kansas man who shipped it in would have to get twenty cents more a bushel for it through his live stock, than would the man who grew it. Alfalfa hay in Riley County can be purchased on the farms for $10 or $12 a ton. In Pennsylvania this same hay is selling for $22 a ton. The feeding value has not been increased by the shipping, although the cost has been quite materially increased. The successful cattleman should limit his operations to the capacity of his farm for growing roughage, and this estimate should be on a basis of normal years. He thus secures the profit from growing the crop and in addition can make some profit from handling the cattle.

"This brings us back," said Professor Cochel, "to the question of farming." The live stock farmer should by all means be interested in growing those crops that will produce the largest yield of nutrients per acre. If kafir or cane will yield twelve or thirteen tons of silage per acre as compared with corn yielding seven or eight, these crops are the more profitable to grow for silage purposes. Having selected the best crops to grow, it will be found that the yield per acre will be greatly influenced by the fertility of the soil.

In proof of the soundness of these statements, Professor Cochel stated that it was a matter of common knowledge at the present time that the men who have made the most in the cattle business during the past few years are those who have kept herds of high grade cows, grown their own feed and marketed the surplus animals grown either as feeders or as finished cattle. The men who have made the least money are the speculative feeders. They have had to pay too high for their feeding stock and as a result could not make a profit in finishing them for market. One of the reasons for this high cost of feeding stock is that when good cattle go to market the killers will compete with the feeders. Reference was made to the valuations placed on some calves that were fed four months in an experiment. At the close of this test some experienced buyers from the stock yards were asked to place valuations on the cattle. They asked Professor Cochel whether the valuations were to be placed on the basis of what the killers in Kansas City would pay or what the feeders would pay, and they were instructed to place both values on them. They placed a value of $8.30 a hundred as killers, and $8.50 a

(Continued on Page Ten)



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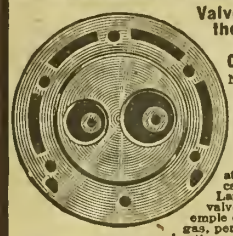

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Basis of Beef Production

(Continued from Page Nine)

hundred as feeders to go back to the farms.

Even the feeder, however, who will follow the business consistently for a period of years, has been able to make a little money. The big losses in feeding cattle come from the fact that feeders are too apt to get their profits on a small lot and plunge the next year, investing three or four times as much money and, as often happens, meet with a loss on this big investment. By way of illustration, a feeder was cited who fed 400 cattle one season, making a gain of $22 a head. The next season he fed 1,200 and lost $15 a head. If he had fed but 400 the second year he would still have been ahead at the rate of $3.50 a head for the two years' results. As it was, he had to stand a loss on the two years' operations of $5.75 a head.

In the future the cattle business is bound to change to the growing of cattle, which means that the stock must be greatly improved to be profitable. Feeders can feed any kind of cattle and make money if they buy them at a price low enough so as to get a good margin by finishing them. The grower, however, who grows poor cattle is certain to lose money under present conditions. The business is clearly tending this way at the present time. Cows are in demand and are everywhere bringing higher prices than their value as beef. We can look for a tremendous improvement in the quality of cattle marketed in the coming years because of this increase in the number of breeding herds kept on our farms.

Professor Cochel made the statement that in the production of beef the cattle themselves should not be expected to do more than pay good market prices for the feeds produced, interest on the investment, and a fair price for the labor of handling them. Additional profits from growing cattle should come from the amount of brains and ability put into the business of farming and handling the stock. The increased capacity of the farm to produce crops is the biggest source of profit to come from the growing of beef cattle. There is no comparison between the farm that has grown cattle for twenty years and the one where no cattle have been kept. The animal husbandry department at Manhattan leased a farm near the college a few years ago and has handled this as a live stock farm. On this 100 acres the corn the past year produced at the rate of forty bushels an acre, while on the farm on the other side of the fence, where the land is exactly the same, the corn yield was only eight bushels an acre. It has been the constant practice to haul out and spread the manure on the farm handled by the animal husbandry department. It is here that we must look for the big profits in cattle farming.

While it is enough to expect cattle to pay merely market prices for feeds, one year with another they will pay better than market prices. At the Indiana Experiment Station, where cattle feeding has been practiced experimentally for a good many years, a calculation was made a few years ago covering a ten-year period. It was found that during this period the market value of corn had been between fifty-six and fifty-seven cents a bushel. When marketed through cattle, corn had returned an average for the ten-year period of between seventy-six and seventy-seven cents a bushel.

In concluding, Professor Cochel called attention to the fact that cattle furnish a market for feeds which have absolutely no market value. At the Hays Experiment Station this year cattle are being wintered on kafir stover, wheat straw, ten pounds of silage and a pound of linseed oil meal as the daily ration. These are breeding cows. They are being kept in the best of breeding condition. They are furnishing a market for feeds which ordinarily would be considered as by-products and wasted if not fed to the cattle. Even spoiled alfalfa hay, which would have practically no value on a city market, can be used in feeding stock cattle. We recollect that last winter considerable quantities of damaged alfalfa hay that would not have brought three dollars a ton on the market was used in a limited way in connection with silage in wintering breeding cows at Manhattan. It is possible to market these low grade feeds in this way because the breeding beef cow does not have to be sold in the spring, consequently all that is necessary is that she be in a good thrifty condition.

It was apparent from this discussion that it is impossible to separate farming from the cattle business. Beef production is based on good farming practice. It is a noticeable fact that the successful cattlemen are usually the most progressive and highest type of men in the community. Live stock farming is a higher type than grain farming and naturally attracts the best and brainiest men, and where live stock farming is the practice, there will be found the highest type of community life.

Ashes as Fertilizer

R. M. S., Woodson County, asks if ashes have any fertilizing value.

Wood ashes are rich in protein, but for general farm crops our Kansas soils do not lack potash. Analyses of our soils show that nitrogen and phosphorus are nearly always deficient in old soils that have been farmed a long time, but seldom is potash lacking. Wood ashes are quite often scattered with good results in garden soil and especially about fruit trees, grapes and other small fruits. Coal ashes have practically no fertilizing value.

Growing Potatoes

S. R. M., Morris County, asks how early potatoes should be planted to give the best results and also asks for other suggestions on potato growing.

F. S. Merrill, assistant professor of horticulture at the agricultural college, states that potatoes may be successfully planted in Kansas any time between March 10 and April 1. In the Kaw Valley east of Topeka, where potatoes are grown in large quantities, the growers aim to plant them as soon after March 17 as possible. In this part of the state the seed potatoes are cut so that each piece contains one well developed eye. This rule would fit the conditions prevailing in Morris County. In the western part of the state it is preferable to plant two eye pieces. Northern-grown seed is usually to be preferred to the home-grown seed stored under average conditions. Only clean seed typical of the variety selected should be planted. If the seed potatoes are scabby they should by all means be treated with the formalin treatment which is described in answering another inquiry on this page.

Ground for potatoes should be carefully prepared. Fall plowing is always better than spring plowing. Plant the seed from three to five inches deep, and for Morris County and Eastern Kansas generally the rows can be about thirty-two inches apart. In the western part of the state where the rainfall is less, they should be given more room, allowing at least three and a half feet between the rows.

Poland China Futurity

The American Poland China Record Association is planning to put on another futurity show in Topeka next fall providing the breeders will make the required number of nominations. The American Association and the Standard Association are jointly guaranteeing $600 in cash prizes for this futurity show. They are requiring that a contribution of $150 be made to the futurity fund by the fair management, which condition has been met.

In order to have the futurity at least twenty herds must be nominated at five dollars each, and all these nominations must be made by March 15, 1917. It is understood that if the required number of nominations is not made, the fee will be returned unless the breeder prefers to show in an adjoining state where a futurity show will be held.

The futurity shows of the Poland Chinas and Duroc Jerseys at the Topeka fair last fall were the strongest features, and we would urge that the Poland China and Duroc Jersey breeders of the state get in their nominations at once so as to insure the holding of these shows the coming year.

Orchardists who expect to top-graft apple trees this spring will find the following formula for grafting wax quite satisfactory: Melt together until thoroughly mixed four pounds of resin, two pounds of beeswax and a pound of tallow. Pour this mixture into a vessel of cold water. Grease the hands with tallow, and when the wax is cool pull it like taffy until it becomes light and smooth. It may then be shaped into balls or sticks, and will keep indefinitely in a cool place. Paraffin substituted for beeswax makes a harder as well as a cheaper wax.

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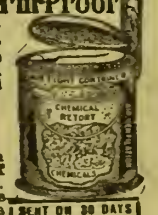

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We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

To be honest, to be kind, to earn a little, and to spend a little less, to make upon the whole, a family happier for his presence, to renounce when that shall be necessary and not to be embittered, to keep a few friends, but these without capitulation; above all, on the same condition, to keep friends with himself, here is a task for all a man has of fortitude and delicacy.

—ROBERT LOUIS STEVENSON.

Time to Join 1917 Clubs

Encourage the boy and girl to join an agricultural club if you would have a sympathetic helper in your farm work. The boy who carefully tends an acre of corn through the season or who grows an animal in competition with hundreds of other boys, learns very quickly the difference between careful and careless work and will apply this knowledge in doing work other than his own. If by thought and care the profits of his own corn acre are increased, he will take pride in helping his father improve his corn yield.

And we wonder how many of the mothers of today remember their first lesson in sewing or cooking. Would not membership in a club in which many other girls were working to excel you, have made the first lesson more interesting? From our own experience we



EVERETT BAKER, STERLING, KANSAS, AND HIS CLUB PIG, "IMP"

can emphatically answer in the affirmative. Our first lesson in button-holing will never be forgotten. Unfortunately it was a very hot summer afternoon when the good aunt who had our best interests at heart, labored with us on this buttonhole. We tried and cried and reached the point of indifference long before the job was completed. The knowledge that other girls were working buttonholes and that our work would be compared, would have made the lesson more attractive and the results would probably have been better. This is the incentive to work which the boys' and girls' clubs supply. And this interest is worthy of encouragement.

Many of these clubs will be organized this year throughout the state by the extension division of the Kansas Agricultural College. There will be square-rod garden clubs, corn clubs, tomato clubs, sorghum clubs, poultry clubs, pig clubs, gardening and canning clubs, sewing clubs, and bread-making clubs. Then there is the mother-daughter canning club, which is one of the best ones for it stimulates close co-operation of mothers and daughters in the work of the home and community. The work accomplished by the Glenwood Mother-Daughter Canning Club of Leavenworth County, has been reported in the columns of our paper. The work of this club should be duplicated in many communities this year.

The work of each of these clubs is practical and interesting. This statement is borne out by the number who work in the clubs year after year.

Otis E. Hall is the state club leader, and an inquiry addressed to him at Manhattan in care of the Kansas Agricultural College, will bring full particulars about any or all of the clubs under his leadership.

Plan for Canning Garden

There is an advantage in planning the vegetable garden on paper for in this way an estimate can be made of the amount that will be needed of each variety. Now that vegetables can be canned with a certainty as to their keeping quality, every housewife should learn to do this work so that she may provide her family with an economical winter diet that will both please the appetite and be healthful. The amount of canning that will be done will have much to do with the size of the garden and for this reason plans will be a help.

The more vegetables we eat, the healthier we will be, and the more home-canned vegetables we have the more reasonable will our winter food cost be.

Now is the time to plan for this so that we will have everything in readiness when the canning season comes. If we then suddenly decide to put up vegetables we may not have enough for both summer and winter use, or we may not be able to arrange for the equipment which will greatly simplify the work.

Any kind of work goes better if it is planned ahead, and in the case of canning work if it is not planned ahead we are apt to leave much of it undone.

Too Much Fancy Work

Few women there are who do not have a bit of crocheting, embroidering or tatting handy to pick up when a spare moment comes during the day. Many have more than a bit of it at hand and devote more than just the spare moments to it.

We believe in fancy work, but we also believe it is possible to overdo it. The woman who decides she will make enough lace to edge the curtains in every room in her house—and we have a friend who has just finished such a task—and can get no enjoyment out of sitting down without her crocheting because this is hanging over her, is doing herself an injustice both physically and mentally. If curtains trimmed with hand-made lace were essential, or even added to the comfort of herself or the other members of her family, there would at least be an excuse for her thinking she should overtax her nerves to this extent. But fancy curtains are of no value compared with the successful rearing of the family, and the mother should not overtax her strength to make them. That time spent in giving herself freedom that will refresh body, mind and spirit, or in doing something that will give pleasure to the family as well as to herself, will have a much more lasting effect and will be of greater value than will the hand-made lace.

Neither do we think the children's clothes or the underwear should be hand-trimmed to the extent that some member of the family feels she always has a job of this kind waiting for her.

Fancy work, so long as it serves as an interesting, restful diversion, is proper, but it never should claim every moment intended for things other than routine work.

Rice and Tapioca

4 cupfuls milk
⅓ cupful rice and pearl taploca in equal parts
½ cupful sugar
½ teaspoonful salt
Generous grating of nutmeg

Bake three hours in very slow oven, stirring three times during first hour to prevent rice and tapioca from settling.

It is dangerous to eat pork that has not been thoroughly cooked. A safe rule is to cook pork until all portions of it have lost the red color, or at least until the meat fluids have become jellied.



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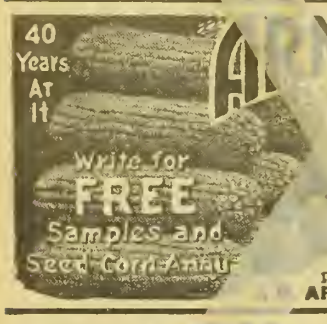

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FEED COST OF EGGS

THE final test of efficiency in poultry farming, from the standpoint of profits, is the cost of eggs per dozen. I believe some tests should be carried out along this line.

The laying of the largest number of eggs in a given time is not always the determining factor in the cost of production. Some hens will make eggs more cheaply than will others. Large hens require more feed for bodily maintenance than do small ones. Some hens lay larger eggs than do others and therefore require more feed. Hens with the best shelter and care will produce more eggs from a given amount of grain than will those needing much of their feed for bodily warmth. Usually the method of feeding a ration which is properly balanced for the production of eggs is more economical than the feeding of a larger quantity which is improperly balanced and which must be picked over to get the necessary constituents of eggs. At times, however, difference in price of feeds may make the larger quantity the most economical. A variety of feed will stimulate egg production. The supply of greens and succulence, method of feeding, location, range in house and yard, heredity, hatching and brooding, and personality of the caretaker, all have an influence on the economy of production even more than on the amount.

I live just outside of town and buy all my grain. Last year I produced eggs at a feed cost per dozen for the different months ranging from less than six cents in July to thirty-six cents in November. Why this difference? In July the hens were still laying close to their maximum. About the middle of the month most of those that were beginning to loaf were sold. The flock had the range of about one acre of alfalfa, all the table garbage they wanted in addition to grain and dry mash, and had a comfortable house, but no outside shade. In November only the staying layers were at work. The pullets were beginning to lay. Had it not been for a mistake in crowded housing and yarding during the last of their brooding period, the pullets would have been laying well at that time.

The record of one pen of 100 Single Comb White Leghorn pullets for the month of December is worthy of note. The total cost of grain for the whole flock of 320 was $23.30. Of this amount $5.20 was charged to seventy capons and roosters in the fattening pen, leaving $18.10 to be charged to 250 hens and pullets. Thirteen hundred and fifty-six eggs, or 113 dozen, were laid during the month, making the average cost sixteen cents per dozen. The hundred pullets laid 985 eggs. Estimating that they ate half the grain with a value of $9.05, the cost of their eggs per dozen was eleven cents. This may be a little high. However, the laying hen eats much more than does the loafing hen. The cost of the remaining thirty-one dozen eggs was .292 cents per dozen. The feed used was ear corn and barley, with a dry mash of bran, shorts and meat scrap. A generous feed of garbage was given at noon.

The year's record for 1916 has not been tabulated, but for 1915, when only grain, mash and free range were given, the cost of grain and mash for an average of 165 hens and pullets was $193.15. A total of 20,945 eggs, or 1,745 dozen, were laid at an average feed cost of .116 cents. Owing to lower prices at which the grain for ten months of 1916 was bought, the cost per dozen will be less than in 1915. While grain prices for 1917 are doubled, a better grade of hens and better care are expected to keep the cost price per dozen below half the selling price.

Many, especially those on the farm, will say they cannot tell their cost price, that they do not have time to figure it. With several kinds of grain in bins, boxes, or barrels, it can be quickly measured the first of the month by marking on the outside the height to which 100 or 200 pounds of grain stands when it is bought or filled from a larger bin. On most farms there is room in the barn granary or in the hen house where feed barrels can stand. In this way the amount of grain fed for the month can be noted with little difficulty. Chick feed can be kept in a separate barrel. Another method is to measure the amount fed the first day of the month, record it, and consider this as the average amount eaten by the hens each day of the month. The feed for different seasons will vary, but a fairly close estimate may be made in this way, and the results obtained may justify or condemn the flock you now have.—FRANK UHL, Riley County.

Chickens on City Lot

E. B. M., Atchison County, asks if chickens can be successfully raised on the back end of a town lot.

N. L. Harris, superintendent of the poultry farm at the agricultural college, answers this inquiry as follows:

"Raising chicks indoors is a precarious undertaking. It requires a love for the work and constant care. Space will not permit of a discussion of more than a few of the most important points. The writer at one time raised 1,200 chicks to broiler size in a house 14 x 28, but is frank to state that he will never do it again. The greatest trouble is to induce sufficient exercise. This can be accomplished only by feeding often and sparingly, keeping the appetite constantly keen. No wet feeds should be furnished, as baby chicks easily gorge themselves where a wet mash is given. Some form of green feed is necessary. Probably there is nothing better for this than raw onions and sprouted oats. All grain should be scattered in a deep litter of alfalfa leaves. If a heating system is used for brooding, the building should be divided so as to allow a cool scratching shed. The building must be constructed so there is a constant supply of fresh air passing through the house without causing any direct drafts. Constant attention to cleanliness is one of the essentials to success.

"While chicks can be thus raised, it is only practical on a comparatively small scale owing to the amount of work necessary."

Shipping Baby Chicks

That there were twenty million baby chicks shipped in 1916 in shipments ranging from twenty-five to several thousand in a single order, is the statement made by H. D. White, secretary of the International Baby Chick Association. This industry has grown tremendously, and suggestions for the handling of the chicks are given in a revised edition of the National Lumber Manufacturers' Association bulletin on model poultry houses. Mr. White says the shipping of baby chicks is made possible it by the fact that the egg yolk which is absorbed into the chick's body just before it breaks the shell is sufficient to last the chick as food for at least seventy-two hours. In fact, harm results in feeding during that period. Shipment can be safely made to any point reached in that length of time. Express service is the only means of transportation at present, and the express companies make special provision for handling chick shipments, so great is the volume of this business. Specially designed boxes are used which protect the chicks from ordinary exposure, the natural body heat of the chicks keeping them warm while on the road.

Well-built, small, portable colony houses ranging in size from 5 x 6 feet to 8 x 10 feet, and sometimes larger, are best suited to average conditions for baby chicks. A coal-burning brooder stove or portable lamp-heated hover can be used in the house as long as the chicks need heat. It is then taken out, leaving the chicks in the house until they are removed to permanent quarters. A small portable house is readily moved about to the orchard, the corn field or the shady lane, affording fresh new range ground for the chicks as often as desired. If properly constructed these houses can be quickly converted into practical laying or breeding houses by the use of simple portable equipment—nests, roosts and feed hoppers.

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Belle City Incubator Co., Box 18 Racine, Wis.

SAVES THE LITTLE ONES

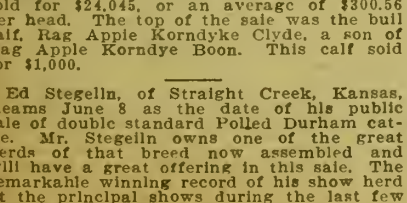
Here it is—the one sure, safe, scientific chick feed. The feed that brings 'em through the first two weeks—the critical period. Don't permit roup, dysentery and other diseases to kill off your chicks when for a few cents you can keep them well.

You will lose hardly more than 5 or 10 chicks out of every hundred — if — right from the start — you will feed

OTTO WEISS CHICK FEED

For "new" chicks. A natural food, prepared by poultry raisers who know how to mix the right ration of cereals, beef, bone and grit.

A pound feeds 50 chicks one week. Ask your dealer for it.



THE OTTO WEISS COMPANY
Wichita, Kan.

Ironclad TRADE MARK **WINS In 2 Biggest HATCHING CONTESTS Ever Held**

Mrs. C. F. Merrick, Lockney, Tex., with her Ironclad Incubator wins in the Mo. Valley Farmer and Nebr. Farm Journal Big Hatching Contest. She placed 148 eggs in the incubator and hatched 143 strong chicks. Think of that. You can now get these famous winners, made of Calif. Redwood.

150 Egg Incubator + 150 Chick Brooder BOTH FOR $11.00

If ordered together. 80 days trial, 10-year Guarantee. Order direct from this advertisement—money back if not satisfactory. Incubator is covered with galvanized iron, triple walls, copper tank, nursery egg tester. Set up ready to run. The Brooder is roomy and well made. Send for free catalogue.

Freight Paid East of Rockies





Ironclad Incubator Co. Box 147 Racine, Wis. (3)

FARM AND HERD.

Catalogs are out for W. W. Otey's Duroc bred sow sale to be held at Winfield, Kansas, March 20. This year Mr. Otey has catalogued a choice offering, consisting of eight tried sows, tweive fall yearlings, twenty-five spring gilts, ten summer gilts and elght summer and fall boars. The offering was sired by such boars as Good E Nuff Again King, grand champion 1913; Otey's Dream, champion 1914, and other noted boars.

The Missouri Hampshire Breeders' Association held a very successful sale at South St. Joseph, March 1. An offering of seventy-seven head consisting of ten young boars, six pigs six months old, and the balance bred sows and gilts, sold for an average of $55 per head, with a top of $125.

Clarence Dean, of Weston, Missouri, held one of the successful Poland China bred sow sales of the season at Dearborn, Missouri, February 28, 1917. Forty-six head of bred sows and bred gilts sold for an average of $80. No. 1 in the catalog topped the sale at $165, going to W. F. Allen, of DeKalb, Missouri. The offering was presented in splendid breeding condition. The sale was a quick snappy one and at no time was there a lack of interest. Col. P. M. Gross, of Macon, Missouri, did the selling, assisted by local talent. Mr. Dean invited all present to come back on the 28th of next February, when he would present a bigger and better offering.

The sale of Holstein cattle held at South Omaha, Nebraska, February 21, by Nebraska Holstein breeders, under the management of Dwight Williams, was a very successful sale. Eighty head of Holsteins consigned by fourteen Nebraska breeders sold for $24,045, or an averagc of $300.56 per head. The top of the sale was the bull calf, Rag Apple Korndyke Clyde, a son of Rag Apple Korndye Boon. This calf sold for $1,000.

Ed Stegelin, of Straight Creek, Kansas, cleams June 8 as the date of his public sale of double standard Polled Durham cattle. Mr. Stegelin owns one of the great herds of that breed now assembled and will have a great offering in this sale. The remarkahle winning record of his show herd at the principal shows during the last few years will appeal to all lovers of high class Polled Durhams.

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks, for bona fide seekers of employment on farms.**

HELP WANTED.

BE A GOVERNMENT FARMER. GOOD pay; steady, interesting job. Write Central Institute, 44-F, St. Louis.

MAN OR WOMAN TO TRAVEL FOR old established firm. No canvassing; $1,170 first year, payable weekly, pursuant to contract. Expenses advanced. G. G. Nichols, Philadelphia, Pa., Pepper Bldg.

MEN—18 OR OVER BECOME RAILWAY mail clerks. $75 to $150 month. Vacations. Big chances farmers. Write immediately for list government positions easily obtainable. Franklin Institute, Dept. A-82, Rochester, New York.

AGENTS WANTED.

GOOD MAN TO TAKE ORDERS, GET own clothes free, make big money. Knickerbocker Tailoring Co., Dept. 594, Chicago.

WE PAY $80 MONTHLY SALARY AND furnish rig and expenses to introduce guaranteed poultry and stock powders. Bigler Company, X 671, Springfield, Ill.

REAL ESTATE.

YOUR CHANCE IS IN CANADA.—RICH lands and business opportunities offer you independence. Farm lands, $11 to $30 acre; irrigated lands, $35 to $50; twenty years to pay; $2,000 loan on improvements, or ready made farms. Loan of live stock; taxes average under 20 cents an acre; no taxes on improvements, personal property, or live stock. Good markets, churches, schools, roads, telephones; excellent climate — crops and live stock prove it. Special homeseekers' fare certificates. Write for free booklets. Allan Cameron, General Superintendent Land Branch, Canadian Pacific Ry., 234 Ninth Ave., Calgary, Alberta.

NEW FARM OPPORTUNITY IN ONE OF the greatest states in the Union. A new line of the Santa Fe is tapping a rich and fertile prairie section of Northwest Texas, where already many farmers have made good in a big way with wheat, hogs and live stock. Here, if you act now, you can get first choice—get in on the ground floor of a great opportunity. You can get in ahead of the railway—ahead of the people whom the railway will bring—ahead of those who act more slowly than you do. This is the chance of a lifetime for a man of moderate means. A certain number of thrifty, far-seeing farmers can acquire good land at an astonishingly low figure and on long, easy terms. If you have confidence that a great railroad, like the Santa Fe, would only recommend what it considers a good thing, and because it wants to see new territory developed and wants newcomers to prosper and produce—then write me today for particulars about this district. Mild climate, social advantages, schools, churches, telephones, good roads. Everything there but enough men with their families. Will you be one of the fortunate first comers to reap the advantages of a section that has been minutely inspected by a Santa Fe agricultural agent and pronounced right? Write me now and let me send you a copy of the special illustrated circular we are getting out. C. L. Seagraves, Industrial Commissioner, A. T. & S. F. Ry., 931 Railway Exchange, Chicago.

BUSINESS CHANCES

offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

WISCONSIN LAND FOR SALE

LANDOLOGY, A MAGAZINE GIVING the facts in regard to the land situation. Three months' subscription free. If for a home or as an investment you are thinking of buying good farm lands, simply write me a letter and say, "Mail me Landology and all particulars free." Address Editor Landology, Skidmore Land Co., 301 Skidmore Bldg., Marinette, Wis.

PET STOCK.

BELGIAN HARES FOR SALE. E. RATHbun, Lucas, Kansas.

HOGS.

BIG-TYPE POLAND BOARS. U. A. Gore, Seward, Kansas.

O. I. C. REGISTERED HOGS FOR SALE. September and October male pigs and serviceable males. Write for prices. Carl F. Schuster, Scranton, Kansas.

DOGS.

COLLIE PUPPIES, $5. FRANK BARrington, Sedan, Kansas.

FOR SALE — SCOTCH COLLIE PUPS, farm raised, from good workers. I. P. Kohl, Furley, Kansas.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

SITUATION WANTED.

WANTED — WORK IN UP-TO-DATE dairy by an experienced reliable young man. Lawson Sappington, Centralia, Missouri.

TREES, SEEDS AND PLANTS.

WHITE BLOSSOM SWEET CLOVER, reasonable. John Lewis, Hamilton, Kan.

SEED CORN. — LAPTAD STOCK FARM, Lawrence, Kansas.

TREES AT WHOLESALE—CATALOGUE free. Agents wanted. Peyton Nurseries, Boonville, Mo.

TEN ELBERTA AND FIVE CHAMPION peach trees, postpaid, $1. Send now. Wellington Nurseries, Dept. C, Wellington, Kan.

SEED CORN—BOONE COUNTY WHITE, carefully selected, $2.50 per bushel shelled. J. W. Taylor, Edwardsville, Kansas.

SUDAN GRASS SEED FOR SALE, 35c per pound; 100 pounds at 30c, f. o. b. J. K. Burke, Estacado, Texas.

SEED CORN—WON FIRST AND SWEEPstakes, Missouri State Corn Show, 1917. For catalog, write George Manville, Faucett, Mo.

BEST PROGRESSIVE EVERBEARING strawberry plants cheap. For particulars write R. N. Thomas, Shenandoah, Iowa.

ALFALFA SEED, NEW CLEAN UPLAND, 14 cents per pound for one bushel or more. Bags, 25 cents. Sample on request. W. M. Hixon, Berryton, Kansas.

SEED CORN — DIAMOND JOE WHITE, excellent drouth resister, and Reid's Yellow Dent. Graded, $2.50 bushel. D. D. Denver, Milford, Kansas.

PURE GOLD MINE AND BOONE COUNTY White seed corn, selected, graded, $2 per. Alfalfa seed, $7.50 per. Samples free. J. F. Feigley, Enterprise, Kansas.

FOR SALE — BOONE COUNTY WHITE seed corn, made over 30 bushels this year. Hand picked. $1.75 per bushel. W. C. Baumgartner, Halstead, Kansas.

ONE 5-CENT PACKET EACH OF RADish, lettuce, onion, mustard, spinach, beets, parsnips, all for 25c. Sunny Slope Seed Farm, Independence, Missouri.

GIANT SWEET PEAS—ENOUGH FOR A 40-foot run. Special collection, mixture, 25c. Sunny Slope Seed Farm, "The Home of Sweet Peas," Independence, Missouri.

ALFALFA SEED FROM HIGH PRODUCing fields. 370 bu. from 40 acres. 99.74% pure; 95% germination. $8.00 per bu. Sample free. Stockwell Farms, Larned, Kansas.

REID'S YELLOW DENT, BOONE COUNTY White seed corn. Genuine Red Texas seed oats, clover, timothy and alfalfa seed. S. G. Trent, Hlawatha, Kansas.

SEED CORN — YELLOW DENT; ST. Charles White, carefully selected. Shelled, bushel, $2; bags free. Orders filled with care at once. Frank Crosby, Route 2, Belvue, Kansas.

TREES, SHRUBS, PLANTS, VINES, seeds. Everything at lowest prices direct to you. All tree peddlers' commissions cut out. Free book. Wichita Nurseries & Seed House, 105 Sheil Bldg., Wichita, Kansas.

GERMAN MILLET, FINE GERMINAtion, 100 pounds, $3.75. Tested white blackhull kafir, $1.85 bushel in two-bushel sacks. All sacks free. Brooks Wholesale Co., Ft. Scott, Kansas.

SEND $1.00 FOR 100 PROGRESSIVE strawberry plants and get our Twentieth Century Berry Book absolutely free. Worth dollars to you. E. W. Townsend, Box 3, Salisbury, Md.

SEED CORN—PURE-BRED REID'S YELlow Dent and Boone County White, Alsike, Mammoth and Medium Red Clover, Kherson and Iowa 103 Oats, new crop timothy seed. Folder and prices free. F. M. Riebel & Son, Arbela, Mo.

ROSE BUSHES

FIVE HARDY TWO-YEAR-OLD EVERblooming rose bushes for only $1.50, or each 50c. Richmond, deep red; Ward Grand, yellow; Killarney, suberb pink; White Killarney, sweet scented white; American Beauty, charming red. Sunny Slope Seed Farm, Independence, Missouri.

HORSES AND MULES.

SHETLAND PONIES, FIFTY HEAD, moderate prices. Charles Clemmons, Coffeyville, Kansas.

FOR SALE — REGISTERED FRENCH Draft Stock Perchcron-bred stallion, age 4, weight 1,760. Two fillies, coming two. Frank Kratzberg, Sr., Greeley, Kansas.

FOR SALE — FOUR 5-YEAR-OLD PERcheron mares, two Percheron stallions; one 2, one 3. All registered P. S. A. and large. L. H. Luckhardt, Tarkio, Mo.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excelient breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

FOR SALE — ONE REGISTERED PERcheron stallion, bay, coming 3 years old, sired by Casino. Weight about 1,600 pounds. J. E. Regler, Whitewater, Kansas.

HEDGE POSTS.

FOR SALE—FIFTY THOUSAND OSAGE hedge posts. H. W. Porth, Winfield, Kan.

CATTLE.

FOR SALE — ONE HOLSTEIN MALE calf, 27 months old. Write for his picture and prices. H. A. Prachejl, Jennings, Kan.

CATTLE.

CHOICE POLLED DURHAM BULL AND seven high grade cows and heifers. Priced right. C. M. Albright, Overbrook, Kan.

FOR SALE — TWELVE REGISTERED Galloway calves, three bulls and nine heifers. B. F. Young, Richland, Kansas.

FOR SALE—ONE PURE-BRED JERSEY bull calf, born January 24, 1917. Write H. H. Starr, Claflin, Kansas.

TWO GUERNSEY HEIFERS, BOTH REGistered, richly bred, in calf and priced right. J. W. Marley, Oswego, Kansas.

FOR SALE — REGISTERED HOLSTEIN bulls, ready for service. Prices right. G. H. Ross, Independence, Kansas.

REGISTERED HOLSTEINS — CHOICE bull calves from heavy producing dams and our $1,000 sire, $50 each. Nu-Born Farms, Jasper, New York.

300 HEAD OF REGISTERED AND HIGH grade cows and heifers for sale, headed by the great 40-pound bull, Johanna King Segis. Neal Houslett, Oxford, Wis.

CHOICE CALVES—HOLSTEINS, GUERNseys, Shorthorns, high grades, $15 to $35 according to age. Expressed to you at little cost. Write Paul Johnson Company, South St. Paul, Minn.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $20 apiece. Frank M. Hawes, Whitewater, Wis.

ONE HUNDRED CHOICE BREEDY HOLsteins from six months to six years. Some fresh, a lot springing. Tuberculin tested, three-fourths white, dairy conformation. Yearlings extra large. C. S. Simmons, Belmont, Wisconsin.

MISCELLANEOUS.

$ $ $ SAVED — OWNERS HORSE OR sheep clipping machines or automobiles. Particulars free. Phelps, Moberly, Mo.

STAR ROUTE AND SIDE LINE, PAYing $35 a week; price $1,500; to exchange for farming outfit and live stock. Eppes, 1015 Park, Kansas City, Mo.

YOU CAN MAKE A GOOD LIVING IN your back yard raising Belgian hares. Full particulars and price list of all breeds, 10c. W. G. Thorson, Aurora, Colo.

FOR SALE — 16-HORSEPOWER GASOline engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost $480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

THE STRAY LIST.

TAKEN UP — BY ROY J. PHILLIPS, Council Grove, Council Grove Township, Morris County, Kansas, on December 18, 1916, one red heifer, no marks or brands. Appraised at $25. Lee A. Moser, County Clerk.

TAKEN UP — BY HUGH JONES, OF Reading, Reading Township, Lyon County, Kansas, on December 16, 1916, one red and white steer, branded on left hip and piece out of right ear. Appraised at $60. G. L. Miller, County Clerk.

TAKEN UP—BY PETER MUGLER, OF McPherson, King City Township, McPherson County, Kansas, on the 19th day of February, 1917, one red steer, about 1½ years old, small V cut in top of right ear. W. E. Rostine, County Clerk.

TAKEN UP—BY MRS. LAURA ATKINson, of Americus, Americus Township, Lyon County, Kansas, on February 12, 1917, one red steer, no marks or brands. Appraised at $40. G. L. Miller, County Clerk.

TAKEN UP BY W. H. DE CROW, WAmego, Wabaunsee Township, Wabaunsee County, Kansas, one six-months-old heifer calf, red with brockle face. Both ears bobbed. 2½ feet high. Appraised at $20. Taken up on February 10, 1917. L. B. Burt, County Clerk, Alma.

FARM AND HERD.

F. J. Searle, Oskaloosa, Kansas, has announced April 10 and 11 for a two days sale of 170 head of registered Holstein cows and heifers. Mr. Searle will sell his entire herd of fifty cows and heifers. Thirty cows are bred to the great herd bull, Prince Artis Pontiac Abbekerk by the King Pontiac Artis. This bull will also be sold. Twenty cows are now giving milk. Fifteen heifers are also bred to drop calves in the spring. Consignments to this sale will be made by R. E. Haeger, Coleman & Son of Denison, Kansas, Segrist & Stephenson, Holton, Kansas, and Mr. Glissman of Omaha. All the cattle are registered and the 170 head that go in this two days sale will be carefully selected and will represent the best breeding of the Holstein breed. They will be backed by records and they will be one of the useful lots of Holsteins that will be sold this season.

R. J. Linscott, Holton, Kansas, owner of the famous Register of Merit herd, announces a dispersion sale of his great herd to be held May 31. Mr. Linscott expects to sell his farm and engage in other business and will sell his entire herd. The Linscott herd was the first Register of Merit herd in Kansas. It is made up of representatives of the best families of the breed and there are few Jersey herds in existence that will compare with it in breeding and individuality. Among the great bulls that been used in the herd are Jacoba Irene's Premier 80234, first dam Jacoba Irene 146443, 1,191 pounds butter in one year, $2,927 pounds and three calves in thirty-seven consecutive months; second dam Pogis Irene 2d 146435, 737 pounds when eighteen years 11 months old. Gamboa's Knight 16040, one of the best sons of Gamboge's Knight and out of a Register of Merit Flying Fox cow; brother to sire of more thousand-dollar cows and tested cows than any living sire. Mr. Linscott will catalog 120 head of Jerseys for this sale.

C. M. Albright, of Overbrook, Kansas, owner of Clover Lawn Farm and one of the good herds of Polled Durham cattle in the state, reports a good demand for high class Polled Durham breeding stock. He recently sold seven cows and heifers to Clayton Kaufman, of Clyde, Kansas. He also reports a recent sale of two fine double standard Polled Durham bulls.

RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

BARRED ROCK EGGS—WILL PLEASE. $1 postpaid. Mrs. Geo. Kennedy, Edmond, Okla.

BARRED PLYMOUTH ROCKS — FARMbred beauties. Eggs for hatching, 5c each. Mrs. W. C. Bocker, Solomon, Kan.

BUFF AND WHITE ROCK EGGS—FEmales scoring high as 96 and 96¾. Mating list. W. H. Beaver, St. John, Kansas.

BARRED ROCK EGGS, $1 PER SETting, $4 per hundred. Mrs. Lillie Hirt, Parkerville, Kansas.

CHOICE WHITE ROCK COCKERELS for sale. Mrs. T. A. Case, Route 2, Sterling, Kansas.

WHITE ROCK EGGS, $2 PER FIFTEEN. Quality guaranteed. W. G. Allison, Sterling, Kansas.

EGGS—FANCY BARRED ROCKS, WINter layers, $1.25 and $2.50 setting. Clyde Karel, Clarkson, Nebraska.

WHITE ROCKS, SIZE AND QUALITY, good egg strain. Eggs—fifteen, $1; fifty, $3; hundred, $5. G. M. Kretz, Clifton, Kansas.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." $35 cockerel heading Pen No. 1. Eggs, $4 per fifteen. Mrs. Iver Christenson, Jamestown, Kansas.

HATCHING EGGS FROM BARRED PLYmouth Rocks, excellent birds. Two dollars for fifteen. Peter H. Friesen, Route 1, Lehigh, Kansas.

WHITE ROCKS — SEVENTEEN RIBbons. This season's eggs, one and two dollars per fifteen. Mating list. Ed Fehr, Marquette, Kansas.

BARRED ROCKS — FIRST COCKEREL, Manhattan, 93½. Fifteen eggs, $3; hundred, $5. Duroc boars, gilts. F. F. Wood, Wamego, Kansas.

BLUE RIBBON BARRED ROCKS — Twenty-eight years experience. 110 premiums. Pens head Chicago winners. Eggs, fifteen, $3, Mrs. Chris Bearman, Ottawa, Kans

PRIZE WINNING ED ROCKS — Four entries, five pr te Show 1917. Eggs, special mating, 5; farm flock, $1. C. D. Swaim, Geu gs, Kansas.

BARRED PLYMOUT KS, E. B. Thompson strain. Eggs, er fifteen; $3.50 per fifty; $6 per hun . J. Rivir, Lafontaine, Ind.

BARRED ROCKS, EXC N SIZE and quality. Eggs, first p fifteen; range flock, $6 per hund Myrtle Henry, Route 1, Lecompt

PURE BARRED RC GS FROM large well-marked rang , $1.25 setting, $6 hundred. Cho mpson strain pen eggs, $3 setting. Blackwelder, Isabel, Kansas.

LINDAMOOD'S BAI OCKS, BOTH dark and light mati rices for eggs from special matings, fifteen. Utility eggs, $5 per hundred. for circular. C. C. Lindamood, Walt sas.

EGGS FOR HAT — FROM BEST laying strains of Ba Plymouth Rocks. Bradley Bros. and Pa 200-egg strains. $3, fifteen; $5, thirty. Catalog. Gem Poultry Farm, Haven, Kansas.

BLUE RIBBON WINNERS, MISSOURI and Kansas state shows. Barred Rocks, Ringlet strain. Eggs and stock for sale. Satisfaction guaranteed. Hartman's, Route 1, Webb City, Missouri.

BARRED PLYMOUTH ROCKS — GENUine Thompson Ringlet prize winning strains. Pen eggs, either cockerel or pullet mating, also utility flock eggs. Circulars free. A. F. Siefker, Defiance, Missouri.

BARRED ROCK SPECIALIST — PRIZE winning Hobart, first, second, third, fourth cockerel; first, third pullet; first pen; second, third cock; silver cup, gold special, Oklahoma City, first pullet, bred pen, first cock. Eggs, fifteen, $2, $3; hundred, $6. Fred Hall, Lone Wolf, Okla.

BRAHMAS.

LIGHT BRAHMAS—EGGS FOR HATCHing after February 1. Geo. W. Craig, 2031 N. Water St., Wichita, Kansas.

EGGS FOR HATCHING FROM PRIZEwinning Light Brahmas. Write for prices. R. W. Getty, Downs, Kansas.

TURKEYS.

BOURBON RED TURKEY EGGS, $2.50 per eleven. Fred Watts, Havensville, Kan.

BOURBON RED TURKEYS—EGGS, $3.50, eleven. Mrs. J. E. Bundy, Goodrich, Kansas.

WHITE HOLLAND TURKEYS, SINGLE Comb White Leghorns, Single Comb Buff Orpington eggs. Baby chicks. Mrs. S. A. Warren, Reger, Mo.

MAMMOTH WHITE HOLLAND TURkeys—Eggs, $2.50 per eleven. Let us book your order early. Mrs. Roy Davisson, Sabetha, Kansas.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

MAMMOTH BRONZE TURKEYS — NO more toms for sale. Pullets, $5, $10; hens, $10, $15. Eggs—Yard, 1, $1 each; second, 50 cents. Black L gshan, Barred Plymouth Rock cockerels ale, $2, $5. Eggs, $2-$5 per setting. cord. Jas. W. Anders, Unionville, Mo

RHODE ISLAND REDS.

EGGS FROM PRIZE WINNING ROSE Comb Rhode Island Reds. Catalog free. M. L. Puckett, Puxico, Mo.

LARGE BRILLIANT ROSE COMB RED eggs for hatching, $1 per fifteen; $6 per hundred. Mrs. Roy Davisson, Sabetha, Kan.

ROSE COMB RHODE ISLAND RED eggs, one dollar per fifteen. R. R. Wilson, 2519 Grand Ave., Parsons, Kansas.

ROSE COMB RED EGGS FROM BLUE ribbon winners, $3, $5, $7.50 per fifteen. Best of guarantee. Fred Keim, Seneca, Kan.

SINGLE COMB RHODE ISLAND RED eggs. Maple Hill Poultry Farm, Route 6, Lawrence, Kansas.

SINGLE COMB RED EGGS—GOOD FARM range, $4 per hundred, $1.50 per thirty. Mrs. Rosa Janzen, Box 242, Geneseo, Kan.

HIGH SCORING R. C. R. I. REDS—EGGS, $1.50 per setting. Fertility guaranteed. Chas. Wodke, Council Grove, Kansas.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Baby chicks. Mating list. L. E. Castle, Wichita, Kansas.

DARK R. C. REDS, PURE-BRED, EXTRA fine. Eggs, $3 and $2 per fifteen; $5 per hundred. W. J. Honeyman & Sons, Hillside farm, Madison, Kansas.

SINGLE COMB RHODE ISLAND REDS, Tallant's strain. Eggs especially packed for hatching, $1 for fifteen. Jay McCabe, Garnett, Kansas.

PURE-BRED ROSE COMB RHODE Island Reds. Eggs for hatching, $1 per fifteen, $5 per hundred. Mrs. L. F. Hinson, Stockdale, Kan.

"FRANKLIN REDS," SINGLE COMB Rhode Island cockerels, deep rich red color, $10 and $20 each, sent on approval. Hatching eggs, $5 and $10 per setting. Franklin Poultry Gardens, Omaha, Nebraska.

EGGS FOR SALE—S. C. R. I. REDS.—Breeder for twelve years. $1.50 per setting of fifteen; $5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

WYANDOTTES.

R. C. BUFF WYANDOTTE EGGS, $1.50 for fifteen. G. G. Wright, Langdon, Kan.

PARTRIDGE WYANDOTTE EGGS, $3.00 per fifteen; $5.50 per thirty. Mrs. O. E. Collins, Drexel, Mo.

WHITE WYANDOTTE EGGS, $1 PER 15. Martin Fishel strains. Fred Watts, Havensville, Kansas.

WHITE WYANDOTTE EGGS, $1, FIFteen; $5 hundred. Mrs. Geo. Downle, Lyndon, Kansas.

ROSE COMB WHITE WYANDOTTE EGGS $4 per hundred; farm range. Bertha Rogers, Route 6, Garnett, Kansas.

PURE-BRED SILVER WYANDOTTE stock and eggs for sale. Reuben M. Roddie, Ada, Okla.

WHITE WYANDOTTES — EGGS FROM choice stock, $1.80, thirty; $5, hundred. Mrs. Will Beightel, Holton, Kansas.

ROSE COMB WHITE WYANDOTTE eggs, per fifteen, $1; one hundred, $4. H. A. Ritter, Route 2, Kiowa, Kansas.

EGGS FOR SALE FROM PURE WHITE Wyandottes, $6 per hundred. Mrs. D. J. White, Clements, Kansas.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuis, Fredonia, Kansas.

R. C. WHITE WYANDOTTE COCKERels, $1 each. Also eggs per fifteen, $1. Mrs. E. S. McCandless, Nashville, Ark.

CHOICE ROSE COMB SILVER WYANdotte eggs, $1 for 15; $5 for 100. Mrs. Phillip Schuppert, Arrington, Kansas.

WHITE WYANDOTTE EGGS FROM farm range stock, $4 per hundred. Vida Hume, Tecumseh, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Cockerels and hens. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $6. Baby chicks. Mrs. Edwin Shuff, Plevna, Kansas.

CHOICE ROSE COMB WHITE WYANdotte eggs for sale, $1.50 per setting of fifteen eggs. Mrs. George Foresman, Route 1, Belvue, Kansas.

ROSE COMB WHITE WYANDOTTES — Pullets, $1.50 each; eggs, per fifteen, $2; flock, fifteen, $1; 100, $4.75. Mrs. Effie Acheson, Paico, Kansas.

PARTRIDGE WYANDOTTE EGGS, MAhogany strain, $1.50 per fifteen. Good cockerels, $3 to $5 each. Canaries, fine singers. Baby chicks. Mrs. Edith B. Taylor, Marion, Kansas.

SILVER WYANDOTTES. YES, I AM still selling Silvers. Have some good cockerels left. Eggs in season. Prices reasonable. Write me. M. B. Caldwell, Broughton, Kansas.

PARTRIDGE WYANDOTTES — PENS headed by Madison Square Garden and Chicago Coliseum winners. Eggs, $3 per fifteen. Book early. Rev. F. R. Beery, Concordia, Kansas.

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S. C. W. LEGHORN EGGS. STATE WINner. Mrs. W. R. Hildreth, Oswego, Kansas.

WHITE LEGHORN EGGS (YOUNG'S $20 stock). Elsie Thompson, Mankato, Kan.

PURE-BRED BUFF LEGHORN EGGS, $6 hundred. P. A. Wempe, Seneca, Kansas.

ROSE COMB WHITE LEGHORN COCKerels, $1 each. N. C. Dewey, Stafford, Kan.

TIP TOP ROSE COMB BROWN LEGhorn eggs. J. E. Wright, Wilmore, Kan.

PURE-BRED SINGLE COMB BROWN Leghorns. Choice farm flock. Eggs, 100, $4. Mrs. D. A. Wohler, Hillsboro, Kansas.

PURE-BRED S. C. BROWN LEGHORN eggs, $1 per fifteen, $5 per hundred. Mrs. L. H. Hastings, Thayer, Kansas.

"BARRON'S 268-EGG LEGHORNS" — Eggs, $5 hundred. Sunlight Poultry Farm, Mt. Moriah, Mo.

EGGS, $1.50 PER SETTING. LEGHORNS, Reds, Rocks, Wyandottes and Orpingtons. Royal Poultry Yards, Coffeyville, Kansas.

EGGS, EGGS FROM KEEP-LAYING strain Single Comb White Leghorns. Thol. R. Wolfe, Conway Springs, Kansas.

SINGLE COMB BUFF LEGHORN COCKerels. Eggs. White Holland turkey toms. Eggs. Mrs. S. F. Crites, Florence, Kansas.

SINGLE COMB WHITE LEGHORN EGGS —English Barron strain. Baby chicks. F. B. Morger, Fowler, Colo.

R. C. B. LEGHORNS, WINTER LAYERS, vigorous stock. Eggs, $5 per hundred. W. C. Gilmore, Oneida, Kansas.

ROSE COMB BROWN LEGHORNS — Prize winners. $5 hundred, $2.75 fifty, $1 fifteen. Rufus Standiferd, Reading, Kan.

BROWN LEGHORN HATCHING EGGS, $1 per fifteen, $3 per fifty, $5.50 per hundred. R. W. Getty, Downs, Kansas.

PURE-BRED ROSE COMB BROWN LEGhorn eggs, $1 per fifteen, $5 per hundred. Mrs. Daisy Denlinger, Frankfort, Kansas.

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ROSE COMB WHITE LEGHORN COCKerels, scored birds. Write for prices. Eggs for hatching, $5 per hundred. Mrs. Joe Streeter, Route 5, Hamilton, Mo.

S. C. BROWN LEGHORNS — OH! YES, we have been raising them 21 years; the 222 to 266 trap nest egg record kind. Eggs, 15, $1.25; 100, $5.00. Gorsuch, Stilwell, Kansas.

EGGS FOR SALE FROM PURE-BRED heavy winter laying Single Comb White Leghorns, $2 fifteen, $10 hundred; 100% fertility guaranteed on seventh day of incubation. H. M. Blaine, Sylvia, Kansas.

SINGLE COMB WHITE LEGHORNS, Columbian Wyandottes, Muscovy ducks, fancy pigeons. Catalog. Southdown sheep, Berkshire swine. J. A. Leland, Springfield, Illinois.

PRIZE WINNING S. C. WHITE LEGhorns at two state shows. Eggs, $2, $3 and $5 per fifteen. Eggs from flock, $5 per 100. Chicks. Send for free mating list. C. G. Cook, Box F, Lyons, Kansas.

RUSSELL'S FAMOUS BROWN LEGhorns, single comb, prize winners, heavy layers. Write for catalog. Satisfaction guaranteed. Mrs. Geo. Russell, Chilhowee, Missouri.

S. C. W. LEGHORN COCKERELS FROM hens with records over two hundred eggs; one, two, three dollars each. Baby chicks, 12½c each. Eggs, $5 per hundred. Hyperion White Leghorn Farm, Route 1, Des Moines, Iowa.

YOU WANT GOOD LAYERS. MOORE'S strain of S. C. Brown Leghorns are prize winners and winter layers. Eggs, $1 for fifteen and $4 for 100 postpaid. John W. Moore, R. R. No. 1, Poplar Bluff, Mo., formerly of Hendrickson, Mo.

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S. C. WHITE LEGHORNS EXCLUSIVEly. Decka's laying strain. Many winners. Eggs for hatching, $6 per hundred. Write for 1917 price list. Yours for quality (Nuf sed), Deckas White Poultry Farm, Route 1, Des Moines, Iowa.

S. C. BROWN LEGHORNS — WINTER layers and beauty strain. Booking orders for chicks to be delivered April 1, any quantity, at $12.50 per hundred. Eggs at $5.50 per hundred, trap-nested stock. Pullets in laying contest. Paradise Poultry Farm, Carona, Kansas.

EGGS — FROM BELMONT'S UTILITY strain Single Comb White Leghorns, bred to lay kind, that pays the grocery bill. Flock headed by White King, the largest and whitest bird we have ever owned. Setting fifteen, $1; fifty, $3; hundred, $5. Belmont Farm, Trenton, Mo.

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YOUNG'S STRAIN WHITE LEGHORNS—Eggs, $5 hundred. Foider free. Reed Poultry Circle, Box H, Reed, Oklahoma.

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GET MY FREE MATING LIST OF MADIson Square and Chicago prize winning Langshans. John Lovette, Mullinville, Kan.

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FOR SALE, EGGS—EGGS FROM PUREbreds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons. Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

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PURE-BRED WHITE ORPINGTONS — Eggs for hatching, $1 per fifteen, $5 per hundred. Frank Hinson, Stockdale, Kansas.

EGGS FROM PRIZE WINNING BUFF Orpingtons, $2 per 15; fine Barred Rock, $1 per 15, $5 100. Mrs. M. Ditto, Newton, Kan.

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WHITE ORPINGTONS — PERSISTENT winter layers. Four pens. Mating list free. Eggs, $1.50 per setting and up. Urbandale Poultry Farm, 418 Butts Bldg., Wichita, Kansas.

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ROSE COMB RED CHICKS — WHITE Runner duck eggs. Lily Robb, Neal, Kan.

REDS, ROCKS, LEGHORNS; 12½c. Request folder. McCune Hatchery, Ottawa, Kansas.

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PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Booking orders. Eggs of these, $4 dozen; Golden, $5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

(Continued on Next Page.)

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Where real Anxiety 4th blood is found in abundance. The home of Concentrate 289644, a double Beau Brummel. Young stock always on hand for sale from this noted sire. Five extra herd headers on hand at reasonable price, blood lines considered. Twenty choice young bulls for sale. Come and see my herd. Satisfaction guaranteed. Also a few Berkshire pigs.

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Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of samo breeding. Write.

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DR. JOHN A. NESS, of Auburn, Me., states that Lenetta is seventeen years old:

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Geo. A. Deitrich, Carbondale, Kan.
D. J. White, Clements, Kan.

RED POLLED CATTLE.
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Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

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Scotch-topped Shorthorns. Ten bulls, age 9 to 11 months, sired by the famous Star Goods, Orange Marshall. Write your wants.

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A few 1916 fall bull calves for sale. Also a few cows and heifers.

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MAMMOTH PEKIN DUCKS, EXCELLENT layers, $2 each. Helen Harrington, Fairfax, Iowa.

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The work of inspecting and selecting the Polled Durham and Shorthorn cattle that will go in the two days' sale to be held at Omaha, Nebraska, March 29 and 30, has been completed. The animals that will go in this sale have been very carefully selected and will be one of the useful offerings sold this season.

E. D. King, of Meadow Brook Farm, Burlington, Kansas, reports his big herd of pure-bred Berkshire hogs doing well. Mr. King owns one of the biggest herds of Berkshires now assembled and one of the oldest herds in the West. During the many years he has been breeding Berkshires he has found them very profitable as a feeder and market hog. At present he has over a hundred head of sows in his herd bred for spring farrow.

GUERNSEY CATTLE.

Percheron and Jack Sale

Oakland Stock Farm, Chillicothe, Mo.



Tuesday, March 20

TWENTY HEAD OF CHOICE JACKS.
TEN PERCHERONS.

Our offering of jacks will include some of the best that will be sold this year, among them Giant Mammoth by Paragon, Black Casino Mammoth and Day Star Mammoth, also by Paragon. A number of the jacks will measure from 15.1 to 16 hands. They are bred right and are right.

The Percherons are a choice lot, among them Talladega 123628, foaled August 1, 1915, that now weighs 1,800 pounds, will mature to a 2,400-pound horse. Also other good stallions. The Percheron mares and fillies are the breeding and type that make good. For catalog address

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Twenty-three stallions from weanlings to 5-year-olds. Handsome, stylish, gentle, but powerful young stallions, 1,300 to 1,600-pound fellows, the right kind to produce durable, active farm horses and command attention in any stud. Priced where you will buy. Satisfaction guaranteed. Come or write at once.

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Has 40 big, black Mammoth jacks and jennets. Every jack my own raising; two to six years old, 15 to 16 hands high, extra heavy bone, big bodies. I can sell you a better jack for $500 to $600 than most speculators can for a thousand. Come and see for yourself. They must sell.

ED BOEN, LAWSON, MO.
38 Mi. E. of K. C. on C. M. & St. P.
40 Mi. S. W. of St. Joe, on Santa Fe



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Imported and home-grown 4 and 5 yr. old stallions, ton and heavier, 3 yr. olds, 2 yr. olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. **Fred Chandler, R. 7, Charlton, Iowa.** (Above Kansas City.)

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Two to six years old, heavy bone, right in every way. Imported Spanish jack, weight 1,200 pounds, at head of jennet herd. Come and see us. We mean business. Prices reasonable.

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Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.

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IT WILL PAY YOU TO SEE OUR OFFERING

Of choice extra high grade young cows and heifers, all springers in calf to pure-bred sires; large developed females, good udders, well marked and the right dairy type at prices that will challenge comparison for Holsteins of their breeding and quality. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone.

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Is offering another choice lot of young pure-bred cows and springing heifers, including several granddaughters of Pontiac Korndyke. Also some registered yearling heifers, and a fine lot of large, heavy milking, high grade cows, and both pure-bred and grade calves of either sex. Write or call. **T. R. MAURER & CO., EMPORIA, KANSAS.**

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We offer for sale 200 choice, high grade Holstein cows, heifers and service bulls of various ages; well marked and in good condition. Also can furnish a few choice, beautifully marked, 15/16ths pure-bred heifer or male calves, 1 to 2 weeks old, out of heavy milk-producing dams, at $15 each, crated f. o. b. cars. First draft takes them. Write **W. C. KENYON & SONS, ELGIN, ILLINOIS**

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Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.

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Buy your next bull calf from a herd that won the butter test over all breeds.

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With De Kol-Nether'... ...dyke main blood lines, and Jo'... ...Valker, King Segis out-crosses.

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HOLSTEIN COWS

Holstein cows, springers or bred heifers. Very large, good markings, out of best milking strains, bred to pure-bred bulls of the very best blood. Special prices on carload lots. **J. C. ROBISON, TOWANDA, KANSAS**

REGISTERED HOLSTEINS

We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.

M. E. MOORE & CO. - CAMERON, MO.

CEDAR LANE HOLSTEIN HERD

We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.

T. M. EWING, INDEPENDENCE, KANSAS

AUCTIONEERS.

Live Stock and Farm Auctioneer

Write or wire for date. I can please you.

LAFE BURGER, WELLINGTON, KANSAS

Jas. T. McCulloch — Live Stock Auctioneer. I make sales anywhere. Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

BERKSHIRE HOGS.

BERKSHIRE BRED SOWS

The Berkshire is the best hog for Kansas as a mother, as a grazier, and to follow cattle and for quality meat. One hundred choice bred sows. Unrelated boars. Best families, no pampering.

E. D. KING - BURLINGTON, KANSAS

MULEFOOT HOGS.

Buy Big-Type Mulefoot Hogs from America's champio... ...ed. Low cash prices. Big catalog free. ...unlap, Williamsport, O.

HOLSTEIN CATTLE.

HOLSTEIN CALVES.

Very high grade heifer calves, five weeks old, nicely marked, $20 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. **Clover Valley Holstein Farm, Whitewater, Wis.**

CEDAR LAWN FARMS

C. A. Schroeder & Sons, Props.

Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.

W. C. SCHROEDER - WEST BEND, WIS.

Look to the future.
Tredico Bulls
(Holsteins)
Kingman, Kansas

HOLSTEIN CALVES—Ten heifers and two bulls, 15-16ths pure, beautifully marked, 5 weeks old, from heavy milkers. $20 each, crated for shipment anywhere. Write **EDGEWOOD FARM, Whitewater, Wis.**

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE

Twenty-five young bulls, also some good cows and heifers for sale. All registered.

D. J. WHITE, CLEMENTS, KANSAS

Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

Real Estate For Sale

A GENUINE BARGAIN

Fine 320 Acres, Unimproved. All good wheat land. Three and one-half miles to center of Leoti, the county seat of Wichita County. One-half mile to school. Not a draw between this half section and town. Price, $12 per acre, cash.

D. F. CARTER, Leoti, Wichita Co., Kansas

For Sale

EIGHT-ROOM HOUSE, MODERN, in Kenwood Addition. The best residence district of Topeka. Good terms. Write

KANSAS FARMER, BOX 3
TOPEKA, - - - KANSAS

EXCHANGES.

I have good farms to trade for smaller farms and city property. Write me.

W. M. GARRISON - SALINA, KANSAS

640-Acre Homestead waiting for you. Good grass, water, plenty timber. Don't miss opportunity. Best ever. For particulars write **J. C. WYNN, LOCATOR, GRANTS, N. MEX.**

LANDS, IN EVERY STATE.. Thirty-six pages, colored covers, 25c a year, four months, 10c.

LAND MAGAZINE - 66, TRAER, IOWA

SPECIAL BARGAIN — Highly improved 120-acre farm adjoining Ottawa, abundance good water, good soil, very choice home. Write for descriptive list of same.

Special Price on 360 acres, well improved; 100 acres tame grass.

Also 170 acres, well improved, choice farm. Ideal location, very attractive. Write for full descriptions. Possession at once.

MANSFIELD LAND CO., OTTAWA, KAN.

200 ACRES, all bottom, all tillable. 70 a. cult., bal. meadow and pasture, adjoins city, this county, 1,500. $35 a., terms.

SOUTHERN REALTY CO., McAlester, Okla.

Improved Section $8 per Acre

Excellent Stock Ranch, Wichita County, Kansas. With plenty of outside range, on daily motor mail route. Some rolling land but greater part of place nice smooth farm land. Abundance of water, bargain, must be sold at once.

D. F. CARTER - LEOTI, KANSAS

RANCH FOR SALE

Eight miles from county seat and shipping point. One-half mile to school. 200 acres under cultivation; 400 or 500 acres good alfalfa land if cultivated; creek running through place giving plenty of living water; 200 acres or more of good timber; excellent shelter for stock; balance good buffalo grass pasture. Nine-room story-and-a-half house, cistern, well, wind mill, carriage shed, granary, corrals, hog lots, chicken yards, etc. This is one of the best ranches in the county. Come and be shown. Have lived on ranch for forty years, am retiring and would sell. For particulars address **P. O. BOX 292, MEDICINE LODGE, KAN.**

REGISTERED KENTUCKY JACKS



I have shipped from my home, Poplar Plains, Kentucky, eighteen head of jacks to Newton, Kansas, and they are for sale privately. This is a good load of jacks, with lots of bone and size, with all the quality and finish you would ever see in a load of jacks. Ages from two to eight years; height from 14½ hands to 16 hands standard, and good performers.

I have shipped jacks to Kansas since 1879 and I do not believe I ever shipped a better load.

Any one wanting a good jack, call and see me at Welsh's Transfer Barn, two blocks from Santa Fe Depot, one block from Interurban. Come and see me.

E. P. MAGGARD
Successor to Saunders & Maggard — NEWTON, KANSAS

Otey's Great Bred Sow Sale

Winfield, Kansas, Thursday, March 29

Undoubtedly the Duroc event of the Spring, 1917, will be this great sale. We drive into the ring eight great young tried sows, twelve fall yearlings, twenty-five spring gilts, ten summer gilts, eight summer and fall boars (some of them grand champion prospects), and one great tried herd boar. These are sired by such noted boars as Good E Nuff Again King, grand champion 1913; Crimson Wonder 4th, second; Otey's Dream, champion 1914; and All Col. 2d, one of the very great young boars in the field. Bred to All Col. 2d and Day Dream, a great son of Otey's Dream. No richer blood anywhere, and no more grand champion blood in one herd. It is your last and biggest chance to buy in the purple at your own price. Stick a pin in the date, Thursday, March 29. Send for catalog, and COME.

W. W. OTEY & SONS, WINFIELD, KANSAS

AUCTIONEER—LAFE BURGER.



AYRSHIRE CATTLE.

JACK, JENNET AND PERCHERON SALE

AT SAVANNAH, MISSOURI

FRIDAY, MARCH 16

Twenty large, heavy boned, thick bodied, black, Mammoth bred, registered Jacks. A few Jennets. Three black registered Percheron Stallions.

The jacks are from 2 to 8 years old, 14½ to 15¾ hands high.

This is our 54th sale. Write for catalog. Sale at Savannah, Mo., thirteen miles northeast of St. Joseph, on the C. G. W. and C. B. & Q. Railroads. Interurban from St. Joseph arrives and departs every hour.

G. M. SCOTT
ROUTE NO. 2 — REA, MISSOURI

AYRSHIRE CATTLE.



KILMARNOCK HERD OF AYRSHIRES

I have for sale bull calves, heifer calves, cows in milk and freshening, also bulls two and three years old at low figures for spot cash. Come and see my herd. If impossible to come, describe your wants in detail.

Wm. Galloway, Personal, Waterloo, Iowa

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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 9. TOPEKA, KANSAS, MARCH 17, 1917. Established 1863. $1 a Year

CHILDREN BEAUTIFY HOMES

Their Flower Gardens Added Beauty to Town and Brought Cheer to Many

By BAGDASAR K. BAGHDIGIAN

THE "good Samaritans" of Summerfield, about whom we read last year, have their rivals in the boys' and girls' garden contestants of Linn and Palmer, Kansas. The "Chief Samaritan" this year is little Esther Boyer, eight years old, who lives at Linn. She carried a total of 105 bouquets to the church, the sick and the shut-ins. A considerable number of these were carried to ninety-year-old Grandma McAtee, whose father was with Washington at Valley Forge.

Under the motto, "Brighten the corner where you are," the contestants were inspired by their leader, the Rev. A. H. Christensen, to put to test their determination to win against drought, depleted soil, and late beginning.

The members of these garden and flower clubs won.

The home grounds of the contestants were beautiful, the pulpits and the stands in the churches were well supplied with flowers throughout the summer months and early fall, and cheer brought to the hearts of the shut-ins of the neighborhood.

Separate contests were conducted at Linn and Palmer. The towns are about the same size and have a population of 300 each. The contests were divided into two sections according to age. The purpose of the division was to insure equal chances in the competition.

The merchants of both towns responded cordially to the proposition and subscribed willingly to the premium list. Eleven contestants entered at Linn and twelve at Palmer. The prizes were offered on home gardens. Decorating the church and carrying flowers to the shut-ins were extras and the children performed these tasks for the joy of rendering service.

The yards of the homes at Palmer were not well adapted to flower gardens. This was due to the way the town was laid out, and yet some good gardens were maintained there.

Among the contestants of Palmer, Ellen Chase, eleven years old, has a unique experience. Her parents keep the hotel in the town. There was a red clay bank in front of the hotel and a rough grass plot on the north side. These were the only possible places for gardens. The little girl was determined to enter the contest and the one way open to her was to import the loam and build the garden. This she did. She carried black loam from a drainage ditch which had been dug through one of the streets of the town and built her garden from the bottom up—not like the hanging gardens of Babylon in their make-up, but like them in attractiveness. She did all the work entirely on her own initiative and planning.

"The little plot," writes the Rev. Mr. Christensen, "in front of the hotel was especially pretty. Here she planted climbing beans, summer cypress, nasturtiums and petunias, and kept them green through constant watering during the hot, dry days of the summer."

Herman Pfeiffer, the son of a German farmer, who lives west of Linn, showed unusual pluck in his work. He started his garden late and the dry hot weather injured it before it was well established. By diligent cultivation and abundant watering his flowers not only survived, but made a fine display during the heated spell. Finally his display of flowers at the exhibition won for him the first place.

Constant watering kept the flowers in bloom and fresh during the hot days of July and August. All summer there was not a Sunday when there was less than ten beautiful bouquets at the Linn church.

"One of the greatest advantages in beautifying the home premises is the pleasure of having a beautiful home and keeping the sick and other people well supplied with flowers," wrote little Margaret Pauley in her essay, "The Advantages of Beautifying the Home Premises," for which she won second place in the essay competition.

"When one goes out 'mid flowers at sunset — as then they seem to pour forth the most beauty and perfume — it certainly makes one feel that life is worth living," continues her essay. "A beautiful surrounding brings more respect to one for his home and the town in which he lives. People passing through towns or by country homes that are kept neat and pretty with flowers, notice and admire them. How different are such places from those that are littered and strewn with trash!

"The more flowers there are, the less chance for rubbish to pile. It is much more pleasant to look upon a yard of flowers than upon a yard of filth. If a home is kept bright with flowers it is more apt to keep children from the attraction of the town, while a filthy place with its equally filthy surroundings may create the desire in the young people for the city life.

"A small flower bed for each child will help keep his mind off evil things. Then, for the sake of all these things, let every one have a beautiful home."

"A beautiful home—clean both inside and outside—means a pleasant place in which to live," wrote Miss Eva Boyer, of Linn, in her essay on "The Advantages of Beautifying the Home Premises," which won for her the first prize in the essay contest.

"Many country homes do not have beautiful lawns. A large share of the small city residences allow weeds to grow around the houses. Where the home is always kept clean its young people are not anxious to go away to stay.

"People seek pleasant and beautiful places for rest. In the cities where they cannot have nice lawns and flowers around the houses, the people go to the parks for enjoyment, and any country home could be made a park!

"The buildings of many country homes are without paint. The pigs and chickens run around the house and the premises look untidy. Well kept places, rather than the run down ones, attract people who seek to buy homes. Many of the poets spend their time with birds and flowers out in the country where the best homes could be had. Those in large cities who have what they call beautiful homes, still seek the country for pleasure and recreation."

"This little undertaking," commented the Rev. Mr. Christensen, the leader, "draws the minds of the people away from things which distract and enervate, and direct them to the simple joys of viewing God's living gems which bloom for the poor as well as for the rich. I should like to have the homes of the American people their castle—not in a legal sense, but in a vital sense, with the beauty of flowers and vines and trees around their houses."



WINNERS IN THE PALMER BOYS' AND GIRLS' GARDEN CONTEST AND THEIR LEADER, REV. A. H. CHRISTENSEN

These Young People Are Busy

The membership of the Epworth League of Barrett, Kansas, stands for a combination of "punch," plenty of good sense, fine taste, and inexhaustible enthusiasm.

It can safely be said that this young people's organization was the first one in the state to shoulder the responsibilities of a lecture course in order that the neighborhood might spend more profitable evenings during the long winter months, and that the community might be better because of the undertaking.

When the department of rural social life, of KANSAS FARMER, offered its course of four lectures, this league was among the first organizations taking advantage of it. The young people of Barrett eagerly enrolled in the dramatized play festival which was presented with spectacular costumes and the whole neighborhood, with few exceptions, gave hearty support.

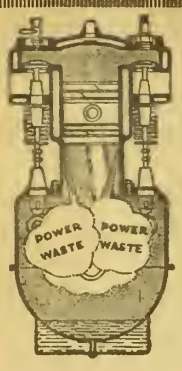
The literary department of the league has undertaken something new every year, choosing things of wide interest to the community. One year a course of study was given on the subject of the rural church in its relation to the neighborhood. Another time the economic problems of Barrett were tackled, and this year the lecture course was a new variety. KANSAS FARMER'S course was early investigated and members of the league at once surveyed the neighborhood and closed the contract for the lectures.

The league keeps busy its different departments under the competent president, Miss Margaret F. Jones. Aside from its lecture course the organization maintains a state traveling library of fifty books, renewing these every six months.

The social service work of the league is twofold. It looks after church benevolences and local needs. It sends help to the institutions maintained by the Methodists, organizes classes in the study of social questions, and helps supply the local needy with clothes, food, and other necessities.

In addition to its present spiritual and missionary activities, the league is planning to take up sanitary work the coming spring. The flies of the neighborhood will suffer the consequences. Flower seeds will also be distributed to the school children and assistance given them in the care of the flower patches.

Barrett is the oldest town in Marshall County. What is being done there shows that its young people are full of new ideas and through the application of these they are trying to make their community a better place in which to live.



Escape of Power

How the right oil saves gasoline



THE only thing that sends power through the engine is the gas explosion.

If the combustion chamber is sealed tight the explosion acts with full force on the piston head.

But unless the combustion chamber is kept tightly sealed, part of each explosion escapes. The result is weakened power, and wasted gasoline.

Right here sealing the piston rings comes in as an important factor. Only one thing can prevent escape of power past the piston rings. That is a proper piston ring seal.

Your lubricating oil must provide this seal. But piston clearances vary in different types of motors—from .002 of an inch to .010 of an inch. Different motors therefore demand oils of different body.

Today thousands of cars are wasting power and gasoline with every piston stroke—simply because their lubricating oil does not properly seal the piston rings. Compression is lost. Part of each explosion escapes past the piston rings.

This power-loss means waste of gasoline on level roads. It means also lessened power on the hills.

In the chart below you will find the correct grade of Gargoyle Mobiloils for your car. Among the many important factors entering into the determination of the correct grade, the piston clearance in your motor was given careful consideration. The oil specified will give your engine a proper piston ring seal.

If your car is not listed, a copy of our complete Lubricating Chart will be sent you on request.

Remember—a proper piston ring seal means more power on the hills—more mileage from your gasoline.

An Economical Demonstration

It will probably cost you less than a dollar to fill your crank case with the correct grade of Gargoyle Mobiloils. The results will speak for themselves.

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container.

For information, kindly address any inquiry to our nearest office.

GARGOYLE **Mobiloils**

A grade for each type of motor

CORRECT AUTOMOBILE LUBRICATION

Explanation:—The four grades of Gargoyle Mobiloils, for gasoline motor lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A" **Gargoyle Mobiloil "E"**
Gargoyle Mobiloil "B" **Gargoyle Mobiloil "Arctic"**

In the Chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A," "Arc" means Gargoyle Mobiloil "Arctic," etc. The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

Model of CARS	1917 Summer	1917 Winter	1916 Summer	1916 Winter	1915 Summer	1915 Winter	1914 Summer	1914 Winter	1913 Summer	1913 Winter
Abbott-Detroit	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
" (8 cyl)			A	A	A	A				
Allen	A	Arc.	A	Arc.	A	Arc.	A	A	A	A
" (Mod. 33-34-35)				A		Arc.				
Apperson	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	A	A	A						
Auburn (4 cyl)	A		A	Arc.	A	Arc.	A	A	A	A
" (6 cyl)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
Avery			A	A	A	A	A	A	A	A
" (Mod 5 & C 1 ton)			Arc.	Arc.	Arc.	Arc.	Arc.	Arc.		
Briscoe	A	Arc.	A	Arc.	A	Arc.	A	Arc.		
" (8 cyl)			A	A						
Buick	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	Arc.
Cadillac						Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	A	A	A	Arc.	Arc.	A	Arc.		
Case	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Chalmers			Arc.	Arc.	Arc.	Arc.	A	A	Arc.	Arc.
" (Mod 6-40)			A	Arc.						
" (Mod. 6-30)	A	A	A	A						
Chandler Six	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.		
Chevrolet	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	A
Cole			Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	A	A	A	A	A				
Dart	A	Arc.	A	Arc.	Arc.	Arc.	A	A	A	Arc.
" (Mod. C)	A	Arc.	A	Arc.	A	Arc.	A	A		
Detroiter	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	A	A	Arc.
" (8 cyl)					E	E				
Dodge	A	Arc.	A	Arc.	A	Arc.				
Dort	A	Arc.	A	Arc.	A	Arc.				
Empire (4 cyl)	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (6 cyl)	Arc.	Arc.	Arc.	Arc.						
Federal	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Ford	E	E	E	E	E	E	E	E	E	E
Franklin	A	A	A	A	A	A	A	A	A	Arc.
Grant	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.		
Haynes	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (12 cyl)	A	A	A	A						
Hudson			Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
" (Super Six)	A	Arc.	A	A						
Hupmobile	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
I H C (air)				B	A	B	A	B	A	
I H C (water) (2 cycle			A	A	A	A	A	A	A	
I H C (water) (3 cycle			A	Arc.						
Interstate	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Jeffery	A	Arc.	A	Arc.	A	Arc.	A	A		
" (6 cyl)	A	A	A	Arc.	A	Arc.				
" Com'l.	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.
King					A	Arc.	A	A	A	E
" (8 cyl)	A	A	A	A	Arc.	Arc.				
" Com'l	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.		

Model of CARS	1917 Summer	1917 Winter	1916 Summer	1916 Winter	1915 Summer	1915 Winter	1914 Summer	1914 Winter	1913 Summer	1913 Winter
Kissel Kar	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" Com'l	A	Arc.	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.
" (Mod. 48)			A	A	A	A	A	A		
Lexington	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.				
Locomobile	E	E	E	E	E	E	E	E	Arc.	Arc.
Marmon	A	A	A	A	A	Arc.	A	A	A	Arc.
Maxwell	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Mitchell	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Mitchell (8-cyl)			A	A						
Moline									A	Arc.
" Knight	A	A	A	A	A	A	A	A		
Monroe	A	A	E	E	A	Arc.				
Moon (4 cyl)					Arc.	Arc.	A	Arc.	Arc.	Arc.
" (6 cyl)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.		
National	Arc.	Arc.	A	Arc.	A	Arc.	A	A	A	A
" (12 cyl)	A	A	A	A						
Oakland	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
" (8 cyl)			A	A						
Oldsmobile			Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	A	A	A						
Overland	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Packard					A	Arc.	A	Arc.	Arc.	Arc.
" (12 cyl)	A	A	A	A						
" Com'l	A	A	A	A	A	A	Arc.	Arc.	Arc.	Arc.
Paige					A	Arc.	A	A	A	E
" (6-46)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.				
" (6-36 & 38)	A	Arc.	A	Arc.	A	Arc.				
Pathfinder	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
" (12 cyl)	A	A	A	A						
Peerless	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	A	A	A						
Pierce Arrow	A	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" Com'l	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Premier	A	A	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Regal	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	A	A	A	Arc.	Arc.				
Reo	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Saxon	E	E	E	E	E	E	E	E		
Stearns-Knight	A	A	B	A	B	A	B	A	A	A
" (6 cyl)	A	A	B	A						
Stephens	Arc.	Arc.	Arc.	Arc.						
Studebaker	A	Arc.	A	Arc.	Arc.	Arc.	A	Arc.	A	Arc.
Stutz	A	A	A	A	A	A	A	A	Arc.	Arc.
Velie (4 cyl)					A	Arc.	A	Arc.	A	Arc.
" (6 cyl)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.		
Westcott	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
White	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Willys-Knight	A	A	B	A	B	A	A	A		
Willys Six	Arc.	Arc.								
Winton	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.

YOUR TRACTOR

also may be lubricated efficiently with Gargoyle Mobiloils. On request we will mail you a separate Chart specifying the correct grade for each make and model of tractor.

VACUUM OIL COMPANY, Rochester, N. Y., U.S.A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world.

Domestic Branches: Detroit, Chicago, New York, Des Moines, Indianapolis, Philadelphia, Pittsburgh, Minneapolis, Boston, Kansas City, Kan.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

ONE of our readers asks for information on pulling hedge fences with a tractor. W. H. Sanders, instructor in farm motors at the agricultural college, answers as follows:

"Experimental work in pulling hedge fences was carried out at the agricultural college during the spring of 1915, using gas and steam tractors.

"The steam tractors weighed about ten tons each, and the gas tractors slightly less. The drawbar rating of the steamers was twenty horsepower, while the gas machines ranged from fifteen to thirty horsepower.

"Efforts were made to pull the roots by hitching direct to the stumps with chains, and pulling without the help of pulleys. Wherever the stumps were of a reasonable size, high enough above ground to make a good hitch with the chain, there was no difficulty in pulling stumps up to five or six inches in diameter, without cutting roots, or plowing close to the stumps. We found old stumps that had small shoots only above ground, very difficult to pull even when not very large. We found that an average time required for each pull was from four to seven minutes with one man on tractor and two tending the chain and cleaning away the roots.

"The writer had the opportunity of watching a hedge and stump plow work on an old hedge, during one of the tractor demonstrations last summer. A thirty drawbar horsepower tractor weighing about twelve tons was used. The hedge was an old one, having stumps over a foot in diameter. The plow was capable of plowing twenty-four inches deep and had a cut of twenty-four inches in width.

"The method employed was to have all the tops of the hedge cut to the ground and cleared out of the way. The tractor then turned a furrow close up to the hedge with the big plow, cutting off the roots and tearing out the ends. On the return trip the plow was not put in the ground. The second furrow was turned in the direction of the first, and the plow allowed to just clear the hedge stumps, tearing them loose and throwing them, in most instances, clear of the furrow dirt.

"A third furrow was turned in same manner as the first two, all being twenty to twenty-four inches deep. This tore out practically all the main roots or exposed them enough so that they were easily removed, leaving the ground in condition to be plowed with an ordinary plow.

"About one mile a day of ten hours was torn out. The cost for 320 rods was $30, or 95 cents a rod. This figure will probably cover the cost of removing the average old hedge fence. Where the ground is too rough or broken to allow the tractor to follow the row from end to end, the cost will be greater.

"For pulling large trees in uncultivated ground, if a hitch can be made to the stump a few feet above ground, and cable and blocks are handy, a moderate-sized tractor will pull fairly large trees.

"From experience with dynamite, the writer thinks for odd tree stumps the cheaper method of removing them is by blasting them out with the proper grade of powder. For hedge rows the big tractor and heavy plow is undoubtedly the best and cheapest."

Starting the Engine

How seldom one sees a private owner start his engine with the switch off, though the professional driver very often adopts this procedure when his motor is cold. The average owner floods his carbureter, or pulls the choke switches on, and presses the starter button ineffectually five or six times. Then he opens the bonnet, perhaps, floods the carbureter again, and at last gets an explosion.

It is obvious that the idea of flooding the carbureter is to obtain a temporary enriched mixture, but the value of the flooding is lost if it be done when the cylinders and induction pipe are full of mixture, any petrol vapor left in this over night having long since evaporated. If the engine be turned over a few times with the switch off, the air is expelled, and a thin mixture of air and petrol inhaled in its place. Flooding then gives a temporary rich mixture in the cylinders and the engine will start at the first trial.—CHESTER S. RICKER, M. E., in American Motorist.

Engine Investigations

In a paper given before the American Society of Mechanical Engineers, of which he is a member, A. A. Potter, dean of engineering at the Kansas Agricultural College, gave some most interesting results of research work on the internal combustion engine. Dean Potter was assisted in this work by W. A. Buck, who is also joint author of the paper given before the Society at its recent annual meeting.

Attention is directed to the fact that within recent years several of the largest and most prominent builders of machinery began to realize that with the development of farm machinery the traction engine had become of such importance as to offer an excellent field for engineering ability and market for machinery carefully designed and built.

At the present time over one hundred manufacturing concerns in the United States are building traction engines driven by internal combustion motors. The designs differ greatly: some have motors with horizontal cylinders, others with vertical cylinders. In some designs the power of the motor is delivered to one wheel, in others to two, and in still others to all four wheels; several designs are of the so-called "creeping grip" types.

The development of the traction engine for agricultural purposes has been along lines entirely different from those of the automobile. The early engines efficiency of different types of internal combustion motors employed in traction engines, to determine the practicability of using fuels heavier than gasoline, and to compare the rating, valve timing and other details of commercial engines.

Twelve engines, ranging in rating from 16 to 65 horsepower, were tested, and from the results obtained the authors have derived the following conclusions:

Four-cylinder motors are the better adapted to belt work; single-cylinder and two-cylinder motors operate better with fuels heavier than gasoline than four-cylinder motors.

Piston speeds should be lower than in automobile motors, speeds of from 700 to 900 feet per minute giving satisfaction.

The valve-in-head type of motor has the more efficient combustion space and is to be preferred to the T-head or L-head types.

The jump-spark system of ignition is to be preferred on account of its mechanical simplicity.

The fuel economy range is from about 1.3 pounds per brake horsepower per hour at one-fourth load to about 0.7 pound per hour at full load. The fuel consumption in pounds per hour per brake horsepower is very nearly the same for both gasoline and kerosene.

The thermal efficiencies at full load vary from 14.88 to 19.41 per cent for gasoline fuel, and from 13.7 to 15.97 per developed 60 to 80 horsepower on the brake and 30 to 40 horsepower on the drawbar; they were expensive, complicated, and unsuited for any but the largest farms of the country. The present tendencies of manufacturers are to build smaller engines and to standardize the product.

The following abstract gives the main points of the tests:

This investigation was instituted to determine the fuel economy and thermal cent for kerosene.

The results of the tests show the advantages of kerosene as a fuel. For the group of motors developing 26 brake horsepower and under at full load, with kerosene at 10 cents per gallon and gasoline at 20 cents, the cost of operating with gasoline was 1.99 times that when kerosene was used. Similarly, for the group developing 51 brake horsepower and over at full load, the cost with gasoline was 1.62 times that with kerosene. The advantages of the kerosene-burning motor are somewhat offset, however, by the added trouble in handling and by the shorter life of the motor when operating on such fuel.

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PERMANENT INCOME AMENDMENT

An amendment to the constitution of Kansas looking to the establishment of a permanent income fund for the state educational institutions, will be submitted to the voters of the state at the next election. As now handled, each legislature must go into the needs of these institutions and the appropriation bills are always passed in the rush of the closing hours of the session. The sums appropriated seem large when bunched together as they must be, and there is always more or less capital made of the manner in which the big appropriation bills are handled.

Kansas spends annually about fifteen million dollars in maintaining its school system. The only part of this with which the legislature has to deal is the maintenance of the state institutions. This is comparatively a small part of the total amount expended in maintaining our school system.

The proposed amendment does not contemplate increasing the expenditures for the state institutions. It simply provides that a legislature after making a careful investigation of the needs of the schools, can make a definite levy which will stand until changed by legislative action. This would do away with the uncertainty as to the future, which will exist as long as the present system is followed. No institution can make definite plans for future work because it cannot be certain of the amount of money available until after the legislature meets.

The present valuation of property in Kansas is almost three billion dollars. A levy of less than one mill on the dollar would raise the sum now being appropriated for all the educational institutions of the state. If taxpayers studied the various levies as they appear on the back of the tax receipt, they would know more about where their money goes.

We refer to this amendment at this time because few people know anything about proposed amendments to the constitution until they read their titles on the ballot when they go into the booth to vote. No one can vote intelligently on an amendment without making some effort to study its purpose before going to the polls to vote.

We would suggest that copies of this permanent income amendment affecting educational institutions be secured and some study be given the proposition so that it may be intelligently voted on next fall. We will be glad to receive communications from our readers discussing the plan.

GROW POTATOES THIS YEAR

On account of the high price of seed potatoes some may hesitate to plant the usual amount this year. We believe this would be a mistake. The main potato crop of the country will likely be short for this very reason and also because many commercial potato growers in the various parts of the country have to use fertilizer and have found it almost impossible to get their usual supplies and especially potash.

The demand for potatoes is universal. They are staple articles of food, and the facts given are the reasons for making a special effort to grow them this year.

It is not advisable to use home-grown seed unless it is known to be free from such diseases as scab, dry rot, blackleg, and other diseases carried on or inside the tubers. Minnesota and Wisconsin are using vigorous measures to keep diseased seed from getting on the market. If diseased seed must be planted, give it the necessary treatment to destroy the spores. Soaking seed potatoes for two hours in a solution of one pound of formalin to thirty gallons of water, will destroy scab. Potatoes affected with dry rot or wilt can also be treated in the same manner. In cutting a potato at the stem end, a blackened, discolored ring will show just under the skin if it is affected with the dry rot.

Seed infected with blackleg can also be treated in the same manner. This is a bacterial disease of potatoes that is increasing in this state each year. The affected plants are smaller than those in healthy condition, the leaves are pale and tend to curl upward. The seed potato rots early, thereby producing a weak plant. The rot from this diseased seed goes to the stems of the plant which in turn blacken and rot. The whole plant usually dies without producing tubers.

A rotation of crops is necessary in combating all these potato diseases. The soil itself becomes infected and only by growing some other crop for a year or two can sound potatoes be produced.

BROOM CORN GOOD DRY WEATHER CROP

We note from an item published in the Kansas Industrialist and credited to the Broom Corn Review, that the broom corn trade is eagerly looking forward to the crop of 1917, as practically no brush is available from the old crop. We infer from this that there is no broom corn in stock in the warehouses and that no brush is held by farmers. This condition would indicate that broom corn will be in demand this year.

While the Review probably is thoroughly informed as to the condition of the trade in broom corn, we would call attention to an error in its statement about the planting date for the crop, namely that most of the broom corn planting will be done this month, as February was too cold for seeding. Broom corn belongs to the sorghum group, and like kafir, milo, and others of this group of plants cannot be successfully planted until the soil is thoroughly warm. Its cultural requirements are practically the same as those of kafir, milo, feterita and others of the sorghum group. It can be grown very successfully under light rainfall and for that reason is a good cash crop to grow in Southwestern Kansas and Western Oklahoma. The dry, sunny weather prevailing in these sections during the harvesting period and following, is especially favorable to curing the brush so it will bring a high price on the market.

Even as far south as Southeastern Texas, however, broom corn is not planted before the first of April, and in Southwestern Kansas and Western Oklahoma planting does not begin until well into May.

Broom corn growers should write to the Department of Agriculture, Washington, D. C., for a copy of Farmers' Bulletin 768 on "Broom Corn Growing." This supplies much needed information concerning the growing and handling of this crop.

ACCOUNT BOOK FOR FARM RECORDS

Keeping farm accounts is greatly simplified by the use of the Farm Account Book which has been published by the Kansas Bankers' Association. This book was used by a good many farmers last year. It has been improved somewhat as a result of the experience of the first year's use. It is again being distributed by the banks over the state, although there are many banks that have not yet ordered a supply of these books.

Ask your banker for one of the account books. You probably have wanted to keep some sort of farm accounts for a long time but have not done so because you had no suitable blanks for the purpose. With this book it is a simple matter to make the necessary records and will take only a few minutes of time daily. The knowledge resulting from such work will be worth many dollars by the end of the year.

Making an inventory is the first job and is a necessary part of the work of keeping records. The book explains how to do this. The inventory ought to be made before the spring work opens, but it can still be done.

It is a good plan to start the boys and girls in on the farm records. It teaches them to apply their school work to the practical things of life. They will learn to take more interest in the affairs of the farm as a result of keeping the farm accounts.

If your banker has neglected to supply himself with some of these books for his patrons, write to W. W. Bowman, secretary of the Kansas Bankers' Association, Topeka. Do not write to Mr. Bowman, however, until you have first interviewed your banker, for only a limited number of the books have been reserved at his office.

APPROPRIATIONS FOR THE BIG FAIRS

We are glad to record the fact that state recognition has been given to the great educational value of agricultural expositions such as are annually given at Hutchinson and Topeka. No agricultural fair worth while can exist without substantial support from other sources than gate and concession receipts. The legislature which has just adjourned appropriated $30,000 to the Topeka fair for the two-year period, and $35,000 to the Hutchinson fair for the same period. In addition, $16,000 of a revolving fund was reappropriated to Hutchinson.

Readers of KANSAS FARMER are vitally interested in these two big fairs, their special interest being determined by the part of the state in which they live.

From the maneuvers which took place in the senate in handling the house bill making appropriations for these two fairs, it looked as though a well organized effort was being made to prevent the Topeka fair from receiving any recognition from the state. There was no evidence of this feeling in the house. The author of the house bill was an ardent Hutchinson booster, but he worked for both appropriations, recognizing that these two fairs were serving two distinct sections of the state and each well worthy of state support. Following this action in the house, the fight in the senate to deprive Topeka of support was most unexpected. In the final wind-up, however, the opposition to the Topeka fair appropriation was overruled and the bill was passed providing for these two fairs as stated above.

CONTAGIOUS ABORTION SERIOUS DISEASE

Contagious abortion in cattle is a germ disease which causes the death of the unborn calf and results in annual losses of millions of dollars. If it continues to increase it will soon surpass tuberculosis, which now probably stands first among animal diseases in point of economic loss.

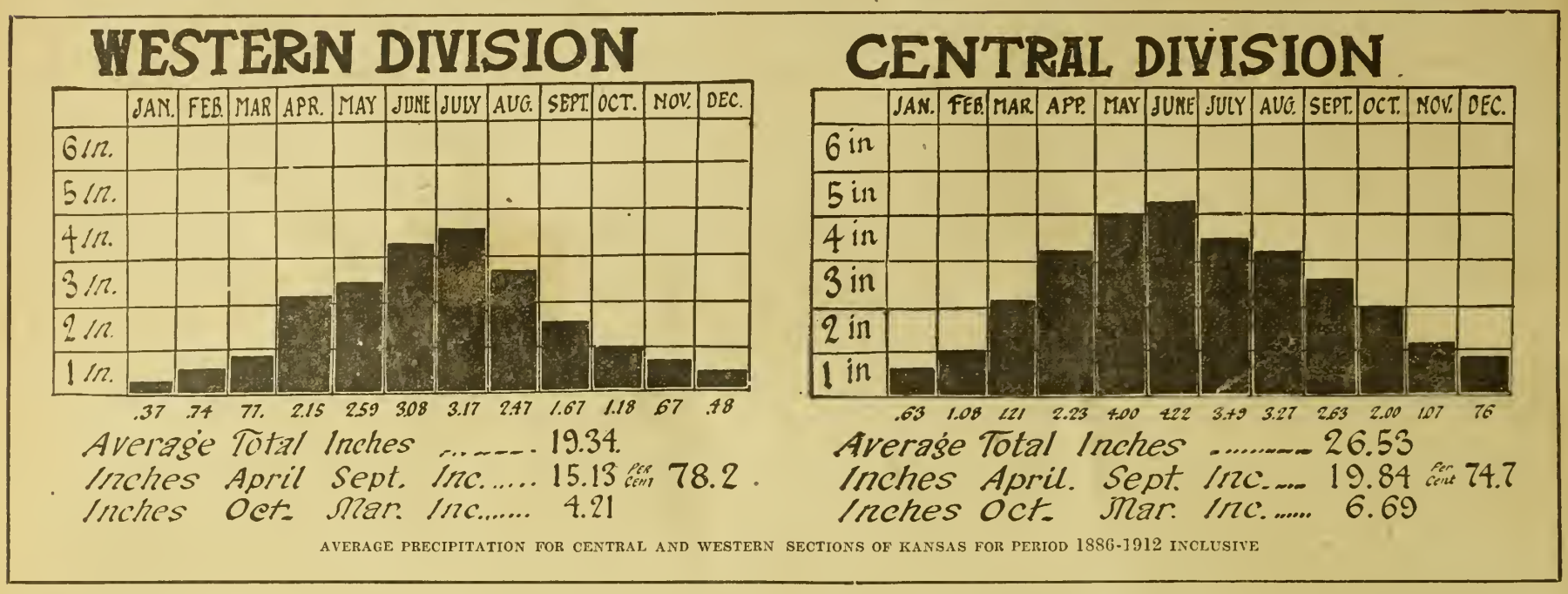
We have repeatedly called attention to the serious nature of this disease. A single aborting cow may infect a whole herd. Such animals should always be isolated and treated. A cow that has aborted is likely to become immune to the disease, although still capable of spreading it to others.

Full details concerning this disease and its treatment are given in Farmers' Bulletin 790, recently issued by the Federal Department of Agriculture, Washington, D. C. This bulletin supplies the very latest knowledge available on this serious disease. Every cattle man should secure a copy.

This year of all years it will pay to save every pig farrowed. It is poor policy in any year to maintain a brood sow for six months or a year and then through carelessness or neglect permit her to lose most of the pigs. It costs money to feed a brood sow and this cost must be charged up to the pigs at birth. If only two or three are saved, it does not require much of a mathematician to figure that the cost of each pig at birth is considerably more than if seven or eight are saved. If the whole litter is lost, the expense put into maintaining the sow during the period previous to farrowing becomes a total loss. The prices being paid for pork is indication of the scarcity that exists. Last week $15.00 a hundred was paid in Kansas City, a record price for a western market. A man might easily make big wages by sitting up nights occasionally with his brood sows in case some of them should farrow during a cold storm such as is always likely to come during March or April.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments



AVERAGE PRECIPITATION FOR CENTRAL AND WESTERN SECTIONS OF KANSAS FOR PERIOD 1886-1912 INCLUSIVE

WE HAVE been asked to give further instructions about caring for hotbeds. In our issue of March 3 we gave instructions on making the hotbed for growing early plants. For home use, a bed 3x6 will produce enough cabbage and tomato plants for the average farm garden.

For the first three weeks after the seed is sown the hotbed must be watched carefully. It should be ventilated during the warmest part of the day. Later in the season the glass may be left off most of the day, always remembering to replace it at night.

It is easily possible to get the bed too wet. This tends to cut down the supply of heat and causes the plants to "damp off" as it is called. It is difficult to give set rules about either watering or ventilating.

After the heating process has ceased the hotbed may be used for hardening off plants or growing late cabbage or celery.

Grain for Colt

A. L. T., Chatauqua County, asks how soon he should begin to feed a young colt grain. The colt is from a good mare of draft type and is sired by a registered draft stallion.

It takes feed to make a big horse and the only way to grow out a colt of this breeding is to feed it liberally. The big imported horses are all fed grain from the time they first begin to eat until they mature. Usually a colt will begin to eat a little grain by the time it is four weeks old. Whole oats are the best grain to feed, although mixtures of corn and bran will give good results. While young, a colt should have a chance to nurse every two or three hours if the mother is worked in the field. If the colt is kept from nursing too long, it will not only suffer from hunger, but the mare's udder will fill up and there is danger that it will become injured so that the milk flow will be lessened. There is also danger in permitting the colt to suckle when the mare has been away for a number of hours, and especially if she comes in heated from her work. Under such circumstances let the mare cool off, and if she is very warm, milk out part of the milk before allowing the colt to go to her.

The colt should have a box in its stall so it can eat grain whenever it wishes. When handled in this way there is no set-back when the colt is weaned.

It is absolutely impossible to grow out a draft colt successfully without this early grain feeding.

Sudan for Pasture

E. F., Lincoln County, asks if Sudan grass can be used for pasture and how much seed it will require to the acre.

This crop is growing more and more in favor each year, and especially as a pasture crop. In the western part of the state farm tests conducted under the direction of District Agricultural Agent W. A. Boys have shown that as an average of all the trials made, three mature animals were pastured on each acre of Sudan grass for an average period of ten weeks. Some fields were pastured as late as November 1. Cattle, horses, hogs and sheep have all been pastured on Sudan grass with satisfactory results. A good way to handle it is to mow the first crop for hay and pasture the second growth.

At the Hays Experiment Station trials have been made to determine the proper rate of seeding. In these trials the seed has been sown at rates varying from four pounds to thirty-five pounds an acre. The report is that there was very little difference in the yields per acre from these different rates of seeding. This is valuable information in view of the present high price of Sudan seed. In using the smaller amounts of seed, however, it is very important that the seed bed be very carefully prepared.

It is our purpose a little later in the season to give more details as to the best method of growing and handling this new crop which has so thoroughly demonstrated its value the past few years.

Study Rainfall

A Western Kansas reader asks us to publish again the precipitation maps showing the average precipitation in the different parts of the state. This reader recognizes the necessity for working out farming methods that fit the climatic conditions and especially rainfall. A type of farming that might be highly successful in Illinois or Iowa, for example, would fail absolutely in Western Kansas. The varieties grown must of necessity be different. Farmers who move from one locality to another must leave behind them many of the varieties and methods they have been using with success. Even in Kansas in the 200 miles north and south and the 400 miles east and west, there exist great varieties, not only in climate and precipitation but in soil.

The moisture variation is perhaps the one that must be given the greatest consideration, and the new settler should make up his mind in the beginning that he must accept the conditions as they exist. The amount of rain that falls and the climate cannot be influenced by man. The oft-repeated statement that "rainfall follows the plow" is not true. Accurate records covering long periods of years have established this fact most conclusively.

For these reasons the question raised by our correspondent is of vital importance to every farmer in the state. In editing KANSAS FARMER, consideration is constantly given to these differences in soil and precipitation. The editors are familiar with all sections of the state and know that practices and varieties of crops that succeed in one section will fail in another.

In "Sorghums: Sure Money Crops," by T. A. Borman, one of the editors of KANSAS FARMER, there is a chapter covering in considerable detail this phase of farming in Kansas. This chapter alone is worth the price of the whole book to the farmer who wants to secure maximum profits from farming by adapting his crops and methods to the climatic conditions of his locality, and especially with reference to precipitation.

The precipitation of most importance is that which falls during the growing season or from April to September inclusive. From the records of the U. S. Weather Bureau in Kansas, the charts on this page have been prepared. The figures cover the period from 1886 to 1912, inclusively. They show in graphic form exactly how much moisture can be expected on an average in each month of the year for the different sections of the state and the per cent which falls during the growing period. The western third of the state is that portion west of a line running between Norton and Phillips counties on the north, and between Clark and Comanche counties on the south. The central division extends from this line east to a line running between Washington and Marshall counties on the north, and Cowley and Chautauqua counties on the south. The portion of the state east of this line comprises the eastern division. Next week we will show the chart giving the rainfall for this last named section.

Sweet Clover for Pasture

B. M., Osage County, asks for information on the use of sweet clover for pasture.

Over much of Kansas there is probably no other pasture crop that can be sown that will give more satisfactory pasture so short a time after seeding as will sweet clover. It will carry as many animals per acre as any other pasture crop that can be grown and can be pastured with all classes of animals. There is very much less danger from bloat than in pasturing alfalfa or ordinary red clover.

Sweet clover is of special value on rough land. It is the only tame forage plant that has given satisfactory results when sown in native pasture land. It is safely past the experimental stage, thousands of farmers in Kansas having tried it and become enthusiastic as to its value.

Being a legume, it enriches the soil in nitrogen and can be used as a means of adding organic matter to the soil by plowing under the crop.

In Western Kansas sweet clover has been very successfully grown on bottom land soils which were very sandy, containing alkali and having the water table too close to the surface for alfalfa. On the upland in Western Kansas sweet clover has generally proven to be a failure.

Care of Colt at Birth

A Rice County reader asks how to care for a colt at birth. He has heard of the danger from navel ill, constipation and scours, and wishes to know how to avoid these dangers.

Navel ill seems to be caused by germs that get into the body through the navel cord at birth. To guard against it, have the colt dropped in a clean stall or in a pasture. Then the navel cord should be cut off about two inches from the body if it has not already been broken that close or closer, a string dipped in a mild disinfectant tied about the end of the cord and the cord painted over with a mixture composed of one part tincture of iodine and three parts glycerine once a day till it dries off. The udder should be rinsed off with a weak disinfectant too before the colt is allowed to suck.

The first milk or colostrum is laxative and usually cleans the digestive tract within six to eight hours. If the bowels do not move, a laxative as two ounces of castor oil can be given and a couple of ounces of warm water with a little glycerine injected into the rectum. It is hard to determine what causes scours or diarrhea in each individual case, but the common causes are changes in the composition of the mare's milk due to nervousness, overwork or changes in feed, allowing the colt to gorge itself from the full udder of a mare that has become quite warm from overwork and from filth in the food.

Wormy Hogs Not Profitable

N. L. S., Jefferson County, asks how to prevent hogs from getting infested with worms and how to treat them to destroy worms.

Hogs become infested with worms by swallowing the eggs in their feed or drinking water. As a preventive measure practice absolute cleanliness about the yards and sheds. Be sure the drinking water is clean and is always supplied in abundance. If hogs are compelled to drink from stagnant ponds or wallows they are certain to become badly infested with worms since the eggs always accumulate in these places. Sprinkling fresh slaked lime about the yards and houses frequently will do much to destroy the eggs of worms and will keep the quarters clean and sweet. By keeping everlastingly at it, the eggs scattered about the yards can be greatly reduced in numbers.

Where hogs have become badly infested with worms, the following remedies will be found most effective: Six grains of santonin and four grains of calomel to each 100 pounds of hog; or two and one-half grains of santonin, one dram areca nut, two grains calomel and two drams of sodium bicarbonate for 100 pounds of hog. In giving worm remedies, the hog should be fasted for twenty-four hours and then fed the remedy in a thin slop. Be sure there is enough trough room so that all the hogs in the lot will get to the trough and get their proper proportion of the remedy. If the hogs are badly infested it is a good plan to repeat the dose in ten days or two weeks.

TILE DRAINAGE PROFITABLE

Decreases Amount of Waste Land and Adds to Value of Whole Farm

From Address by H. B. Walker, Drainage Engineer, Farm and Home Week, Manhattan, Kansas

MANY fertile soils in Kansas are not profitably cultivated, or are not tilled at all, because of the lack of drainage, and much of the best farm land of the state cannot be made to yield the most profitable returns until these conditions are corrected.

Correct soil drainage is an essential factor in successful crop production. Tame grasses and cereal crops do not thrive in wet, compact, sour, or cold soils. They grow best in sweet, warm, well-drained soils. Inadequate drainage is directly responsible for the first mentioned condition.

The physical characteristics of some soils are such that Nature has provided for drainage. These soils are mellow because the excessive soil water cannot compact them, they are warm since this over-abundant moisture escapes by other means than evaporation. Good crops grow upon them because the roots are unhindered in their downward path in search of plant food and moisture. Kansans think of these naturally drained soils as the best agricultural land and it is on such land that the crop returns are most remunerative.

Many farmers are not so fortunate as to possess land with perfect natural drainage. A heavy subsoil, or other natural condition, may interfere with the tendency of free soil water to pass downward by gravity. This results in a saturation of the soil causing a wet depression or a "cat tail" pond or a "seepy" hillside, and all together a bad looking, unprofitable farm. Tile drainage is needed to make such land productive. If Nature has not provided a means for the escapement of this injurious water, some artificial method must be employed.

Under-drainage was first accomplished by digging trenches and partly filling them with bundles of sticks and covering these over with earth. Stones were used in a similar manner. The modern under-drain, however, is circular in form and is constructed of burned clay or cement. The first tile drains used in the United States were put in more than seventy-five years ago in the state of New York. These drains are reported still to be in active operation.

MAKES WET LAND PRODUCTIVE

The first and fundamental function of under-drainage is to make wet lands productive. It is evident then that the tile drain must be constructed to act most efficiently; the size of the tile must be adequate; the grade of the line must be perfect to give a free flow of the water; and lastly the drains must be placed at the most economical depths. Correct design, soil conditions, and the general topography of the field will regulate the above conditions. No hard and fast rule can be formulated which will apply to all conditions, and it is only after a careful examination of a field that a plan of drainage can be successfully laid out.

SOILS NEEDING DRAINAGE

We have in Kansas three general types of soil requiring artificial under-drainage; namely, the seepy land in the rolling uplands, the tight soils in the flatter upland prairies, and the black alluvial soils of the river valleys.

Ordinarily seepy land is quite easy to drain if the cause of the wet condition is correctly understood. It is sometimes puzzling to land owners to find that sloping hillsides are too wet for cultivation. Such spots are very annoying and are moreover very noticeable in a field. The natural tendency of free or excess water in the soil is to pass directly downward by the action of gravity. If the soil structure is of such a nature that this water is intercepted or retarded in its downward path, the water is then forced to move laterally down the slope. A ledge of rock or a compact subsoil may cause this condition. The accumulation of the water as it thus moves down the hill slope causes a "wet outcrop" or "seep." This outcropping usually appears near the foot of the slope or where a steep slope changes into a flatter one. These places not unusually appear as a wet band across the hill slope or a wet margin along the sides of a natural depression, and are particularly noticeable to the eye of even a casual observer.

DRAINING HILLSIDE SEEPS

The method of drainage correction is quite simple when understood. The real source of the water is apparently higher up the slope. Consider if you will that this slope is a roof, and like the roof of a building the volume of the water passing over its surface increases the nearer it approaches the lower area. To catch the water from a roof a gutter is placed at right angles or across the slope to intercept the water at every point. No one would think of catching water from the roof by placing the gutter up and down the slope. The same principle is just as applicable to the seepy hillside, since the hill slopes with its substratum of rock or compact clay acts exactly like a roof, shedding its water off to a lower level.

The tile drain then must be located to intercept the water in its downward movement. Moreover it is evident that this water must be intercepted before it outcrops if the seep is to be entirely eliminated. Consequently the location must not only be across the slope but on the upper side of the wet outcrop as well. These two principles of location, however, are not sufficient to insure success. If a gutter is placed several inches above a roof surface, very little water will be intercepted. The same condition will govern the success of a seep drain. If placed too shallow it will fail to intercept all of the seep water, consequently it is very essential to place the tile sufficiently deep to cut off the water as it passes down the slope. Seep drains are sometimes called cut-off drains since if properly constructed they do cut off this injurious water before it has an opportunity to harm the growing crops.

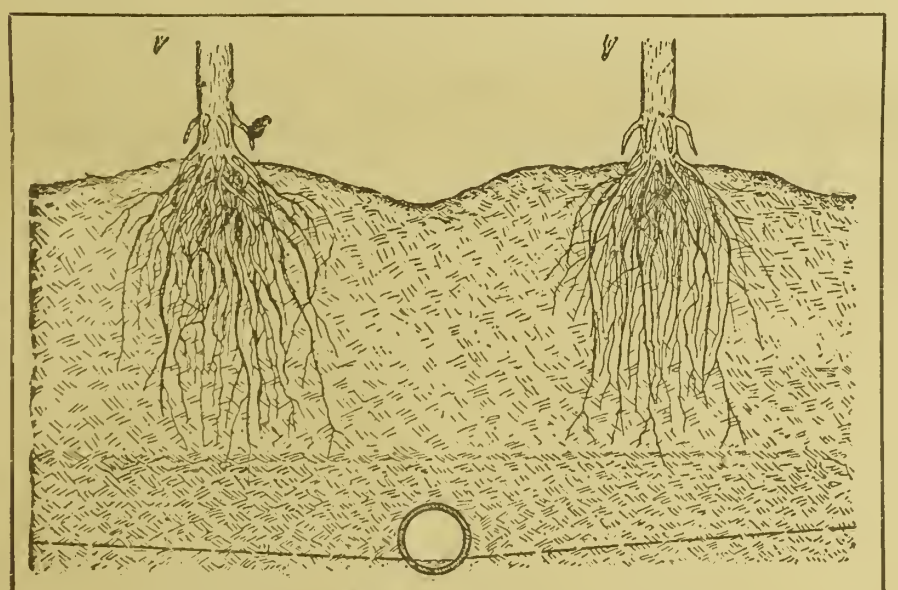
The rule for the location and placing of seep drains is therefore quite simple. It may be stated briefly as follows: Place the drain at right angles to or across the slope, on the upper side of the wet outcrop, and deep enough to intercept the line of flow. A careful observation of the above rule will ordinarily result in the successful drainage of a hillside seep with a single line of tiling.



THIS SWAMPY LAND HAS BECOME HIGHLY PRODUCTIVE AS RESULT OF TILING. AN ADJOINING FARM HAS SINCE BEEN REDEEMED IN LIKE MANNER

TILING HEAVY CLAY SOIL

Soils which are underlaid with heavy, compact, and relatively impervious subsoils are usually classed as "hardpans." Strictly speaking much of such land is not hardpan since moisture does pass through it, to a certain extent, but from the standpoint of drainage it may be so classed. The presence of a relatively impervious subsoil very close to the surface of the ground practically precludes the possibility of economical drainage. Usually such soils are not naturally very fertile and the shallow surface soil is affected readily by both the extreme conditions of wet and dry weather. To get any measure of relief by tilling the lines must be placed very close together. This involves a very heavy initial expense and it is very doubtful if the results obtained are commensurate with the investment required. Many Kansas farms, however, have fertile surface soils ranging in depth from twelve to thirty-six inches, but these are supported upon retentive subsoils. A period of wet weather soon saturates this upper soil layer and crops growing thereon are readily injured by the excessive water which entirely fills the soil cavities and crowds out the necessary air. The removal of this water is often hindered by the uneven surface of the subsoil. The subsoil surface may be a series of pockets, or ridges and depressions, which prevent entirely the lateral movement of the excessive soil water. Naturally, there are only two ways to remove this water. One is by the retarded process of percolation through the compact subsoil, and the other by the slow and cooling process of evaporation. It is evident that crops on such land will show the effects of wet weather long before Nature can relieve the condition by these slow methods. Such fields, however, may be profitably tile drained. The underdrain with its sloping flow line offers an outlet for this stagnant water held so close to the surface by an uneven subsoil. Land owners who possess an area of this kind will do well to carefully study and investigate their field conditions with a view of constructing a comprehensive drainage system. Generally speaking, areas of this nature require frequent and relatively shallow drainage. It is not unlikely, however, that a few carefully located and properly constructed tile drains through the worst places will give satisfactory relief.



ROOTS OF CORN PLANTED IN TILED LAND.—INCREASED ROOT SYSTEM SUPPLIES ADDITIONAL PLANT FOOD AND MOISTURE

TILING VALLEY LAND

The black alluvial soils of the stream valleys represent a third type of Kansas soil which requires artificial drainage. The alluvial limestone soils usually respond quite readily to tile drainage. Such soils moreover are very fertile and when properly drained produce heavy crops. In most of our stream valleys the soil adjacent to the stream itself is open and porous, and has relatively good natural drainage; however, at points more remote from the channel the soil is more compact, more finely divided, lower in surface elevation, and is of a sticky nature. This type of soil is usually called gumbo. On account of the remote location of such areas from the stream, the facilities for carrying away excessive storm water are usually inadequate. Until some relief is secured for this storm water, tile, or under-drainage, cannot be profitably undertaken. The first important step in the drainage of heavy, black, alluvial soils is to secure above all other things correct surface drainage. Without good surface drainage such soils are not successfully tile drained, but when properly surface drained very good results man be expected from under-drainage. The flatness of the ground surface, together with the difficulties attendant upon securing an abequet outlet necessitate unusual care in the construction of drains for gumbo soils. While it has been generally demonstrated that such land can be successfully drained many disappointments have resulted from lack of care in construction. No system of underdrainage should be undertaken in these areas until a careful and complete drainage system has been planned, and the owner of such land should secure the assistance of an experienced drainage engineer in laying out his work.

TILING INCREASES PRODUCTION

The number of tillable acres in a farm is an index of its value. Wasted area is a direct basis for a discount to farm values. Wet land is waste land. Tile drainage is the agency by which wet and wasted areas are made into productive and useful farm land. The profits from production however, are not the only profits from tile drainage. With less untillable land the value of the farm unit is increased. Tile drainage, therefore, by decreasing the number of wasted acres is the direct means of adding to the value of the entire farm. Wet land, susceptible to under-drainage, always has a soil rich in plant food, but the extreme wetness has kept this fertility unavailable for growing crops. Tile drainage removes this injurious, overabundant water so that crops may be produced. The crop returns from such land after tiling not infrenquently pay for the improvements in one to three years. Moreover with the wet spots removed, fields are "squared up" and cultivated in more efficient units, and the satisfaction of farming is greatly enhanced.

Tile drainage is profitable, and the farmer who has his money invested in fertile, but wet land, cannot afford to neglect such a valuable, permanent improvement.

See the Difference

BETWEEN THE

NEW DE LAVAL

AND OTHER

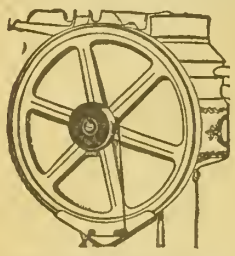
CREAM SEPARATORS



YOU can *see the difference* between a NEW DE LAVAL and any other cream separator right away.

And five minutes spent in comparing the bowl construction, the size, material and finish of all the working parts, the manner of oiling, the tinware and the frames, will surely convince you of the superiority of De Laval construction and workmanship.

Then if you go a step farther and turn the cranks of the two machines side by side for fifteen minutes, running milk or water through the bowl, you will see still more difference.



Every New De Laval is now equipped with a Bell Speed-Indicator, the "Warning Signal" which insures proper speed and uniform cream.

Speed Indicators can be furnished for use on old style De Laval machines at a cost of $3.00 each.

And if you will run the two machines side by side in practical use, as any De Laval agent will be glad to have you do—the De Laval one day and the other machine the next—for a couple of weeks, you will see still greater difference in the work of the two machines.

There is a De Laval agent near you who will be glad to explain all the improvements and advantages of the NEW De Laval, and who will set and start a machine for you on your farm and let you *prove the difference* for yourself.

Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for any desired information.

New Catalog will be mailed upon request

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York 29 E. Madison St., Chicago

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

Farm Hands Wanted

Western Canada Farmers Require 50,000 American Farm Laborers AT ONCE!

Urgent demand sent out for farm help by the Government of Canada. Good wages. Steady employment. Low railway fares. Pleasant surroundings. Comfortable homes. No Compulsory Military Service. Farm hands from the United States are absolutely guaranteed against Conscription. This advertisement is to secure farm help to replace Canadian farmers who have enlisted for the war.

A splendid opportunity for the young man to investigate Western Canada's agricultural offerings, and to do so at no expense. Only those accustomed to farming need apply.

For particulars as to railway rates and districts where labor is required, or other information regarding Western Canada, apply to

GEO. A. COOK, 2012 Main Street, Kansas City, Missouri

Authorized Canadian Government Agent

FREE BOOK ON **TREES**

Tells about large assortment of best trees and plants at lowest prices. Ask for Preferred Customer's Discount. No obligation. Book is Free. Send for it now. Address

WELLINGTON NURSERIES, Desk G, Wellington, Kans.

FREE A pair of Mated Everbearing Strawberry plants, large pkt. of new Cereal Faterita, Sudan Grass and Silk Leaf Poppy seed, all Free for Testing. Send 10c for mailing expense, or not, as you please. We offer genuine Progressive Everbearing plants at 50c per doz.; 60c for 50; $1.75 for 100; $5.00 for 326, all postpaid. CATALOG FREE.

The Gardner Nursery Co., Box 403, Osage, Iowa

Kansas Farmer Dairy Club

Are You Proving Trustworthy?

QUITE a sensation was created when J. P. Morgan, one of the biggest money men of the country, told a congressional committee that he once loaned a man a million dollars solely on his character. He made the statement that in establishing a credit rating, character was the most important point to consider.

Perhaps you do not realize to what extent your work in the Dairy Club is enabling you to build up for yourself a credit rating which will be invaluable to you when you grow up and need money to conduct your business. In New York City, where a great deal of money is borrowed on the security of stocks and bonds, they do not pay so much attention to the character of the man. They make sure that the stocks and bonds are all right and never look at the man. Here in Kansas, however, and over the country generally, the banker whose business it is to loan money learns to know the people who want to borrow almost better than they know themselves. You can be sure that the banker who loaned you money to buy your cow is forming an opinion of your trustworthiness from day to day as you turn in your reports and make your payments.

You are also in a business that has a high standing among bankers. Last year the State Dairy Association of Nebraska asked Thomas Murray, the president of the Nebraska Bankers' Association, to address the annual meeting and tell what bankers thought of dairymen as credit risks. He told them in the beginning of his address that he felt sure every banker in the state would answer that inquiry by saying, "There is no better risk." Perhaps you have heard the story of the banker who was in doubt as to the standing of a farmer wanting a loan, and who decided whether to trust him or not by looking over the counter to see if he had any milk on his boots. Seeing milk on his boots, the loan was promptly made, because he felt sure he would have the money to repay it at the appointed time.

Mr. Murray explained what is meant by the term "credit risk," by stating that the primary meaning of the word "credit" is "worthy of trust," and when applied to money matters means "worthy of financial trust." It means the ability and willingness of the man who borrows money to pay it back again. The man who loans you money wants to know first of all whether or not you are absolutely honest. To be able to repay a loan you must also be capable and thrifty, or in other words, willing to apply yourself steadily to a task and not be reckless in the use of money that comes to you from your work.

The banker is anxious to have you increase your ability to use money profitably and be able to repay it at the appointed time. He wants his customers to become better credit risks and there is no type of the farming business that is more sure of increasing the ability to pay back borrowed money than is dairying. You have found this out already in your club work. In spite of the high prices of feed, some of you have paid for your cows before the end of the year, using only the money coming from the sale of the product after deducting the cost of all feed.

Mr. Murray said that a Wisconsin banker told him that in his thirty years of experience he had never known of a failure among the farmers of that state who started with dairy cows and kept close to the business of dairying. Wisconsin is generally considered to be the leading dairy state of the Union. The annual returns from the sale of dairy products amounts to a million dollars. Kansas is even better adapted to profitable dairying than is Wisconsin, and dairy farming is on the increase in this state.

You will see that the business of dairying, in which you are engaged, is one of the most substantial and legitimate industries in the state. Bankers so recognize it and are anxious to have it become still larger and more important. They want to loan money to dairymen who need it and thus be partners in building up this important industry. Mr. Murray suggested that a good motto for dairymen would be, "Get acquainted with your banker, you may like him." We wonder if you have tested this out. Won't you write and tell us about what kind of a man your banker is and how he has helped you in your work? Don't be afraid to tell him all about your business. He is just as much interested in how much milk your cow is giving, and what your feed is costing, as you are. As you grow older, you will find that the more fully he knows about your business the more help he can give you when you need it.

After you have established a credit rating at a bank by proving your trustworthiness and ability to meet obligations, you need not feel that you are asking a favor of the bank when you want a loan to increase the size of your business. If you have the right sort of standing, the banker considers it a favor to have the opportunity to loan you money. Dairying, intelligently conducted, is so sure to bring in a steady income that you need have no fear that you will be refused credit if you have shown that you are capable and worthy.

Remember that credit is based on character more than on any other one thing. Those who have been unreliable, even in small matters, will find that good business men will not trust them. It is worth a great deal to have the chance to establish a business standing early in life, and we want you to make the most of it.

New Dairy Bulletin

We have just received from the U. S. Department of Agriculture, Farmers' Bulletin 777 on "Feeding and Management of Dairy Calves and Young Dairy Stock."

Each of you should write the department at Washington for this free bulletin, as it contains much information that will be valuable to you. Ability to raise well the calves produced is one of the tests of success in dairying. Even the best pure-bred calf may be made worthless by poor care. There are many things to learn about feeding and managing calves and the more you learn about it the easier it will be for you and the greater will be your success.

The following bulletins relating to dairy farming can also be obtained free by writing the department at Washington:

Farmers' Bulletin 206, "Milk Fever and Its Treatment"; Farmers' Bulletin 345, "Some Common Disinfectants"; Farmers' Bulletin 350, "Deborning of Cattle"; Farmers' Bulletin 413, "Care of Milk and Its Use in the Home"; Farmers' Bulletin 473, "Tuberculosis"; Farmers' Bulletin 481, "Concrete Construction on the Live Stock Farm"; Farmers' Bulletin 490, "Bacteria in Milk"; Farmers' Bulletin 578, "Making and Feeding of Silage"; Farmers' Bulletin 589, "Home-Made Silos"; Farmers' Bulletin 602, "Clean Milk—Production and Handling"; Farmers' Bulletin 623, "Ice Houses and Use of Ice on Dairy Farm"; Farmers' Bulletin 689, "Plan for a Small Dairy House"; Farmers' Bulletin 743, "The Feeding of Dairy Cows"; Bureau of Animal Industry Circular 179, "Cow Testing Associations."

We think No. 602, No. 623, and No. 743 would be of special interest to you while you are doing the Dairy Club work.

Some of the earlier bulletins are charged for because the demand has been great and the supply has been shortened. The department will send any of these on receipt of the price named:

Farmers' Bulletin 55, "Dairy Herd, Its Formation and Management," price five cents; Farmers' Bulletin 106, "Breeds of Dairy Cattle," price five cents; Bureau of Animal Industry Bulletin 128, "Influence of Type and of Age Upon Utilization of Feed by Cattle," price thirty cents; Bureau of Animal Industry Bulletin No. 143, "Maintenance Rations of Farm Animals," price fifteen cents; Department Bulletin 49, "Cost of Raising a Dairy Cow," price five cents.

Of these we would suggest that you try to get No. 55, No. 106, and No. 49. This may seem like we want you to do a great deal of reading, but every boy and girl should read as many good things as possible and these bulletins are all well written besides containing information which will help you in your Dairy Club work. And you will find them interesting, too.

My cow is doing fair now. She sure is eating. It will not be very long until I finish my year in the first great Kansas Farmer Dairy Club.—GLEN ROMIG, Shawnee County.

FARM LOAN INQUIRIES

MANY questions are being asked about the operation of the Federal Farm Loan Act. These inquiries have to do with the obstacles that arise in connection with the actual formation of farm loan associations. We give below a list of the questions most frequently asked, with the answers furnished by the board:

What constitutes an "actual farmer"?

An actual farmer is one who conducts the farm and directs its entire operation, cultivating the same with his own hands, or by means of hired labor. An owner, to borrow under the Farm Loan Act, must be responsible in every way, financially and otherwise, for the cultivation of his land.

What is the meaning of "equipment"?

Equipment consists of the implements needed in the conduct of a farm to facilitate in its operation. It might consist of teams as well as machinery, tools and like articles.

What is the meaning of "improvement"?

Anything in the form of beneficial structure, or any useful, permanent physical change tending to increase productive value, such as clearing, tiling, draining, fencing, buildings, etc.

Has a Farm Loan Association the right to appoint an attorney to draw up abstracts and pay him out of its official funds, or should the members of the association club together as individuals and have this done?

Each borrower is required to furnish his own abstract and the applicant must stand the expense of preparing this abstract. An association has no right to employ any of its corporate funds to pay for the preparation of abstracts for its members. This must be an individual charge, and if members of an association club together to have this work jointly done they must do it as individuals and not as an association. Each borrower is free to make his own choice in the selection of an attorney or abstractor.

What will be the rate of interest?

Not exceeding 6 per cent. The exact rate cannot yet be told; 1 per cent more than the interest rate farm loan bonds will bear.

May members of a partnership borrow?

Yes, if one or both are farmers and engaged in the cultivation of the land mortgaged. Partners must join severally in executing the mortgage and one should give the other authority to represent him in the Farm Loan Association, as only one can have membership.

Will the Federal Land Banks make any charge for examination of abstracts of title?

The examination of abstracts, when furnished, will be made by the bank's general attorney at its office, and for this examination no charge will be made. In districts where abstracts are not obtainable except by examination of the records, the borrower will have to bear the cost of such examinations.

When a husband and wife execute a joint mortgage, should one give the other power of attorney to be the representative in the Farm Loan Association?

Both husband and wife should sign the mortgage, but the one in whose name the title stands should be the member of the Association.

What is the basis for appraising lands?

The appraisement of a farm should represent the best judgment of the members of the loan committee as to the value of the land in question, the principal factor being the productivity of the land when used for agricultural purposes, but taking also into consideration the salability of the land and prevailing land prices in that community.

What will be the size of the bond of the secretary-treasurer?

This will depend upon the size of the Association. The bond need not be large enough to cover the aggregate amount of money borrowed by the members of the Association, because this money will be transmitted in such way as never to be in the exclusive control of the secretary-treasurer. It should be large enough merely to cover the interest and amortization payments, called the installments, as well as the deposits likely to be in the hands of the secretary-treasurer at any one time.

What is the judgment of the Farm Loan Board as to compensation for the loan committee?

This depends so much on the size of the Association that no fixed rule can be made. Since this is a co-operative banking system, the Farm Loan Board desires that the work, as far as possible, be done without expense. The Board believes that in a small association it will not be necessary to pay the loan committee any fees. The Board believes that in very few cases will it be necessary to pay the loan committee more than actual expenses.

What is the judgment of the Farm Loan Board as to the compensation to be paid the secretary-treasurer?

This also depends so much upon his relative duties as fixed by the size of the association that it is difficult to name an amount. This compensation should be based upon the time actually required to perform the work of the Association.

May one man, by owning two pieces of land, become a member of two associations and borrow in excess of $10,000?

He may become a member of two associations, but the total amount of his loans may not exceed $10,000.

May an association operate across state lines even if both states are in the same bank district?

No; no association may designate territory in two states in which loans can be made.

In a general way, what sort of abstracts will be required? Must they be prepared by bonded abstractors, or is this a matter for the judgment of the land bank officials?

It is a matter for the Federal Land Banks to determine. Any abstract of title sanctioned by ordinary sound business usage in the community will be sufficient under this act. The Federal Land Banks will recognize any system of title registration approved by the law of the state in which the land is located.

Mass the Shrubbery

With but few exceptions, shrubbery gives its best effects when massed. Single specimens often appear well, but as a rule a considerable number of them growing together in one clump will add strength and naturalness to the planting. Where we find one oak tree, there will be, unless destroyed by man, a number of them. Instead of one sumac, we see a whole colony of them. We should follow Nature's suggestions when she gives them to us.

The mass may be made up of a single kind of shrub or tree, or several. They should be set far enough apart to give freedom for growth. Where several kinds are used, those smaller in ultimate stature should stand in front of the taller ones.

If no more than a dozen plants are to be purchased, get only two or three rather than a dozen different sorts, and mass the similar ones.

Congress has made the usual appropriation to enable its members to remember the constituent at home with a few vegetable or flower seeds of the same kind, no better and we hope no worse than can be purchased from any dealer. In order to be reasonably safe it is better to buy the seeds needed from a reliable seed dealer than to trust to the congressional seed; and, incidentally, why not insist that this congressional free seed graft be stopped?



Here's Proof of What the OIL PULL Saves-

"On four gallons of kerosene it does more work than my neighbors' rigs do on five gallons of gasoline. Gasoline costs just twice as much as kerosene here."

—THOS. TAYLOR, Earl, N. D.

That is *real* saving—the kind that puts money in your pocket. And not only this man but *every* owner of an OILPULL has that kind of a cost cutter.

You want a kerosene burning tractor—make sure you get a *real* one.

We know what the OILPULL will do and for your protection we give an absolute written guarantee with every OILPULL tractor.

But cut-in-two fuel bills is only one OILPULL advantage.

It is built strong and will *last*. It is throttle governed—the power is steady and uniform. Oil cooling does away with hauling water and prevents freezing. A preheater means full engine efficiency in coldest weather. The self starter makes starting easy.

You can count on the OILPULL to handle all your farm jobs—draw-bar and belt—better work and lower costs at every operation. Two sizes, 15-30 and 30-60 h. p.

We have a special catalog on the OILPULL—ask our nearest branch.

The same shops that build the famous OILPULL make the Advance-Rumely "8-16" two-plow tractor, the "12-24" three-plow and the well-known Rumely Ideal Separators, Hullers, Huskers, and Engine Gang Plows.

ADVANCE-RUMELY THRESHER CO.
LA PORTE (*Incorporated*) INDIANA

Address the branch nearest you
Kansas City, Mo.—Wichita, Kan.

RUMELY OILPULL TRACTOR LA PORTE IND.

Guarantee

We guarantee the OILPULL tractor to operate successfully at all loads and under all conditions, not only on all grades of kerosene permitted by law to be sold in the United States and Canada, but on *distillate and fuel oils free from earthy matter.*





How Old was The Old Oaken Bucket?

THE "iron-bound" bucket that hung in the well was covered with moss but the hoops were always tight and the bale was always secure. Time left its impress on the wood and on the metal but *rust* did not eat through the iron although the bucket was subjected to the severest of exposures. The iron was *pure* iron and pure iron resists rust.

"ARMCO" IRON CORRUGATED CULVERTS

By chemical analysis these are purer iron than were the hoops of the old oaken bucket. Under similar conditions "Armco" Iron should outlast even the old-fashioned iron. Under highways and railroads all over the country, "Armco" Iron Culverts give service like that of the old oaken bucket. They are the only metal culverts that can be counted on to outlast the generation that installs them.

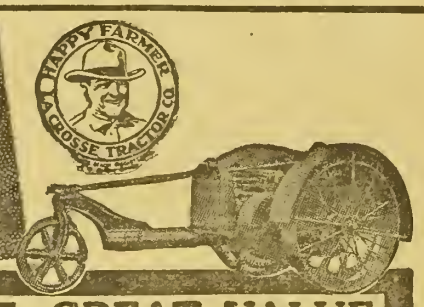
For full information on "Armco" Iron Culverts, Flumes, Sheets, Roofing, and Formed Products, write the manufacturer in your vicinity, or

ARMCO IRON CULVERT AND FLUME MFRS. ASSOCIATION
CINCINNATI, OHIO





La Crosse Happy Farmer Tractors



LOW PRICE—GREAT VALUE

SO low in first cost and upkeep that any farmer can afford to buy one or more. Simple in construction—with highest quality materials. Only ⅔ the parts used by other tractors, 88% of weight on two drive wheels.

Write for Catalog La Crosse Happy Farmer Tractors are now doing great work in farmers' fields. Model "A" pulls 2 or 3 plows—1500 lbs. guaranteed drawbar pull—16 h. p. on all belt work—extremely light and simple. Use gasoline or kerosene. Model "B"—12-24 h. p. guaranteed—weighs only 3700 lbs. Many exclusive features. Burns kerosene perfectly—Hyatt Roller Bearings throughout. We have a distributor in your territory for prompt service. Write for catalog. Also get literature on the La Crosse Happy Farmer line of tractor-drawn implements.

LA CROSSE TRACTOR CO., Dept. 6 Minneapolis, Minn.
Live Dealer Agents Wanted

MODEL "A" 8-16 H. P. $585.00

MODEL "B" 12-24 H. P. $735.00

Moline Power Lift Gang

Operated Direct From the Tractor By One Man

A combination Two-Three and Three-Four bottom plow for light tractors. Easily changed from one form to the other.

Can be hitched to any style tractor—hitch is semi-rigid, so that plows may be backed even when in the deepest furrow.

By Pulling a Single Cable

driver raises or lowers a plow while in operation—from extreme depth to clear out of the ground—or a little at a time in difficult plowing, to prevent stalling of motor.

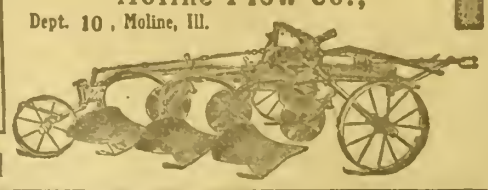
Rear wheel locks automatically for plowing or backing, casters for turning or transporting.

Equipped with Moline Quick attachable shares.

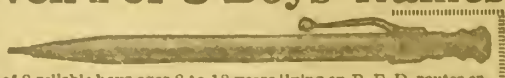
See the Moline Power Lift Gang at your dealer's, or write us for free illustrated literature.

THE MOLINE LINE INCLUDES
Corn Planters, Cotton Planters, Cultivators, Corn Binders, Grain Binders, Grain Drills, Harrows, Hay Loaders, Hay Rakes, Lime Lowers, Listers, Manure Spreaders, Mowers, Plows (chilled and steel), Reapers, Scales, Seeders, Stalk Cutters, Tractors, Farm Trucks, Vehicles, Wagons.

Moline Plow Co.,
Dept. 10, Moline, Ill.



Clutch Pencil Given For 8 Boys' Names



REGULAR size, 5 inches long, nickel plated. Complete with pocket grip. Should last a life-time. Always sharp and ready for use. No broken points. Pencil sent postpaid for names and and addresses of 8 reliable boys ages 8 to 18 years living on R. F. D. routes or in the country in any of the following states: N. D., S. D., Minn., Ohio, Ind., Ill., Wis., Mich., Ia., Neb., Mo., Kan., or Okla. Give correct names and addresses. Write plainly. This offer is open only to one person in a family. Only one list of 8 names wanted from each person; no one person may receive more than one pencil. Offer not open to those who sent list this fall, unless different names are sent. SUCCESSFUL FARMING, 8 Success Building Des Moines, Iowa



Pasture Problems in Eastern Kansas

THE live stock situation in Miami County cannot well be discussed without also discussing the pasture problem. This statement is made by O. C. Hagans, agricultural agent in Miami County, in his annual report. In discussing the pasture problem for that county he goes on to say that the value of Kentucky bluegrass, white clover, red top, timothy and red clover is well known to most farmers, and so far as is known these pasture grasses and clovers form the basis for our pasture mixtures. But so long as there is room for weeds to thrive in the pasture of this county there is also room for more good pasture grasses and clovers to grow and thus increase the carrying capacity of our pastures.

In the spring of 1915 a demonstration of the use of sweet clover as a pasture crop for seeding rocky pastures where the stand of pasture grasses was too thin, was planned at D. M. Lauver's. The sweet clover was seeded and made a fair growth during the season of 1915 and furnished some pasture late that season. During the season of 1916, this sweet clover made a good growth and as the pasture was not heavily stocked besides furnishing some pasture it made seed so that it could re-seed this rocky point for 1917. W. E. Hays and K. McLain, of Osawatomie; Ersel Reed, Louisburg; A. L. Lingle, Richland, and F. C. Atwood, of Sugar Creek, are co-operators who have used sweet clover for pasture purposes and all report that it proved satisfactory, especially on the rocky hills and abrupt slopes where other pasture clovers had failed to grow.

Ersel Reed reports that he lost eight lambs from bloat on sweet clover in June, 1916. The sheep were turned on the sweet clover early in the morning while the plants were wet with dew.

There are several thousand acres of rocky pasture land in this county, which at the present time are producing practically nothing, and which if seeded to sweet clover would produce good pasture returns.

Alsike clover has been making a name for itself in this county during the past few extremely wet and extremely dry seasons. Ramey Brothers, of Spring Hill; A. L. Lingle, of Wellsville; L. B. Heflebower, of Bucyrus; L. L. Gardner, of Louisburg, and Joseph Grother, of Fontana, are some of the men who have allowed the alsike clover to demonstrate to them that it has a place on the upland soil as well as on the wetter bottom soils. These men have found that the alsike seeds more plenteously than the red clover and once a stand is secured there will be enough alsike seed formed to re-seed the field through the winter or drouth may injure the stand. In the demonstration test of seeding red clover and alsike at Joseph Grother's, where the clovers were seeded the first of May, 1916, on the 28th of July, we found that the alsike was well filled with seed.

For pasture and meadow purposes, all information available shows that at least one pound of alsike clover should be seeded with every four pounds of red clover on the upland soils. On the wetter soils a larger proportion of the mixture should be alsike.

A small flock of sheep would be beneficial to the pastures on practically every farm. Since sheep will eat over 600 different plants and prefer a large variety including most common pasture weeds, while cattle and horses eat only about sixty different plants, it may easily be seen that a few sheep would benefit most pastures. Also as the sheep destroy the weeds and shrubs, the pasture clovers and grasses will replace them, thus increasing the carrying capacity of the pasture.

The silo is a benefit to many Miami County pastures. It enables farmers to take their stock off the pasture earlier in the fall and feed them later in the spring, thus allowing the pasture plants to get a good growth before the stock is turned on in the spring.

Itinerary of Lecture Train

Monday morning, March 19, the Santa Fe dairy and poultry demonstration and lecture train will be in Gridley for the first stop of the day. The itinerary for the remainder of the trip follows:

Arrive.	Station.	Depart.
MONDAY, MARCH 19		
8:25 a.m.	Gridley	10:15 a.m.
10:45 a.m.	Burlington	12:30 p.m.
1:20 p.m.	Waverly	2:50 p.m.
3:20 p.m.	Williamsburg	4:50 p.m.
TUESDAY, MARCH 20		
8:30 a.m.	Ottawa	10:15 p.m.
10:45 a.m.	Baldwin	12:30 p.m.
12:45 p.m.	Vinland	2:15 p.m.
2:45 p.m.	Lawrence	4:30 p.m.
WEDNESDAY, MARCH 21		
8:25 a.m.	Olathe	10:15 a.m.
10:30 a.m.	Gardner	12:00 m.
12:15 p.m.	Wellsville	1:45 p.m.
2:15 p.m.	Pomona	3:45 p.m.
4:40 p.m.	Lebo	6:10 p.m.
THURSDAY, MARCH 22		
8:30 a.m.	Emporia	10:00 a.m.
10:30 a.m.	Reading	12:00 m.
12:25 p.m.	Osage City	1:55 p.m.
2:40 p.m.	Lyndon	4:10 p.m.
5:00 p.m.	Melvern	6:30 p.m.
FRIDAY, MARCH 23		
8:30 a.m.	Saffordville	10:15 a.m.
10:35 a.m.	Strong City	12:05 p.m.
12:30 p.m.	Clements	2:10 p.m.
2:35 p.m.	Florence	4:20 p.m.
4:45 p.m.	Peabody	6:15 p.m.
SATURDAY, MARCH 24		
8:30 a.m.	Marion	10:10 a.m.
10:35 a.m.	Hillsboro	12:05 p.m.
12:30 p.m.	Canton	2:00 p.m.
2:35 p.m.	McPherson	4:10 p.m.
4:50 p.m.	Little River	6:20 p.m.
MONDAY, MARCH 26		
8:30 a.m.	Webber	10:00 a.m.
10:30 a.m.	Courtland	12:00 m.
12:40 p.m.	Concordia	2:10 p.m.
2:25 p.m.	Aurora	3:55 p.m.
4:15 p.m.	Miltonvale	5:45 p.m.
TUESDAY, MARCH 27		
8:30 a.m.	Barnard	10:15 a.m.
10:40 a.m.	Ada	12:10 p.m.
12:40 p.m.	Minneapolis	2:25 p.m.
3:30 p.m.	Manchester	5:15 p.m.
WEDNESDAY, MARCH 28		
8:30 a.m.	Salina	10:15 a.m.
10:45 a.m.	Solomon	12:15 p.m.
12:35 p.m.	Abilene	2:10 p.m.
3:05 p.m.	Hope	4:35 p.m.
5:05 pm.	Burdick	6:35 p.m.
THURSDAY, MARCH 29		
8:30 a.m.	Alma	10:00 a.m.
10:35 a.m.	Eskridge	12:05 p.m.
12:40 p.m.	Burlingame	2:10 p.m.
2:30 p.m.	Carbondale	4:00 p.m.
4:35 p.m.	Topeka	6:15 p.m.
FRIDAY, MARCH 30		
8:30 a.m.	Meriden	10:15 a.m.
10:45 a.m.	Valley Falls	12:30 p.m.
12:55 p.m.	Nortonville	2:40 p.m.
3:20 p.m.	Atchison	5:20 p.m.
SATURDAY, MARCH 31		
8:30 a.m.	Potter	10.00 a.m.
10:35 a.m.	Leavenworth	12:35 p.m.
1:30 p.m.	Bonner Springs	3:00 p.m.
3:25 p.m.	De Soto	4:55 p.m.

As the season is here for purchasing hatching eggs, it may be well to consider some things that are sure to happen. Eggs that are known to run high in fertility, when shipped and subjected to rough handling will often hatch poorly. This has led to many misunderstandings between shipper and purchaser.



HUNDREDS OF AUTOMOBILE PARTIES CAME TO INSPECT EXHIBITS AND HEAR LECTURES AT TWO-DAY MEETING HELD IN FREDONIA BY SOUTHEAST KANSAS LIVE STOCK ASSOCIATION

General Farm Inquiries

Well-Bred Heifers Valuable

A KANSAS FARMER reader who has been selling some of his dairy-bred heifers, writes that many who come to buy seem to expect him to sell them at what they call "farmers' prices" of six or seven cents a pound and refuse to buy unless he will so price them. This is rather discouraging to a man who has made some effort to develop a herd of high producing dairy cows.

Not all dairy-bred cows are profitable producers, but a large proportion of them are and if given a chance these well-bred heifers will return a profit on a valuation many times greater than that suggested. This man further says that he was ridiculed when he first started to build up a Holstein herd five years ago. There has been some change of opinion in his neighborhood, however, since his neighbors have seen the results he is getting. There is nothing like actual demonstration to prove the value of good stock of any kind. He states that during the past few years several of his neighbors have bought pure-bred bulls as a result of what he has done with his herd. There are now over a hundred Holstein cattle in that community.

Flavors in Milk

M. T. L., Greenwood County, asks what causes the various disagreeable flavors in milk.

Milk naturally has a pleasant flavor but it can have many acquired flavors that are decidedly unpleasant. Among the commonest kinds of disagreeable flavors are those resulting from things the cow eats. Wild onions or garlic quite often cause a good deal of trouble in the spring when the cows first go to pasture. Ragweeds which are sometimes eaten by cows when the grass is short, give a bitter flavor.

Another source of disagreeable flavors in milk is the absorption of these flavors from the air of the stable or place in which the milk is kept. Milk will very quickly take on these flavors. It is therefore important that the milk be removed as quickly as possible from the stable or other place where it might become so contaminated. Some bad flavors are the result of specific bacterial action. Certain kinds of bacteria produce bitter milk. This is not an uncommon source of trouble in cold weather, this particular form of bacteria apparently being at work at comparatively low temperatures. Absolute cleanliness about utensils and the barns in which the cows are milked is necessary to avoid this source of bad flavors.

Growing Broom Corn

J. R., Grant County, asks how to improve the quality of the broom corn he is growing. He finds that the price paid for the brush depends very largely upon its quality.

Probably one of the most important points in the improvement of broom corn is the matter of seed selection. Broom corn crosses with cane, feterita, kafir, and others of the sorghum group. Seed from fields that have been mixed with these other sorghums will produce a very poor quality of brush. In order to bring about any improvement it is almost essential to make a specialty of growing seed. Good seed cannot be obtained from the threshers because practically all broom corn gathered for the brush is harvested before the seed is mature. Even if the seed is mature enough to grow, it is likely to be badly mixed, because so little effort has been made to improve this crop and keep the seed pure.

Some growers plant a seed patch each year and exercise a great deal of care in keeping the crop in this patch up to standard. If our correspondent could secure some seed from a grower who has made some effort to improve the crop and keep it pure, he will have made a most important step in producing brush of better quality.

We would advise every grower of broom corn to plant a seed patch of his own unless someone in his neighborhood is already doing this on a large enough scale to supply seed to his neighbors. This home seed patch can be planted at one side of the main field, using the purest seed obtainable. As the plants come to the heading stage the hybrids and those not true to the desired type can be removed before they scatter their pollen. As the brush begins to come out of the boot another culling can be made with profit. All the plants showing spiky brush or having a strongly developed central stem should be removed before they can cross-fertilize other plants having desirable brush. If this work is well done the first year it will be much easier in the following years to improve the crop and keep it up to standard.

Broom corn is a crop well adapted to the southwestern part of our state and if any attempt is made to grow it, it is well worth while producing brush of good quality and learning how to care for it so as to bring it to market in the best condition possible. Special skill is necessary in order to handle broom corn successfully. Many fail after growing a good crop, because they do not know how to harvest it and market it in first class condition.

Farmers' Bulletin 768, recently published by the Federal Department of Agriculture, takes up the growing of broom corn in considerable detail. Every broom corn grower should secure a copy of this bulletin.

Now is the time to plant seeds for early vegetables. This may be done in a sunny window, a hotbed, or a greenhouse. Vegetables usually forced in this manner are the tomato, cabbage, cauliflower, pepper, musk melon, and occasionally the onion. The seed should be sown either broadcast or in shallow drills. When the plants have formed from one to four leaves they should be transplanted from two to four inches apart in other boxes, and when the weather conditions are suitable reset in the field.

Methods of planting corn by which one or two rows of an early-maturing variety alternate with one or two rows of a later-maturing variety have given higher yields than either variety planted alone, according to the annual report of the Bureau of Plant Industry. Where there is likely to be a shortage of moisture during certain periods of the growing season, dependence should not be placed in a single variety; under such conditions two or three varieties which differ considerably in length of growing season should be grown.

If your clutch runs in oil, drain it occasionally, wash with kerosene and refill with fresh oil.



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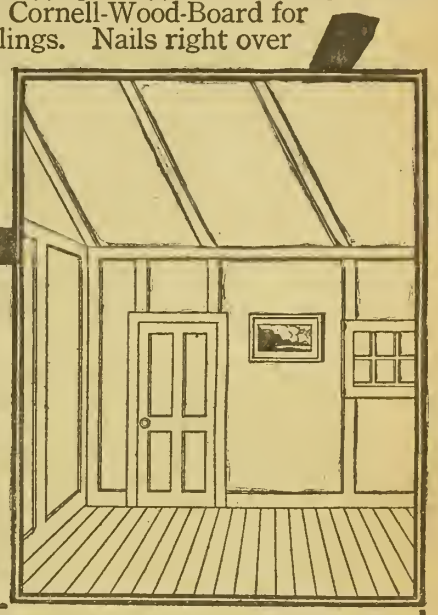

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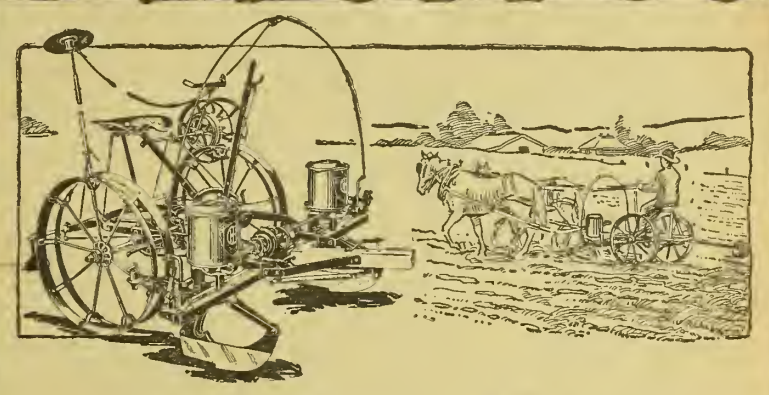

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BETTER PRICES BROADER MARKETS

Part Played in Problem by Transportation — National Treatment for a National Enterprise.

IN every part of the country the farmers are turning their attention to questions relating to the handling of their products after they leave the farm. Transportation is a part of this problem. The cost of reaching their markets and the ability to reach them promptly at the right time are important factors in determining the returns from their crops.

Low Freight Rates

Fortunately the American farmer has at his command the lowest freight rates in the world. It costs no more to move a load of wheat 500 miles by rail than it does to haul it five miles from farm to station by team. A ton of farm produce of any kind can travel almost twice as far for the same charge on American railroads as on the government-owned roads of other lands.

The cheapness of transportation is not the whole issue. To meet the needs of the farmer transportation facilities must be ample. There must be plenty of tracks and cars and locomotives and sufficient terminals.

Billion a Year Needed

The railroads are anxious to provide means to take care of all the business they can obtain. But a vast outlay of money is required. A billion and a quarter dollars a year for the next ten years or more must go into railroads to provide the necessary transportation facilities.

During the past few years it has become more and more difficult to obtain even in part, the money required for this purpose. This has been due partly to the poor promise of a satisfactory return on the investment; partly to the uncertainty created by numerous and conflicting regulations.

Regulate For All the People

Nobody seriously proposes that the public regulation of railroads shall be weakened. Certainly the railroads themselves do not. But it is a reasonable proposal that the regulation of this great national business should be handled by national agencies, on national lines, in the interest of all the people, and not by local agencies to serve local or sectional ends.

Regulation at cross purposes by 49 masters—48 states and the federal government—now imposes upon the railroads an annual burden of many millions of dollars of wasteful expense, from which the public derives no benefit. It is of primary importance to the farmer to cut down this waste in order that his products may be moved to market at the least expense and with the greatest possible expedition.

The farmer's interest demands free trade among the states.

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GENERAL FARM NOTES

If one is arranging a garden on paper, the location of the vegetables should be planned in such a way as to keep those of similar cultural conditions together. The perennials such as rhubarb, asparagus, horseradish and winter onions should be located at one side, with such full season crops as parsnips, salsify and Swiss chard. The shorter season cool crops, such as early cabbage, onions, spinach, lettuce, radishes, beets, carrots and peas, come next in order of their planting, and finally the warmer plants such as sweet corn, beans, tomatoes, peppers, eggplant, cucumbers and melons.

Keep the Lawn Open

When attempting to beautify a lawn, do not break it up with flower beds, scattered shrubbery, unnecessary trees, walks or drives.

An open area with no obstructions gives the effect of greater size; a broken one seems to be smaller than it really is. The former is preferable in landscape work. The broken lawn is impractical because it is more difficult to take care of properly. Except in formal plantings, the flower bed, no matter how beautiful, is plainly artificial and out of place. Usually, too, the flower bed after the blooming season becomes an ugly spot and hardly improves the appearance of the lawn. The isolated flower bed does not blend or harmonize with the lawn and is, therefore, inartistic.

There is nothing more restful than a stretch of good lawn, while one which is cut up with scattered shrubs and beds looks cluttered and disorganized. Keep the lawn open and unbroken.

The best location for an early garden is a southeastern slope. Early vegetables raised and recommended by the agricultural college are stringless green pod and bush lima beans; Crosby's Egyptian beets; black seeded Simpson and improved Hanson lettuce; early scarlet turnip and white Strassburg radish; Victoria spinach; premium flat Dutch and early Jersey Wakefield cabbage; Nott's excelsior and Gradus peas; mammoth white Cory, Stowell's evergreen, and country gentleman sweet corn.

Business Side of Farming

Farming is a business. The successful farmer is the one who understands his business.

Keeping farm accounts means more than keeping a record of your farm receipts and expenditures. That record is worth but little without an inventory at the beginning and end of each year. The completed record shows the total profits and losses, and it is valuable.

The farm bureau of this county has for its object the improvement of the farming business. Crop yields are only one part of the farming business. A farm with large yields is not necessarily successful. Most farmers know far more about their business than many believe, yet very few can keep the details in mind unless they have a system of more or less definite records for reference.

The successful farmer wants to improve his methods, enlarge his labor income, "stop up the leaks," and profit by his mistakes. Can he do that without adopting business methods? We doubt it.

Bradstreet and Dunn report that the life of the average business in towns and cities is short. Competition is very stiff and for a business in a city to last it must be adapted to conditions. The city business man must study his business, be wide awake, and use the most modern methods.

Just so nowadays with farmers. Land is rapidly increasing in value, labor is getting more scarce, and machinery is doing nearly everything our fathers did by hand. Every day it is becoming more important that a farmer use better business methods and study his business.

When men are farming in the same region, on the same kind of soil, raising the same crops and are selling their products on the same markets, it is startling to find that one of five farmers in almost every community is making over $1,000 more than any of the other four. After paying all farm expenses and subtracting the interest that the money invested in the farm business would earn, that man is getting over $1,000 more for his year's work than perhaps the neighbor across the road. The paint on the barn or the automobile in the shed do not always prove a farmer is making money. The year's labor income is the true measure of a farmer's success. — AMBROSE D. FOLKER, Agricultural Agent for Jewell County.

Organic Matter in Soil

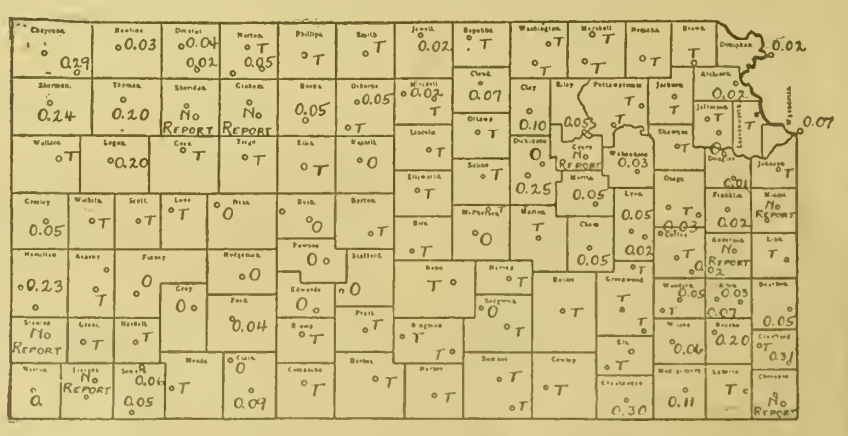
S. L. M., Bourbon County, asks if organic matter such as straw, cornstalks and similar material adds any considerable amount of plant food to the soil, or is it valuable simply because it makes the soil loose and mellow.

In soil which has been farmed for a good many years perhaps the most important effect of the organic matter added is that it causes it to become more porous and light. It therefore not only takes in water more readily but has greater capacity for holding it. A soil very deficient in organic matter usually runs together when wet and bakes hard when it dries.

Decaying organic matter also adds plant food to the soil and in the process of its decay furnishes food for the many forms of bacteria which are essential to unlocking soil fertility. No farmer can afford to waste the straw and other organic matter produced on his farm. Every effort possible should be made to get it back into the soil.

Rainfall Over Kansas, for February

Reports Furnished by S. D. Flora, Observer, U. S. Weather Bureau.



"T" Indicates an amount too small to measure.

LESS moisture fell in Kansas this month than in any other month in the thirty years that a statewide weather record has been kept, and the snowfall was less than that of any other February on record. There was not enough moisture anywhere in the state to soak the upper soil for more than a few hours.

Wheat is in a critical condition. It is thin on the ground and has been in a dormant condition for three months and a half. However, most of it is still alive and capable of making a fair to good crop if a good rain or heavy snow comes before the weather warms up and starts it to growing again.

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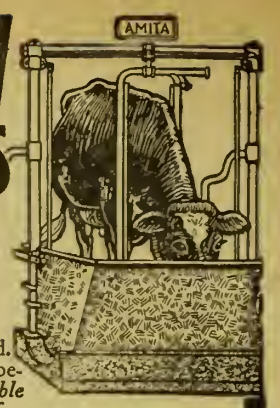

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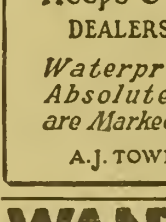

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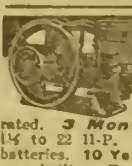

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Feeding Young Dairy Calves

FEEDING the calf should begin before it is born, says Farmers' Bulletin 777, "Feeding and Management of Dairy Calves and Young Dairy Stock," recently issued by the U. S. Department of Agriculture. Poorly nourished cows give birth to weak, puny calves which are hard to raise. Cows which have an abundance of palatable and succulent feed and are in good body flesh and healthy, thrifty condition at calving time, are most likely to produce well-developed, strong and sturdy calves which will respond normally to proper feed and care.

The calf should always receive its mother's milk at first, as the colostrum, or first milk, stimulates the calf's stomach and other digestive organs to action. Most dairymen prefer to keep the calf with the cow for about forty-eight hours immediately after birth. It may be best to allow a weak calf or one that does not gain strength readily to remain a longer time, but it is sometimes difficult to teach the calf to drink after sucking the cow for a time, and serious trouble may result from its failure to obtain food.

Successful raising of calves requires absolute cleanliness. Calf pens should always be kept clean and be supplied with plenty of dry bedding. Discarded feed should be removed from the feed boxes, which should be thoroughly brushed and cleaned each day. All milk fed should be fresh and clean, which is true also of other feeds. Milk pails should be scalded thoroughly with boiling water, or sterilized with steam if possible.

Milk from cows having a communicable disease, as tuberculosis, should be pasteurized — heated to 145 degrees F. and held at that temperature for thirty minutes—before it is fed to calves. Separated milk from a creamery also should be pasteurized, because it is practically impossible to know that such milk is free from infection.

Better results are obtained by feeding young calves three times a day, with the periods between feeding as nearly equal as possible. When fed in this way the calf does not overload its stomach, and the digestion of the feed is more evenly distributed throughout the twenty-four hours. Regularity in feeding is important. When calves are fed but twice a day, the feeding should be as nearly as possible twelve hours apart.

At birth a fifty-pound calf should have about eight pounds of whole milk a day, while a hundred-pound one should have about twelve pounds. For the first four days milk from the dam should be fed, then that from any of the other cows in the herd, preferably not from any that are nearly dry. Milk containing not more than 4 per cent butter fat is considered best.

At the beginning of the third week separated milk may be substituted for whole milk at the rate of one pound a day. The daily ration may be increased from two to four pounds, depending upon the vigor of the calf. When the calf does not drink eagerly what is offered, the quantity should be cut down. The ration at the end of the third week usually should be approximately one-half whole and one-half separated milk. During the fourth week the change should be continued until by the end of the week only separated milk is fed, unless the calf is very delicate. With especially vigorous calves the change to separated milk can be made about a week earlier. The quantity fed can be increased gradually to eighteen or twenty pounds a day.

Six months is probably a good average age at which to wean calves from milk. The age depends upon the cost of the milk in relation to the value of the calf, its breed, size, vigor, etc. The season of the year and the other feeds available also must be considered. When the best of hay, silage, and a good variety of grains are available, or when good, succulent pasturage can be provided, the calf can be weaned earlier; also the stronger and more vigorous the calf, the earlier it can be weaned. On the other hand, the more valuable the calf, the more expense the owner is warranted in developing it, and the later it will probably be weaned. If skim or separated milk is plentiful, calves may be fed profitably until eight or ten months old.

When the calf is in its second week it should begin to receive grain, and when one month old it should eat about half a pound a day. After this time the quantity of grain may be gradually increased, feeding all that the calf will eat until three pounds a day is reached, probably during the third month. Grain fed to supplement separated milk should never be mixed with the milk. It is questionable whether the preparation of grain in any way, such as soaking or boiling, is advisable under most circumstances.

Wheat bran is eaten readily by young calves. Corn has an excellent physiological effect and to a great extent may take the place of fat removed from skim or separated milk. Experiments tend to show that corn fed to calves should be cracked rather than finely ground. Ground oats are good in grain mixtures when available, but in many cases cost much more per unit of feed than corn and bran. The following grain mixtures are recommended in the bulletin:

Three parts cracked corn and one part wheat bran.

Three parts cracked corn, one part wheat bran, and one part ground oats.

Three parts cracked corn, one part wheat bran, one part ground oats, and one part linseed meal.

Five parts cracked corn, one part wheat bran, one part ground oats, and one part blood meal.

Oats, ground.

Clover hay, alfalfa hay, or the most palatable roughage available should be given the calf after the second week. Alfalfa is liable to cause scours, and should be fed sparingly at first and increased only after the calf gets accustomed to it. At first, hay should be furnished only a handful at a time and be placed so that it cannot be soiled. For the first six months, at least, the calf should receive all the roughage of good quality that it will eat up clean. When the calf has access to good pasture during the first six months, it need not receive other roughage. It is not advisable, however, to have the calf under two months of age on pasture in the early spring.

Fences, outhouses and unsightly spots can be screened and improved in appearance by a judicious planting of shrubbery.

SPREAD NOW! HARVEST BIGGER CROPS THIS FALL!

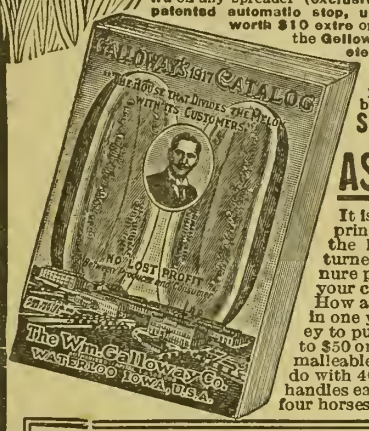


A new 1917 model Galloway Spreader used to get the manure crop out on the land between now and planting time means bigger crops this fall. Prices were never better. The producer is having his inning! Now is the time to get that big manure pile out on the land because every load spread means cash in the bank next fall for farm improvements, pleasures or other things you want. Get your manure crop out on land where you plan to grow corn next year—top dress the winter wheat—get it on the soil where you are going to sow oats! Top dress the meadows—the alfalfa, the clover! Every manure pile is a pile of gold! A spreader used steadily for one to two weeks means that it has paid for itself because its use represents money at harvest time that you otherwise would not get. Quit spreading by hand—using old broken down spreaders, when you can buy the best spreader on earth—the Galloway new 1917 model Low Down No. 8—and still save $25 to $50 by buying direct from factory to farm! I mean every word of it! You can own the best spreader built and save from $25 to $50 over prices usually paid for spreaders not as good—not as down to date in design—as light in draft—made of as fine materials, nor covered by the eleven Galloway spreader patents found exclusively on the Galloway. These features and many others make the Galloway 1917 Models No. 8, No. 1A and No. 5.

WORTH $50 MORE THAN ANY OTHER SPREADER

New steel beator and wide-spreading V-rake pulverizes and tears the manure to shreds—worth $15 more on any spreader; my positive, invincible, irresistible, patented roller feed—the secret of our light draft (exactly the same principle as moving a house on rollers) worth $25 extra on any spreader (exclusive feature on the Galloway), patented automatic stop, uniform clean-out push-board, worth $10 extra on any spreader (exclusive on the Galloway), new everlasting pressed steel, unbreakable tongue, worth $5 more on any spreader; all these valuable features cost you nothing extra when you buy the Galloway at my new SPECIAL 1917 PRICE.

Remember I sell on terms to suit you—Cash, Bank Deposit, Half Cash Half Note, All Note, Installment Plan or one year to pay—and I sell direct at less than wholesale from factory to farm at actual cost of material, actual cost of labor and only one small profit based on the tremendous output of my great chain of factories here at Waterloo. I am a manufacturer—not a jobber or dealer. I give you thirty days' field trial and any Galloway spreader is returnable to us within one year if you are not perfectly satisfied. Try this spreader at our risk without obligating yourself in any way. Buy a Galloway DIRECT FROM GALLOWAY.



ASK FOR MY BIG NEW 1917 FREE BOOK

It is a big book of 230 pages. A postal gets it. Handsomely printed in many colors. It tells how to handle manure with the least labor. How a run-out, unproductive farm was turned into a goldmine crop producer. How to build a manure pit to preserve fertility. How to increase your corn crop from 15 to 25 bu. per acre. How a Galloway Spreader will pay for itself in one year by increasing crop profits and leave money to put in the bank besides. How I save you $25 to $50 on a spreader. How with the 10-pound steel and malleable mechanism we accomplish the same results as others do with 400 pounds of brittle gray iron. How a Galloway Spreader handles easier with two horses than other spreaders with three and often four horses.



Ask For That Book Today

NOTE THESE 1917 SPREADER IMPROVEMENTS

Built stronger and better than ever! Beater bolts are 1-16 in. larger, with lock nuts. Beater bar bolts increased in size and strength. Beater teeth longer and stronger than ever, which means they now tear the toughest manure finer than ever and spread it easier. Heavier bolts hold the beater bars in the beater head. Rear shaft increased in strength—higher carbon steel used. Additional bolts strengthen (beyond actual necessity) the beater bracket. All metal parts thoroughly coated with asphaltum weatherproof paint. Adjustable from 4 to 24 loads per acre. Spreader box better finished and painted. Galloway wide-spreading V-rake on every machine. **Don't buy a spreader of any make or kind until you have tried a genuine Galloway 1917 model No. 5, No. 1A or No. 8** at our risk without obligating yourself in any way. This spreader should **not** be compared or confused with low priced spreaders that do not have the special exclusive patented features and genuine merit (backed up by tens of thousands of Galloway spreader users) that are found on the Galloway. Beware of cheap, absolutely worthless imitations of the genuine Galloway—at any price! Buy a Galloway direct from Galloway at Waterloo and you will be safe. Spreaders are shipped from Waterloo, St. Paul, Kansas City, Chica or Council Bluffs—whichever is nearest your station.



"I built my reputation as a manufacturer on good manure spreaders."—WM. GALLOWAY.

Larger drive sprockets, which means lighter draft than ever. Fifth wheel castings larger and increased in strength—makes spreader box easier in turning. Rear conveyor shaft now made of No. 40 carbon steel. All steel tongue. Double chain drive direct from rear wheels.

UNDENIABLE PROOF!

I saved $29 by ordering a Galloway. I know it is a better spreader than I could have bought here for $125.—Geo. A. Kralik, Okla. City, Okla.

I consider it equal to a prominent machine sold for $140. One neighbor who has used both says he would rather have the Galloway.—W. O. Cracraft, Eckley, Colorado.

There are six Galloway spreaders in my neighborhood. They tried my spreader first. All are more than pleased. Have had no repairs in seven years.—Edw. Semmelroth, Tekoosha, Mich.

I saved $39. Believe I got a better spreader than was offered me here for $135.—A. T. Miller, Ord, Nebraska.

Two small horses handle it easily. Never saw another make I would exchange my Galloway No. 8 for.—B. K. Shafter, Davay, Nebraska.

It is as good a spreader as money can buy. I kept $36.43 in my pocket. 1,800-lb. teams pulls it easily.—W. H. Adams, Pound, Wisconsin.

WM. GALLOWAY, PRES., WM. GALLOWAY CO. Manure Spreader Mfg. Specialists 219 Galloway Station WATERLOO, IOWA

The Facts About the

United States Government Authorities Show by Exh
Not Advanced in Proportion to Other C

Herewith are Excerpts from the Official Report Just Issued by W. B. Greeley of the National Forest Service, With a St

Are You a Home Owner?

If you are a farm or a home owner, or ever expect to become one; if you have ever bought any lumber or ever expect to buy any, you certainly should be interested in the contents of this page.

95% of the lumber consumed in the building of new homes and barns, and in repairs, and for general purposes, is sold through the retail lumbermen. The purpose of this advertisement is to show that lumber is not sold by the retailer at an exorbitant price, and we offer the Government Forest Service report herewith quoted to prove the statement. Upon the broad conclusions of the report herein quoted the Federal Trade Commission is also in agreement.

Learn the Facts for Your Own Profit

It will profit directly every man and woman to learn the facts about lumber—its cost, its adaptability and its intelligent use. The Forest Service report has spoken the last word and we invite your critical examination of the facts and figures as set out in the center of this page. It has remained for the National Government to prove to you the utter untruth and insinuations concerning a "Lumber Trust;" that on the contrary, competition has been so keen that these products have been marketed at a small profit, and frequently at a loss during a greater part of the time in recent years past. The Government did not compel or demand of the manufacturers or retailers of lumber that they furnish information for the Forest Service report herein quoted. On the contrary, they requested it, and the government officials were overwhelmed with offers of the lumbermen to furnish information. The lumbermen were more than gratified that the Government intended to publish the facts about the Lumber Industry. A volume has been compiled, and some of the essential facts are set out in the center of this page. We ask of you your candid judgment. You have been led to believe that every time you went to a local lumber yard you paid an exorbitant price. Do you believe it is possible to assemble lumber in your community from the South, North and West and distribute it to the consumer, from a fence picket to a house or barn bill, at a lower cost

To get lumber from the manufacturer to the consumer at the lowest cost, it should come with but one freight paid. Manufacturers being unable to furnish all kinds of wood used in the average building, the local retailer is the only agency thru which this service can be rendered to the consumer. This retailer is, therefore, in position to render a service possessed by no other agency. He is always in position to furnish what the consumer is unable to obtain in mixed shipments.

to do business, or at a less profit? We believe the consumer never objects to paying a fair and reasonable profit on what he buys when he knows it. You now have the unbiased facts and statement of the Federal Government, and it is herewith submitted to you with the belief that it will be accepted as the truth, which it is.

How Lumber Is Distributed

Remember 80 per cent of all of the lumber sold in the average community is sold in wagon loads or less, not in carlots. It is possible for a lumber yard to do a fair amount of business and not sell as much as a carload to any one consumer in a whole year. If it were possible for all consumers of lumber (which it is not) to buy it in straight carlots it would cost less per thousand feet to sell it, as a matter of fact, but not 10 per cent of the lumber consumed in the average community can be sold in carlots, and no mill—either North, South or West—can fill an order for the average house even

Read These Verbatim Excerpts

RETURNS IN LUMBI

"Competition in manufacturing is not only keen, but often destructive."

"Ups and downs have been the portion of sawmills. Occasional years of high 1914 and 1915 being the most extreme of these."

"The prices received for lumber at the mill in each of the four regions studied curves. * * * The fluctuations reflect similar market conditions at the same ti prices; then followed 4 years of comparatively low prices; a rising market for 12 until late in 1915. During 1916 lumber prices have traversed a complete cycle, a again rising toward their former mark in September and October."

"Taking the years from 1907 to 1915, the average price of Southern Yellow The average price of Douglas Fir in the same period ranged from $9.60 to $15.20, period as a base, Yellow Pine prices were under it during 5 out of 9 years, in prop ranging from 2 to 16 per cent. Similarly compared with the average during the w cent above this figure in 1907 to 9 per cent below it in 1911, 14 per cent below it i

RETAIL

The government report covered an investigation of 1000 operations (one operati souri, Kansas and Oklahoma during the years 1912, 1913, 1914 and 1915, an dredths per cent (7.53%) on the investment, which is seven and two-hundre

$2.08 profit per thousand feet is two and two-tenths (2.2) of a cent profit on a 2x

Returns were obtained also from eighty-eight town and country yards operated averaged seven and forty-six hundredths per cent (7.46%) on investment,

"One of the objects of our inquiry was to clear up misunderstanding about the as far as we could get them, and so lay the basis for better understanding in the regions where the study was conducted the lumber business for the restricted rather than general in their scope * * * * The changes an tribution, during the past few years have tended to increase the intensity of

We Submit These Facts As An Answer to All the Charges

"Their operating costs (108 Southern pine mills) in 1914, including depreciati $14.54, whereas the average price received for their cut was $13.68. The book loss operating capital. No interest is included in the figures of cost."

"The year 1915 was no better than 1914 for manufacturers of Southern Yello profits on manufacture in that region were good in 1912 and 1913, amounting to s low in 1911, with an average return of about 50 cents per thousand feet of lumber. the southern pineries; 1906 and 1907, on the other hand, were years of high profit

"Lumber manufacture in 1913 netted some profit to the majority of Douglas fir operator

"A contrast is found in the conditions during 1914 and 1915. Lumber production was lumber was sold at less than cost of production. Operators of exceptional ability or locatio cerns about worked out their operating capital and without earning interest on borrowed fu

Freight The Largest Single Item of

"A fifth or more of the cost of lumber to consumers is eaten up in railroad freights and farther from the bulk of consumers is an important factor in the increasing cost of lum labor costs, and in the decreasing purchasing power of money. At that, the rise in lumbe from that of most commodities; and since 1907 lumber has fallen behind." * * * *

"Since lumber freights are uniform for all grades and based on weight, the railroads higher grades." * * * *

"The large part of the price paid for lumber by consumers in the Middle West which i

If there is a better way to manufacture and distribute lumber than from the manufacturer through t er method offering equal service and economy to take its place. Build with Wood, because it is the l

Lumber Business!

stive Investigation That the Price of Lumber Has modities or Other Building Materials

t Talk to Home Builders by J. R. Moorehead, Secretary-Manager of The Southwestern Lumbermen's Association

om The Government Report:

MANUFACTURE

gs have been followed usually by longer periods of small profits or losses—

g periods of from 8 to 27 years prior to 1916 are indicated by comparative ctically the country over. In general, 1906 and 1907 were years of high in 1912 and 1913, and a sharp and continued slump from the middle of 1913 ning the 1912-13 levels in the early spring, depressed in midsummer, and

hows a range of from $12.50 to $16.50, or 32 per cent of the lower rate. ead of 58 per cent of the lower rate. Taking the average price of the entire ranging from 5 to 12 per cent. They exceeded it in 4 years by amounts eriod, the prices received for Douglas Fir lumber have ranged from 28 per , and 20 per cent below it in 1915."

OFITS

g one full year's business) of line yard companies doing business in Mis- s a net profit of $2.08 per thousand feet, or seven and fifty-three hun- r cent (7.02%) on total sales.

en feet long.

lependent retailers on the business transacted in 1914. Their net profit ven and thirty-one hundredths per cent (7.31%) on total sales.

industry on the part of the public, by giving the public the straight facts -operation in the future * * * * Our investigation has shown that art is competitive; and that its restraints upon trade are localized and t development in the business, including various phases of lumber dis- ition within the industry."—W. B. Greeley.

t Exorbitant Profits Are Made By Retail Lumbermen.

an average charge for timber of $4.11 per thousand feet, lumber tally, totaled ents per thousand feet represented 5.8 per cent on the investment in plant and

Lumber. General data obtained by the Forest Service indicate that the average g over $1.50 per thousand feet in the first year, and $2.00 in the second; and ars 1908, 1909 and 1910 brought loss or low profit to the average operator in eding $3.00 per thousand feet."

the market value of timber, which averaged about $1.50 per thousand feet. * * * * cent under that of 1913, and prices shrank so heavily that, regionally considered, a small profit; others lost money or incurred the cost of shut-downs. Numerous con- sted in manufacturing."

st in the Distribution of Lumber

* and rising costs of transportation as timber shortage has moved the mills farther ther causes lie in the greater demands made upon the retailer by the public, in higher though very marked during the 10 years before 1908, has not been greatly different

much larger part of the retail price on lumber of low value than in the case of the

ip in transportation stands out strikingly." * * * *

if a carload is required, for the reason that the average home today contains from two to six or eight species of wood, all growing in and manufactured in widely different parts of our country. Lumber must come direct from the manufacturer to the nearest point of consumption to be economically distributed. The retailer assembles it in his yard in carlots and distributes it to his customers. He can buy in carlots as cheap as

Don't be deceived by statements to the effect that you pay four or five profits when you buy lumber from retailers. Most large mills have their own selling force and sell their lumber to the retailer direct. Many smaller mills which cannot maintain their own selling force sell their entire output to the wholesaler, who sells it to the retailer in competition with the large manufacturer who sells his own lumber through his own office. The large manufacturer and the wholesaler are active competitors for the retail trade. Low price and good quality always get the business.

the cheapest. He buys it direct from the manufacturer. He only pays one freight and one profit (your information to the contrary notwithstanding) and that to the manufacturer. Lumber is a heavy, bulky and comparatively cheap product.

Freight adds largely to the cost for even a short haul. You cannot ship it twice any more than you can ship coal twice and distribute it economically.

Why Houses Cost More

A recent comparison made between the present cost of a modern home and the cost of that same home had it been erected without modern improvements and conveniences, shows the following result:

The present cost of this modern seven-room house, with all conveniences installed, was $3,450. The deductions for full excavated basement, with concrete floor, hot water heat, sewers, gas, water and electric light connections and fixtures, paving, bath room and fixtures, closets, etc., etc., were $1,550.00 of this cost,

The small town enjoys the same freight rates as the large city, and is, therefore, at no disadvantage in buying on account of a higher freight rate, or on account of the quantity purchased. The carload is the economic unit in the purchasing of lumber always, and the country dealer can buy a carload, or two carloads, or five carloads as low as the large or city buyer.

which shows that in order to install these modern improvements 82 per cent was added to the first cost of this house, and that 44 per cent of the total cost of this modern house was in improvements and conveniences, very little of which was due to the use of lumber.

It is not a question of the high cost of building, but the cost of high building. This does not refer to sky scrapers, but is due to the greater buying ability of the public, and a demand for better living conditions made possible by modern improvements, about most of which our fathers knew nothing. When your father built the house in which you were born he not only did not include these now considered necessities, he absolutely knew nothing about them. Instead of adding these to the cost, and making them a part of the house, he went to the hardware and furniture stores and bought his heating plant in the form of stoves; his lighting plant in the form of a coal oil lamp, and his closets and pantries in the shape of wardrobes and kitchen cabinets. There was a time when most people slept in the house and had the bathroom in the shape of a tub in the kitchen and the children fought for the first chance at the hot water. The toilets were in the back yard. We have now reversed this order. We have the toilets in the house and sleep out of doors.

A consumer in North Missouri recently paid $165.00 freight on a single carload of lumber shipped from Bay City, Michigan. This was money thrown away because he refused to give his home dealer an opportunity to save it for him.

Your Opportunity

All the consumers of lumber in the Missouri and Mississippi Valleys have a greater choice of building woods than in any other section of our country. They also enjoy greater competitive conditions among these several woods and a difference of two to five cents in the freight rate often determines the species of wood used or sold.

cal retailer to the consumer, American brains will find it out and adopt it. As yet, there is no oth- xpensive, the best appearing, and the universal all-purpose building material now as in the past.

Destroy Disease Germs!

Make springtime your cleaning-up time. You can't do a better thing to guard against contagious diseases than to make a liberal use of

Dr. Hess Dip and Disinfectant

1 gallon can $1.00
Smaller packages as low as 25 cents (except in the far West and Canada)



Sprinkle freely about pens, wallows, troughs, chicken yards. Just as good for use about the house—in garbage cans, sinks, drains, cesspools. One gallon makes 70 to 100 gallons strong solution. Your dealer will refund your money if it does not do as I claim.

Call on the dealer in your town. If he does not handle Dr. Hess goods, write us.

DR. HESS & CLARK, Ashland, O.

Will Your Subscription Expire In March?

We have several thousand subscriptions expiring in March. It would be a saving of much time to us and avoid missing copies by the subscriber if the renewal could reach us before the expiration. The best way to do is to send in $2 when you renew and have your subscription paid three years in advance.

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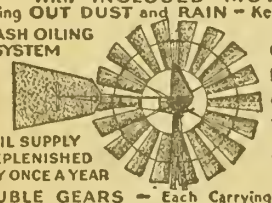

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Constantly Flooding Every Bearing With Oil, Makes It Pump In The Lightest Breeze And Prevents Wear
OIL SUPPLY REPLENISHED ONLY ONCE A YEAR
DOUBLE GEARS — Each Carrying Half the Load
Every feature desirable in a windmill in the AUTO-OILED AERMOTOR
WRITE AERMOTOR CO. 2500 12TH ST., CHICAGO

Canada Offers 160 Acres Land Free to Farm Hands

Bonus of Western Canada Land to Men Who Assist in Maintaining Needed Grain Production.

The Demand for Farm Labor in Canada is Great. As an inducement to secure the necessary help at once, Canada will give one hundred and sixty acres of land free as a homestead and allow the time of the farm laborer, who has filed on the land, to apply as residence duties, the same as if he actually had lived on it. Another special concession is the reduction of one year in the time to complete duties. Two years instead of three as heretofore but only to men working on the farms for at least six months in 1917. This appeal for farm help is in no way connected with enlistment for military service but solely to increase agricultural output. A wonderful opportunity to secure a farm and draw good wages at the same time. Information as to low railway rates may be had on application to

GEO. A. COOK
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2012 Main St., Kansas City, Mo.

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Kansas Farmer, Topeka, Kansas.

Gentlemen: Please find enclosed $.....for which send me

KANSAS FARMER.....year.....
One year for $1.00; two years for $1.50; three years for $2.00.

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State..... R. F. D. No.....

Are you already taking KANSAS FARMER? .....



PORK WITH LESS GRAIN

EXPERIMENTAL results at the Missouri Experiment Station show that, on forage, it required an average of 3.18 pounds of grain to produce one pound of pork, as compared with 5.11 pounds, the average from five dry lot feeding trials conducted under similar conditions. This would mean a saving of 38 per cent in the amount of grain fed. With hogs worth ten cents a pound the average return per bushel of corn fed to hogs grazing on forage was $1.84. With hogs at the same price the average return per bushel of corn fed in dry lot was $1.10. These results emphasize the economy of feeding grain on pasture.

Forage crops make cheap pork, because they permit cutting the grain allowance to the minimum. A system of management which will furnish forage through the entire grazing season should be planned early.

Rye and bluegrass will furnish pasture early in the spring and may be followed by alfalfa or clover. Hogs have been turned onto alfalfa at Columbia, Missouri, where the experiment station is located, as early as April 10, although it will usually be several weeks later before it is ready. Clover is usually ready for pasture during the last half of May.

These crops must be seeded the year previous to that in which they are to be grazed. Perhaps the best spring sown forage is Dwarf Essex rape, or a mixture of rape and oats. Rape may be seeded for hog pasture as early as the ground can be worked at the rate of four to six pounds per acre. When the season is favorable it will be ready to pasture during the last half of June.

Cane or Sudan grass will furnish a considerable amount of forage during the hot dry time of summer when other crops are not growing well. If sown the latter half of May or the first of June, these crops should be ready for pasturing in six to eight weeks.

Hogs which have been pastured during the grazing season on crops already mentioned may be finished by allowing them to hog down corn and soy beans. These crops may be grown together or in separate fields. If grown in separate fields they should be arranged so that the hogs can have the run of both fields at the same time, since the two crops make a better ration than either alone.

New Blackleg Remedy

Blackleg in calves seems to have become more virulent of late. Vaccination will prevent the disease in most cases but not all. Another difficulty lies in the fact that after administering the vaccine, calves are not protected against the disease for a period of about two weeks, and in the meantime, if the herd is infected, many of them may die.

There is now a blackleg serum on the market which will give immediate protection and combined with the virus will give lasting immunity. The serum also has curative value if given early in the course of the disease.

The Kansas Experiment Station developed this new method. It has shown that a highly potent blackleg serum can be produced from the horse. The claim is also made that the filtered fluid taken from the diseased tissue of the shoulder has great immunizing properties.

This marks a great advance in the control of blackleg but does not in the least detract from the importance of absolutely destroying the carcass of every animal that dies from blackleg and adopting all other possible preventive measures.

Hog-Feeding Experience

John Kemmerer, of Jewell County, who is president of the farm bureau of that county, is well known for his success with hogs. Last summer while visiting in Iowa he spent a day at the Iowa Experiment Station. On his return home he wrote a most interesting and instructive report of this visit and it was published in the Farm Bureau News. This of course only reaches the farm bureau members of that county, and as his observations are of value to every man growing hogs, we quote from his letter as follows:

"The first comparison of feeding methods of interest was that of hogs self-fed, fed three times a day, fed twice a day, and fed once a day. There were five spring shoats in each group and they were of the same breeding and weight when the test began. The feed used was shelled corn and tankage placed in a self-feeder, each feed separate; by this I mean it was not mixed until the hog mixed it. Each group had about one-fourth acre of pasture, a small house for shelter, the feeder and a box of rock salt. All were given water by using an iron automatic waterer on a barrel. Three different kinds of pasture were being tested; alfalfa, rape and bluegrass, and right here is where my surprise came in. I have never valued rape very highly as a hog feed, but hogs on this rape pasture looked fully as well as did those on the alfalfa. Professor Evvard, who had charge of the work, said they were eating a little less tankage than those on the other pastures. Those on the bluegrass did not compare with those on the other pastures.

"Those that had the feed by them all the time showed the best gains, while those fed three times daily were next best; those fed twice daily were third best, and those fed once a day were not looking very good. Of course they were not getting as much grain and were perhaps eating more pasture, but it looked then as if the self-fed hogs were making the cheapest gains, as the difference in the length of time they would have to be kept to get ready for the market would have to be considered as a big saving.

"To my notion the self-fed hogs would get a little too fat for best results from a breeder's standpoint.

"For once-a-day feeding, my personal experience has been to feed at noon for the best results. There once-a-day feeding was done in the morning. Any hog man knows when pasture comes on that hogs are out early in the morning and if the feeding is done at that time some will be away and will stay out until they get their fill. If called in they will likely stay in after being fed, as they don't care to go out in mid-day. They also begin to move out about 4 o'clock in the afternoon, and will stay out until night, if the pasture is good and they are left alone, but if called in, the chances are they will not go out after being fed. At noon they are always in and each hog will get his share. This would not do, however, with fattening hogs, when the weather gets warm, unless they can be fed in the shade.

"I think it would be worth while to sow odd corners, corrals and vacant patches to rape or Sudan grass. These are catch crops and can be sown quite late and may make good feed and will be much more sightly than weeds.

"When it comes to laying out the premises as to location of buildings, yards, etc., the distances apart and directions from one to the other make a big item and one cannot be too careful, for when once these buildings are set, they may stay a long time. Sometimes you see a place just about as unhandy as it can be. The yard and feed lot fences should be made with as few corners as possible, as such places are hard to keep up and tedious to cultivate or mow and are unsightly if left to grow up in weeds."

Stock Share Lease

A few weeks ago we gave some suggestions regarding a proposition in which the owner of a farm and the renter owned the live stock in common. We referred to a form of lease prepared under the direction of the farm bureau of Winnebago County, Illinois. We received so many letters asking for copies of this lease that we printed it in full in our issue of February 24. It is evident that owners of land who rent, as well as the renters themselves, are coming more and more to recognize that some provision must be made whereby more live stock can be kept on rented

farms. The following letter from a land owner in Graham County tells how he has been trying to solve this problem:

"This question of making a fair and equitable arrangement with a renter whereby stock farming can be followed, has been puzzling me for some time. I would like to go into an arrangement with a renter on a stock proposition that would be fair to both of us. I have 760 acres of land all in one body, being one section with 120 acres from an adjoining section. About 250 acres of this is in grass and is fenced. The rest is broken and is good level wheat land and in most years the wheat can be pastured. The whole place is under fence. I also have 270 acres one and a half miles away from this place, which is a good alfalfa farm. It is rented separately now.

"For the past two years I have had some stock of my own running on the place and the renter has also had some stock, but it is not satisfactory to run two bunches of stock on the same farm. A year ago I made the proposition to the renter that we appraise all the stock we both had and put it into one herd, the renter to furnish two-thirds the cost of the stock and I one-third, since he is farming the good land as a third for rent. By this method we could divide the cattle and hogs in the same way when we sold. The renter would get two dollars of the net profits of the herd while I would get one. The work horses owned by the renter were to have free grass and roughage raised on the place. By handling stock in this way the hay, roughage and grass would be divided in the same way as the other crops grown, the renter getting two parts for his work of farming and caring for the stock, while I would get one part of the profits in return for furnishing the land and the improvements such as fencing, etc. In addition, the tenant would get free grass and roughage for his work stock, free milk and butter, and all the poultry he cared to raise.

"I thought this was a reasonable proposition, but the tenant wanted me to stand all the losses of cattle or other stock, such as might occur from disease or injuries. I thought it was not just to assume the full risk, so we let it go last year without coming to any agreement.

"This year, however, we want to make a change so as to have only one herd of stock on the place. I would like to receive a copy of the lease referred to in KANSAS FARMER and would be glad to have any comments or suggestions from others who may have had experience in working out a plan of this kind. I have always been insisting that all the manure and straw should go back to the land and be plowed under, but my tenant does not seem very anxious to put much effort into getting the straw back on the land."

We would be very glad to hear from others who are interested in working out a system for handling live stock on rented farms. There are two parties to be considered and we hope to hear from renters as well as from land owners. Where satisfactory arrangements can be made and the farm can be handled long enough under one management, both are equally interested in taking care of the third party to the contract, which is the soil of the farm. Too often both landlord and tenant fail to give much consideration to the importance of maintaining the producing capacity of the soil.

Farrowing Time Hints

Exercise the sow daily before farrowing. Decrease the corn ration and increase the tankage rather than the middlings.

For twenty-four hours after farrowing do not feed the sow, or feed lightly. Water should be supplied.

Care should be taken not to feed the sow too rich a ration. More milk may be available than the pigs can take, and milk fever may result.

After farrowing, the pigs should be given plenty of exercise to prevent thumps.

Rails about the sides of the pen will keep the sow from lying on the pigs.

If individual houses are used, a lighted lantern hung inside on very cold nights will help to keep the houses warm.

Newly planted evergreen trees are subject to extensive injury by the winds immediately after they are planted. To protect them from such injury, set two boards up at the south side of the newly planted trees. These boards should be from four to six inches in width and they should be long enough to extend to the top of the tree after being driven into the ground. A barrel stave cut in two and both pieces driven into the ground will give about the required protection.

Contagious Abortion

Stockmen and dairymen are urged in a new farmers' bulletin, No. 790, to inaugurate a systematic campaign against contagious abortion.

Already the annual losses from this disease amount to millions of dollars, and unless its ravages are checked it is apt to equal tuberculosis, which is now thought to stand first among animal diseases in point of economic loss.

Details of the disease and its treatment are given in the bulletin referred to, which may be secured upon application to the United States Department of Agriculture, Washington, D. C.

The hog powder formula given below is usually spoken of as the government remedy. This mixture costs about one and one-half cents per pound in thousand-pound lots: Wood charcoal, 100 pounds; sulphur, 100 pounds; sodium chloride (salt), 200 pounds; sodium bicarbonate, 200 pounds; sodium hyposulphite, 200 pounds; sodium sulphate, 100 pounds; antimony sulphide (black antimony), 100 pounds.

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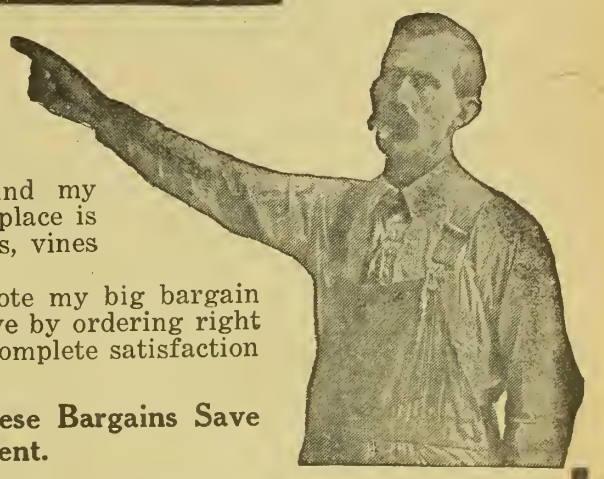

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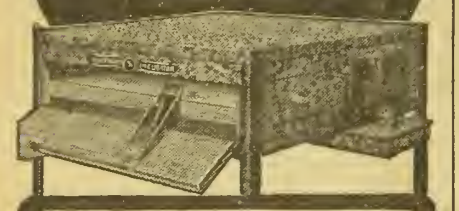

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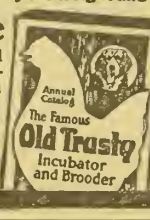

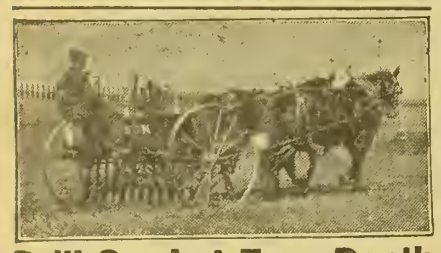

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CARE OF HATCHING EGGS

GATHER the eggs at least twice daily. Be sure the hands are free from oil or grease when handling eggs that are to be used for hatching. When eggs are held they should be turned at least every three days. Do not keep the eggs in a damp, musty room. A temperature ranging from 45 to 60 degrees is most suitable for keeping eggs to be used for hatching purposes.

Through fear of chilling the eggs, many keep them too warm and thereby ruin what might otherwise be a splendid hatch. An egg begins the process of incubation as soon as it reaches a temperature of 68 degrees. Many eggs held for setting become much warmer than this during the day. At night they become quite cool. The warmth during the day starts the germ to growing and the cool of night checks it. The next day the process is renewed only to be checked the following night. A germ thus treated is so weakened that it will probably die before hatching time, or at best the chick will merely pip the shell and perish from lack of strength.

Do not keep eggs in too dry a room as this will cause rapid evaporation. The ideal place is a cool, well ventilated room where the air is moderately moist.

Shipping Eggs by Parcel Post

Eggs sent by parcel post for hatching should be well protected from cold and jars incident to the journey. Each egg must be wrapped by itself in paper, so that it will not be subjected to sudden temperature changes, and placed, large end up, in a cardboard mailing case which may be bought at little cost. The case having been folded, should be placed in a basket, excelsior packed closely about it, and a cloth sewn over the top of the basket.

Eggs packed in this way have been found to be more likely to reach their destination in good condition than those packed in the unprotected mailing carrier, and with less expense than when bran or some other such packing material is used.—KATRINA KIMPORT.

Eggs for Hatching

Eggs selected for hatching should weigh not less than two ounces nor more than two and one-fourth ounces.

Eggs selected for incubation should have clean, strong shells which are free from ridges, cracks, transparent spots or lime deposits.

Where all of the eggs considered are of the same variety, there is a definite correlation between the size of the egg incubated, the size of the chick when hatched and the size of the chick from ten to twenty weeks old.

Eggs selected for hatching should be of a true egg type. Exceptionally long eggs and very short, rounded eggs are equally objectionable. Malformed eggs should never be incubated. These eggs are usually difficult to hatch. White eggs and brown eggs should not be incubated together.

Kill Weak Chicks

Do not under any circumstances help chicks out of the shell. Chicks which do not have enough vitality to get out of the shell, either because of a lack of vitality in the egg or because of faulty incubation, are not worth having.

Kill and burn all weak or crippled chicks as soon as the hatch is over. Weak chicks are always a menace to the flock.

Hatch Chickens Early

Fresh eggs are highest in the late fall and winter. This is because everybody's hens take their annual vacation then.

Don't blame the hens; they always have done it and they always will. They stop laying eggs and grow a new crop of feathers instead. During this "molting period," as poultrymen call it, nobody has many eggs to sell until the young pullets begin to lay.

American breeds—Plymouth Rocks, Wyandottes, Rhode Island Reds, etc.—begin to lay when about seven months old. Leghorns, Minoreas, and others of the smaller breeds begin when about six months old.

If we hatch chickens early in the spring they will begin to lay when the hens are molting.

To produce late fall and winter eggs, begin hatching early in March. Hatch at intervals and have all the chicks out not later than May 1.

If hens do not want to sit in time, get broody hens from a neighbor or use an incubator.

Brooding Baby Chicks

Millions of baby chicks will die this season because of wrong methods and mistakes made in brooding and feeding. Eggs are higher and chicks will be scarcer and higher than in most preceding years. It behooves every poultry raiser to use such methods as will insure the lowest per cent of mortality and the quickest growth.

Brooder stoves of many kinds are upon the market. The coal burning brooder stoves are the kind with which we have the greatest success, and are those which seem to be giving most general satisfaction in the hands of most poultrymen. We know of some who use two of these stoves of small size in one room. Then if one stove goes out the other will protect the chicks and prevent chilling.

Most of these stoves have a capacity of from 150 to 500 chicks. Some can hover as many as 750 chicks. We prefer to use about 300 to 500 chicks with one stove. We build a house 10 x 20 feet, 12 x 24 feet, or 14 x 28 feet. The house has a partition in the center with a runway for the chicks and a swinging door for the attendant. The stove is placed on one side of the partition and the cool room is used for feeding and exercise. It is necessary to have a cool room so the chicks can get away from the heat. This is one of the secrets of successful brooding.

The houses for these brooder stoves are built just as we would build any laying or breeding house. We would not build a special brooder house which we could only use three or four months during the year and then let it remain idle for the remainder of the time. Every poultryman should endeavor to have as little idle equipment as possible. We build these houses of the dimensions mentioned above. We locate them where the chicks can have plenty of range after they grow up. As soon as they are old enough to do without heat, we simply remove the brooder stove and put in temporary roosts. The chicks remain right in this house until the next fall or winter when it comes time to cull them and to select the choicest for the laying and breeding pens. A flock of pullets are usually wintered in these houses. Nests can be put in temporarily until the houses are needed again for next season.

By handling the chicks in this way you avoid handling them so often, they are accustomed to their quarters and you do not check their growth by moving, and you are getting the benefit of your equipment throughout the year. It is easier and better to move the stove to another house than it is to move the chicks and have the house vacant for eight months.

Tack cloth over the ventilators and make the house comfortable and provide for ventilation near the floor, but avoid drafts. Be certain to provide for one cool room. If the chicks have a tendency to cannibalism and pick at one another's toes, paint the window panes with a bluish or whitish frosting. You want light in your brooder house, but not the direct rays of the sun. Keep the chicks busy and active. Put some fresh earth on the floor in one corner of the room. If they show signs of developing the habit of picking at one another, grind some lean meat and mix equal parts of bran, shorts, corn meal and ground meat, with a little water just to moisten it a trifle. After it is mixed, run it through a sausage mill or meat grinder and then feed it to the chicks each day. The frosted windows will do most to prevent cannibalism. You will not be troubled with the chicks



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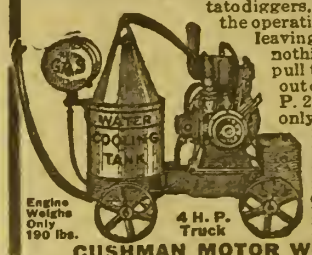

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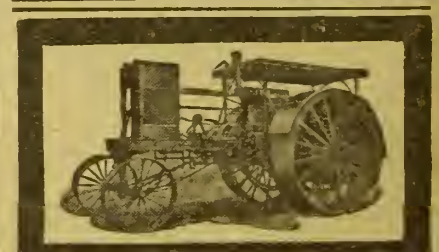

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17 YEARS IN THE FIELD

A PRACTICAL DESIGN CAREFULLY DEVELOPED.

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Digs post holes faster than the man behind can set posts, without hard back-breaking labor. Digs wells also.

The two interlocking sharp crucible steel blades easily cut through any soil.

DIGS QUICK AND EASY

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Join Our MONEY-MAKERS with "Successful" INCUBATORS & BROODERS

Twenty-three years leadership. Poultry lessons free to every buyer. Booklet, "How to Raise 48 out of 50 Chicks"—10c. Catalog FREE. Make green, egg-making feed in "Successful" Grain Sprouters.

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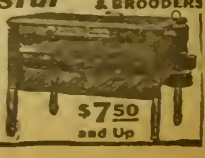

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"The House That Pays Millions for Quality"

33⅓% Improved!

20 Exclusive Improvements as against 15 last year.
The most important innovations ever made in incubator construction and design. Every one of the new features an assurance of greater hatches of sturdier chicks. Every one of them a labor-saver, a money-maker, a time-saver! And even though they possess 33⅓% more improvements, the

New 1917 X-RAY INCUBATORS and BROODERS

are not raised one cent in price to you.
Completely hatches on one gallon of oil (one filling). Fill the tank, light the lamp, and you are through. Duplex Central Heating Plant—directly underneath, furnishes natural, moist Mother Hen heat. X-Ray Automatic Trip regulates the flame—no cold corners—no overheated sides.



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That cut out all guesswork and save you work, time and money. Learn all about them—write for Free Book No. 64 *Remember, we prepay Express Charges to practically all points.*

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Ironclad TRADE MARK **WINS In 2 Biggest HATCHING CONTESTS Ever Held**

Mrs. C. F. Merrick, Lockney, Tex., with her Ironclad incubator wins in the Mo. Valley Farmer and Nebr. Farm Journal Big Hatching Contest. She placed 143 eggs in the incubator and hatched 143 strong chicks. Think of that. You can now get these famous winners, made of Calif. Redwood.

150 Egg Incubator + Chick Brooder } BOTH FOR $11.00

If ordered together. 30 days trial, 10-year Guarantee. Order direct from this advertisement—money back if not satisfactory. Incubator is covered with galvanized iron, triple walls, copper tank, nursery egg tester. Set up ready to run. The Brooder is roomy and well made. Send for free catalogue.

Freight Paid East of Rockies

Ironclad Incubator Co.
Box 147 Racine, Wis. (3)

piling up and crowding at night in a room where you use these brooder stoves if your room is kept warm enough.

Don't feed the chicks until about forty-eight hours after they are hatched and dry. One of the first things should be sour milk or butter milk and coarse sand. Cover the floor of the brooder with clover chaff or finely cut straw. Don't have this too deep. For the first two or three days feed a mixture of two-thirds rolled oats, one-third wheat bran, mixed with hard boiled eggs and a little powdered charcoal and fine bone meal. Feed a little about five times a day for the first three days. Then begin to give two meals a day of commercial chick feed. The first mixture is fed morning, noon and night, and the chick feed between meals. As they become older, gradually eliminate the rolled oats until you use only the chick feed and keep before them a dry mash mixed in the following proportions:

Ten pounds wheat bran, five pounds shorts, five pounds corn meal, two and one-half pounds ground oats, two ounces fine charcoal, two ounces fine salt.

If you cannot secure sour milk, butter milk, or milkoline, then mix two pounds of dry beef scraps with the above. If you use any form of milk, keep it before them at all times, or at least the first half of the day. They need some green food. Use clippings from sprouted oats or cut up some onions occasionally. The above methods have proved simple and successful.—T. E. QUISENBERRY, Leavenworth.

Do not expect too much from your flock of hens. Recently we received a letter asking advice on some poultry topics. Among other things the inquirer stated that she had learned from reading that the only way to succeed was to trap-nest. She expected to keep two hundred Rhode Island Reds and three hundred Leghorns. The Reds were to make a flock record of 176 eggs per hen, and the Leghorns to average 200 eggs each. Where only a few hens are kept such records are possible, but not in large flocks. The general average for flocks of 500 is perhaps 120 eggs where the hens have been bred for egg production and given the best of care. The idea that such records can be obtained in large flocks comes from reading the advertisements of visionary breeders whose pens keep pace with their dreams.

Eggs received by parcel post or express should be candled before being placed in the incubator. If the small air cell at the large end of the egg is broken loose and moves about as the egg is turned, it will not hatch in most cases. Another reason for candling the eggs is to determine their freshness. Eggs should not be held any longer than necessary before being set.

While it is a little too early to prophesy accurately as to the future, it might not be amiss to select a goodly number of the early-hatched cockerels for sale as breeders next fall. There has been considerable difficulty in securing cockerels for breeding purposes this year, and conditions now would indicate that there might be a similar shortage next fall.

Recently a prominent breeder shipped two settings of eggs to a customer and when the eggs were candled the air cell was found to be as large as a quarter whereas it should have been no larger than a dime. The eggs had either been held for a long time or kept in a room that was too warm and dry

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Hens are not so apt to eat the eggs in a darkened nest. They prefer nests in secluded places. The straw in the nests should be removed frequently and the nest should be whitewashed inside and out at least once a year.

Black ticking in the feathers of White Wyandottes, or even an occasional black feather, is to be expected, as the whitest birds will usually show some such ticking of black.

If you send for eggs of White Wyandottes or White Rocks, do not be surprised if the chicks when hatched are blue. The bluer the chick when hatched, the whiter it will be when mature.

Don't use pullets' eggs for setting if it is possible to avoid it. Their eggs are usually small and produce small chicks. Besides, they do not hatch as well as eggs from one- or two-year-old hens.



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You know that some nicely planed boards will warp, crack and soon become shabby looking. Why? Because the wood itself isn't right.

Remember that when you buy the woodwork for your new home. You must buy more than skin-deep beauty.

You don't know lumber? No need for that. Get Curtis Woodwork.

Men who do know have looked after the designs, the material, the workmanship of Curtis Woodwork for you. It is only after receiving their approval that every piece is marked with the Curtis trademark.

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"The Permanent Furniture for Your Home"

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$1000 Reward will be given to the person who shows us an oil lamp equal to the new **Aladdin** in every way (details of offer given in our circular). We want **one user in each locality** to whom we can refer customers. To that person we have a special introductory offer to make, under which one lamp is given **free**. Write quick for our 10-Day Absolutely Free Trial Proposition and learn how to get **one free.** **Yours FREE**

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Largest Kerosene (Coal Oil) Mantle Lamp House in the World

Men With Rigs Make $100 to $300 Per Mo. Our trial delivery plan makes it easy. No previous experience necessary. Practically every farm home and small town home will buy after trying. One farmer who had never sold anything in his life before writes: "*I sold 51 the first seven days.*" Christensen, Wis., says: "*Have never seen an article that sells so easily.*" Norring, Iowa, says: "*93 per cent of homes visited bought.*" Phillips, Ohio, says: "*Every customer becomes a friend and booster.*" Kemerling, Minn., says: "*No flowery talk necessary, Sells itself.*" Thousands who are coining money endorse the Aladdin just as strongly. **NO MONEY REQUIRED.** We furnish stock to reliable men to get started. Ask for our distributor's plan, and learn how to secure an appointment and make big money in unoccupied territory. State occupation, age, whether you have rig or auto; whether can work spare time or steady; when can start; townships most convenient for you to work.

HOME MADE BROODERS

With warm medicated dirt floors. Saves baby chicks. You can change any old brooder or make one of these from an ordinary box. We will send this information absolutely free, also tell you

WHY CHICKS DIE IN THE SHELL.

Just send names of five or eight friends who use incubators. This will save you from $100 to $500 this summer. ABSOLUTELY FREE FOR THE NAMES. Send them today.

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KAFFIR CORN

White and Red Bartelides Kaffir Corn is specially grown for seed purposes and is far superior to ordinary grains bought on the market. We make a specialty of Kaffir Corn and our seed is tested for vitality—cleaned and recleaned. **FREE SAMPLE AND FREE CATALOG.**

THE BARTELDES SEED COMPANY
1307 Massachusetts St., Lawrence, Kansas.
1307 Sixteenth Street, Denver, Colorado.
1307 Main Street, Oklahoma City, Okla.

A question frequently asked is: How am I to know whether I have an egg strain of poultry? In every community there are a few persons who always get plenty of eggs. Buy a few good pullets from such a person. If these lay well for you and your own do not, then sell the stock and get birds that are bred to lay; if these hens you purchase do not lay for you any better than your own, better find out what is the matter with your management.

The Pruning Manual recently published by the Macmillian Company is a revised edition of the Pruning Book by L. H. Bailey published in 1898. Experiments conducted during the past eighteen years have resulted in changes in some of the conceptions of pruning and these new ideas are introduced in the revised book. It is a most comprehensive book on the subject of pruning and one that can be accepted as authoritative. The price postpaid is $2.

SAVE YOUR CHICKS

We can help you. Send us names and addresses of ten poultry friends and receive our revised 32-page book on "White Diarrhoea the Greatest Foe to Chick Life." This book makes Poultry Profits Possible. Gives care and feeding of chicks and turkeys, also cause and guaranteed cure for bowel trouble.

Above book FREE. Postpaid for the names. Write today.

THE F. K. REMEDY COMPANY
703 Second Street - - Arkansas City, Kansas



Special 36-page chapter from famous 264-page book "Modern Silage Methods." Write for copy. Get up-to-the-minute helpful suggestions free. Also get our free catalog on Silver's "Ohio" Silo Fillers. 1917 revised edition of "Modern Silage Methods" 25c, covers entire silage subject—every type of silo—how to build, 41 crops used, feeding, 8-page index. 56 illustrations. Write now.

THE SILVER MFG. CO.
Box 352 Salem, Ohio

Did you have the incubator thermometer tested? If you did not, you may lose the entire hatch as a result.

Scarified Sweet CLOVER

Sweet Clover seed has a very hard shell. Scarifying scratches the shell, making it easily burst, and increasing germination 10 to 40 per cent. New crop, Kansas grown, cleansed and thoroughly tested.

Catalog and Samples FREE

Also Alsike, Red Clover, White and Crimson Clover and Alfalfa seed at lowest prices.
Weekly Pink List free, gives prices of field seeds in quantities. Write today.

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A "Cinch" to get your GOPHERS



The Cinch Gopher Trap is famous for its ability to catch, hold, kill and destroy more gophers per working day than has ever been done by any other method.
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GOOD AS CAN BE GROWN
Prices Below All Others
I will give a lot of new sorts free with every order I fill. Buy and test. Return if not O. K.—money refunded.
Big Catalog FREE
Over 700 illustrations of vegetables and flowers. Send yours and your neighbors' addresses.
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Double your hog profits. Feed them Corn Saver Beets this year. Great for cattle, especially dairy cows. Keeps them healthy. Costs less than half of corn or grain feed. Imported originally from Germany. Rich in sugar and other fat-producing qualities. Grow large—as big as 23 pounds. Our largest yield was 60 tons to acre. Write us today and let us tell you more about it.
Write for Big, New 1917 Seed Book
A postal brings it to you free, postpaid. Worth having. Full of Garden and Field Seed bargains. Tells also about our many new varieties, such as Shrock's Kafir Corn, White Kherson Oats, White Wonder Millet, etc. Come to headquarters for your seed. Buy Lincoln Brand Seeds and get the best. We are biggest dealers in Alfalfa. Write us. Get our Special Bee Supply Catalog. Address
GRISWOLD SEED AND NURSERY CO.
Dept. X-141 Lincoln, Neb.

FREE 1917 PLANTING GUIDE AND PURE SEED BOOK



Ask now! This beautiful 96-page four-color book describes 1917 varieties vegetables and flowers; handsomely illustrated; beautiful home grounds, flower and vegetable gardens, landscaping, shrubbery, orchards, farms. A dictionary on gardening! Flower lover's delight! Berry grower's book! An orchard-let's manual! Most wonderful gardening guide catalog ever published. Better than our famous 1916 book. Don't miss it. Ask today. A postal gets it.
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Hyde's Sudan is tagged—Showing exact purity and germination. Why take a chance? We ship direct from farm to farmer. Hyde Pays the Freight and refunds your money if not entirely satisfied. FREE CATALOG and Price List sent postpaid—Write at once.
HYDE SEED FARMS,
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$15.00 Sweep Feed Grinder. | $19.00 Galvanized Steel Wind Mill.



We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.
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PURE-BRED — TRUE TO NAME
Direct from grower at Wholesale Prices. New FRUIT BOOK with colored plates, FREE.
COOPER & ROGERS, Box A, Winfield, Kan.

SEED CORN That makes the crop bigger is raised and sold by JOHN D. ZILLER
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SEED CORN Three Leading Varieties. Pure Kherson Oats, Clover Seed.
PLAINVIEW HOG AND SEED FARM
Frank J. Rist Humboldt, Neb., Box H

"Principles of Feeding Farm Animals," by Sleeter Bull, of the Illinois University, is a recent book from the press of the Macmillan Company. It is an outgrowth of a manual prepared for students in stock feeding, but is a valuable and practical book for the general farmer and stockman. It sells for $1.75 postpaid.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Glad sight, wherever new with old
Is joined through some dear homeborn tie;
The life of all that we behold
Depends upon that mystery.
Vain is the glory of the sky,
The beauty vain of field and grove,
Unless, while with admiring eye
We gaze, we also learn to love.
—Wordsworth.

Seed testing will prove interesting work for the children. A simple arrangement for this work requires two dinner plates, a little cotton and two pieces of cloth. The pieces of cloth should be long enough so they can be doubled. Place a part of the cotton in the fold of each piece of cloth and dampen. Put the cloth and the cotton on one of the plates, put the seeds to be tested in rows on the cloth, lay the other cloth over them and cover all with the second plate. See that the cloth and cotton are kept quite moist and the plates should be kept warm. The way the seeds germinate under these conditions is a very fair indication of what they will do in the garden seed bed.

The cotton material known as Egyptian tissue is one of the most satisfactory for dresses. It wears well and does not fade. We have worn an Egyptian tissue for several years and the color in it is as good now as when bought. Last summer we found many spots of iron rust on it after having made sherbet. These spots were kept saturated with salt and lemon juice and subjected to the strong sunlight, which removed them but left the blue in the material as bright and clear as ever.

Each year during Farm and Home Week at the agricultural college a number of contests are arranged for the visiting club boys and girls. This year forty-two prizes—fifty cents to one dollar each—were awarded for making buttonholes, judging cotton fabrics, ropetying, rope-splicing, identifying varieties of apples, nail-driving, and the judging of corn, sorghums, pigs, horses, dairy and beef cattle. The interest in all these contests was very keen and this diversion was much enjoyed by the participants and the audiences.

Too many farms are not being made to produce as much of the family living as they should be supplying. Care in this particular is an easy way to help keep the living cost at the minimum. Vegetables, fruits and meats can be produced and saved for use much more economically than they can be bought on the markets. The garden should be planned to take care of the winter's needs as well as those of summer, and the plan for providing fruit should include those varieties best adapted to the locality and to the family's taste and need. Even where it is necessary to irrigate in a small way, the home garden and orchard will pay well for the cost and labor invested.

Extension Schools Popular

The past year more than 20,000 busy Kansas men and women availed themselves of the twenty-five one-week schools in agriculture and home economics conducted by the division of extension of the Kansas Agricultural College. Interest in these schools is growing rapidly and many petitions have already been received for next year's schools. The only requirement for obtaining these trained instructors for a week, is that a closs of not less than fifty men and twenty-five women be organized in the community and a fund sufficient to pay expenses be guaranteed—this being between $50 and $125. This money is used only for local expenses, the college paying the salaries and railroad fare of the teachers from funds appropriated by the state and federal government for this purpose.

Dustless Mop

Mrs. C. F., Pottawatomie County, asks how a dustless dust cloth or mop can be made.

The solution for dipping the cloth is made of melted paraffin and coal oil—twice as much coal oil as paraffin. Let this dry on the cloth, and when not in use roll the cloth tightly so it will stay moist.

Directions for making a dustless floor mop have recently been sent out by the office of the Federal Department of Agriculture extension work. The solution used is that given above, and the foundation for the mop is a worn-out broom the straw of which has been cut off even with the wires fastening the straw to the handle. Cover the broom stub with an old stocking and fasten it securely to the handle. Cut the legs of old stockings into strips one inch wide and twelve inches long. Leave about two inches above the strips for sewing on to the broom covering. These should be sewed on around and around, in layers about one inch apart until the mop is thick enough. This should be dipped in the paraffin and coal oil and allowed to dry. The mop can be kept moist by rolling tightly and pressing into a paper bag when not in use.

The use of this mop saves the necessity for crawling over the bare part of the floor and cleaning it with a cloth, and the treating solution saves the stirring of dust all through the house.

Have You Planted Sweet Peas

There is a difference of opinion as to the proper time for planting sweet peas. Many growers attribute their success to the deep trench in which they plant their peas very early. Some think they have better luck if the peas are put in on a certain date—St. Patrick's Day or some other which marks the date of planting in a year when the peas did specially well.

In the growing of sweet peas, as in the growing of other plants, the condition of the seed bed and the quality of the seed planted have more to do with the results than does any particular date upon which the peas may be planted.

If you did not get your peas planted in a trench early—which is considered the best method by many authorities—there is yet time for planting them. The seed should not be planted deeper than six inches at this time and the bottom of the seed bed should be well loosened and well rotted manure mixed with it. The seed will germinate more quickly if soaked over night in warm water. Two rows, six inches apart, is a good way to plant. The plants should be thinned to three inches apart, and as they grow the soil should be filled in around them.

A windbreak to shield the peas from the cold spring winds will help them retain their vitality. This can be made of brush and easily removed when no longer needed.

A firm trellis four to six feet high should be made for the vines and the tips should be clipped when they have reached this height.

Sweet peas will bloom more profusely if picked daily.

Dinner Rolls

2 cupfuls scalded milk
¼ cupful butter
2 tablespoonfuls sugar
1 teaspoonful salt
1 yeast cake dissolved in ¼ cupful lukewarm water
Flour

Add butter, sugar and salt to milk. When lukewarm, add dissolved yeast cake and three cupfuls flour. Beat thoroughly, cover, and let rise until light. Cut down and add enough flour to knead—it will take about 2½ cupfuls. Let rise again, toss on slightly floured board, knead, pat, and shape into small biscuits. Place in rows on floured board, cover with cloth and pan and let rise until light and well puffed. Flour wooden spoon handle and make deep crease in middle of each biscuit and press edges together. Place closely in buttered pan, cover, let rise, and bake 12 to 15 minutes in hot oven.

If the pan or cup in which chocolate is melted is greased a little, the chocolate will not adhere to it.

FERTILE KANSAS LAND CHEAP

Those who located in Central Kansas 20 years ago are the big farmers today. Their land has made them independent.

Your chance *now* is in the five Southwestern Kansas counties adjacent to the Santa Fe's new line, where good land is still cheap.

With railroad facilities this country is developing fast. Farmers are making good profits on small investments. It is the place today for the man of moderate means.

Wheat, oats, barley, speltz, kaffir and broom corn, milo and feterita grow abundantly in the Southwest counties referred to. Chickens, hogs, dairy cows and beef cattle increase your profits.

You can get 160 acres for $200 to $300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6 per cent—price $10 to $15 an acre.

Write for our book of letters from farmers who are making good there now, also illustrated folder with particulars of our easy-purchase contract. Address

E. T. Cartlidge,
Santa Fe Land Improvement Co.,
1892 Santa Fe Bldg., Topeka, Kansas.

APPLE, PEACH TREES—True to Name 4c
Cherry Trees only 10c.
Everything at bargain prices.
SEED CORN, standard varieties, per bu..... $1.75
Buy of the producer—save money! Send for latest FREE Catalog of Bargains.
MANHATTAN NURSERY
Box 117 MANHATTAN, KAN.

Armstrong's Pure Bred Seed Corn



Originators of the seed corn business. Growers and breeders for forty years. That's our guarantee of high quality and service. Don't experiment. Buy Armstrong's.
FREE SAMPLES AND SEED CORN ANNUAL
40 Years At It
Finest stock of *heavy yielding, early maturing, high test, pure bred* seed corn ever grown. Varieties adapted for your section. Special prices on early orders. Write for free samples and seed corn annual.
I. B. ARMSTRONG & SON Box 151 SHENANDOAH, IOWA

Hill's Evergreens Grow



All hardy stock—twice transplanted—root pruned. Protect buildings, stock, crops. Hill's Evergreen Book, illustrated in colors, Free. Write today.
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KANSAS GROWN Barteldes' Kansas grown seed corn, tipped butted, shelled—tested for vitality and graded. Produces biggest crops in this climate. Well acclimated—hardy, vigorous. FREE SAMPLE and Big Catalog sent postpaid, also Special List of field seeds of all kinds. Write at once.
THE BARTELDES SEED COMPANY,
607 Massachusetts St. Lawrence, Kansas.

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Nothing better for windbreaks and hedges. We grow all hardy tested varieties. Also a complete line of shrubs, fruit, etc. We are specialists. Write for free catalogue.
Evergreen Nursery Co., Sturgeon Bay, Wis.

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RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

BARRED ROCK EGGS—WILL PLEASE. $1 postpaid. Mrs. Geo. Kennedy, Edmond, Okla.

BARRED PLYMOUTH ROCKS — FARMbred beauties. Eggs for hatching, 6c each. Mrs. W. C. Bocker, Solomon, Kan.

BUFF AND WHITE ROCK EGGS—FEmales scoring high as 96 and 96¾. Mating list. W. H. Beaver, St. John, Kansas.

BARRED ROCK EGGS, $1 PER SETting, $4 per hundred. Mrs. Lillie Hirt, Parkerville, Kansas.

CHOICE WHITE ROCK COCKERELS for sale. Mrs. T. A. Case, Route 2, Sterling, Kansas.

WHITE ROCK EGGS, $2 PER FIFTEEN. Quality guaranteed. W. G. Allison, Sterling, Kansas.

EGGS—FANCY BARRED ROCKS, WINter layers, $1.25 and $2.50 setting. Clyde Karel, Clarkson, Nebraska.

WHITE PLYMOUTH ROCKS ARE PRIZE winners. Send for catalog. W. K. Trumbo, Box 66-C, Roseland, Kansas.

WINTER LAYING BUFF ROCKS—EGGS $1, $1.50 setting. Range, $5 hundred. Chicks, 12½c. Mrs. A. P. Young, Lexington, Mo.

HIGH QUALITY BARRED "RINGLETS." 100 chicks, $15. Eggs, $5. Edward Hall, Junction City, Kansas.

FINE BARRED ROCK EGGS FROM farm raised flock, $1.50 per fifteen. Mrs. J. A. Grimes, Milo, Kansas.

WHITE ROCKS. SIZE AND QUALITY, good egg strain. Eggs—fifteen, $1; fifty, $3; hundred, $5. G. M. Kretz, Clifton, Kansas.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." $35 cockerel heading Pen No. 1. Eggs, $4 per fifteen. Mrs. Iver Christenson, Jamestown, Kansas.

BARRED ROCKS, HENS AVERAGED 175 eggs, 1916. Trap-nest males and their pullets mated with fine cockerels. Eggs, 10c; fifty, $4. Farnsworth, 224 Tyler St., Topeka.

PURE-BRED BARRED ROCKS EXCLUsively. Choice stock. 100 eggs, $5; 50, $3. Safe delivery and satisfaction guaranteed. Adam A. Weir, Clay Center, Neb.

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WHITE ROCKS — SEVENTEEN RIBbons. This season's eggs, one and two dollars per fifteen. Mating list. Ed Fehr, Marquette, Kansas.

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BLUE RIBBON BARRED ROCKS — Twenty-eight years experience. 110 premiums. Pens headed by Chicago winners. Eggs, fifteen, $3, $3.50. Mrs. Chris Bearman, Ottawa, Kansas.

PRIZE WINNING BARRED ROCKS — Four entries, five prizes, State Show 1917. Eggs, special mating, $3 to $5; farm flock, $1. C. D. Swaim, Geuda Springs, Kansas.

BARRED PLYMOUTH ROCKS, E. B. Thompson strain. Eggs, $1.50 per fifteen; $3.50 per fifty; $6 per hundred. C. J. Rivlr, Lafontaine, Ind.

BARRED ROCKS, EXCELLENT IN SIZE and quality. Eggs, first pen, $3 per fifteen; range flock, $6 per hundred. Mrs. Myrtle Henry, Route 1, Lecompton, Kansas.

PURE BARRED ROCK EGGS FROM large well-marked range birds, $1.25 setting, $6 hundred. Choice Thompson strain pen eggs, $3 setting. S. R. Blackwelder, Isabel, Kansas.

LINDAMOOD'S BARRED ROCKS, BOTH dark and light matings. Prices for eggs from special matings, $5 per fifteen. Utility eggs, $5 per hundred. Send for circular. C. C. Lindamood, Walton, Kansas.

WHITE PLYMOUTH ROCKS, BEST ALLpurpose fowl. Bred them twenty-four years. No better anywhere. Eggs, $2 per fifteen, $5 per forty-five delivered. Thomas Owen, Poultry Editor, Topeka, Kansas.

EGGS FOR HATCHING — FROM BEST laying strains of Barred Plymouth Rocks. Bradley Bros. and Parks 200-egg strains. $3, fifteen; $5, thirty. Catalog. Gem Poultry Farm, Haven, Kansas.

BARRED PLYMOUTH ROCKS — GENUine Thompson Ringlet prize winning strains. Pen eggs, either cockerel or pullet mating, also utility flock eggs. Circulars free. A. F. Siefker, Defiance, Missouri.

BARRED ROCK SPECIALIST — PRIZE winning Hobart, first, second, third, fourth cockerel; first, third pullet; first pen; second, third cock; silver cup, gold special. Oklahoma City, first pullet, bred pen, first cock. Eggs, fifteen, $2, $3; hundred, $6. Fred Hall, Lone Wolf, Okla.

RHODE ISLAND REDS.

ROSE COMB R. I. RED EGGS, FIFTEEN, $2. Fine stock. G. D. Williams, Inman, Kansas.

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ROSE COMB RED EGGS FROM BLUE ribbon winners, $3, $5, $7.50 per fifteen. Best of guarantee. Fred Keim, Seneca, Kan.

LARGE BRILLIANT ROSE COMB RED eggs for hatching, $1 per fifteen; $6 per hundred. Mrs. Roy Davisson, Sabetha, Kan.

SINGLE COMB RHODE ISLAND RED eggs. Maple Hill Poultry Farm, Route 6, Lawrence, Kansas.

SINGLE COMB RED EGGS—GOOD FARM range, $4 per hundred, $1.50 per thirty. Mrs. Rosa Janzen, Box 242, Gencseo, Kan.

HIGH SCORING R. C. R. I. REDS—EGGS, $1.50 per setting. Fertility guaranteed. Chas. Wodke, Council Grove, Kansas.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Baby chicks. Mating list. L. E. Castle, Wichita, Kansas.

DARK R. C. REDS, PURE-BRED, EXTRA fine. Eggs, $3 and $2 per fifteen; $5 per hundred. W. J. Honeyman & Sons, Hillside farm, Madison, Kansas.

PURE-BRED ROSE COMB RHODE Island Reds. Eggs for hatching, $1 per fifteen, $5 per hundred. Mrs. L. F. Hinson, Stockdale, Kan.

S. C. REDS — EGGS FOR HATCHING. Laying strain headed by prize winning cockerel. Fifteen, $3. Mrs. Mira Lambert, Anderson, Missouri.

EGGS FOR SALE—S. C. R. I. REDS.—Breeder for twelve years. $1.50 per setting of fifteen; $5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

WYANDOTTES.

R. C. BUFF WYANDOTTE EGGS, $1.50 for fifteen. G. G. Wright, Langdon, Kan.

PARTRIDGE WYANDOTTE EGGS, $3.00 per fifteen; $5.50 per thirty. Mrs. O. E. Collins, Drexel, Mo.

PURE WHITE WYANDOTTE EGGS FOR hatching. Thirteen of fourteen now hatching. Samsel, Lebanon, Nebraska.

WHITE WYANDOTTE EGGS, $1 PER 15. Martin Fishel strains. Fred Watts, Havensville, Kansas.

WHITE WYANDOTTE EGGS, $1, FIFteen; $5 hundred. Mrs. Geo. Downie, Lyndon, Kansas.

ROSE COMB WHITE WYANDOTTE EGGS $4 per hundred; farm range. Bertha Rogers, Route 6, Garnett, Kansas.

WHITE WYANDOTTES — EGGS FROM choice stock, $1.80, thirty; $5, hundred. Mrs. Will Beightel, Holton, Kansas.

COLUMBIAN WYANDOTTE EGGS—FIFteen, $1.50; hundred, $7. Miss Etta Foresman, Belvue, Kansas.

SILVER-LACED WYANDOTTE EGGS, $1.25 per fifteen; $3 per fifty; $5 per hundred. Mrs. H. R. Young, Stella, Neb.

ROSE COMB WHITE WYANDOTTE eggs, per fifteen, $1; one hundred, $4. H. A. Ritter, Route 2, Klowa, Kansas.

EGGS FOR SALE FROM PURE WHITE Wyandottes, $6 per hundred. Mrs. D. J. White, Clements, Kansas.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuis, Fredonia, Kansas.

CHOICE ROSE COMB SILVER WYANdotte eggs, $1 for 15; $5 for 100. Mrs. Phillip Schuppert, Arrington, Kansas.

WHITE WYANDOTTE EGGS FROM farm range stock, $4 per hundred. Vida Hume, Tecumseh, Kansas.

CHOICE ROSE COMB WHITE WYANdotte eggs for sale, $1.50 per setting of fifteen eggs. Mrs. George Foresman, Route 1, Belvue, Kansas.

ROSE COMB WHITE WYANDOTTES — Pullets, $1.50 each; eggs, pen, fifteen, $2; flock, fifteen, $1; 100, $4.75. Mrs. Effie Acheson, Palco, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $6. Baby chicks. Mrs. Edwin Shuff, Plevna, Kansas.

PARTRIDGE WYANDOTTE EGGS, MAhogany strain, $1.50 per fifteen. Good cockerels, $3 to $5 each. Canaries, fine singers. Baby chicks. Mrs. Edith B. Taylor, Marion, Kansas.

SILVER WYANDOTTES. YES, I AM still selling Silvers. Have some good cockerels left. Eggs in season. Prices reasonable. Write me. M. B. Caldwell, Broughton, Kansas.

WHITE WYANDOTTE EGGS — REGAL strain, prize winners. Farm range, $5 hundred. Pen 1, Martin male direct, fifteen, $5. Pen 2, high scoring male, fifteen, $3. Prepaid. Frances Fleury, Concordia, Kansas.

PARTRIDGE WYANDOTTES — PENS headed by Madison Square Garden and Chicago Coliseum winners. Eggs, $3 per fifteen. Book early. Rev. F. R. Beery, Concordia, Kansas.

SILVER WYANDOTTES, BETTER THAN ever. Keen lacings. Superior shape. Utility flock, fifteen eggs, $1.25; $6 hundred. Pens No. 1, high scoring females headed by one of Hoffman's best blooded cockerels, fifteen, $5; No. 2, choice females headed by Williams cock, fifteen, $3. All eggs sent postpaid. Satisfaction guaranteed. Mrs. Paul McElwee, Route 21, Chilhowee, Mo.

LEGHORNS.

WHITE LEGHORN EGGS (YOUNG'S $20 stock). Elsie Thompson, Mankato, Kan.

PURE-BRED BUFF LEGHORN EGGS, $6 hundred. P. A. Wempe, Seneca, Kansas.

ROSE COMB WHITE LEGHORN COCKcrels, $1 each. N. C. Dewey, Stafford, Kan.

TIP TOP ROSE COMB BROWN LEGhorn eggs. J. E. Wright, Wilmore, Kan.

PURE-BRED SINGLE COMB BROWN Leghorns. Choice farm flock. Eggs, 100, $4. Mrs. D. A. Wohler, Hillsboro, Kansas.

PURE-BRED S. C. BROWN LEGHORN eggs, $1 per fifteen, $5 per hundred. Mrs. L. H. Hastings, Thayer, Kansas.

"BARRON'S 268-EGG LEGHORNS" — Eggs, $5 hundred. Sunlight Poultry Farm, Mt. Moriah, Mo.

EGGS, $1.50 PER SETTING. LEGHORNS, Reds, Rocks, Wyandottes and Orpingtons. Royal Poultry Yards, Coffeyville, Kansas.

SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

EGGS, EGGS FROM KEEP-LAYING strain Single Comb White Leghorns. Thol. R. Wolfe, Conway Springs, Kansas.

MRS. SMITH'S QUALITY WHITE LEGhorn eggs, $5 per hundred. Mrs. A. J. Smith, Colony, Kansas.

SINGLE COMB BUFF LEGHORN COCKerels. Eggs. White Holland turkey toms. Eggs. Mrs. S. F. Crites, Florence, Kansas.

SINGLE COMB WHITE LEGHORN EGGS —English Barron strain. Baby chicks. F. B. Morger, Fowler, Colo.

ROSE COMB WHITE LEGHORNS — Eggs for hatching, $5 per hundred. Mrs. Joe Streeter, Route 5, Hamilton, Mo.

ROSE COMB BROWN LEGHORNS — Prize winners. $5 hundred, $2.75 fifty, $1 fifteen. Rufus Standiferd, Reading, Kan.

BROWN LEGHORN HATCHING EGGS, $1 per fifteen, $3 per fifty, $5.50 per hundred. R. W. Getty, Downs, Kansas.

PURE-BRED ROSE COMB BROWN LEGhorn eggs, $1 per fifteen, $5 per hundred. Mrs. Daisy Denlinger, Frankfort, Kansas.

EUREKA FARM SINGLE COMB WHITE Leghorns, bred to lay. Farm range eggs, $4 per hundred. Henry Richter, Hillsboro, Kansas.

EGGS FOR HATCHING FROM HOGAN'S laying strain of Single Comb White Leghorns, $5 per hundred. Roy Rhodes, Maize, Kansas.

BROWN LEGHORNS — ROSE, SINGLE comb. Egg production scoring 200 to 280 eggs, $2 fifteen, $6 hundred, prepaid. Plainview Poultry Farm, Lebo, Kansas.

SINGLE COMB BROWN LEGHORNS — Thirty-one prizes at Kansas State Show, 1917, including eight firsts. W. J. Roof, Maize, Kansas.

TOM BARRON S. C. WHITE LEGHORNS —Best winter layers. Our hens proved their merit. Fifteen eggs, $1.25; 100, $5. J. L. Stratton, Ottawa, Kansas.

SINGLE COMB WHITE LEGHORN EGGS from extra good layers and prize winners. Fifteen, $1; hundred, $5. I. H. Gnagy, Hutchinson, Kansas.

S. C. WHITE LEGHORNS—EXHIBITION laying quality. Choice cockerels. Eggs for hatching. Descriptive folder free. O. L. Robey, Maryville, Mo.

S. C. BROWN LEGHORNS — OH! YES, we have been raising them 21 years; the 222 to 266 trap nest egg record kind. Eggs, 15, $1.25; 100, $5.00. Gorsuch, Stilwell, Kansas.

EGGS FOR SALE FROM PURE-BRED heavy winter laying Single Comb White Leghorns, $2 fifteen, $10 hundred; 100% fertility guaranteed on seventh day of incubation. H. M. Blaine, Sylvia, Kansas.

SINGLE COMB WHITE LEGHORNS, Columbian Wyandottes, Muscovy ducks, fancy pigeons. Catalog. Southdown sheep, Berkshire swine. J. A. Leland, Springfield, Illinois.

S. C. BROWN LEGHORN EGGS AND cockerels. Guaranteed finest imported and domestic strain in the country. Pullet line only. Eggs, $2 setting. W. H. Taylor, 703 South Emporia, Wichita, Kansas.

PRIZE WINNING S. C. WHITE LEGhorns at two state shows. Eggs, $2, $3 and $5 per fifteen. Eggs from flock, $5 per 100. Chicks. Send for free mating list. C. G. Cook, Box F, Lyons, Kansas.

RUSSELL'S FAMOUS BROWN LEGhorns, single comb, prize winners, heavy layers. Write for catalog. Satisfaction guaranteed. Mrs. Geo. Russell, Chilhowee, Missouri.

S. C. W. LEGHORN COCKERELS FROM hens with records over two hundred eggs; one, two, three dollars each. Baby chicks, 12½c each. Eggs, $5 per hundred. Hyperion White Leghorn Farm, Route 1, Des Moines, Iowa.

YOU WANT GOOD LAYERS. MOORE'S strain of S. C. Brown Leghorns are prize winners and winter layers. Eggs, $1 for fifteen and $4 for 100 postpaid. John W. Moore, R. R. No. 1, Poplar Bluff, Mo., formerly of Hendrickson, Mo.

S. C. WHITE LEGHORNS EXCLUSIVEly. Decka's laying strain. Many winners. Eggs for hatching, $6 per hundred. Write for 1917 price list. Yours for quality (Nuf sed), Deckas White Poultry Farm, Route 1, Des Moines, Iowa.

EGGS — FROM BELMONT'S UTILITY strain Single Comb White Leghorns, bred to lay kind, that pays the grocery bill. Flock headed by White King, the largest and whitest bird we have ever owned. Setting fifteen, $1; fifty, $3; hundred, $5. Belmont Farm, Trenton, Mo.

LEGHORNS.

WHITE LEGHORN EGGS (FROM Young's best). G. D. Willems, Inman, Kan.

S. C. W. LEGHORN EGGS. STATE WINner. Mrs. W. R. Hildreth, Oswego, Kansas.

R. C. B. LEGHORNS, WINTER LAYERS, vigorous stock. Eggs, $5 per hundred. The Blue Grass Stock Farm, Oneida, Kansas.

GOLDEN BUFF LEGHORNS — GREAT layers, silver cup winners. 100 eggs, $6. Agnes Smiley, Braddyville, Iowa.

S. C. BROWN LEGHORNS — WINTER layers and beauty strain. Booking orders for chicks to be delivered April 1, any quantity, at $12.50 per hundred. Eggs at $5.00 per hundred, trap-nested stock. Pullets in laying contest. Paradise Poultry Farm, Carona, Kansas.

WHITE LEGHORNS

YOUNG'S STRAIN WHITE LEGHORNS—Eggs, $5 hundred. Folder free. Reed Poultry Circle, Box H, Reed, Oklahoma.

UTILITY S. C. WHITE LEGHORNS—Ferris, Young, Frantz and Yesterlaid strains. Eggs, $1 per fifteen; $4 per hundred. Sold 8,000 eggs for hatching last season, no complaint. L. O. Wiemeyer, Route 1, Anthony, Kansas.

SEVERAL BREEDS.

EGGS—BARRED ROCKS, BRONZE TURkeys and Toulouse geese. Grace Aspedon, Farragut, Iowa.

TWENTY VARIETIES POULTRY. EGGS, $1.50 setting. Royal Poultry Yards, Coffeyville, Kansas.

SINGLE COMB ANCONA AND SILVER Laced Wyandotte eggs, $1.26 per sixteen by post prepaid. Mrs. Cecile McGuire, Pratt, Kansas.

TURKEYS, GEESE, WHITE RUNNERS, Buff Drakes, Single Comb White Orpingtons, Buff and Brown Leghorn cockerels. Emma Ahlstedt, Roxbury, Kansas.

FREE—1917 PRICE LIST OF EGGS. ALL leading breeds of chickens, turkeys, ducks, geese and guineas. Monroe Poultry Yards, Monroe, Iowa.

PURE-BRED BOURBON RED TURKEY eggs, $3 per eleven. Pure-bred Rhode Island Red eggs from open range herd, $1 per fifteen, $4.75 per hundred. J. W. Harshbarger, Milo, Kansas.

EGGS FROM PURE-BRED PRIZE WINning Bourbon Red turkeys, both combs. S. C. R. I. Reds, White and Black Langshans, Anconas and Light Brahmas. Write for mating list. Mr. Henry Gillen, Route No. 1, Osborne, Kansas.

EGGS — M. B. TURKEY, NEW YORK prize winning blood in flock, $3 per eleven; geese eggs, African, Embden, Toulouse, $1.75 per seven; White Muscova ducks, $1.75 per eleven; White African guinea, $1.50 per seventeen; White Rock, Fishel strain, $5 per hundred. W. L. Bell, Funk, Neb. Dry Creek Poultry Farm.

FOR SALE, EGGS—EGGS FROM PUREbreds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

ORPINGTONS.

PURE-BRED WHITE ORPINGTONS — Eggs for hatching, $1 per fifteen, $5 per hundred. Frank Hinson, Stockdale, Kansas.

EGGS FROM PRIZE WINNING BUFF Orpingtons, $2 per 15; fine Barred Rock, $1 per 15, $5 100. Mrs. M. Ditto, Newton, Kan.

BUFF ORPINGTON EGGS, $1.25 PER fifteen. Farm raised stock. High quality. Mrs. H. M. Long, Reife, Mo.

FINE GOLDDUST BUFF ORPINGTONS—Eggs, $1.50 setting; $8 hundred. Prepaid. Mary E. Price, Route 7, Manhattan, Kansas.

BUFF ORPINGTONS—EGGS FROM heavy layers, $2. They win, lay, pay. Virgil Taylor, Holton, Kansas.

FINE BUFF ORPINGTON EGGS FROM my regular winners, reasonable. H. T. Farrar, Axtell, Kansas.

WHITE ORPINGTON COCKERELS—Eggs and chicks reasonable. Mrs. Barraclough, 137 S. Fern, Wichita, Kansas.

WHITE ORPINGTON COCKERELS, A few pullets. Eggs reasonable. Also Indian Runner duck eggs. James Kennicott, Bunker Hill, Kansas.

EXHIBITION BUFF ORPINGTON EGGS, state, county winners. Bourbon Red turkeys. Prices reasonable. Write for catalog, Mrs. Rees Barton, Amoret, Mo.

"PAYWELL" BUFF ORPINGTON EGGS from heavy winter layers and blue ribbon stock, $2 per fifteen. L. S. Weller, Salina, Kansas.

WHITE ORPINGTONS — ALDRICH strain direct. Eggs, $1.50. Two extra choice pens, $3 per fifteen. Fertility guaranteed. H. M. Goodrich, 712 Topeka Ave., Topeka, Kansas.

WHITE ORPINGTONS — PERSISTENT winter layers. Four pens. Mating list free. Eggs, $1.50 per setting and up. Urbandale Poultry Farm, 418 Butts Bldg., Wichita, Kansas.

EGGS FROM MY GREAT WINTER-LAYing White Orpingtons. Fifty-five eggs January 20, sixteen from 65 hens. 108, $6; 60, $3.50; pen, $2 fifteen. Express paid. John Vanamburg, Marysville, Kansas.

(Continued on Next Page.)

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks,** for bona fide seekers of employment on farms.

BRAHMAS.

PURE-BRED PRIZE WINNERS—LIGHT Brahmas. Eggs, fifteen, $1; 100, $5. Mrs. V. E. Rogers, Sharon, Kansas.

EGGS FOR HATCHING FROM PRIZE-winning Light Brahmas. Write for prices. R. W. Getty, Downs, Kansas.

BABY CHICKS.

ROSE COMB RED CHICKS — WHITE Runner duck eggs. Lily Robb, Neal, Kan.

REDS, ROCKS, LEGHORNS; 12½c. REquest folder. McCune Hatchery, Ottawa, Kansas.

PHEASANTS.

PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Booking orders. Eggs of these, $4 dozen; Golden, $5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

MINORCAS.

S. C. BLACK MINORCA EGGS. FIFteen, $1; 100, $5. Frank Scherman, Route 8, Topeka, Kansas.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

CORNISH

CORNISH INDIAN GAME HENS, $2.00 each. Maggie Flesher, Ottawa, Kansas.

DARK CORNISH, WON FOUR FIRSTS and one special at state shows this season. Stock and eggs for sale. O. Blankenship, Waldron, Kansas.

LANGSHANS.

GET MY FREE MATING LIST OF MADIson Square and Chicago prize winning Langshans. John Lovette, Mullinville, Kan.

BLACK LANGSHAN EGGS FROM FIRST prize birds, Iowa and Nebraska state shows, $1.50 per fifteen. Mrs. S. Marsh, Juniata, Nebraska.

BLACK LANGSHAN EGGS, $3 FOR 15, from my San Francisco and Kansas State Show winners, 1917. H. M. Palmer, Florence, Kansas.

EGGS — PURE-BRED BLACK LANGshans exclusively from free range fowls, $1 for 15, $5 for 100. Mrs. John A. Roberts, Route 5, Stanberry, Mo.

TURKEYS.

BOURBON RED TURKEY EGGS, $2.50 per eleven. Fred Watts, Havensville, Kan.

BOURBON RED TURKEYS—EGGS, $3.50, eleven. Mrs. J. E. Bundy, Goodrich, Kansas.

WHITE HOLLAND TURKEYS, SINGLE Comb White Leghorns, Single Comb Buff Orpington eggs. Baby chicks. Mrs. S. A. Warren, Reger, Mo.

MAMMOTH WHITE HOLLAND TURkeys—Eggs, $2.50 per eleven. Let us book your order early. Mrs. Roy Davisson, Sabetha, Kansas.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

MAMMOTH BRONZE TURKEYS — NO more toms for sale. Pullets, $5, $10; hens, $10, $15. Eggs—Yard, 1, $1 each; second, 50 cents. Black Langshan, Barred Plymouth Rock cockerels for sale, $2, $5. Eggs, $2-$5 per setting. Show record. Jas. W. Anders, Unionville, Mo.

POULTRY SUPPLIES

MILLIONS OF FINE POULTRY WILL die from lice and mites unless poultrymen use X-ray louse killer. Formula, 50c. Order now. C. O. Bayha, Jacksonville, Ill.

DUCKS AND GEESE.

DOMESTICATED WILD MALLARDS — Eggs and drakes. James C. Shortt, Route 1, Belvue, Kansas.

ANCONAS.

SINGLE COMB ANCONAS—EGGS, FIFteen for $1.25 or $6 per hundred delivered. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

ANCONAS — BLUE RIBBON WINNERS. Eggs, $1.50 per fifteen, $6 per hundred. Pens two and three, $1.25 per fifteen, $5 per hundred. Frank Glenn, Newton, Kansas.

SEND FOR MY "ANCONA DOPE" AT onec. Tells why I quit all other breeds. It's free and worth reading. Fill orders for eggs promptly. Page's Ancona Farm, Salina, Kansas.

POULTRY WANTED.

WANTED — NO. 1 POULTRY: HENS, 18c; turkeys, 24c; capons, 22c. Eggs, market price. Coops and cases loaned free. The Copes, Topeka.

FARM AND HERD.

The consignment sale of Hereford cattle held at Manhattan, Kansas, March 1, under the management of W. A. Cochel, of the Animal Husbandry Department, Kansas Agricultural College, was one of the successful sales of the season. The cattle were selected from the best herds in the state and the seventy-four head sold for a total of $22,675, or an average of $300.60 per head. The average for the twenty-three head of cows and heifers sold was $369.60. Fifty-one bulls sold for an average of $278.03 per head. A cow consigned by J. O. Southard topped the sale at $1,510. W. S. Strentor, of Gratton, S. D., was the successful bidder.

Glen C. Smith, of Sedgwick, Kansas, is one of the successful Holstein breeders in Kansas. Mr. Smith has built up a herd of producers that always show a profit. He has record breeding and at this time has a fine lot of young stock.

HELP WANTED.

BE A GOVERNMENT FARMER. GOOD pay; steady, interesting job. Write Central Institute, 44-F, St. Louis.

MAN OR WOMAN TO TRAVEL FOR old established firm. No canvassing; $1,170 first year, payable weekly, pursuant to contract. Expenses advanced. G. G. Nichols, Philadelphia, Pa., Pepper Bldg.

MEN—18 OR OVER BECOME RAILWAY mail clerks. $75 to $150 month. Vacations. Big chances farmers. Write immediately for list government positions easily obtainable. Franklin Institute, Dept. A-82, Rochester, New York.

AGENTS WANTED.

GOOD MAN TO TAKE ORDERS. GET own clothes free, make big money. Knickerbocker Tailoring Co., Dept. 594, Chicago.

MEN TO WEAR FINE SUIT, ACT AS agent. Big pay, easy work. Banner Tailoring Co., Dept. 534, Chicago.

GENTLEMEN: MASON SOLD EIGHteen Spray Pumps and Auto Washers one Saturday. Profits, $2 each. Write Rusler Co., Johnstown, Ohio.

WE PAY $80 MONTHLY SALARY AND furnish rig and expenses to introduce guaranteed poultry and stock powders. Bigler Company, X 671, Springfield, Ill.

REAL ESTATE.

WANTED—TO HEAR FROM OWNER OF good farm for sale. Send cash price and description. D. F. Bush, Minneapolis, Minn.

640-ACRE MONTANA HOMESTEADS — new law. Circular free. Bureau 63, Boulder, Montana.

FOR BEST 320 ACRES HOMESTEAD relinquishments see Watson Land Co., Lamar, Prowers Co., Colorado.

YOUR CHANCE IS IN CANADA.—RICH lands and business opportunities offer you independence. Farm lands, $11 to $30 acre; irrigated lands, $35 to $50; twenty years to pay; $2,000 loan on improvements, or ready made farms. Loan of live stock; taxes average under 20 cents an acre; no taxes on improvements, personal property, or live stock. Good markets, churches, schools, roads, telephones; excellent climate — crops and live stock prove it. Special homeseekers' fare certificates. Write for free booklets. Allan Cameron, General Superintendent Land Branch, Canadian Pacific Ry., 234 Ninth Ave., Calgary, Alberta.

LIVINGSTON'S GLOBE AND EARLIANA tomato; transplanted Jersey Wakefield and Copenhagen cabbage; cold-framed Snowwhite and Self-Blanching celery; transplanted Yellow Jersey and Nancy Hall sweet potato, 5 cents dozen, 40 cents hundred, $2 thousand. Cauliflower, Beauty egg plant, mango peppers, 15 cents dozen. Florist verbena, asters, velvet pansy, 2 cents each. King Humbert cannas started in pots, 10 cents each. Geraniums, assorted colors from pots, 5 cents each. Senator Dunlap strawberry plants, 10 cents dozen. Progressive Everbearing strawberry plants, 2 cents each. Everbearing red raspberry plants, 5 cents each. Cumberland black raspberry plants, 6 cents each. If you wish your shipment parcel post, send me a little extra money and I will send larger plants. I pack between two layers of damp moss. These prices are good all spring and summer, 1917. I grow plants by the million and want your trade 1918. Address Chas. Vanstrom, Edgar Green House, Edgar, Nebraska.

NEW FARM OPPORTUNITY IN ONE OF the greatest states in the Union. A new line of the Santa Fe is tapping a rich and fertile prairie section of Northwest Texas, where already many farmers have made good in a big way with wheat, hogs and live stock. Here, if you act now, you can get first choice—get in on the ground floor of a great opportunity. You can get in ahead of the railway—ahead of the people whom the railway will bring—ahead of those who act more slowly than you do. This is the chance of a lifetime for a man of moderate means. A certain number of thrifty, far-seeing farmers can acquire good land at an astonishingly low figure and on long, easy terms. If you have confidence that a great railroad, like the Santa Fe, would only recommend what it considers a good thing, and because it wants to see new territory developed and wants newcomers to prosper and produce—then write me today for particulars about this district. Mild climate, social advantages, schools, churches, telephones, good roads. Everything there but enough men with their families. Will you be one of the fortunate first comers to reap the advantages of a section that has been minutely inspected by a Santa Fe agricultural agent and pronounced right? Write me now and let me send you a copy of the special illustrated circular we are getting out. C. L. Seagraves, Industrial Commissioner, A. T. & S. F. Ry., 931 Railway Exchange, Chicago.

WISCONSIN LAND FOR SALE

LANDOLOGY, A MAGAZINE GIVING the facts in regard to the land situation. Three months' subscription free. If for a home or as an investment you are thinking of buying good farm lands, simply write me a letter and say, "Mail me Landology and all particulars free." Address Editor Landology, Skidmore Land Co., 301 Skidmore Bldg., Marinette, Wis.

PET STOCK.

BELGIAN HARES FOR SALE. E. RATHbun, Lucas, Kansas.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

TREES, SEEDS AND PLANTS.

WHITE BLOSSOM SWEET CLOVER, reasonable. John Lewis, Hamilton, Kan.

SEED CORN. — LAPTAD STOCK FARM, Lawrence, Kansas.

TREES AT WHOLESALE—CATALOGUE free. Agents wanted. Peyton Nurseries, Boonville, Mo.

TEN ELBERTA AND FIVE CHAMPION peach trees, postpaid, $1. Send now. Wellington Nurseries, Dept. C, Wellington, Kan.

SEED CORN—WON FIRST AND SWEEPstakes, Missouri State Corn Show, 1917. For catalog, write George Manville, Faucett, Mo.

BEST PROGRESSIVE EVERBEARING strawberry plants cheap. For particulars write R. N. Thomas, Shenandoah, Iowa.

BLACK HULLED WHITE KAFIR SEED, recleaned, tested and sacked, $2 per bushel. Grover Lee, Pratt, Kansas.

WHITE SWEET CLOVER BOUGHT (large or small lots) if priced attractively. State lowest price. Box 375, Emporia, Kan.

ALFALFA SEED, NEW CLEAN UPLAND, 14 cents per pound for one bushel or more. Bags, 25 cents. Sample on request. W. M. Hixon, Berryton, Kansas.

ALFALFA SEED FROM NORTHWEST Kansas, 95 per cent pure. Good germination. $5.50 per bushel. Geo. Bowman, Logan, Kansas.

SEED CORN — DIAMOND JOE WHITE, excellent drouth resister, and Reid's Yellow Dent. Graded, $2.50 bushel. D. D. Denver, Milford, Kansas.

PURE GOLD MINE AND BOONE COUNTY White seed corn, selected, graded, $2 per. Alfalfa seed, $7.50 per. Samples free. J. F. Feigley, Enterprise, Kansas.

FOR SALE — BOONE COUNTY WHITE seed corn, made over 30 bushels this year. Hand picked. $1.75 per bushel. W. C. Baumgartner, Halstead, Kansas.

ALFALFA SEED FROM HIGH PRODUCing fields. 370 bu. from 40 acres. 99.74% pure; 95% germination. $8.00 per bu. Sample free. Stockwell Farms, Larned, Kansas.

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BEAUTIFUL FLOWERS — BIG STOCK, canna, gladiola, woolflower, salvia, tomato, cabbage, pepper, sage, and other flowering and vegetable plants. Seeds and bulbs. Write for descriptive price list. Henry S. Jefferies, Ottawa, Kansas.

SEED CORN — YELLOW DENT; ST. Charles White, carefully selected. Shelled, bushel, $2; bags free. Orders filled with care at once. Frank Crosby, Route 2, Belvue, Kansas.

TREES, SHRUBS, PLANTS, VINES, seeds. Everything at lowest prices direct to you. All tree peddlers' commissions cut out. Free book. Wichita Nurseries & Seed House, 105 Shell Bldg., Wichita, Kansas.

GERMAN MILLET, FINE GERMINAtion, 100 pounds, $3.75. Tested white blackhull kafir, $1.85 bushel in two-bushel sacks. All sacks free. Brooks Wholesale Co., Ft. Scott, Kansas.

BERMUDA GRASS — HARDY, RANKgrowing variety. Stands drouths, floods, hot winds and severe freezing. Best and hardiest pasture grass. Great milk producer. Write for leaflet today telling how to get started. Henry Jefferies, Ottawa, Kansas.

SEED CORN—PURE-BRED REID'S YELlow Dent and Boone County White. Alsike, Mammoth and Medium Red Clover, Kherson and Iowa 103 Oats, new crop timothy seed. Folder and prices free. F. M. Riebel & Son, Arbela, Mo.

EVERBLOOMING STRAWBERRY plants. Americus, 100 plants, 90 cents; 500, $4. Progressive, 100 for $1; 500, $4.75. Guaranteed strong, healthy plants, true to name. Big stock flowering and vegetable plants. Write today for descriptive price list. Henry Jefferies, Ottawa, Kansas.

HORSES AND MULES.

SHETLAND PONIES, FIFTY HEAD, moderate prices. Charles Clemmons, Coffeyville, Kansas.

FOR SALE OR TRADE—PRINCE VICtor, the best grade Percheron stallion in Harvey County. Weight 2,000 pounds, age 9 years. G. W. Perkins, Newton, Kansas.

FOR SALE — FOUR 5-YEAR-OLD PERcheron mares, two Percheron stallions; one 2, one 3. All registered P. S. A. and large. L. H. Luckhardt, Tarkio, Mo.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure, excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

SITUATION WANTED.

WANTED — WORK IN UP-TO-DATE dairy by an experienced reliable young man. Lawson Sappington, Centralia, Missouri.

YOUNG MAN WANTS WORK ON FARM until harvest. Would expect $25 per month including board and washing. F. L. McIntire, Rogers, Ark.

CATTLE.

FOR SALE — TWELVE REGISTERED Galloway calves, three bulls and nine heifers. B. F. Young, Richland, Kansas.

FOR SALE—ONE PURE-BRED JERSEY bull calf, born January 24, 1917. Write H. H. Starr, Claflin, Kansas.

TWO GUERNSEY HEIFERS, BOTH REGistered, richly bred, in calf and priced right. J. W. Marley, Oswego, Kansas.

GALLOWAYS FOR SALE — TWENTY head registered. T. T. Huntington, Rocheport, Missouri.

300 HEAD OF REGISTERED AND HIGH grade cows and heifers for sale, headed by the great 40-pound bull, Johanna King Segis. Neal Houslett, Oxford, Wis.

CHOICE CALVES—HOLSTEINS, GUERNseys, Shorthorns, high grades, $15 to $35 according to age. Expressed to you at little cost. Write Paul Johnson Company, South St. Paul, Minn.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $23 apiece. Frank M. Hawes, Whitewater, Wis.

ONE HUNDRED CHOICE BREEDY HOLsteins from six months to six years. Some fresh, a lot springing. Tuberculin tested, three-fourths white, dairy conformation. Yearlings extra large. C. S. Simmons, Belmont, Wisconsin.

HEDGE POSTS.

FOR SALE—FIFTY THOUSAND OSAGE hedge posts. H. W. Porth, Winfield, Kan.

MISCELLANEOUS.

STAR ROUTE AND SIDE LINE, PAYing $35 a week; price $1,500; to exchange for farming outfit and live stock. Eppes, 1015 Park, Kansas City, Mo.

BLACKSMITH POWER MACHINE SHOP for sale or trade for land. Good farming. County seat town. Big business. E. J. Dorman, Wakeeney, Kansas.

YOU CAN MAKE A GOOD LIVING IN your back yard raising Belgian hares. Full particulars and price list of all breeds, 10c. W. G. Thorson, Aurora, Colo.

FOR SALE — 16-HORSEPOWER GASOline engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost $480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

THE STRAY LIST.

TAKEN UP — BY ROY J. PHILLIPS, Council Grove, Council Grove Township, Morris County, Kansas, on December 18, 1916, one red heifer, no marks or brands. Appraised at $25. Lee A. Moser, County Clerk.

TAKEN UP — BY HUGH JONES, OF Reading, Reading Township, Lyon County, Kansas, on December 16, 1916, one red and white steer, branded on left hip and piece out of right ear. Appraised at $60. G. L. Miller, County Clerk.

TAKEN UP—BY PETER MUGLER, OF McPherson, King City Township, McPherson County, Kansas, on the 19th day of February, 1917, one red steer, about 1½ years old, small V cut in top of right ear. W. E. Rostine, County Clerk.

TAKEN UP—BY MRS. LAURA ATKINson, of Americus, Americus Township, Lyon County, Kansas, on February 12, 1917, one red steer, no marks or brands. Appraised at $40. G. L. Miller, County Clerk.

TAKEN UP—BY B. F. FORD, OF SENeca, Adams' Township, Nemaha County, Kansas, February 21, 1917, one red cow four or five years old. Tip of tail white, white streak under belly. No marks or brands. Appraised at $45. W. L. Kaufman, County Clerk.

BUSINESS CHANCES

offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431.28 W. Jackson Boulevard, Chicago.

DOGS.

COLLIE PUPPIES, $5. FRANK BARrington, Sedan, Kansas.

FOR SALE — SCOTCH COLLIE PUPS, farm raised, from good workers. I. P. Kohl, Furley, Kansas.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

HOGS.

BIG-TYPE POLAND BOARS. U. A. Gore, Seward, Kansas.

O. I. C. REGISTERED HOGS FOR SALE. September and October male pigs and serviceable males. Write for prices. Carl F. Schuster, Scranton, Kansas.

M. E. Gunderson & Sons, of Oconomowoc, Wis., owners of one of the very high class herds of Holstein cattle in that state, report their herd making a splendid record. One of the cows in this herd recently made a seven-day record of 514.2 pounds milk and 25.19 pounds butter at 11 years 8 months of age. They are now testing a very fine lot of heifers. The sire at the head of this herd is a splendid individual. The records of his dam and sire's dam average butter seven days, 35.08 pounds; thirty days, 137.52 pounds, one year, 1,004.72 pounds; milk, one year, 22,147.20 pounds.

E. D. King, of Burlington, Kansas, has sold practically his entire breeding herd of Berkshire hogs to D. L. McDonald, of Hereford, Texas, who will establish one of the biggest herds of pure-bred Berkshires in the country.



The photograph of Giant Mammoth, a two-year-old jack in the **Oakland Stock Farm Sale** at Chillicothe, Mo., March 20, is a fair sample of the twenty young jacks that will be sold. Every animal of the twenty was bred and raised on these farms. We are breeders—not brokers. Go to the sale and cut out the broker's commission. You can buy them as cheap as the broker can. **Remember the date, Tuesday, March 20.**

HEREFORD CATTLE.

Walnut Breeding Farms



Where real Anxiety 4th blood is found in abundance. The home of Concentrate 289644, a double Beau Brummel. Young stock always on hand for sale from this noted sire. Five extra herd headers on hand at reasonable price, blood lines considered. Twenty choice young bulls for sale. Come and see my herd. Satisfaction guaranteed. Also a few Berkshire pigs.

LEON A. WAITE, R. F. D. 8, WINFIELD, KAN.

HEREFORDS AND PERCHERONS

Choice 2-year-old bull, weight 1,600 lbs.; extra good bull calves. One May calf, weight 600 lbs., outstanding herd header prospect. Two choice yearling Percheron stallions. Priced to sell.

M. E. GIDEON - EMMETT, KANSAS

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The brimming pail of

AYRSHIRE MILK

contains no waste. It is neither too "fat" nor too "lean"—it is STANDARD MILK, 3.94 per cent grade—passes all city and state requirements. Ayrshires are profit makers for the milkman. Yield abundantly to a ripe old age. Write for information and names of nearest breeders.

AYRSHIRE BREEDERS' ASS'N

C. M. Winslow, Sec'y, 33 Park St. Brandon, Vt.

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EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE

Twenty-five young bulls, also some good cows and heifers for sale. All registered.

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Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

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GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

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A GUERNSEY BULL

in Iowa has daughters that are producing over 130% more butter fat and milk than their scrub dams.

Use a GUERNSEY BULL on your scrub cows. His daughters will sell like hot cakes.

Write for our free booklets

The American Guernsey Cattle Club
Box R. K., Peterboro, N. H.



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Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

H. M. HILL - LAFONTAINE, KANSAS

Doyle Spring Shorthorns

Scotch-topped Shorthorns. Ten bulls, age 9 to 11 months, sired by the famous Star Goods, Orange Marshall. Write your wants.

F. P. WILSON - PEABODY, KANSAS

CEDAR HEIGHTS SHORTHORNS

For Sale—One Lavender bull, 14 months old; one Orange Blossom, 10 months old; one Golden Drop, 10 months old.

HARRY T. FORBES
Bell Phone 59 N-1, Route 8, Topeka, Kansas

ALYSDALE HERD OF SCOTCH SHORTHORNS

Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.

H. H. HOLMES, Route 28, Topeka, Kansas

Oakwood Stock Farm

We have a few milking Shorthorn cows of the Bates strain. Large and good type. Write for prices and description. A number of roan calves of the same strain four to six weeks old. Shipped on receipt of $25.

M. E. PECK & SON - SALINA, KANSAS

Breeders' Directory

ANGUS CATTLE.
Geo. M. McAdam, Holton, Kan.
Geo. A. Deitrich, Carbondale, Kan.
D. J. White, Clements, Kan.

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.

GUERNSEY CATTLE.

BIG PUBLIC SALE!

61 Standardbred, Record and Show Horses.
18 Shorthorns, E. M. Hall-Bred, Showyard Type.
6 Jerseys—Grandson of Noble of Oakland, Imported.
2 Large Black Jacks. 4 Jennets. Mare Mule. 70 Hogs.
13 Angora Goats. 5 Sulkies. 2 Carts. Farm Machinery.

MUST SELL RAIN OR SHINE—WEDNESDAY, MARCH 28, 1917

At E. N. Perry Farm NOEL, MO. S. W. Corner State
Write Rudy Bros. & Pickens, Neosho, Mo., for Catalog
Auctioneers—Cols. R. L. Harriman, Al Hudson and Bill Noel

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German Coach Stallions and Mares
THE FARMER'S GENERAL PURPOSE HORSE

Twenty-three stallions from weanlings to 5-year-olds. Handsome, stylish, gentle, but powerful young stallions, 1,300 to 1,600-pound fellows, the right kind to produce durable, active farm horses and command attention in any stud. Priced where you will buy. Satisfaction guaranteed. Come or write at once.

BERGNER BROS., ROUTE 4, PRATT, KANSAS
Waldock Lake Ranch

HORSES AND MULES.

PRAIRIE VIEW STOCK FARM



Has 40 big, black Mammoth jacks and jennets. Every jack my own raising; two to six years old, 15 to 16 hands high, extra heavy bone, big bodies. I can sell you a better jack for $500 to $600 than most speculators can for a thousand. Come and see for yourself. They must sell.

ED BOEN, LAWSON, MO.
38 Mi. E. of K. C. on C. M. & St. P.
40 Mi. S. W. of St. Joe, on Santa Fe



PERCHERONS—BELGIANS

Imported and home-grown 4 and 5 yr. old stallions, ton and heavier, 3 yr. olds, 2 yr. olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. **Fred Chandler, R. 7, Charlton, Iowa.** (Above Kansas City.)

Home-Bred Draft Stallions, your choice $500 with the exception of two. Also mares for sale. **A. Latimer Wilson, Creston, Iowa**

FOUR BIG JACKS FOR SALE

Also three jennets. Jacks are all blacks, 4 and 5 years old, 15½ to 16¼ hands, standard. All grandsons of Limestone Mammoth. Barns 3 blocks north of depot.

F. W. POOS - - POTTER, KANSAS

REGISTERED PERCHERONS

Yearling and two-year-olds, both sexes. Good breeding and individuals grown in a way to make useful animals. Would trade filley for Shorthorn bull good enough to head herd of registered cows.

GEO. S. APP, Route 2, ARCHIE, MISSOURI

40 Head Percheron Stallions - Jacks and Jennets - 40

Two to six years old, heavy bone, right in every way. Imported Spanish jack, weight 1,200 pounds, at head of jennet herd. Come and see us. We mean business. Prices reasonable.

J. P. & M. H. MALONE

CHASE - - - - KANSAS

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. **AL. E. SMITH, Lawrence, Kansas.**

SHIRES AND PERCHERONS

Stallions and mares, registered.

JAMES AULD, Wakefield, Clay Co., Kansas



FOR SALE OR TRADE

Eight head of jacks from sucklers to eight years old. All black with white points; 15 to 16 hands high; weight up to 1,100 pounds. Can use a good draft stallion or other live stock.

H. A. JOHNSON
Red Cloud - Nebraska

POLAND CHINAS

DEMING RANCH POLANDS

Twenty strictly high class boars, bred the same as our grand champion sow and other prize winners. They are herd headers. Also gilts and bred sows and 150 fall pigs. All immune.

THE DEMING RANCH
H. O. Shelden, Herdsman Oswego, Kansas

TOWNVIEW FARM
Big-Type Poland Chinas.

For Sale—25 summer and fall gilts, sired by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 25 summer boars. Come and see my herd.

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Fall boars sired by Longfellow Again and Chief Big Bone, out of choice big-type sows. Choice individuals. Some herd header prospects.

JAS. ARKELL, JUNCTION CITY, KANSAS

OLD ORIGINAL SPOTTED POLANDS

Have only a few of last fall's litters left. Write your wants to

THE CEDAR ROW STOCK FARM
A. S. Alexander, Prop. R. 2, Burlington, Kan.

PROFITABLE TYPE POLANDS

Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.

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Boars — Serviceable age, guaranteed to please. Breeding stock, both sexes.

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RED POLLED CATTLE.

Red Polled Cattle

A few 1916 fall bull calves for sale. Also a few cows and heifers.

AULD BROS. - FRANKFORT, KANSAS

FOR SALE

Red Polled Cattle

Three cows. Nine yearling heifers. Two yearling bulls. One two-year-old bull.

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POLLED DURHAM CATTLE.

DOUBLE STANDARD POLLED DURHAMS
Bulls for sale. "Forest Sultan" at head of herd. **C. M. HOWARD, Hammond, Kansas.**

IF INTERESTED IN

Polled Durhams

COME TO

South Omaha, Neb., March 29

IF YOU WANT

Shorthorns

COME TO

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Write for illustrated catalog of the breed you are interested in.

Sixty head of Polled Durhams the first day. Seventy head of Shorthorns the second day.

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REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

REDMAN & SON - TIPTON, MISSOURI

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. BERRY & SON, Jewell City, Kansas

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Some richly bred young Jersey bulls. Pedigrees and prices on request.

DORNWOOD FARM - TOPEKA, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

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BJA

Kansas First Register of Merit, Estab. 1878. If interested in getting the best blood of the Jersey breed, write me for descriptive list. Most attractive pedigree.

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YOUNG'S REGISTERED JERSEYS

Won 150 prizes at six leading state fairs in 1916. Am offering cows, heifers and bulls, over 100 head of the best milk and butter strains. Write at once to

HAL C. YOUNG - LINCOLN, NEB.

"Fertilizers" is the name of a new book from the Macmillan press. It treats of manures and fertilizers of all kinds and contains much valuable information on how to use these materials efficiently. This book sells for $1.50 postpaid.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm — F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN-FRIESIAN FARM, TOWANDA, KANSAS

Breeders of pure-bred Holsteins. Special attractions in choice young bulls ready for service, with fashionable breeding. Write for pedigrees and prices. We maintain a breeding herd of pure-bred females and offer a grand lot of young springing heifers and cows, a number with A. R. O. records at prices within reason.

IT WILL PAY YOU TO SEE OUR OFFERING

Of choice extra high grade young cows and heifers, all springers in calf to pure-bred sires; large developed females, good udders, well marked and the right dairy type at prices that will challenge comparison for Holsteins of their breeding and quality. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone.

GIROD & ROBISON

MAURER'S HOLSTEIN FARM

Is offering another choice lot of young pure-bred cows and springing heifers, including several granddaughters of Pontiac Korndyke. Also some registered yearling heifers, and a fine lot of large, heavy milking, high grade cows, and both pure-bred and grade calves of either sex. Write or call. T. R. MAURER & CO., EMPORIA, KANSAS.

HOLSTON'S HOLSTEINS — HOME OF THE "MADISON DIAMONDS"

Charles Holston, Proprietor. Vey G. Holston, Manager. Route 2, Topeka, Kansas

We offer for immediate sale, a grandson of Colantha Johanna Lad (the world's greatest producing and tranmitting sire) from an official record "Madison Diamond" dam. A combination that certifies superior quality. This bull is well grown, light in color and ready for service. $250. Also a few younger ones as low as $100. Write for further information.



Purebred Registered

HOLSTEIN CATTLE

Twenty million dairy cows in the United States, and five million of that number unprofitable! Surely one great public benefactor is the dairyman who by changing bad cows for good, seeks to produce two quarts of milk in place of one produced before. This progressive type of farmer, all over the continent, is either grading up his common cows with a pure-bred Holstein bull, or he has already installed the profitable pure-bred registered cows in his barns. He is adding to the wealth of the nation and to himself as well. Slowly, but surely, proper understanding will eliminate the unprofitable datry cow.

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Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.

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Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

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BREEDERS OF PURE-BRED HOLSTEINS

Bulls from A. R. O. cows, all ages, for sale.

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

REGIER'S HOLSTEINS

Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.

G. REGIER & SONS, WHITEWATER, KAN.

25 - HOLSTEINS - 25

Fresh and heavy springing. Young grade cows extra well bred, also heifer calves.

GLEN C. SMITH - SEDGWICK, KAN.

Braeburn Holsteins

A. R. O. BULL CALVES

With De Kol-Netherland-Korndyke main blood lines, and Johanna, Walker, King Segis out-crosses.

H. B. COWLES - TOPEKA, KANSAS

NEMAHA VALLEY HOLSTEIN FARM

Choice yearling bulls and bull calves. World's record blood lines. Price reasonable. We invite inspection of our herd.

H. D. BURGER, Route 2, SENECA, KANSAS

REGISTERED HOLSTEINS

We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.

M. E. MOORE & CO. - CAMERON, MO.

CEDAR LANE HOLSTEIN HERD

We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.

T. M. EWING, INDEPENDENCE, KANSAS

AUCTIONEERS.

Live Stock and Farm Auctioneer

Write or wire for date. I can please you.

LAFE BURGER, WELLINGTON, KANSAS

Jas. T. McCulloch

Live Stock Auctioneer. I make sales anywhere. Write for date. CLAY CENTER, KANSAS



P. M. GROSS

LIVE STOCK AUCTIONEER

Pure Bred Sales a Specialty

MACON, MISSOURI

"Twelve Years on the Block"

Sales Made Anywhere

LESTER R. HAMILTON

Live Stock Auctioneer

Write for terms and date. Clarksdale, Mo.

HOLSTEIN CATTLE.

HOLSTEIN CALVES.

Very high grade heifer calves, five weeks old, nicely marked, $20 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

CEDAR LAWN FARMS

C. A. Schroeder & Sons, Props.

Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.

W. C. SCHROEDER - WEST BEND, WIS.

Look to the future.

Tredico Bulls

(Holsteins)

Kingman, Kansas

32 1-2 POUND BREEDING

Bull calves from A. R. O. dams, sired by Beauty Pietertje Prince, a 32.52-pound bull. Good individuals, splendidly marked. Priced right. M. E. GUNDERSON & SONS, Route 25, Oconomowoc, Wisconsin.

HOLSTEIN CALVES—Ten heifers and two bulls, 15-16ths pure, beautifully marked, 5 weeks old, from heavy milkers. $20 each, crated for shipment anywhere. Write EDGEWOOD FARM, Whitewater, Wis.

Real Estate For Sale

For Sale

EIGHT-ROOM HOUSE, MODERN, in Kenwood Addition. The best residence district of Topeka. Good terms. Write

KANSAS FARMER, BOX 3

TOPEKA, - - - KANSAS

EXCHANGES.

I have good farms to trade for smaller farms and city property. Write me.

W. M. GARRISON - SALINA, KANSAS

640-Acre Homestead waiting for you. Good grass, water, plenty timber. Don't miss opportunity. Best ever. For particulars write J. C. WYNN, LOCATOR, GRANTS, N. MEX.

LANDS, IN EVERY STATE.. Thirty-six pages, colored covers, 25c a year, four months, 10c.

LAND MAGAZINE - 66, TRAER, IOWA

160 A. UPLAND SHAWNEE CO. FARM

Ten miles of Topeka, 1¼ miles of railroad town and high school. Good improvements. 80 acres cultivation, balance fine bluestem grass; fine spring and well. Fine bluegrass yard with pine trees. Located on main road. This farm is priced below its value at $75 per acre. For particulars write

F. M. Buchheim, 521 West St., Topeka, Kan.

SPECIAL BARGAIN — Highly improved 120-acre farm adjoining Ottawa, abundance good water, good soil, very choice home. Write for descriptive list of same.

Special Price on 360 acres, well improved; 100 acres tame grass.

Also 170 acres, well improved, choice farm, ideal location, very attractive. Write for full descriptions. Possession at once.

MANSFIELD LAND CO., OTTAWA, KAN.

200 ACRES, all bottom, all tillable. 70 a. cult., bal. meadow and pasture, adjoins city, this county, 1,500. $35 a., terms.

SOUTHERN REALTY CO., McAlester, Okla.

Improved Section $8 per Acre

Excellent Stock Ranch, Wichita County, Kansas. With plenty of outside range, on daily motor mail route. Some rolling land but greater part of place nice smooth farm land. Abundance of water, bargain, must be sold at once.

D. F. CARTER - LEOTI, KANSAS

RANCH FOR SALE

Eight miles from county seat and shipping point. One-half mile to school. 200 acres under cultivation; 400 or 500 acres good alfalfa land if cultivated; creek running through place giving plenty of living water; 200 acres or more of good timber; excellent shelter for stock; balance good buffalo grass pasture. Nine-room story-and-a-half house, cistern, well, wind mill, carriage shed, granary, corrals, hog lots, chicken yards, etc. This is one of the best ranches in the county. Come and be shown. Have lived on ranch for forty years, am retiring and would sell. For particulars address P. O. BOX 292, MEDICINE LODGE, KAN.

FOR SALE BY OWNER

140-Acre Farm, twenty miles of Topeka. Write

Chas. P. Clare, 700 Lane St., Topeka, Kan.

120-ACRE FARM, improved, in Shawnee County. Price, $14,000. Wants to trade for smaller farm.

MAY STILES - ROSSVILLE, KANSAS

NINTH ANNUAL SALE

40 Jacks and Jennets 40

At the Lafayette County Jack Farm

Farm joins town, on main line of C. & A. and Lexington and Sedalia Branch of Missouri Pacific Railway

WEDNESDAY, MARCH 28, 1917

Twenty Head of High-Class Aged Jacks; Six Yearlings and Four Suckling Colts; Ten Extra Good Registered Jennets



Every animal registered and guaranteed as represented. Catalogue ready for distribution. I am selling such jacks as Dr. McChord III, one of Dr. McChord's best sons. Also Dr. Nelson, another great son of Dr. McChord and the celebrated jack, Limestone Big Boy, a son of Orphan Boy, the undefeated jack of the world. Also Dr. Wilson, a grandson of Dr. McChord, and other great noted jacks. I would be pleased for you to attend this sale, as the offering is the best I have ever put before the public. Send for catalogue.

W. J. FINLEY, Higginsville, Mo.

Registered Kentucky Jacks



I have shipped from my home, Poplar Plains, Kentucky, eighteen head of jacks to Newton, Kansas, and they are for sale privately. This is a good load of jacks, with lots of bone and size, with all the quality and finish you would ever see in a load of jacks. Ages from two to eight years; height from 14½ hands to 16 hands standard, and good performers.

I have shipped jacks to Kansas since 1879 and I do not believe I ever shipped a better load.

Any one wanting a good jack, call and see me at Welsh's Transfer Barn, two blocks from Santa Fe Depot, one block from Interurban. Come and see me.

E. P. MAGGARD

Successor to Saunders & Maggard NEWTON, KAN.

Otey's Great Bred Sow Sale

Winfield, Kansas, Thursday, March 29

Undoubtedly the Duroc event of the Spring, 1917, will be this great sale. We drive into the ring eight great young tried sows, twelve fall yearlings, twenty-five spring gilts, ten summer gilts, eight summer and fall boars (some of them grand champion prospects), and one great tried herd boar. These are sired by such noted boars as Good E Nuff Again King, grand champion 1913; Crimson Wonder 4th, second; Otey's Dream, champion 1914; and All Col. 2d, one of the very great young boars in the field. Bred to All Col. 2d and Day Dream, a great son of Otey's Dream. No richer blood anywhere, and no more grand champion blood in one herd. It is your last and biggest chance to buy in the purple at your own price. Stick a pin in the date, Thursday, March 29. Send for catalog, and COME.

W. W. OTEY & SONS, WINFIELD, KANSAS

AUCTIONEER—LAFE BURGER.

FARM AND HERD.

A. S. Alexander, of Cedar Row Stock Farm, Burlington, Kansas, reports his herd of old original big-boned Spotted Poland Chinas doing fine. Mr. Alexander owns one of the good herds of Spotted Polands now in existence. His herd is drawn upon heavily for breeding stock and he has sold a large number of bred sows and gilts this year. He has bred a large number of sows for spring farrow.

SUNFLOWER HERD 3rd ANNUAL SALE OF

Registered Holsteins



SUSAN AAGGIE RUE BURKE 133979

At 2 years, 249.3 pounds milk, 11.19 pounds butter. At 7 years, 486.3 pounds milk, 19.3 pounds butter. One A. R. O. Son. Sire, Johanna Rue Burke Sascastic 55700. Dam, Susan Aaggie Posch 88331. One of the heavy producing cows of the herd. Owned by F. J. Searle, Oskaloosa, Kansas.

This will be a dispersal of the entire herd of fifty cattle comprising the Sunflower Herd, as I have decided for various reasons to change my plans for the future. It is with much regret that I part with this VERY BEST lot of cattle I have ever owned, but the purchasers of this herd will reap the reward of my efforts that have held Sunflower Herd as the foremost of Holsteins in Kansas and the Middle West.

Our herd sire, Prince Artis Pontiac Abbekerk No. 136382, goes in this sale. In 1914 I began scouting for the best bull that would fill my requirements as to breeding and individuality, and found this bull at Stevens Bros. Co., Liverpool, N. Y. He was the kind I had been looking for, being by a son of King of the Pontiacs, from a 30-pound daughter of Tidy Abbekerk Prince, and his general make-up was to my liking. My judgment proved good from future development of this bull, and the kind of calves we are getting from him.

His sire, King Pontiac Artis (eighteen A. R. O. daughters and six A. R. O. sons) is a son of that famous daughter of Hengerveld De Kol, Pontiac Artis, 31.71 pounds butter, 550 pounds milk in seven days; 129.43 pounds butter in thirty days from 2,488.50 pounds milk; 1,076.91 pounds butter in 365 days from 21,834 pounds milk. She won all prize money. His dam, Tidy Abbekerk Princess Bettina, has A. R. O. record of 30.13 pounds butter in seven days from 617.50 pounds milk (the largest yield of any daughter of her sire); 113.74 pounds butter in thirty days from 2,351 pounds milk, and she has eight A. R. O. sisters above 30 pounds seven days, of which not less of these eight sisters carry 75% to 100% same breeding as herself. Her sire, Tidy Abbekerk Prince, is a son of the noted show cow, Tidy Abbekerk (27.29), who has shown her great transmitting ability by producing five daughters with records up to 28 pounds, and three sons with a large list of splendid A. R. O. daughters.

The 44-pound cow, Changeling Tidy Abbekerk Wayne, has for her dam a daughter of Tidy Abbekerk Prince, with 100% the same breeding as the dam of Prince Artis Pontiac Abbekerk. The two grand-sires of Prince Artis Pontiac Abbekerk have together 280 A. R. O. daughters, of whom twenty-seven are above 30 pounds, seven days, including two above 40 pounds—certainly a backing that would be difficult to equal. He is bred to sire both large producers and fine individuals, for his backing is the very best of the breed.

Thirty cows and heifers in this sale bred to this great sire, including ten cows with A. R. O. records of from 12 pounds as two-year-olds to 21 pounds for cows. Several young cows and bred heifers sired by the 30-pound sire, Pabst Segis Pontiac Champion, with a long string of heifer calves by same sire. A lot of excellent bred yearlings by one of the greatest sons of King Walker, a few young bulls by my 30-pound sire, and one by the great 33-pound sire, Woodcrest Pietje Clyde, also a daughter of same sire.

I have a number of cows that have milked above 85 pounds each, one day this winter, and a number that have produced and will produce from 15,000 to over 20,000 pounds during this lactation period of less than 365 days.

Big, strong, healthy, fine individuals with the right kind of udders, the kind everybody likes.

Among our consignments will be a large number of daughters of that great sire, King Segis Pontiac, together with a few of his good sons.

Ten daughters of King Frontier Pontiac (a son of King of the Pontiacs from a 26-pound show cow). King Frontier Pontiac will also be sold.

There will be many other cows and heifers sired by bulls carrying the best blood of the breed, and from dams of equally good breeding.

Altogether 160 head of registered cattle, including two great herd sires, young herd sires, A. R. O. cows, heifers and calves. You have been wanting Holsteins, and here, on April 10 and 11, will be the place for you to procure the best there is. For information and requests for catalogs, address

F. J. SEARLE, - - - - - OSKALOOSA, KANSAS

All cattle from outside the state will have federal test. All Kansas cattle tested by proper state authorities

AUCTIONEERS—HAEGER, KELLEY AND CREWS.



Central Shorthorn Breeders Association
Fourth Annual Sale of
SHORTHORN CATTLE
Two Days, April 4, 5, 1917
At Fine Stock Pavilion, Kansas City, Mo.
120 - HEAD OF SHORTHORNS - 120

Drafted from the best herds in the corn belt. Sixty bulls from yearlings to matured sires. Sixty cows and heifers, consisting of cows with calves at side and re-bred, heifers bred and open.

These cattle are contributed by the best breeders in the corn belt and are sired by the most popular sires known to the breed. The best lot of cattle ever consigned to our Central Shorthorn Breeders' Sale. Make your arrangements early to attend. Write today for illustrated catalog to

W. A. FORSYTHE, Sale Manager, Greenwood, Mo.

Auctioneers—R. L. Harriman, Carey M. Jones.

FARM AND HERD.

Catalogs are out for the great sale of Holstein cattle to be held April 10 and 11 by F. J. Searle, of Oskaloosa, Kansas, owner of the famous Sunflower Holstein herd. He has 160 head of Holsteins catalogued for this sale. The offering represents a line of record breeding that has made the Holstein breed famous and this will doubtless be one of the biggest sale events in Holstein circles this year. The cows and heifers that will go in this sale are backed by records that insure them heavy producers. They are the kind that will always prove profitable on any farm and it is to be hoped that at least a very large per cent of the offering will remain in Kansas.

Inquiries for catalogs indicate that the sale of Percheron jacks and jennets to be held at Oakland Stock Farm, Chillicothe, Missouri, March 20, will be one of the big sale events in Missouri this season. We have just received a catalog of this offering and the Percherons, jacks and jennets described therein are not only a well bred lot but are a carefully selected lot of individuals that will make good. The offering of both Percherons and jacks includes herd headers.

W. J. Finley, of Higginsville, Missouri, the well known breeder of high class jacks and jennets, has announced a sale of jacks and jennets to be held March 28. He has catalogued twenty head of aged jacks, six yearlings and four colts, also ten head of extra good registered jennets for this sale. His offering will be one of the good lots of jacks and jennets that will be sold this season.

Rudy Bros. & Pickens, of Neosho, Mo., have announced a big public sale of stock to be held at the E. N. Perry farm near Noel, Missouri, March 28. Their offering will consist of sixty-one standard-bred record and show horses, eighteen head of choice Shorthorn cattle, six richly bred Jerseys, and a number of jacks and jennets. The offering is high class throughout and this will be one of the big sale events of the season in Southwest Missouri.

Catalogs are out for the Polled Durham and Shorthorn cattle sales to be held at South Omaha, Nebraska, March 29 and 30, under the management of H. C. McKelvie, of Lincoln, Neb. The offerings in this two days' sale are from the best herds in the country and have been very carefully selected. The cattle catalogued is a very useful lot of bulls, cows and heifers that will be profitable to the buyers.

The Axteel & Potter Dairy Farm, Newton, Kansas, has just received from New York a carload of high record cows and some royally-bred bull calves. Another carload is expected later from the same place, some of which are now on test in New York. There were nineteen cows in this lot, fifteen of which have records of from 20 to 31 pounds of butter in a week, and milk records up to 100 pounds a day. Wilhelmina, with a record of almost 31 pounds of butter in a week, is the banner cow of the herd. The next highest is Pussy Willow, with a record of 27 pounds of butter in a week. Pussy Willow has presented the farm with a fine heifer calf since her arrival. The little heifer is by a high record son of King of the Blacks and Whites, a very noted New York sire.

W. B. Wallace, of Bunceton, Missouri, has claimed Thursday, April 12, for a real King Joe bred sow and bred gilt sale. The offering will consist of forty large spring yearling Poland China gilts, mostly bred to the great boar, King Joe. Their gilts are sired by such boars as Model Big Bone 2d, a Fred Severes bred boar; A Monarch by A Wonder and Grand Mammoth. The offering will also include ten tried sows that have raised litters. Most of these sows and gilts will farrow in April and May.

A. E. Whitzel, of Sterling, Kansas, owner of one of the good herds of Red Polled cattle in this state, reports his herd doing well. Mr. Whitzel has succeeded in building up a herd of forty head of Red Polls that have proven very profitable on his farm. His foundation stock was from the herds of E. B. Youtsey and D. F. Van Buskirk and his blood lines are the best of the breed. A feature of his herd at this time is the choice lot of young stock.

C. Holston & Son, of Topeka, report their herd of Holstein cattle doing well. This firm has succeeded in building up a herd of heavy producers. They have a choice lot of record breeding and at this time they have a fine lot of young stock, including some young bulls, grandsons of Colantha Johanna Lad, one of the great Holstein sires.

A. L. Harris, of Osage City, Kansas, owner of the Sunflower herd of Shorthorn cattle, is making a great success breeding Shorthorn cattle. Mr. Harris started his herd only a few years ago but has now on the farm twenty head of registered cows and heifers. They represent some of the very best Scotch families. Mr. Harris is planning on showing a small herd at the Topeka fair this fall.

H. C. Young, of Lincoln, Nebraska, owner of the famous Wineland Farm Jersey herd, reports his herd making a fine record again this year. Winciand Farm herd is one of the best Jersey herds now assembled. In 1916 this herd won 150 prizes at six of the leading fairs. Their winnings included sixty-five firsts and championships. The herd is headed by the great bull, Stockwell's Champion 115854, who has won thirty-three firsts and championships at the leading fairs. The herd now consists of over 100 head of richly bred Jerseys.

Richard Rothgeb, of Pleasant Green, Missouri, held one of the good Duroc sales of the season on March 6. Forty head of bred sows and bred gilts sold for $2,060, or an average of 51.50. The top price was paid for No. 5, which went to C. C. Jones, Pilot Grove, Missouri, for $94. The offering was presented in splendid sale condition and the prices received were very satisfactory to Mr. Rothgeb.

$1150 F. o. b. Racine
Mitchell Junior — a 40 h. p. Six
120-inch Wheelbase

Mitchell SIXES

$1460 F. o. b. Racine
7-Passenger — 48-Horsepower
127-inch Wheelbase

How Mitchells Differ

Because of What John W. Bate Has Done

Hundreds of Extras

Factory efficiency has been made a fine art in this plant. John W. Bate, our efficiency engineer, has spent millions to attain it.

This entire plant, covering 45 acres, was built and equipped to secure it. Now our new body plant completes it. We urge you to learn where these tremendous savings show in extra value.

For a Lifetime Car

Part of this saving pays for 100 per cent over-strength. Our margin of safety used to be 50 per cent. It has now been doubled.

Steering parts, gears, axles, etc., are made oversize. Our rear springs are built so that, in two years, not a single spring has broken.

Over 440 parts are built of toughened steel. Parts which get a major strain are built of Chrome-Vanadium. The steel in Mitchells costs us up to 15 cents per pound. And we do not skimp on weight.

The result is safety, freedom from repairs and troubles. And a car which probably will serve men for a lifetime. Time will prove, we believe, that this double strength is worth half the price of the car.

$4,000,000 in Extras

There are 31 extra features in Mitchells, most of them exclusive. On this year's output these extras cost us about $4,000,000.

They are things like a power tire pump, an easy control, a ball-bearing steering gear, engine primer on the dashboard, a light in the tonneau, a locked compartment, etc.

Every one is a wanted feature. Yet they are impossible, at a modest price, without Mitchell factory efficiency.

Extras in Luxury

The Mitchell has long been considered by experts one of the handsomest cars on the street. The output is largely sold in metropolitan centers.

Yet this year we have added 24 per cent to the cost of finish, upholstery and trimming. We are giving you heat-fixed finish, extra-grade leather, and scores of new dainty touches.

TWO SIZES

Mitchell —a roomy, 7-passenger Six, with 127-inch wheelbase. A high-speed, economical, 48-horsepower motor. Disappearing extra seats and 31 extra features included.

Price $1460, f. o. b. Racine

Mitchell Junior —a 5-passenger Six on similar lines, with 120-inch wheelbase. A 40-horsepower motor—¼-inch smaller bore than larger Mitchell.

Price $1150, f. o. b. Racine

Also all styles of enclosed and convertible bodies. Also demountable tops.

All this results from another economy. We now occupy our new body plant. All Mitchell bodies, open and closed, are built here now, under Bate efficiency methods. And this added luxury clearly shows the result.

What So Important?

What else is so important?

Extra values like these, without extra price, come only through efficiency. Under other methods, all these values are wasted in the shop.

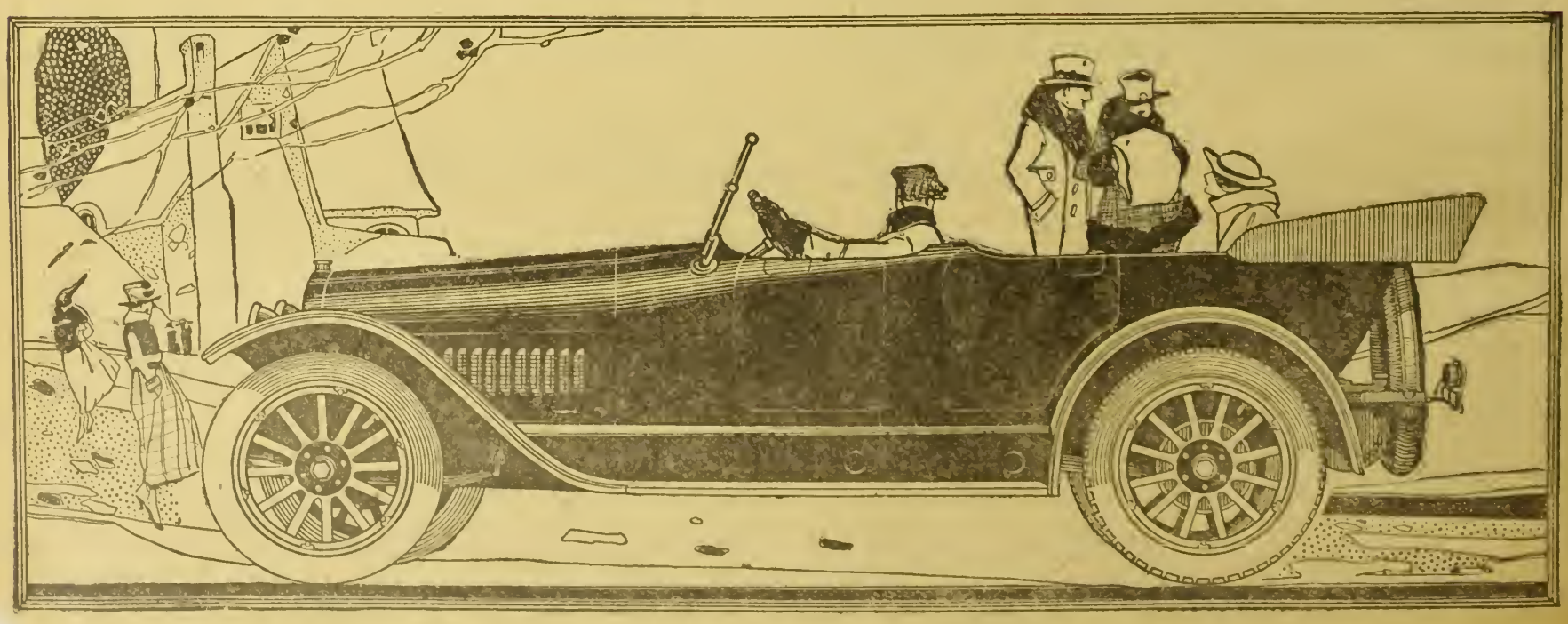
Mitchell stands unique among fine cars in respect to efficiency. For a dozen years John W. Bate has worked here to attain it. Go to your Mitchell dealer and see the results. Compare it with cars built otherwise. If you can, take an engineer with you, and we will abide by his verdict.

$1150 Mitchell Junior

Note that this year's line includes two sizes—the Mitchell and the Mitchell Junior. But the Mitchell Junior—for five passengers—is still powerful and roomy.

This is also for efficiency. So the man who wants a 5-passenger car need not pay for more power or more room than he needs.

MITCHELL MOTORS COMPANY, Inc.
Racine, Wis., U. S. A.



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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 10. TOPEKA, KANSAS, MARCH 24, 1917. Established 1863. $1 a Year

SEED TESTING IMPORTANT

School Children Can Do This Work For Farms of District

SEED for spring planting is unusually scarce this season. The corn and kafir grown last year and now being offered for sale is poor in vitality and weak in germination. Old seed is testing better than last year's seed, but there is not enough of this on hand, so 1916 seed must be used.

It is more than ordinarily important to test seed this year. The fore-handed way is to test all seed for spring planting, during the winter, but few do this.

Many samples of seeds are being sent to the department of botany of the agricultural college for testing, and the tests show the seed to be so poor in germination that a systematic effort is being made to get the facts before the people most interested. G. E. Thompson of the extension division is calling the attention of every farmers' institute officer in the state to the importance of a seed testing campaign. He is urging the co-operation of the public schools and has sent a letter to every county superintendent in the state, suggesting the feasibility of having the children in the schools do the seed testing work for their home neighborhoods. Commercial clubs and other organizations wishing to help in this work might offer prizes for the school testing the most seed for the farms of the district. This would be splendid work for the children and besides its educational value would be of immediate practical use to the neighborhood.

There is little time left for doing this work and the campaign should start without delay. Mr. Thompson is urging that the last week in March and the first two weeks in April be devoted to seed testing all over the state. This is an important campaign and especially so if it can be conducted through the agency of the schools. The value of the lessons that would be learned by the children can hardly be estimated.

There can be little doubt as to the need of such campaign of seed testing. Seed sent to the agricultural college for testing during the last two months has varied from 1 per cent to 100 per cent in germination. No kafir or sorghum seed has been received that tested over 96 per cent in germination. Forty per cent of the kafir received tested under 80 per cent in germination and 23 per cent showed less than 50 per cent in germination.

The condition of other sorghums is not as good as that of kafir. The average test of all sorghums received, other than kafir, shows only 50 per cent in germination. Of these only 11 per cent showed a germination of 80, and 40 per cent were less than 50.

The seed of kafir and other sorghums, to be satisfactory for planting, should germinate at least 80 per cent and ought to germinate 90 per cent.

Because of this poor condition of seed it is imperative that it be tested before planting. Otherwise, there will be many poor stands in the state and poor yields.

Experiments in Iowa in 1910 and 1911 showed increased yields of 19.6 bushels in 1910 and 10.1 bushels in 1911 as a result of testing the seed corn before planting. Kansas plants an average of over seven million acres of corn each year. If an increase of ten bushels per acre could be secured it would mean seventy million bushels of corn to the state, or, at present prices, just as many dollars. If only half of this increase could be secured, it would still mean thirty-five million bushels, and that is more than one-fourth of the average corn yield of the state.

Just as great an increase can be secured from kafir and the other sorghums by planting good seed as can be secured from corn.

It is important that you test your seed this spring. Poor seed is worse than no seed, because it not only costs you time and labor without giving profitable returns, but it costs you the use of your land as well.

The rag doll seed tester can be used for germination tests. A rag doll seed tester can be made from sheeting of good quality torn into strips eight to ten inches wide and three to six feet long. Two rows of squares about three inches in size should be marked off in the middle of each strip. There should be enough cloth on each side of the squares to fold over and cover them after the seed is placed.

Spread the cloth out on a table, or board, mark it properly, numbering the squares, wet it thoroughly, and fill the squares with the seed as follows:

Six kernels should be taken from ear No. 1 and placed in square No. 1; six kernels taken from ear No. 2 and placed in square No. 2, and so on. The ears must be laid out on a board or on the floor and numbered.

In removing the kernels from the ear to be tested it is best to take two kernels about one-third of the distance back from the tip of the ear; two from the middle of the ear, and two from the butt of the ear and on the opposite side from that on which the tip kernels were removed.

Kafir or sorghum heads can be tested the same as ears of corn except that ten kernels should be used instead of six.

When the tester is filled, fold the edges back over the seed and roll the tester up. Place it in a bucket with a loose-fitting lid to prevent excessive drying, yet allowing ventilation, and keep in a moderately warm room—living room temperature—for five to six days. If the work is done in school rooms it will probably be necessary to take the pail filled with the testers to some near-by home where it can be placed near the kitchen stove. The school room might get too cold during the night.

At the end of five to six days the germinator will be ready to examine.

The best ears will show all six kernels having a strong sprout. If seed is scarce, some of the better ears having five of the six kernels sprouted may be saved.

All ears showing less than five strong sprouts should be discarded.

If five of the six kernels show a strong sprout it means a germination of 83 per cent.

Since the ears or heads were numbered, each can be identified with its proper number in the tester. In testing seed from a number of farms, care should be taken to keep the seed from getting mixed.



FARMSTEAD OF CHARLES S. HUFFMAN, WHO CAME TO JEFFERSON COUNTY, KANSAS, IN 1870.—FARM IS IN DELAWARE RIVER VALLEY.—THE OWNER PAID $1,700 CASH AS HIS SHARE OF DRAINAGE DISTRICT ASSESSMENT AND CONSIDERS THE MONEY WELL SPENT

GREATLY IMPROVED HORSE COLLAR PADS



Our new staple and felt reinforcing device gives the hooks a larger, firmer hold on the pad and keeps them from coming off easily. It adds to life of the pad and satisfaction of the user. This form of attachment is

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Ask your dealer for free Tapatco booklet. Shows pads in colors and contains valuable horse remedies. If he hasn't it, request him to write us direct.

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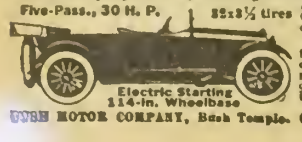

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CORN NO LONGER KING

By G. E. THOMPSON, Extension Division, K. S. A. C.

FOR the past ten years the sorghum crops considered as a group have been more profitable, acre for acre, in Kansas than has corn. This in spite of the fact that the sorghums are seldom given an equal chance with corn. In the eastern half of Kansas the difference in favor of the sorghums amounts to more than $2 an acre.

SORGHUMS ADAPTED TO DRY WEATHER

There are a number of very essential differences between the sorghum and corn plants which result in the sorghums being more resistant to dry weather and better adapted to western conditions than corn. Corn is a native of Central America where conditions are almost semi-tropical and the rainfall heavy, while practically every sorghum now grown within the state is a native either of Asia or Africa and most of them are natives of the portions of those countries where the growing season is either quite dry or subject to a dry spell at some time during the growing period. Corn requires more pounds of water to produce a pound of dry material than is required by the ordinary sorghums to produce a pound of dry material. The sorghums, as a crop, have the ability to stand and wait for rain and when favorable conditions come again, go ahead and complete their growth, while corn under the same conditions is seriously injured and is less able to recover after having been injured. In the first three feet of soil where both the corn and sorghum plants do most of their feeding, although the primary roots are about the same in number, kafir, milo, or the sweet sorghums have practically twice as many small fibrous or feeding roots as the corn plant. This probably means two things: First, that the sorghums have more ability to get any moisture from a dry soil that may be within the soil; and, second, they are probably able to more completely extract and use plant food from a dry soil than is corn.

Since all of Western Kansas, and in fact most of Kansas, is subject to a dry spell at some time during the growing season, these differences between the corn and sorghum plants make the sorghums naturally better adapted to Kansas conditions than is corn.

SORGHUMS COMPETE IN MARKETS

In the last two years there has been an important change in the market conditions as regards corn when compared to kafir and milo. Formerly corn has always outsold the grain sorghums and farmers who grew these sorghums were compelled to feed them out on their own farms or else take a lower price for them than it would have been possible for them to secure for corn. This condition is now changed. Since the early fall of 1916, kafir and milo have continuously sold on the Kansas City and Chicago markets for a higher price than corn. The difference at the present time —March 15, 1917—is not far from 65 cents per hundred pounds in favor of kafir or milo as compared with corn. This means that kafir and milo are now cash crops or marketable crops and can be profitably grown as such. This change in market conditions should result in a large increase in the acreage of kafir and milo this year in Western Kansas and a decrease in the acreage of corn.

Growers of kafir and the other sorghums hope that the relative price between corn and kafir or milo will be more equal in the future than it has been in years past because of the fact that at present considerable quantities of these grain sorghums are being used in the manufacture of breakfast foods, also large quantities are consumed in the manufacture of commercial poultry foods and particularly in the last eighteen months it is stated that enormous quantities have been used in the manufacture of alcohol. These three uses on a large commercial scale should be considered by the farmers of Western Kansas and similar territory when they arrange their crop areas in the spring of 1917.

VARIETIES TO PLANT

The exact variety of sorghum that should be grown by any farmer will depend upon his particular location and the purpose for which the crop is grown. Of the grain sorghums in Western Kansas, milo is undoubtedly the surest, and the dwarf yellow is probably the best variety. Of the kafirs, in the extreme western part of the state dwarf kafir is well adapted, but it does not make very much fodder and for that reason is not liked by many farmers. The pink kafir, sometimes called white-hulled, is the next surest variety. It makes a good crop of grain in an average season provided it is given good care and as it matures from a week to ten days sooner than the standard black-hulled kafir, it is a much more certain crop than the standard. A majority of the farmers of Western Kansas who have grown kafir and who make the statement that it cannot be matured under these conditions, have grown the standard black-hulled kafir instead of the pink or the dwarf kafir.

Feterita is of only moderate importance in Central and Northwest Kansas, but in Southwest Kansas, particularly on the sandy ground, it will prove a first class crop in dry years. In the normal or exceedingly good years kafir or milo will outyield it.

Under average farm conditions the best variety of sweet sorghum for forage in Western Kansas is red amber. It has an average of nine to ten leaves on each stalk, while black amber has an average of only about seven or eight leaves. It is just as sweet and just as juicy as the black amber and the shell or covering on the outside of the stem is not quite as coarse and fibrous as the shell on the black amber. Moreover, the stalks of the red amber are a little stiffer and stand up better than the black amber. Furthermore, the red amber does not volunteer in fields and become a pest as does the black amber, commonly called black cane.

If an extremely quick maturing variety of sweet sorghum is desired, Freed's Sorgo will mature quicker than black amber, has the same number of leaves, and is just as sweet, although possibly not quite as juicy. The seed of Freed's Sorgo contains less tannic acid than the seed of most other sweet sorghums and it is therefore better liked by live stock.

Over practically all of the eastern two-thirds of Kansas the Kansas Orange sorghum is the heaviest producing and best variety to grow for forage purposes. This variety has an average of eleven to twelve or even more leaves per stalk, is very sweet and juicy and produces excellent feed. It requires an average of about one week longer for maturing than is required by the red amber.

Over practically all of the eastern two-thirds of the state the standard black-hulled kafir is the best variety of kafir to grow. In a normal year this variety will produce more bushels of grain than any other variety that can be planted.

It is practically useless to plant milo in that portion of the state where chinch bugs are bad, as the chinch bugs are very fond of milo and are almost certain to destroy it.

Seed this spring is extremely poor in quality and low in germination. It will pay everyone to run a germination test before planting. Make a "rag doll seed tester" and use it, and know that your seed is good before you plant it.

Join the statewide seed testing campaign, March 26 to April 14, and do your share to bring increased yields to Kansas.

Acre Value Kafir and Milo Compared With Corn

1901-1913	Kafir and Milo Acreage	Acre Value	Corn Acreage	Acre Value	Greater Value Sorghums
State	10,703,913	$11.23	91,635,224	$8.76	$2.47
East half	5,139,566	12.39	60,497,155	9.57	2.82
West half	5,564,347	10.14	31,138,069	7.20	2.94
West third	2,786,103	9.24	9,106,819	4.73	4.51

—From "Sorghums: Sure Money Crops," page 107.

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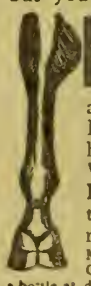

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KANSAS FARMER

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FOODSTUFFS SITUATION

The prices of foodstuffs are unusually high and no one seems to know exactly the cause. The knowledge we have as to methods of food distribution and storage is not at present sufficient to permit a satisfactory explanation. What we want to know is where the food supply is located at the present time, who owns it, what are the difficulties of getting at it, whether market conditions are the result of car shortage, and to what extent artificial manipulation and control are responsible for existing conditions.

These facts are pointed out in a rather lengthy statement recently issued by Secretary of Agriculture D. F. Houston. He urges the importance of the investigation President Wilson has directed the Federal Trade Commission and the Department of Agriculture to make. Perhaps this investigation cannot bring immediate relief, but the sooner we can have the facts on these points, the better.

The position of the farmer is much misunderstood by people having to purchase all their food supplies. There seems to be a tendency to charge the farmers of the country with "holding up" the consumers, and many seem to think that increasing agricultural production will solve the problem. Secretary Houston calls attention to the fact that the belligerents in Europe in dealing with their food situation, serious as it has been, have accomplished their purposes mainly through conservation of foods, regulation of diet, and the prevention of waste, instead of attempting to control production and distribution by any sort of dictatorship. Only just recently has England made any attempt to deal directly with production, and in so doing has recognized that it is essential to guarantee to farmers a reasonable minimum price for a period of years where they are asked to increase their production of some particular crop.

Farmers are governed by the same thinking and the same motives as are other people. This was pointed out by President Waters of the agricultural college, W. M. Jardine, director of the Kansas Experiment Station, and Secretary Mohler of the Board of Agriculture, at the recent food conference held in Topeka. They are fully as patriotic as any other class. They cannot be expected, however, to greatly increase their output unless they are reasonably sure that it will be profitable for them to do so. One might just as well expect a shoe manufacturer to double his production without being reasonably sure that it would be profitable to do so, as to expect farmers to increase production without a knowledge of the outcome.

There is no real reason to believe that a shortage of food exists in this country. In most products the 1916 yields were equal to or above a five-year average. It is true that the world over the crops of last year were not equal to those of the year before. In this country the two products showing a marked decrease are wheat and potatoes. Some facts in the wheat situation, however, have been overlooked. While the 1916 yield—which was reported as 640 million bushels—is below a five-year average, we are comparing it with the unusually large production of 1915, 164 million bushels of which were carried over into this year.

The normal export of wheat is 105 million bushels a year. The year before the war the amount exported was 145 million bushels. During the first two years of the war this amount was greatly increased. In spite of these large exports, however, the supply in this country, including the carry-over of last year, exceeded 800 million bushels, and up to January only 97 million had been exported, and the amount is decreasing.

While the high price of food is becoming most serious in the cities and especially so to the families of wage earners, it is evidently not a condition for which the producer is responsible.

GARDENS WILL SAVE MONEY

The only suggestions offered at the recent food conference for immediate relief from high food prices were to grow all the garden stuff possible and to hold the laying hens, giving them good feed and care. Too many are rushing hens to market on account of the high prices, just at a time when they would lay a lot of eggs. We would refer our readers to other pages of this issue where they will find helpful articles on these points.

We cannot expect to plant a garden in poorly prepared soil or soil lacking in fertility and gather good crops of vegetables. We hope many made the garden plans last fall and winter and are now ready to secure maximum returns. KANSAS FARMER printed an article in December emphasizing the necessity for this planning in advance for the garden. As a help to this work we printed the table which we are again giving this week. This gives a succession of vegetables for the whole season, names the right varieties and indicates the planting and cultural methods that have been successful. It is not a theoretical table but gives the results of careful garden work done at the Kansas Experiment Station, Manhattan.

Owing to the shortage of labor on the farms for regular field work, the boys and girls might well assume the responsibility of doing the garden work to a greater extent than they have heretofore done.

KANSAS DOING HER PART

At the food conference held in Topeka last week, J. C. Mohler, secretary of the State Board of Agriculture, told of what Kansas is doing in the supplying of food products. In 1914 this state contributed to the nation's storehouse one-fifth of all the wheat grown, and in 1916 between one-sixth and one-seventh of the whole wheat production of the country. The total for the past three years was 381 million bushels—a surplus over and above home consumption requirements of 326 million bushels.

Last fall one-fifth of the total wheat acreage of the country was sown in Kansas. A million acres of this could be plowed up as a result of winter-killing and still leave a chance for a yield equal to or greater than our annual average production.

Secretary Mohler believes the Kansas farmer is doing his part. He closed his remarks with the following:

"For my part, I have complete confidence in the Kansas farmer and his judgment. We cannot ask him to overturn his plan of farm management. He knows what is best adapted to his soils and system of farming. He knows what to plant and how much, when to plant and how to plant it. When he best serves his own interests he best serves the interests of others. Self-interest is enough inducement for the farmer to produce the maximum of which he is capable. But, he should not trust all his eggs in one basket. The situation does not demand that he take that chance. The agricultural balance of diversified farming for which we have been systematically striving must not be disturbed. Otherwise a long set-back is inevitable. While it may be wise to plant a somewhat increased acreage in certain crops, there should be no hysterical effort to overturn present plans. Rather, the crops should be planted better and tended better, if anything. The use of seed that the farmer knows will grow before it is planted is vitally important. But then ,there is nothing new in these things; they are true every year. After all, what the farmer needs is not so much counsel and advice, but rain. Let him have rain, at timely intervals and in sufficient quantities, and those who are looking to him to fill their larders will not look in vain."

There were a few real farmers present at the food conference. Some of these expressed their views as to the causes of high food prices. Their way of looking at things is well illustrated by the statement of a Shawnee County farmer who sells milk at fourteen cents a gallon wholesale. He said he thought something was vitally wrong when the concern to which he sells his milk could retail it for forty cents a gallon and pay him only fourteen cents. In other words, the feeling seemed to exist that there is something fundamentally wrong with our system of marketing and distributing food products of all kinds. This was recognized in the report of the resolutions committee, which was headed by E. L. Barrier of Topeka, one of the "Simon-pure" farmers in attendance. Other farmers on this committee were Walter J. Burtis of Fredonia, Rodney Elward of Castleton, Frank Rude of North Topeka, and Lacey Simpson of McPherson. Others on the committee were President Waters, Dean Jardine, and Alfred Docking of the State Grange. The report of this committee appears on another page of this issue.

YOU SHOULD SIGN YOUR LETTERS

We have just received a request to reprint in KANSAS FARMER a recipe for curing pork which appeared some weeks ago. This request was signed with initials only. This recipe is not now timely and for that reason we do not feel justified in reprinting it. However, had this reader signed his full name, it would have been an easy matter for us to have mailed him a copy of the paper which contained this recipe.

All letters of inquiry and request should be signed with the full name. This does not mean that we want to use these names, but when a letter is signed we know it is bona fide and it will have our careful attention.

The Missouri State Board of Agriculture is boasting that in 1916 its state with 175,000 fewer acres in corn than Kansas had, grew 62½ million bushels more corn. Last year was an exceptionally bad year for corn in Kansas, but the fact remains that corn is planted on thousands of acres in sections where the grain sorghums would be almost sure to produce paying crops while corn is largely a gamble except as fodder. Why not farm according to our conditions and grow the crops that are reasonably sure? Kansas can compete with Missouri agriculturally, but we must do it in the Kansas way.

Labor might be said to be the limiting factor in the farming business. It has been the practice of KANSAS FARMER to run free of charge, for two weeks, twenty-five word classified advertisements for bona fide seekers of employment on farms. Most of these ads are keyed, the replies being sent to KANSAS FARMER office. Scores of replies come in response to every such ad inserted. Some answer by long distance telephone, asking that the parties be sent out at once. Most of those who reply want help the year around. All this goes to show the great scarcity of labor on the farms. No one who is willing and able to work on a farm need spend much time in looking for a job.

The county agricultural agent work in Kansas is rapidly increasing in popularity. By July 1 there will probably be twenty-one counties organized, with men at work. Shawnee is the latest county to organize a farm bureau. A group of representative farmers met in the rooms of the Chamber of Commerce, Topeka, March 10, adapted a constitution and elected officers. This brings the total number of organized counties up to twenty-four. More than the usual interest centers around the Shawnee County organization because of the fact that here is located the capital of the state. People from all parts of the state, as well as those from outside, visit the capital. The effort that will be made to improve the farming business of this county through the co-operative work of the members of the farm bureau will be far-reaching in its effect. The first step in getting the work started will be the raising of the initial fund of $800 which is required to furnish the necessary equipment for the agent who will later be employed. The members each pay a fee of $1 a year, and money is appropriated by the state, the federal government and the county. It costs about $3,000 a year to conduct a farm bureau, and in every county where the work has been started the verdict is that it is money well spent.

GARDEN SAVES MONEY

Reduce Food Expense by Growing Plenty of Fruit and Vegetables

IT WILL pay and pay well to have a good home garden this year. A good garden is the quickest and best means of cutting down the expense of keeping the family supplied with food. Present food prices are high and it will take months to produce a surplus. By planting a carefully planned garden and giving it good care, a great deal can be done in a short time to reduce the amount of money being paid out for food. Fresh vegetables can be substituted for canned goods purchased at the stores and even take the place of some of the high-priced staples.

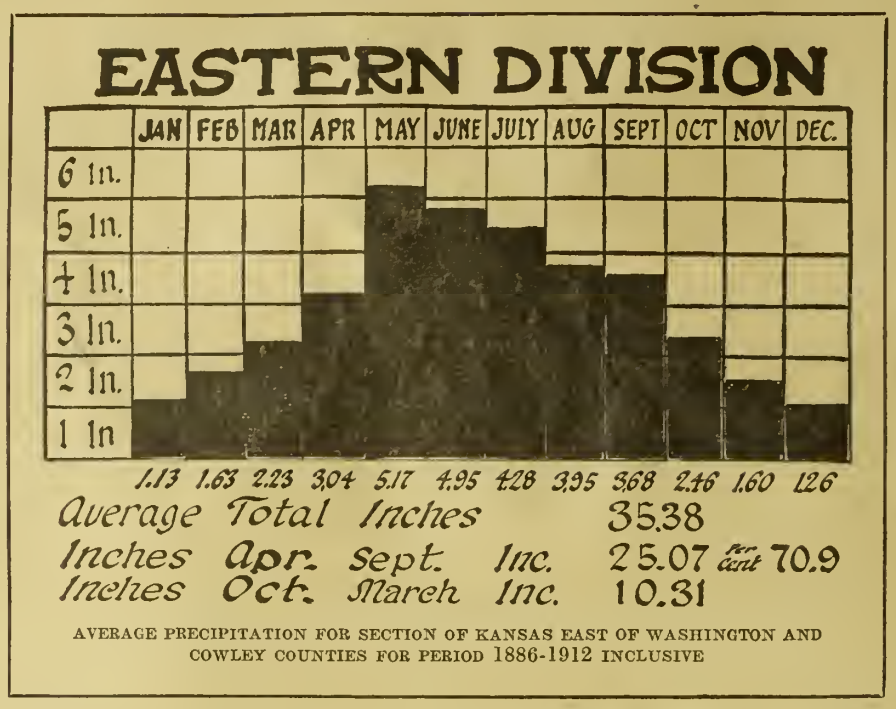
M. F. Ahearn, assistant professor of horticulture at the agricultural college, said recently that he believed a half acre of garden crops carefully tended would yield the family from $75 to $100 worth of vegetables. This is certainly a very conservative estimate.

In addition to helping out the food supply, having a good garden means that the housewife will be able to secure on short notice the various vegetables, perfectly fresh and possessing all their characteristic flavors and full food values. Vegetables that town people buy have been exposed for hours and sometimes even days before reaching the consumer and are much inferior to the same products gathered in the garden, taken directly to the kitchen and prepared for the table.

The garden should have been carefully prepared last fall or winter. Many undoubtedly did plow the ground and now have the soil in ideal condition for planting the various vegetables. If possible, the garden should be located close to the house, on fertile, well drained, sandy loam soil. On some farms it is the practice to have the garden some distance from the house in order to have it away from the chickens. This, however, is a great inconvenience to the women and undoubtedly the greatest use will not be made of a garden so located. It is a far better plan to have the garden conveniently located and protected by a good chicken-tight fence.

Some thought should be given to arranging the crops in the garden. Ordinarily the long season crops can be conveniently grouped together on one side, and the short season crops similarly grouped. Where the garden can be worked with horse machinery it should be arranged with rows as long as possible with room for turning at the ends. If the work is to be done by hand, the rows can be closer together. Professional gardeners make great use of wheeled tools that are propelled by hand. These implements could well be used more on the farm garden. Some of the simpler types are inexpensive and perform the necessary cultivation work much more easily than where the old-fashioned tools are used.

Seeds for the garden should be ordered well in advance of the time of planting. By doing this, some care can be given to selecting seeds of varieties which are best adapted to particular localities. Advertisements of reliable seed companies will be found in KANSAS FARMER. Write a postal card or letter asking for catalogs. These will be helpful in making selections. It is impossible to have good vegetables without the use of good seed. For this reason it is specially important that seeds of good varieties be purchased.



AVERAGE PRECIPITATION FOR SECTION OF KANSAS EAST OF WASHINGTON AND COWLEY COUNTIES FOR PERIOD 1886-1912 INCLUSIVE

We print on this page a table showing the results of some test work done on varieties at the Kansas Experiment Station. These varieties of the different kinds of vegetables will do well under average Kansas conditions. Valuable planting information is also given in this same table.

Boys and girls can help out a great deal in the garden work. It requires persistent effort to succeed with the garden, but this is true of almost everything. It is not all play, by any means, to put out a garden and care for it properly, but there is a world of satisfaction in being able to do something that helps to save some of the expense of buying food for the table. Boys and girls all over the state have been doing fine garden work in the garden clubs and this year it will mean even more than ordinarily to have plenty of vegetables of all kinds, and for this reason many more should take part in helping out with the garden work.

Home canning of vegetables is so simple as has been shown by the work of the Glenwood Canning Club, that many will want to plan a garden that will provide some surplus for canning. This will make it possible to have the garden help out in supplying the table throughout the year. Kansas garden club work has grown so popular that several assistants will work in the field this year under the direction of Otis E. Hall, state club leader. In a great many communities there will be opportunity to learn more about growing vegetables and especially how to can them successfully.

The following varieties are those best suited to Kansas conditions:

Bunch Beans—Field's First Early, Improved Golden Wax, Stringless Green Pod; pole beans—Missouri Wonder, Kentucky Wonder, Lazy Wife.

Beets—Early Egyptian, Detroit Dark Red, Blood Turnip.

Cabbage — Early Jersey Wakefield, Danish Ballhead, Copenhagen.

Lettuce—Black Seeded Simpson, Big Boston, Grand Rapids.

Musk Melons — Honey Dew, Field's Daisy, Rocky Ford.

Onions—Prize Taker, Red Wethersfield, Danver's Globe (red, white and yellow).

Peas—Alaska, Prosperity, Little Marvel, Nott's Excelsior.

Radishes — Non Plus Ultra, Icicle White Tip, White Strassburg.

Squash—White Bush, Summer Crookneck, Delicious, Hubbard.

Sweet Corn—Golden Bantam, Country Gentleman, Stowell's Evergreen.

Tomatoes—Earliana, Landreth, Chalk's Early Jewell, Trucker's Favorite.

Carrots—Oxheart, Danver's Half Long, Coreless.

Celery — White Plume, Golden Self-Blanching, Winter Queen.

Cucumbers — Emerald, White Spine, Long Green.

Potatoes — Six Weeks, Early Ohio, Early Rise, Irish Cobbler, Late Rural New Yorker, Vermont Gold Coin.

Pumpkin—Small Sugar, Large Cheese, Big Tom.

Turnips—Snowball, White Globe, Flat Dutch.

Watermelons—Cole's Early, Tom Watson, Halbert Honey, Keckley Sweet.

The names in each list are given in the order of earliness rather than quality. Remember this in making your selection. Sometimes it is very important to have the very earliest variety possible.

In growing gardens, rainfall is important. The cultivation given frequently has for its chief purpose the saving of soil moisture. The two charts shown last week and the one in this issue show how much rain is likely to fall during the growing months in different sections of the state. The methods of cultivation will necessarily have to be modified to fit the moisture condition. In the regions of light rainfall the sure way to have a good garden is to provide a supply of water for irrigation. No farm in western Kansas should be without its garden irrigation plant. The simplest form is a windmill pump with a reservoir for storing a reserve supply of water. The investment in such a plant will be most profitable even though irrigation for general field crops would not pay.

Results of Club Work

Eighty-five Kansas boys and girls won prizes in the club contests of 1916 of the Kansas Agricultural College and the Federal Department of Agriculture, under the leadership of Otis E. Hall of the agricultural college. Two of these prizes were fifty cents each, and the balance were $1, $2, $3, $4, $5, $7.50, and $10. These prizes were won on corn, kafir, feterita, milo, wheat, potatoes, sewing, bread-baking, canned fruits and vegetables, records and stories of work done in tomato clubs, poultry clubs, square-rod garden clubs and pig clubs.

The prizes won by these boys and girls stand for only a small part of the benefits derived by them from the club work. And these eighty-five boys and girls represent only a small part of the number who were benefited by these clubs, for whether a prize was won or not, the work was interesting and the children felt their responsibility in it, which will be of far more value than the prizes awarded.

Because of this development of business ability in the child and the fact that it turns excess energy into safe channels, the boys' and girls' club work is one of the most helpful influences at work in our state today. Its value will be appreciated more in a few years than now because it will bear good fruit in the lives it has touched. Many of these boys and girls will be our best farmers and housewives because of the early serious thought and application put into the club work which will have led them in a search for further training and knowledge.

Order a few ever-bearing strawberries to furnish fruit this fall.

VEGETABLE	Variety in order of production	Date of setting or planting	Amount of seed	Average price of seed	Depth of planting	Distance between rows	Distance apart in row	First picking	Last picking	Yield to 100 feet
Beans	Stringless Green Pod	May 10	1 pt. to 50 feet	1 qt., 30c	2 to 3 inches.	3 feet	6 inches	June 27	July 18	48 qts.
	Bush Lima	May 10	1 pt. to 50 feet	1 qt., 25c	2 to 3 inches.	3 feet	6 inches	June 27	July 18	46 qts.
Beets	Crosby's Egyptian	April 6	1 oz. to 50 feet	1 oz., 20c	½ inch	12 to 18 in.	2 to 4 inches.	June 11	Sept. 11	450 lbs.
Cabbage	Premium Flat Dutch	April 24	1 oz. to 1,500 plants	1 oz., 20c	½ inch	3 feet	2 feet	June 27	July 21	41 heads, 54 lbs.
	Early Jersey Wakefield	April 24	1 oz. to 1,500 plants	1 oz., 30c	½ inch	3 feet	2 feet	June 27	July 21	45 heads, 52 lbs.
Carrots	Early Chantenay	April 1	1 oz. to 100 feet	1 oz., 25c	½ inch	14 to 18 in.	2 to 4 inches.	July 20	Nov. 1	240 lbs.
	Half Long Danvers	April 1	1 oz. to 100 feet	1 oz., 25c	½ inch	14 to 18 in.	3 to 5 inches.	Aug. 10	Nov. 4	120 lbs.
Celery	Giant White Pascal	July 13	1 oz. to 3,000 plants	1 oz., 20c	¼ inch	3 to 4 feet	6 inches		Sept. 28	180 heads
	White Plume	July 13	1 oz. to 3,000 plants	1 oz., 20c	⅛ inch	3 to 4 feet	5 inches		Sept. 15	220 heads
Cucumbers	Arlington White Spine	May 8	1 oz. to 50 hills	1 oz., 20c	½ inch	4 to 6 feet	4 to 6 feet	July 25	Sept. 20	1799, 150 lbs.
Lettuce	Black Seeded Simpson	April 12	1 oz. to 150 feet	1 oz., 15c	½ inch	14 inches	3 to 4 inches.	May 28		264 lbs.
	Improved Hanson	April 12	1 oz. to 1,000 plants	1 oz., 15c	½ inch	14 inches	3 to 4 inches.	June 1		244 lbs.
Onions	Giant Gibraltar	April 12	1 oz. to 100 feet	1 oz. 15c	½ inch	12 inches	3 to 4 inches.	Aug. 22		28 lbs.
	Prizetaker	April 12	1 oz. to 100 feet	1 oz., 15c	½ inch	12 inches	3 to 4 inches.	Aug. 22		21 lbs.
Parsnips	Hollow Crown	April 12	1 oz. to 200 feet	1 oz., 15c	½ to 1 inch.	18 inches	2 to 4 inches.		Oct. 9	56 lbs.
Peas	Nott's Excelsior	April 12	1 qt. to 100 feet	1 qt., 40c	3 inches	3 to 3½ feet.	1 to 2 inches.	June 8	July 19	21 lbs.
	Gradus	April 12	1 qt. to 100 feet	1 qt., 60c	3 to 4 inches.	3½ feet	1 to 2 inches.	June 8	July 19	20 lbs.
Radishes	Early Scarlet Turnip	March 22	1 oz. to 100 feet	1 oz., 10c	½ to 1 inch.	14 inches	1 to 2 inches.	May 1	May 20	8077 roots
	White Strassburg	April 10	1 oz. to 100 feet	1 oz., 10c	½ to 1 inch.	14 inches	1 to 2 inches.	May 20	June 1	8607 roots
Salsify	M. Sandwich Island	April 25	1 oz. to 70 feet	1 oz., 10c	½ to 1 inch.	18 inches	2 to 4 inches.		Sept. 4	50 lbs.
Spinach	Victoria	March 25	1 oz. to 100 feet	1 oz., 10c	1 to 2 inches.	12 to 18 in.	2 inches	May 11	June 17	75 lbs.
Squash	Summer Crookneck	May 16	1 oz. to 20 hills, or 8 to	1 oz., 15c	1 to 2 inches.	7 to 8 feet.	7 to 8 feet.		Aug. 7	13 squash, 39 lbs.
	Hubbard	June 20	12 seeds per hill	1 oz., 15c	1 to 2 inches.	10 to 12 feet.	10 to 12 feet.		Sept. 9	9 squash, 85 lbs.
Sweet Corn	Mammoth White Cory	April 20	1 qt. to 200 hills, or	1 qt., 25c	2 inches	3 feet	2¼ to 3 feet.	June 23	July 16	91 lbs.
	Stowell's Evergreen	April 20	¼-qt. to 100 feet	1 qt., 30c	2 inches	3 feet	2½ to 3 feet.	June 23	July 16	87 lbs.
Tomatoes	Earliana	May 12	1 oz. to 1,500 plants	1 oz., 30c	½ to 1 inch.	4 feet	4 feet	July 12	Sept. 18	420 lbs.
	Stone	May 12	1 oz. to 1,500 plants	1 oz., 25c	½ to 1 inch.	4 feet	4 feet	July 12	Sept. 18	405 lbs.
	Dwarf Champion	May 12	1 oz. to 1,500 plants	1 oz., 25c	½ to 1 inch.	4 feet	4 feet	July 12	Sept. 18	217 lbs.
	Trucker's Favorite	May 12	1 oz. to 1,500 plants	1 oz., 25c	½ to 1 inch.	4 feet	4 feet	July 12	Sept. 18	230 lbs.
Turnips	Early White Milan	July 3	½-oz. to 100 feet	1 oz., 10c	¼ to ½ inch.	18 inches	6 inches	Aug. 15	Oct. 1	150 lbs.

SEE THE LIGHT!

LEARN TIRE REPAIRING

BE YOUR OWN BOSS

MAKE $3,000 AND UP YEARLY

One Hundred and Fifty Million Dollars Will Be Spent Next Year For Automobile Tire Repairs! How Much of This Will You Get?

You can learn this big interesting profitable business in a remarkably short time and with small capital. Start a shop of your own. *Be your own boss and work for yourself.* The demand for experienced tire repair men is enormous. The business is so new and there are so few who understand it that the opportunities and possibilities are unlimited.

In the larger cities there has never been any difficulty for motorists to obtain quick and efficient service for tire repairing. Many tires that otherwise would have been junked early in their lives have been rebuilt and the life of the tire increased from twenty to fifty per cent. This is not true in the country or in small towns of the West. There are very few experienced tire repair men located in the small towns; consequently a motorist must either send his tires to some large city for repairs or else sell them for junk many weeks before the tires are completely worn out. There are hundreds of towns right in your own state where more than $3,000 is being spent yearly for tire repairs. *This money will go to the man who knows.*

Here's The Greatest Opportunity You Will Ever Have, To Get Into Business For Yourself. Will You Take Advantage of It?

The repairing of tires has developed during the past few years from makeshift temporary work to a scientific and dependable operation requiring not only skill, but familiarity with the handling of rubber; it's peculiarities; the relation of fabric to rubber; the means of uniting these materials by liquid rubber or cement and the proper vulcanization of the whole.

Don't Be a Wage Slave Another Day! Take your place in the world as a man among men—a Business Builder—you have good common sense, you have health, and now you have the opportunity.

Our course is practical from start to finish and has been so carefully figured out that you can learn in six weeks what it would take yo· months, possibly years, to acquire in a factory by actual experience. Our equipment is the same as that used in the large eastern tire factories and you learn not only to repair and rebuild casings and tubes in every conceivable condition, but to make new tires as well. **You do the active work yourself.** Always under the supervision of experienced men who have spent a lifetime in the business.

If you are tired of working for others, if you are determined to strike out for yourself and make the big money you are entitled to, the TIRE REPAIR business is your golden chance for independence.

You cannot learn tire repairing from books. You must have actual experience. Tires are the greatest expense a car owner has and every car owner wants his tires to give the most mileage possible, yet thousands of casings are scrapped every day because there is no one on the ground competent to repair them.

Tire Repair Shops are as necessary as gasoline stations.

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The Louden Architectural Department is an organization of Barn Specialists. They will gladly furnish you preliminary plans and suggestions, without charge. Just send us a rough sketch, or tell us how many cows, horses, and other stock you wish to house.

Complete working plans will be furnished later, if you desire them, at a cost so low you can't afford to build without them.



This book contains 81 plans for barns and other farm buildings, with estimated cost of each. Mailed, postpaid, on request.

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Your barn is no better than its equipment. Because of the labor it saves, the comfort it affords the stock, and the lasting satisfaction you will derive from it, you will find Louden Modern Barn Equipment a highly profitable investment. It is easily installed in any barn, old or new.

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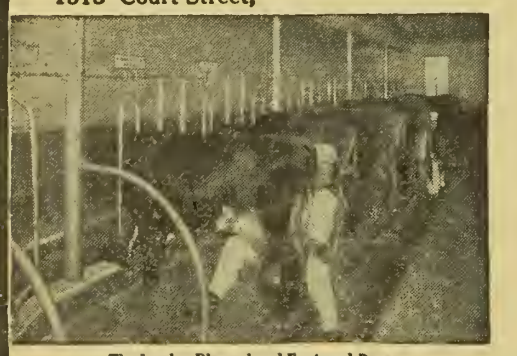

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The Louden Line Includes:

Steel Stalls and Stanchions
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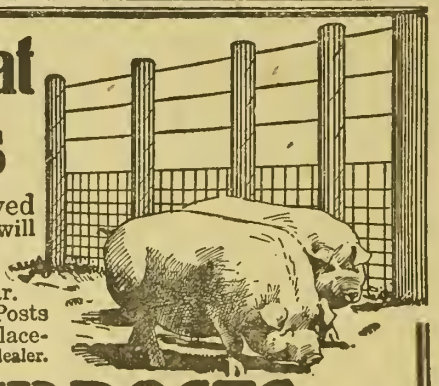
Fence Posts That Last 40 Years



DON'T replace another decayed or broken post with one that will undergo the same process of wastage in a few years. It is a big loss of money—as much as $50 and more a year. Long-Bell Creosoted Yellow Pine Posts will mean an end to all repairs and replacements and are easily obtained from your lumber dealer.

L-B CREOSOTED Yellow Pine POSTS

These everlasting posts of selected yellow pine of slow growth are practically decay-proof. The Long-Bell hydraulic vacuum creosoting process treats every wood cell right to the heart and makes it practically decay-proof. Why pay for fencing on short-lived posts that split and peel and rot? Treble life of your fencing by using posts treated the Long-Bell way.

Last a Generation L-B Creosoted Yellow Pine Posts will give lasting service for forty years and more. They will hold a staple as long as it is a staple. See L-B Creosoted Posts at your nearest lumber dealer.

Free Book Send your name and address at once asking for a copy of our Free Book "The Post Everlasting," telling all about L-B posts and the Long-Bell process of wood preserving. Recommended by the U.S. Government.

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Are cut to fit the neck and shoulders perfectly—They sit and fit remarkably well and comfortably.

15c each 6 for 90c

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DAIRY CLUB

Verify Your Records

MOST of your records are neat and accurate, but there are still a few who do not make up the records as carefully as they should. You know these records and the story you write about your Dairy Club work are going to count for twenty points in your grade and we are anxious to have you get the full twenty points, is the reason we are asking you to do this work carefully.

The making of these records is only an exercise in writing and simple arithmetic and all of you can send in perfect records every month if you will try hard enough. Take plenty of time to do this work so that your figures will be plain. Then when you have finished copying the records, check the figures with those on the sheet from which you copied, to see that no mistakes were made. When you have added the columns and figured the amount of butter fat and feed, you should go over your figures the second time and know they are correct.

You should think of the making of these records as a part of your school work. They give you a chance to use some of the knowledge gained in school and anything that does this is valuable and deserves your best effort. No matter how much you learn at school, if you do not apply it to the doing of things outside of school it will be of little value to you.

Even though you have sent in your February records, go over the figures on the copy you kept and see if they are correct. If you find mistakes, correct them, and when making your March reports be more careful in these places.

And if you have not yet sent in your February records, send these to us by the next mail without waiting for us to write you again about them.

Did Your Milk Score Eighty?

We have decided to allow the full twenty points for quality of product to those club members whose milk samples sent to the state contest at Manhattan scored 80 or higher.

Those whose samples scored below 80 will be given another opportunity to send in samples for quality marking. We offer this second chance because many did not know the requirements for making good milk scores.

Those of you who yet have your quality grade to make should begin now to plan for getting the best possible grade on this point. You should study the article in the March 10 issue of KANSAS FARMER, explaining the score card, and we will have other articles that will help you to improve the milk quality. Several of the bulletins mentioned in the Dairy Club Department last week will be of great help to you in improving the quality of your milk.

As we are going to give the rest of you some special help before asking you to send in your samples to be graded for quality, you will have an opportunity to send only one sample and you should do your best to have that sample of high quality so you will receive the full twenty points, which will help much in your final grade.

Please Send Your Score Card

Those of you who sent milk to the state contest were asked to mail us your score cards received from the agricultural college, with your February records. Twenty-one of you were in the contest, but at this writing we have received only twelve of the score cards. We had a purpose in mind in writing for these and hope if you have not already sent your card that you will do so at once.

Dairy Club Prizes

The following prizes are offered for work in the Kansas Farmer Dairy Club:

Beatrice Creamery Company, hinge-door silo.

R. J. Linscott, Holton, Kansas, pure-bred Jersey bull calf.

Empire Cream Separator Company, cream separator.

Beatrice Creamery Company, cream separator.

Hinman Milking Machine Company, two-unit milking machine.

Hunt-Helm-Ferris Company, complete cow stall.

N. A. Kennedy Supply Company, twelve-bottle Babcock milk tester.

Another Note Paid

I am proud to say that I went to Leavenworth March 6 and made a pay-

Canada Offers 160 Acres Land Free to Farm Hands

Bonus of Western Canada Land to Men Who Assist in Maintaining Needed Grain Production.

The Demand for Farm Labor in Canada is Great. As an inducement to secure the necessary help at once, Canada will give **one hundred and sixty acres of land free as a homestead** and allow the time of the farm laborer, who has filed on the land, to apply as residence duties, the same as if he actually had lived on it. Another special concession is the reduction of one year in the time to complete duties. Two years instead of three as heretofore but only to men working on the farms for at least six months in 1917. This appeal for farm help is in no way connected with enlistment for military service but solely to increase agricultural output. A wonderful opportunity to secure a farm and draw good wages at the same time. Canadian Government will pay all fare over one cent per mile from St. Paul and Duluth to Canadian destinations. Information as to low railway rates may be had on application to

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Cultivate Without Fenders



A thoroughly tried, guaranteed cultivator shovel, which enables the operator to cultivate corn (both listed and checked) or any small crop the first time over without fenders. Thousands have been sold the past four years in Nebraska, Iowa and Kansas. Every user is a booster. One pair only necessary on inside shanks, ordinary shovels on others. If dealer cannot supply, sent post paid upon receipt of price. 2½-inch size, $2.75 per pair; 3½-inch, $3.50 per pair; 5-inch, $3.65 per pair. Always give name of cultivator — backs to fit any make.

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Keeping OUT DUST and RAIN — Keeping IN OIL



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30 Days' Free Trial Earns its own cost and more by what it saves in cream. Postal brings Free catalog, folder and "direct-from-factory" offer. Buy from the manufacturer and save money.

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Equipping Barns, Dairies, Creameries Milk Receiving Stations, Butter Factories, City Milk Plants and Ice Cream Manufacturing Plants is our specialty. Send dimensions of room, number of cows, amount of production, supply, or output, also results desired and we will relieve you of all details and send you an itemized quotation immediately.

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Watch the hotbeds carefully on bright warm mornings. It does not take long for the heat to run up high enough to injure the plants. Stocky plants can be obtained only by giving the best of attention to watering and ventilation.

ment of sixty-nine cents on Girlie, which was the balance due on her. I have been very successful with Girlie, as I have two heifer calves now. I paid for Girlie with the money that was clear, over her feed and any other expenses. I did not put any money in on her that she did not earn. Girlie paid for herself in eleven months to the day.—RALPH S. EDWARDS, Leavenworth County.

Has Paid for His Cow

I am glad to say I finished paying for my cow this month. She is not giving quite as much milk this month as she did before, but is still doing pretty good.

I read KANSAS FARMER every week and I find many interesting subjects.

If I have not been as prompt with my records as I ought to be, it is because I have been studying hard at school. I am taking the examination for the eighth grade.—ERNEST WENDEL, Leavenworth County.

Return of Sample Bottles

Several of our Dairy Club members have complained about their sample bottles and containers not being returned by the dairy department at the agricultural college. We took this matter up with the dairy department and have their answer that the bottles and containers have been returned unless the sample was sent in an ordinary bottle. In such case, thinking they had other bottles of this kind, the return postage was saved. Many of the home-made containers are in very poor condition when received at the college and not worth returning. Milk sent in bottles with metal tops corrodes the tops and these bottles are unfit to return.

So if you have not received your sample bottle or container, it is because of one of these reasons, all of which are good, and you should not let this in any way interfere with your sending your next sample on the fifteenth of the month.

We are sure our Dairy Club members have in their work with their cows learned many good lessons which others older in years have missed. One of the most important of these is that a cow responds to kind treatment in a substantial way. Moving the cow's foot back with the sharp edge of the milk stool or the heel or toe of the shoe, has never increased her flow of milk. On the other hand, the milker who is on friendly and speaking terms with his cow will be rewarded with her best work at the milk pail.

Food Conference Resolutions

The committee appointed by President H. J. Waters in his capacity as chairman of the food conference held in the governor's office Thursday, March 15, reported the following resolutions:

"The world's food supply is at present below normal. In the United States, last year's crop production was normal with the exception of wheat and potatoes. However, enough wheat was held over from 1915 to provide more than a normal supply for the United States in 1917. The increased demand for export has now reduced the surplus to a narrow margin.

"But the food shortage which this conference has been called to consider is due in part to the concentration and withholding from the markets, for speculative purposes, a part of the visible supply, and in part to the inability of the railroads to move promptly the needed supplies from points of production to the centers of consumption. According to the crop report for March, issued by the United States Department of Agriculture, the farmers of America have on hand little more than one-half as much foodstuffs as were in their possession at this time one year ago. Most of this material, it should be remembered, will be required for seed, and for use on the farms.

"More than 25 million men have been withdrawn from productive pursuits and are now under arms. But these millions continue to consume food, perhaps on a larger scale than formerly. Obviously this drain upon the world's supplies of food must be felt. Considering this situation, and the fact that 1916 was an unfavorable crop year the world over, and more especially viewing the world's present stores of food products, this committee begs leave to recommend:

"That a Federal Food Commission be created, clothed with power to regulate and control the storage, distribution and transportation of all food products whenever necessary to the end that oppressive concentration and manipulation of food products may hereafter be prevented.

"That the people in cities and towns be urged to utilize all vacant ground available for growing garden and truck crops for immediate table use, and to preserve by canning or in storage all surplus products for winter use. And, further, that farmers and farm children be urged to participate in the same laudable activities.

"That it is the sense of this conference that bankers should co-operate closely with farmers everywhere in providing funds needed in buying seed and necessary equipment for farm operations and in order to enable farmers to maintain breeding stock.

"It is further the sense of this conference that the farmers of this country are not now receiving excessive prices for food products, considering the greatly increased cost of farm operation and especially in view of the pressing need for attention to the maintaining of soil fertility on American farms.

"We urge against any plowing up of Kansas grass lands, induced by the present high prices of grain. The future welfare of our state requires as much live stock as at present, and more.

"We urge Kansas farmers as far as possible to retain their breeding stock, as no agriculture can be permanently successful without live stock.

"We urge the use of seed adapted to our own local conditions. We commend the work of the Kansas Live Stock Association and all other similar organizations working to secure improved marketing facilities and conditions.

"We urge special attention to the timely and thorough preparation of the seed bed for this spring's crops. Prices this year will justify the expenditure of a maximum amount of time and money for this purpose."

The resolutions were unanimously adopted.

The proprietary remedy sharks have found in contagious abortion a rare opportunity. Beyond the appropriate handling of the herd and disinfection there is nothing to offer at this time. The following brief statement is found in a recent Department of Agriculture folder: "It should be understood that no effective cure for contagious abortion has yet been found. Do not depend on drugs and proprietary remedies."

The Only Car

That Does Those Things Is

Hudson Super-Six

The Super-Six is the only car that ever went 1819 miles in 24 hours.

It is the only car that ever went from San Francisco to New York and back in 10 days and 21 hours. In that one round trip it twice broke the ocean-to-ocean record.

At Pike's Peak, a Super-Six Special defeated 20 great rivals, all specially built for hill climbing. It made the best time in the world's greatest hill-climb.

It holds all the speed records for stock touring cars, and the records for quick acceleration.

Note What That Means

You say you don't want a racing car. We know you don't. You will never, perhaps, use half the power or speed of the Super-Six.

But mark that this motor is a small, light, simple Six. We have added no size or cylinders. We have taken a light Six and, by this invention, increased its efficiency 80 per cent. And solely by reducing friction, which destroys the motor and wastes its power.

We Did Just This

The Six-type motor had great limitations. Despite all perfections, much vibration still remained. And vibration causes friction.

Some engineers, including the Hudson, were testing Eights and Twelves. They felt that twin-type motors might solve the friction problem. The trend was away from Sixes.

Then Hudson engineers brought out this Super-Six invention. It is a Hudson invention, patented by Hudson. In this new-type Six they obtained all the efficiency and endurance sought for in the multi-cylinder type and they did this without adding cylinders, complications or weight.

All in Endurance

All the Super-Six records—for speed, hill-climbing and long-distance—were won by this motor's endurance. They mean that motor wear and friction are reduced to almost nothing.

By excelling in these feats, it proved that this motor will outlast any other type.

That is what you want above everything else. You want less wasted power, less wear, less friction. That means, of course, supreme performance. But it also means supreme economy.

What You Can't Afford

Some men will say; "I can't afford a superb car like the Hudson."

But you can. All this beauty, luxury and superlative performance will cost you less than many a car without them.

The Super-Six invention, in all probability, doubles the life of a motor. It saves the power which was wasted in friction. And this year we add a new gasoline saver which saves a great deal more.

No other fine car gives such value as the Hudson. No other car has a motor which compares with this. A higher-quality car is impossible. Yet note how far the Hudson undersells many cars that it out-performs.

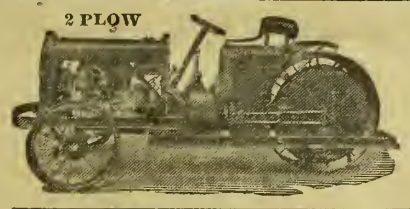
Go see and prove this car. It is now the largest-selling car above $1200. And the saving shows in the Hudson price.

HUDSON SUPER SIX

Phaeton, 7-passenger, $1650	Touring Sedan . . . $2175	Town Car $2925
Cabriolet, 3-passenger, 1950	Limousine 2925	Town Car Landaulet . 3025
	(All prices f. o. b. Detroit)	Limousine Landaulet . 3025

HUDSON MOTOR CAR COMPANY, DETROIT, MICHIGAN

2 PLOW



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Will pull two 14-inch bottoms under any ordinary conditions. 20 h.-p. Waukesha Motor—can be used for operating other machinery; two speeds; plows at 2½ miles per hour—on road work 7 to 10 miles. Hyatt Roller Bearings.

Low Cost High in quality but low in price. A powerful, sturdy, enduring, spring-mounted Tractor that makes work a pleasure, saves time and money every day in the year. Write for special offer to a few reliable farmers.

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1842 The Seventy-Fifth Anniversary of 1917

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Three-Quarters of a Century of "Knowing How" Hammered Into Every One of Them.

The product of the Parlin & Orendorff Co. has always been noted for simplicity of construction, great strength and ease of operation. It was upon such a basis that the founders of this business made their implements, established their reputation, and built their factory. It is upon the same foundation that the business has been carried on to this day, and in 1917 we celebrate our Diamond Jubilee; 75 years of practical experience gained through constantly striving to provide for the exacting requirements of three generations of American farmers.

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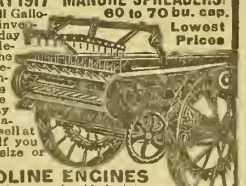

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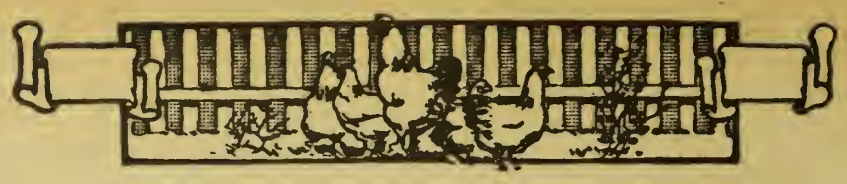


Poultry and Egg Shortage

AT THE conference held in Topeka last week to discuss the food situation, Ross M. Sherwood, poultryman at the agricultural college, explained why poultry and eggs are so scarce, and made some suggestions for correcting the condition.

He pointed out that the poultry and egg shortage is due to the fact that the laying hens and pullets have been sold because of the high prices for feed and good prices for poultry. Every day hundreds of hens are marketed. These should not be sold at this season of the year, because they could profitably be held for egg production for several months.

The remedy is to unite in an effort to produce more and better poultry and eggs the coming season. This may be accomplished by breeding better poultry, by hatching early and by careful feeding. The eggs should be infertile during the warm months and so handled that they may reach the consumer in good condition.

The number of eggs per fowl may be increased by mating the fowls on the farm with pure-bred cockerels from high egg producing strains. Even better results will follow the mating of the fall and winter egg producers to the good cockerels. Since cockerels were very scarce the past year it is advisable to secure those for next year as early the coming winter as possible. Those who have high egg producing strains of fowls should raise more cockerels than usual.

The chicks of the medium weight breeds should be hatched at once so that they will be mature and ready to lay before the cold weather comes on. The lighter breeds should not be hatched as early because they will moult if they start laying much before the first of October.

The laying hens should secure a liberal amount of grains and mash. The exact grain to feed should be determined by the kind available, and the cost. Kafir is very satisfactory for the morning feed, while corn is better for evening. About half as much should be fed in the morning as at night. The morning feed should be given in deep litter so that the fowls will have plenty of exercise. Wheat is too expensive to feed at present prices. Bran and alfalfa leaves or hay are good to feed in addition to the grain feeds. Sour skim milk or meat scraps should also be fed. Unless the milk or meat serap is fed, the best results will not be secured. During the summer the hens should receive an evening feed unless they go to roost with a full crop, without it.

No one should be afraid that the increase of production will ruin the markets. Last year one Kansas dealer imported eggs from China to the United States to supplement our supply. Since that time an enormous number of hens has been sold. The demand for eggs will also be greatly increased as the producer supplies better quality of eggs. A number of consumers are disgusted with the poor quality of eggs offered during the summer months and refuse to use them on the table. If they could depend on the quality of the product, the demand could be increased with the supply.

Every producer should remove the cockerels from the flock as soon as the breeding season is over. The hens will lay as many eggs without the cockerels and they will keep much better. In some sections the past summer as high as fifty cents was actually lost on every dollar's worth of eggs from the time they were produced until they reached the consumer. If the producers will get together and supply infertile eggs, the State of Kansas will receive thousands of dollars more from her poultry and the people of the United States will secure millions of dozens more good market eggs to relieve the present food shortage.

Hens Have Liver Trouble

S. W. B., Cheyenne County, asks for help in checking a disease among his hens, which he describes as follows:

"Droopiness is the first symptom. Their combs stay red until the very last. They quit laying, seem full of water, and die without a struggle. I have lost about fifty. Their feed consists of corn, wheat, oyster shell, and farm waste. I took the wheat away from them, as it was smutty and I thought this might be the cause of the trouble, but there was no change."

N. L. Harris, of the poultry department of the agricultural college, answers this inquiry as follows:

"From your description of the trouble with your birds, I would say a congested liver is the cause of it. This condition is usually caused by lack of exercise. Would advise that you stop feeding corn for a couple of weeks and give a mash of 8 parts bran, 4 parts shorts, and 1 part commercial beef scrap. If possible, give the hens all the sour milk or buttermilk they can drink. Starve them for six or eight hours, once a week, and then give a light feed of moistened bran mash in which you have mixed a good-sized handful of epsom salts to 100 pounds of hens. Do this three or four times. I believe it is good practice to give salts at least once a month to laying hens. Do not feed any grain unless it is scattered in some scratching litter where the poultry must dig for it."

Brooders Necessary

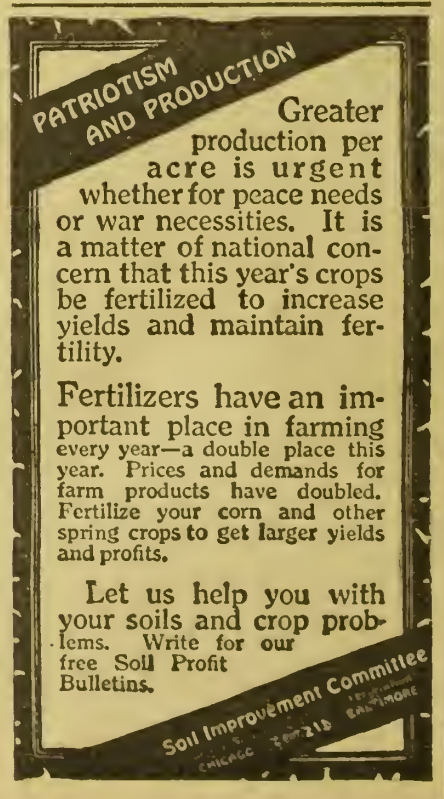
Some artificial means of brooding chicks must be provided when incubator chicks hatch in cool or cold weather. Where only a small flock of chickens is to be raised it is not profitable to use either the incubator or brooder, but where large numbers are handled the brooder becomes a matter of great convenience and profit.

Keeping chicks in large flocks minimizes the labor and reduces the cost of houses and yards. Where hens are used for brooders in cold weather only a few chicks can be given to each hen. This requires a large number of coops and the attendant is compelled to give each group nearly as much attention as would be required for one large flock cared for by the brooder.

There are nearly as many makes of brooders on the market as there are incubator factories in the country. Some of these brooders are so cheaply constructed as to be in canstant danger of fire. Many small brooders are on the market, however, which are practically fire-proof and which have a capacity of from fifty to a hundred chicks.

Follow Incubator Instructions

There is great difference between incubators. Different makes require different treatment. All incubators must be adapted to the particular environment while many possess greater range of adaptability than others. The cheaper machines usually lack this feature, and





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while they may produce satisfactory results under one set of conditions, they may be an absolute failure under others. If a machine is producing unsatisfactory results, perhaps a slight change will remedy the fault and eliminate the trouble.

Incubator companies always send a detailed list of directions with their machine and, in justice to them, they should be closely followed. See that the thermometer is registering correctly and, also, that it is the proper distance from the eggs. If the directions say level with the top of the eggs it does not mean two inches or even one-half inch above, but exactly level. The incubator should be thoroughly cleaned and disinfected before every hatch. Ventilation should be largely restricted the first week and then increased to full capacity at the close. The amount of ventilation varies with the temperature of the room. Cooling the eggs every day after the third day strengthens the germ, but cooling does not mean chilling. Eggs should be cooled slowly. Above all, eggs should never be turned after the lamp has been cared for. The oil on the hands will close up the pores in the shell and suffocate the chick.

Crooked Breast Bones

As the hatching season is in full blast just at this time and all poultrymen are busy rearing their young stock, it might be of benefit if we suggested something that would help prevent crooked breast bones in the coming generation of chicks.

Poultrymen usually attribute crooked breast bones to the fact that such chickens began to roost on poles too early in life. The weight of the body resting on the poles, they imagined, caused the breast bone to be deformed. We are inclined to the belief that this, in a large majority of cases, is due wholly to the lack of sufficient ash and mineral matter in the food. These elements were lacking to such a degree that the bones did not grow and develop as they should, but became deformed. We have seen chickens roost continually upon a bed of straw until they were practically mature and yet they had crooked breast bones. And again we have seen chicks begin to roost on poles very early in life, yet it was very seldom that you found a chick with a deformed breast bone. After experimenting and after considerable observation, we believe that the fault is in the fact that there is insufficient ash, mineral matter and bone building material in the food given such chicks.

In feeding hens, if lime is lacking in the food, the hens will eat their own eggs to get the lime contained in the shells and they will keep drawing on the lime in their bones until their bones are soft. The same principle applies in the case of crooked breast bones.

Perhaps no part of the mash is so often neglected as the mineral element of chick foods. All grains contain more or less ash and mineral matter, but the average food is deficient in meeting the needs of the chick, which is growing rapidly and requiring a great quantity of building material for bones. Bone meal or finely cracked bone is very essential. This should be mixed in the mash in addition to feeding chick grit, and charcoal. Beef scraps, fish scraps, granulated milk, fresh meat, skim milk and buttermilk are all good, but bone meal should be supplied in addition. We use about five pounds of fine bone meal to each hundred pounds of dry mash.—T. E. QUISENBERRY.

Where hens are not available for brooding chicks and only a few are to be raised, it is possible to construct a home-made brooder. These usually require considerably more attention than those on the market, but will give fairly good results. The most common method of heating these home-made brooders is by means of a jug of hot water. A box which contains sufficient room for from fifty to a hundred chicks and which is tight on all sides excepting the front, is the first requirement. Some method of ventilation should be provided on the top of the box. A two-gallon jug of hot water furnishes the heating plant. The jug should be wrapped in burlap to protect the chicks and aid in retaining the heat.

A large percentage of the hen-brooded chicks suffer from the effects of head lice. These not only are bothersome to the newly-hatched chick, but continue to be a source of trouble through the entire season.



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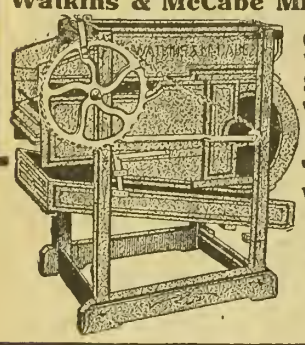

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There are two kinds of freedom—the false, where a man is free to do what he likes—the true, where a man is free to do what he ought.—CHARLES KINGSLEY.

Variety in Food Preparation

Variety in the preparation of food for the table will add to its palatability. For example, when a can of tomatoes is opened, if, instead of cooking all of them at once and putting them on the table at each meal until they are eaten, only a part is served and the balance set away to be served differently, they will be relished more. Tomatoes served cold right from the can, with mayonnaise or French dressing, or just plain, are an appetizing salad. For one meal a part of the tomatoes might be cooked and seasoned with salt, a pinch of sugar, butter or cream and a little flour thickening. Still another way to use them is to season and bake with bread crumbs, covering the top with crumbs and letting them become brown. Try browning all the crumbs before mixing with the tomatoes.

Baked canned corn is also very appetizing and is a change from the usual creamed corn. Browned bread crumbs can be used with this, too.

We are told that potatoes retain more of their nutritive value when baked or boiled in the skins, than when cooked in any other way. Few people like cold baked or boiled potatoes, but if skinned and heated in a little butter, seasoned, and a little cream added just before removing from the fire, the left-over baked or boiled potatoes will be relished—as well as saved.

Unfortunately we have not all been trained as Benjamin Franklin was—to eat what is set before us without knowing what it is. We have our likes and dislikes which must be considered in the preparation of meals and it is the appetizing meal that is eaten with the greatest satisfaction.

Nutritive value of food should be combined with palatability instead of either being sacrificed for the other.

Should Eat More Vegetables

The family diet is not complete without fruits and vegetables. Without these the food lacks in minerals needed for building the body and keeping it in good working condition. It will also lack acids which give it flavor, keep the system clean and serve other good purposes. And because fruits and vegetables are bulky they are very satisfying to the appetite.

The summer diet of most farm families abounds in fruits and vegetables, but too often the winter supply is scanty because it must be bought. A sure way to overcome the short winter supply or the necessity for buying it, is to plan for the winter at garden planting time and enlarge the garden to the point where it will supply the need. In many localities this is the practice and the surplus vegetables and fruits are canned and kept for the winter. Gardening and canning should be more generally practiced on a much larger scale.

Garden Produces Cheap Food

As much garden as can be well tilled, for every family, was the contribution of W. M. Jardine, director of the Kansas Experiment Station, to the solution of the problem of high food costs, at the recent food conference. This was suggested as an effective means of immediate relief. He stated that a square-rod garden, properly managed, will supply a family of five with radishes, lettuce, onions, beets, carrots, parsnips, beans and peas, through the summer and leave a surplus for canning for use during the winter. As much more garden should be planted as there is room for, up to the point of supplying all the family can use, if the added ground can be well tilled. But the smaller garden well kept is more profitable than the larger one that is neglected.

The expense and work of canning the surplus garden products are of little consequence as compared with the benefits received.

Figures recently obtained showed that a canning factory's cost on a quart of tomatoes was only four cents. The expense should be even less for the producer of the vegetables as the cost of the jars for canning should be pro-rated against the number of years they are used. An economy in jars can be practiced by keeping the later vegetables in a dark cool place until well into the fall when some of the earlier canned products will have been used and the cans thus made available for second filling.

We agree with Director Jardine in his belief that to a great extent this is an individual problem and that more attention paid to the home garden by a greater number, will lower the cost of food.

On another page in this issue will be found a carefully worked out garden table prepared by the Kansas Experiment Station and which gives information that can be studied with profit by every gardener.

For the Boys and Girls

How many of you have heard older people say, "If I had known when I was a child what I know now, I would have done differently."? Most of you have heard this several times. Have you ever wondered what people mean when they say this? You will know a few years later, but we wish you might understand their words now for it would help you so much in forming your life habits and in building character. They mean that had they known their childish habits would have so large a part in molding their lives—in making them successful and useful—they would have been more careful in forming those habits.

One of the things that puzzles so many children and yet is so easily understood after the years of childhood are gone, is why we cannot always do just as we want to do. We feel Mother and Father are unjust when we are not allowed all the pleasures—as we call them—that some other boys and girls enjoy. It may be these things would be very harmful to us, so when they are denied let us try to think it is best this way, instead of thinking we don't have near as much fun as other children have.

When we are urged to do our very best at school, let us remember that all these lessons have a part in our whole life and that we should do our very best for this reason even if we had not been urged. When we are asked to help with the work at home, let us do this because we are anxious to learn all about it and not allow the thought that we must do it, make us unhappy.

It is the obedient, helpful child—the one who is looking for something to do for others that he has not been asked to do—who is the happiest, and whose life unfolds before him in the natural way that helps him to make the most of it.

"There is a way of receiving a flower from a little child that makes the child long for the next summer to come in a great sudden hurry that it may gather all the flowers in the field for you."

Boiled Custard

2 cupfuls scalded milk
¼ cupful sugar
⅛ teaspoonful salt
½ teaspoonful vanilla
Yolks 3 eggs

Beat eggs slightly, add sugar and salt, and stir constantly while gradually adding hot milk. Cook in double boiler, continue stirring until thick and coating is formed on spoon, then strain immediately and chill and flavor. The custard will curdle if cooked too long. By using an egg beater it may be made smooth again but it will not be as thick. Eggs should be beaten slightly for custard that it may be smooth and thick. Cover with a perforated tin to prevent scum from forming. When eggs are scarce, use yolks of two eggs and one-half teaspoonful corn starch.

"Standard" Plumbing Fixtures

for Bathroom, Kitchen or Laundry, represent the quality and service in this line that have been *standard* for many years. The books shown below give you a wide variety of fixtures—in style and price—for every kind of use. If you intend to build or remodel, send for these books—insist that every fixture you buy has the "Standard" Green and Gold label.

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BE A GOVERNMENT FARMER. GOOD pay; steady, interesting job. Write Central Institute, 44-F, St. Louis.

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WE PAY $80 MONTHLY SALARY AND furnish rig and expenses to introduce guaranteed poultry and stock powders. Bigler Company, X 671, Springfield, Ill.

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BIG-TYPE POLAND BOARS. U. A. Gore, Seward, Kansas.

FOR SALE—GOOD STRETCHY POLAND China fall boars. Ed Beavers, Route 2, Junction City, Kansas.

SITUATION WANTED.

WANTED—A POSITION ON RANCH OR farm as foreman. Address Box 64, Concordia, Kansas.

YOUNG MAN WANTS WORK ON FARM until harvest. Would expect $25 per month including board and washing. F. L. McIntire, Rogers, Ark.

WANTED, AT ONCE—SINGLE FARM hand who understands stock and farm work and wants permanent employment. No boozer or loafer need apply. Box 36, Russell, Kansas.

HORSES AND MULES.

SHETLAND PONIES, FIFTY HEAD, moderate prices. Charles Clemmons, Coffeyville, Kansas.

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JACK FOR SALE OR TRADE—FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

TREES, SEEDS AND PLANTS.

EVERBEARING STRAWBERRIES—PEDigreed, Progressive, Superb varieties. $1 per hundred. J. A. Dowden, North Bend, Neb.

TREES, SEEDS AND PLANTS.

WHITE BLOSSOM SWEET CLOVER, reasonable. John Lewis, Hamilton, Kan.

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TEN ELBERTA AND FIVE CHAMPION peach trees, postpaid, $1. Send now. Wellington Nurseries, Dept. C, Wellington, Kan.

BEST PROGRESSIVE EVERBEARING strawberry plants cheap. For particulars write R. N. Thomas, Shenandoah, Iowa.

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SEED CORN—BOONE COUNTY WHITE, carefully selected, $2.50 per bushel shelled. J. W. Taylor, Edwardsville, Kansas.

WHITE SWEET CLOVER BOUGHT (large or small lots) if priced attractively. State lowest price. Box 375, Emporia, Kan.

SEED SWEET POTATOES — PUMPKIN yams, 3c a pound or $1.50 shipped in bushel boxes. J. Medford, Wheatland, Okla.

RECLEANED ALFALFA SEED AT $7 per bushel. New sacks extra, 25c. Write for samples. A. B. Wilcox, Abilene, Kansas.

ENGLISH BLUEGRASS — NEW, RE-cleaned seed, $10 per 100 pounds. Henry Mosher, Schell City, Mo.

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ALFALFA SEED FROM NORTHWEST Kansas, 95 per cent pure. Good germination. $5.50 per bushel. Geo. Bowman, Logan, Kansas.

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PURE GOLD MINE AND BOONE COUNTY White seed corn, selected, graded, $2 per. Alfalfa seed, $7.50 per. Samples free. J. F. Feigley, Enterprise, Kansas.

FOR SALE—BOONE COUNTY WHITE seed corn, made over 30 bushels this year. Hand picked. $1.75 per bushel. W. C. Baumgartner, Halstead, Kansas.

ALFALFA SEED FROM HIGH PRODUCing fields. 370 bu. from 40 acres. 99.74% pure; 95% germination. $8.00 per bu. Sample free. Stockwell Farms, Larned, Kansas.

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REID'S YELLOW DENT, BOONE COUNTY White seed corn. Genuine Red Texas seed oats, clover, timothy and alfalfa seed. S. G. Trent, Hiawatha, Kansas.

BLACKBERRY ROOT CUTTINGS—Early Harvest, $1.25 thousand. Rhubarb roots, $1.75 hundred. Catalog. Adams & Son, Fayetteville, Ark.

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BEAUTIFUL FLOWERS—BIG STOCK, canna, gladiola, woolflower, salvia, tomato, cabbage, pepper, sage, and other flowering and vegetable plants. Seeds and bulbs. Write for descriptive price list. Henry S. Jefferies, Ottawa, Kansas.

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BOONE COUNTY WHITE SEED CORN a specialty for eight years. First and sweepstakes, Marshal County Fair. $2.50 bushel, graded. Ernest Schubert, Route 1, Vliets, Kansas.

GERMAN MILLET, FINE GERMINAtion, 100 pounds, $3.75. Tested white blackhull kafir, $1.85 bushel in two-bushel sacks. All sacks free. Brooks Wholesale Co., Ft. Scott, Kansas.

BERMUDA GRASS—HARDY, RANKgrowing variety. Stands drouths, floods, hot winds and severe freezing. Best and hardiest pasture grass. Great milk producer. Write for leaflet today telling how to get started. Henry Jefferies, Ottawa, Kansas.

EVERBLOOMING STRAWBERRY plants—Americus, 100 strong healthy plants true to name, only 90 cents; 500, $4. Have tried Americus, Progressive and Superb. Americus proved the best bearer. Big stock flowering and vegetable plants. Write for descriptive price list. Henry Jefferies, Ottawa, Kansas.

ALFALFA AND KAFIR SEED—RECleaned, home-grown, non-irrigated. Alfalfa seed, $5, $6, $7, $8 and $9. White Flower sweet clover, hulled, $12; unhulled, $7.50. Pure white kafir, $2; good growing kafir, 1% cane seed, $1.75 per bushel, our track. Seamless bags, 30c each. Samples on request. The L. C. Adam Mercantile Co., Cedar Vale, Kansas.



The New Hired Hand!

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If she tries Calumet she'll stick to it. Its dependability and uniform quality means good-bye to bake-day failures.

The farmer's wife wants the *most* of the *best* for her money. That's why most of them use Calumet. It's pure in the can and pure in the baking.

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CATTLE.

FOR SALE—ONE PURE-BRED JERSEY bull calf, born January 24, 1917. Write H. H. Starr, Claflin, Kansas.

TWO GUERNSEY HEIFERS, BOTH REGistered, richly bred, in calf and priced right. J. W. Marley, Oswego, Kansas.

GALLOWAYS FOR SALE — TWENTY head registered. T. T. Huntington, Rocheport, Missourl.

HIGH GRADE HOLSTEIN HEIFER calves, $17 each, crated. Edw. Yohn, Watertown, Wisconsin.

REGISTERED HOLSTEIN BULLS TWO to seven months old, very reasonable. Wm. Mlelenz, 97 Wisconsin, Milwaukee.

FOR SALE—A RED POLLED BULL calved November 19, 1914. Will make a show bull. Geo. Haas, Lyons, Kansas.

300 HEAD OF REGISTERED AND HIGH grade cows and heifers for sale, headed by the great 40-pound bull, Johanna King Segis. Neal Houslett, Oxford, Wis.

CHOICE CALVES—HOLSTEINS, GUERNseys, Shorthorns, high grades, $15 to $35 according to age. Expressed to you at little cost. Write Paul Johnson Company, South St. Paul, Minn.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $23 apiece. Frank M. Hawes, Whitewater, Wis.

ONE HUNDRED CHOICE BREEDY HOLsteins from six months to six years. Some fresh, a lot springing. Tuberculin tested, three-fourths white, dairy conformation. Yearlings extra large. C. S. Simmons, Belmont, Wisconsin.

HEDGE POSTS.

FOR SALE—FIFTY THOUSAND OSAGE hedge posts. H. W. Porth, Winfield, Kan.

MISCELLANEOUS.

FOR SALE—16-HORSEPOWER GASOline engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost $480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

THE STRAY LIST.

TAKEN UP—BY PETER MUGLER, OF McPherson, King City Township, McPherson County, Kansas, on the 19th day of February, 1917, one red steer, about 1½ years old, small V cut in top of right ear. W. E. Rostine, County Clerk.

TAKEN UP—BY B. F. FORD, OF SENeca, Adams Township, Nemaha County, Kansas, February 21, 1917, one red cow four or five years old. Tip of tail white, white streak under belly. No marks or brands. Appraised at $45. W. L. Kaufman, County Clerk.

BUSINESS CHANCES

offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

DOGS.

COLLIE PUPPIES, $5. FRANK BARrington, Sedan, Kansas.

FOR SALE—SCOTCH COLLIE PUPS, farm raised, from good workers. I. P. Kohl, Furley, Kansas.

AIRDALE—THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

S. Y. Thornton, the well known Duroc Jersey breeder of Blackwater, Missouri, reports a heavy demand for high class Durocs. He has practically sold out of breeding stock ready for service. He has saved a large number of February pigs and has a large number of sows bred for March farrow.

Real Estate For Sale

For Sale

EIGHT-ROOM HOUSE, MODERN, in Kenwood Addition. The best residence district of Topeka. Good terms. Write

KANSAS FARMER, BOX 3
TOPEKA, - - - KANSAS

Improved Section $8 per Acre

Excellent Stock Ranch, Wichita County, Kansas. With plenty of outside range, on daily motor mail route. Some rolling land but greater part of place nice smooth farm land. Abundance of water, bargain, must be sold at once.

D. F. CARTER - LEOTI, KANSAS

480 ACRES, this county. Near oil development. Can lease for oil. $1.50 per acre. Good pasture. $4.50 per acre. Terms.
SOUTHERN REALTY CO., McAlester, Okla.

EXCHANGES.
I have good farms to trade for smaller farms and city property. Write me.
W. M. GARRISON - SALINA, KANSAS

640-Acre Homestead waiting for you. Good grass, water, plenty timber. Don't miss opportunity. Best ever. For particulars write **J. C. WYNN, LOCATOR, GRANTS, N. MEX.**

SPECIAL BARGAIN—Highly improved 120-acre farm adjoining Ottawa, abundance good water, good soil, very choice home. Write for descriptive list of same.
Special Price on 360 acres, well improved; 100 acres tame grass.
Also 170 acres, well improved, choice farm, ideal location, very attractive. Write for full descriptions. Possession at once.
MANSFIELD LAND CO., OTTAWA, KAN.

FARM AND HERD.

E. J. Stearns, of Elkhorn, Wisconsin, owner of one of the good Holstein herds in that state, reports his herd making a fine record this year. This herd is noted for heavy production and a feature of the herd at this time is the fine lot of young stock by a 31-pound sire.

M. E. Peck & Son, Salina, Kansas, have announced Monday, April 9, as the date of their sale of 200 head of Holsteins and a choice lot of Jerseys. Among the lot will be forty head of Holstein cows, all springers. They are excellent in quality and conformation. There will also be 100 head of three-year-old heifers, all springers; sixty head of coming two-year-olds, six registered Holstein bulls, and a choice lot of Jersey heifers that will be fresh from April 1 to 15. The entire offering is tuberculin tested.

W. H. Mott, sale manager, of Herington, Kansas, announces a sale of registered Holsteins to be held at Newton, Kansas, April 7, the day following the meeting of the State Holstein-Friesian Association. Sixty head of choice Holsteins have been selected from the herds of Dr. Axtell, Newton, Kansas; Dr. Schuyler Nichols, Herington, Kansas, and W. H. Mott, of Herington. The owners of these herds have made a sacrifice in the interest of a choice offering that will meet with the approval of Holstein breeders. The offering will consist of thirty cows, most of them near freshening; twelve head of two-year-olds that will freshen soon; a lot of yearling and coming two-year-old heifers; three bulls of serviceable age, and several calves of both sexes by Canary Butter Boy King.

D. S. Mayhew, of Sweet Springs Stock Ranch, Monett, Missouri, reports his big herd of Jerseys making a good record this year. Mr. Mayhew owns one of the very high class herds of registered Jersey cattle in Missouri. His blood lines are the best of the breed and his herd is noted for its heavy producers. A feature of his herd at this time is the big lot of fall boars and glits, including herd headers.

H. E. Anderson, of Clover Valley Holstein Farm, Whitewater, Wisconsin, reports a heavy demand for high class Holsteins, and during the past week he has shipped three carloads of high class Holsteins, all of them to the Southwest. Clover Valley Holstein Herd is one of Wisconsin's high record herds and some of the best herds in the country were started with foundation stock from this farm.

RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

BARRED ROCK EGGS—WILL PLEASE. $1 postpaid. Mrs. Geo. Kennedy, Edmond, Okla.

BARRED PLYMOUTH ROCKS — FARMbred beauties. Eggs for hatching, 5c each. Mrs. W. C. Bocker, Solomon, Kan.

BARRED ROCK EGGS, $1 PER SETting, $4 per hundred. Mrs. Lillie Hirt, Parkerville, Kansas.

CHOICE WHITE ROCK COCKERELS for sale. Mrs. T. A. Case, Route 2, Sterling, Kansas.

WHITE ROCK EGGS, $2 PER FIFTEEN. Quality guaranteed. W. G. Allison, Sterling, Kansas.

EGGS—FANCY BARRED ROCKS, WINter layers, $1.25 and $2.50 setting. Clyde Karel, Clarkson, Nebraska.

WINTER LAYING BUFF ROCKS—EGGS $1, $1.50 setting. Range, $5 hundred. Chicks, 12½c. Mrs. A. P. Young, Lexington, Mo.

BARRED ROCK COCKERELS, $1.50; eggs, $1; $4 per hundred. J. T. Hammerli, Oak Hill, Kansas.

HIGH QUALITY BARRED "RINGLETS." 100 chicks, $15. Eggs, $5. Edward Hall, Junction City, Kansas.

BARRED PLYMOUTH ROCK EGGS, $4 hundred. Valley View Poultry Farm, Concordia, Kansas.

FINE BARRED ROCK EGGS FROM farm raised flock, $1.50 per fifteen. Mrs. J. A. Grimes, Milo, Kansas.

WHITE ROCK EGGS, HOLBACH strain, $1.25 per fifteen; $6 per hundred. Mrs. E. E. Merten, Clay Center, Kansas.

WHITE ROCKS, SIZE AND QUALITY, good egg strain. Eggs—fifteen, $1; fifty, $3; hundred, $5. G. M. Kretz, Clifton, Kansas.

BUFF ROCK EGGS FOR HATCHING—Thirty eggs, $2; fifty eggs, $3; hundred, $5. Joe Carson, Bliss, Oklahoma.

BUFF AND WHITE ROCK EGGS, $2.50 per fifty, $5 per hundred. Excellent show record. W. H. Beaver, St. John, Kansas.

WHITE ROCKS, FARM RAISED, PRIZE winners. Eggs, $1.25 setting; $3, fifty; $5, hundred. Mrs. Ben Miller, Newton, Kansas.

WEIGHER-LAYER BARRED ROCKS — Pens, $3 to $5 setting; flock, $5 hundred. C. F. Fickel, Earlton, Kansas.

BARRED ROCK EGGS FOR SETTING, $1 per fifteen, $5 per hundred. Agnes Wilson, Grantville, Kansas.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." $35 cockerel heading Pen No. 1. Eggs, $4 per fifteen. Mrs. Iver Christenson, Jamestown, Kansas.

PURE-BRED BARRED ROCKS EXCLUsively. Choice stock. 100 eggs, $5; 50, $3. Safe delivery and satisfaction guaranteed. Adam A. Weir, Clay Center, Neb.

HATCHING EGGS FROM BARRED PLYmouth Rocks, excellent birds. Two dollars for fifteen. Peter H. Friesen, Route 1, Lehigh, Kansas.

BARRED ROCKS — FIRST COCKEREL, Manhattan, 93½. Fifteen eggs, $3; hundred, $5. Duroc boars, gilts. F. F. Wood, Wamego, Kansas.

WHITE ROCKS—SEVENTEEN RIBBONS this season. Eggs, one and two dollars per fifteen. Mating list. Ed Fehr, Marquette, Kansas.

BLUE RIBBON BARRED ROCKS — Twenty-eight years experience. 110 premiums. Pens headed by Chicago winners. Eggs, fifteen, $3, $3.50. Mrs. Chris Bearman, Ottawa, Kansas.

PRIZE WINNING BARRED ROCKS — Four entries, five prizes, State Show 1917. Eggs, special mating, $3 to $5; farm flock, $1. C. D. Swalm, Geuda Springs, Kansas.

BARRED PLYMOUTH ROCKS, E. B. Thompson strain. Eggs, $1.50 per fifteen; $3.50 per fifty; $6 per hundred. C. J. Rivir, Lafontaine, Ind.

BARRED ROCKS, EXCELLENT IN SIZE and quality. Eggs, first pen, $3 per fifteen; range flock, $6 per hundred. Mrs. Myrtle Henry, Route 1, Lecompton, Kansas.

PURE BARRED ROCK EGGS FROM large well-marked range birds, $1.25 setting, $6 hundred. Choice Thompson strain pen eggs, $3 setting. S. R. Blackwelder, Isabel, Kansas.

LINDAMOOD'S BARRED ROCKS, BOTH dark and light matings. Prices for eggs from special matings, $5 per fifteen. Utility eggs, $5 per hundred. Send for circular. C. C. Lindamood, Walton, Kansas.

EGGS FOR HATCHING — FROM BEST lnying strains of Barred Plymouth Rocks. Bradley Bros. nnd Parks 200-egg strains. $3, fifteen; $5, thirty. Catalog. Gem Poultry Farm, Haven, Kansas.

BARRED ROCK EGGS FROM RIBBON winners. Utility, $4 per hundred; fifty for $2.50. Pen eggs, $5 per fifteen. Have niways won wherever shown. It. D. Ames, Walton, Knnsas.

BARRED PLYMOUTH ROCKS — GENUine Thompson Ringlet prize winning strains. Pen eggs, either cockerel or pullet mating, also utility flock eggs. Circulars free. A. F. Siefker, Defiance, Missouri.

BARRED ROCK SPECIALIST — PRIZE winning Hobart, first, second, third, fourth cockerel; first, third pullet; first pen; second, third cock; silver cup, gold special. Okinhoma City, first pullet, bred pen, first cock. Eggs, fifteen, $2, $3; hundred, $6. Fred Hall, Lone Wolf, Okla.

RHODE ISLAND REDS.

SINGLE COMB RED EGGS—GOOD FARM range, $4 per hundred, $1.50 per thirty. Mrs. Rosa Janzen, Box 242, Geneseo, Kan.

HIGH SCORING R. C. R. I. REDS—EGGS, $1.50 per setting. Fertility guaranteed. Chas. Wodke, Council Grove, Kansas.

ROSE COMB R. I. RED EGGS, FIFTEEN, $2. Fine stock. G. D. Willems, Inman, Kansas.

PURE-BRED ROSE COMB RED EGGS, $1 per fifteen, $5 per hundred. Fine laying strain. Oliver Spencer, Hesston, Kansas.

ROSE COMB RHODE ISLAND REDS—Utility stock. Winter layers. Eggs, $2, 15; $5, 45; $9, 100. Louise Krigbaum, Route 1, Topeka.

ROSE COMB RED EGGS FROM BLUE ribbon winners, $3, $5, $7.50 per fifteen. Best of guarantee. Fred Kelm, Seneca, Kan.

ROSE COMB RED EGGS—RICH, RED, fine undercolor, winter layers. Mrs. Alice Dolson, Neal, Kansas.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Baby chicks. Mating list. L. E. Castle, Wichita, Kansas.

DARK R. C. REDS, PURE-BRED, EXTRA fine. Eggs, $3 and $2 per fifteen; $5 per hundred. W. J. Honeyman & Sons, Hillside farm, Madison, Kansas.

PURE-BRED ROSE COMB RHODE Island Reds. Eggs for hatching, $1 per fifteen, $5 per hundred. Mrs. L. F. Hinson, Stockdale, Kan.

R. C. REDS — EGGS FOR HATCHING. Laying strain headed by prize winning cockerel. Fifteen, $3. Mrs. Mira Lambert, Anderson, Missouri.

LARGE, DARK, RICH EVEN RED R. C. Reds—Eggs, fifteen, $1; fifty, $3. Dark colored range flock, $5 hundred. Nora Luthye, Route 6, North Topeka, Kansas.

EGGS FOR SALE—S. C. R. I. REDS.—Breeder for twelve years. $1.50 per setting of fifteen; $5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

S. C. RED EGGS — CHOICE RANGE flock, no culls; 100, $7; extra fancy pens, $3 to $5 per fifteen. Our customers get good hatches. Winners for years in best shows. May Felton, Blue Mound, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

WYANDOTTES.

R. C. BUFF WYANDOTTE EGGS, $1.50 for fifteen. G. G. Wright, Langdon, Kan.

WHITE WYANDOTTE EGGS, $1 PER 15. Martin Fishel strains. Fred Watts, Havensville, Kansas.

WHITE WYANDOTTE EGGS, $1, FIFteen; $5 hundred. Mrs. Geo. Downie, Lyndon, Kansas.

ROSE COMB WHITE WYANDOTTE EGGS $4 per hundred; farm range. Bertha Rogers, Route 6, Garnett, Kansas.

WHITE WYANDOTTES — EGGS FROM choice stock, $1.80, thirty; $5, hundred. Mrs. Will Belghtel, Holton, Kansas.

COLUMBIAN WYANDOTTE EGGS—FIFteen, $1.50; hundred, $7. Miss Etta Foresman, Belvue, Kansas.

SILVER-LACED WYANDOTTE EGGS, $1.25 per fifteen; $3 per fifty; $5 per hundred. Mrs. H. R. Young, Stella, Neb.

ROSE COMB WHITE WYANDOTTE eggs, per fifteen, $1; one hundred, $4. H. A. Ritter, Route 2, Kiowa, Kansas.

EGGS FOR SALE FROM PURE WHITE Wyandottes, $6 per hundred. Mrs. D. J. White, Clements, Kansas.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuis, Fredonia, Kansas.

CHOICE ROSE COMB SILVER WYANdotte eggs, $1 for 15; $5 for 100. Mrs. Phillip Schuppert, Arrington, Kansas.

WHITE WYANDOTTE EGGS FROM farm range stock, $4 per hundred. Vida Hume, Tecumseh, Kansas.

EGGS—SILVER LACED WYANDOTTES, fifteen, $1.25; fifty, $3.50. Rouen and Buff Orpington duck eggs, twelve, $1.50. Fred Kucera, Clarkson, Neb.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $6. Baby chicks. Mrs. Edwin Shuff, Plevna, Kansas.

PARTRIDGE WYANDOTTE EGGS, MAhogany strain, $1.50 per fifteen. Good cockerels, $3 to $5 each. Canaries, fine singers. Bnby chicks. Mrs. Edith B. Taylor, Mnrion, Knnsas.

SILVER WYANDOTTES. YES, I AM still selling Silvers. Have some good cockerels left. Eggs in season. Prices reasonable. Write me. M. B. Caldwell, Broughton, Kansas.

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EGGS — WHITE WYANDOTTES FOR quality. Good layers. Utility, $1.25 fifteen, $3 fifty, $5 hundred. Pen hended by $10 cockerel direct from Fishel, $2 fifteen. M. M. Weaver, Newton, Kansas.

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MACK'S SINGLE COMB REDS—FINEST quality. Best layers. Dark red. Large size. Eggs, chicks. Write H. H. McLellan, Kearney, Nebraska.

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TIP TOP ROSE COMB BROWN LEGhorn eggs. J. E. Wright, Wilmore, Kan.

PURE-BRED SINGLE COMB BROWN Leghorns. Choice farm flock. Eggs, 100, $4. Mrs. D. A. Wohler, Hillsboro, Kansas.

PURE-BRED S. C. BROWN LEGHORN eggs, $1 per fifteen, $5 per hundred. Mrs. L. H. Hastings, Thayer, Kansas.

"BARRON'S 268-EGG LEGHORNS" — Eggs, $5 hundred. Sunlight Poultry Farm, Mt. Moriah, Mo.

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MRS. SMITH'S QUALITY WHITE LEGhorn eggs, $5 per hundred. Mrs. A. J. Smith, Colony, Kansas.

SINGLE COMB BUFF LEGHORN COCKerels. Eggs. White Holland turkey toms. Eggs. Mrs. S. F. Crites, Florence, Kansas.

SINGLE COMB WHITE LEGHORN EGGS —English Barron strain. Baby chicks. F. B. Morger, Fowler, Colo.

ROSE COMB WHITE LEGHORNS — Eggs for hatching, $5 per hundred. Mrs. Joe Streeter, Route 6, Hamilton, Mo.

ROSE COMB BROWN LEGHORNS — Prize winners. $5 hundred, $2.75 fifty, $1 fifteen. Rufus Standiferd, Reading, Kan.

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WANTED—BABY CHICKS, ANY QUANtity. We are the largest shippers in Middle West. Write for prices. Shelton Poultry Co., Inc., Denver.

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PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Booking orders. Eggs of these, $4 dozen; Golden, $5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

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PURE-BRED WHITE ORPINGTONS — Eggs for hatching, $1 per fifteen, $5 per hundred. Frank Hinson, Stockdale, Kansas.

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BUFF ORPINGTONS, BRED TO LAY. Eggs—fifteen, $1.50, prepaid. Chicks, 15c. John Oiler, Adrian, Missouri.

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EGGS — BUFF ORPINGTONS, PARTridge Rocks, Bourbon turkeys, Toulouse geese and Buff ducks. Mrs. Frank Neel, Beverly, Kansas.

"PAYWELL" BUFF ORPINGTON EGGS from heavy winter layers and blue ribbon stock, $2 per fifteen. L. S. Weller, Salina, Kansas.

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BUCKNELL'S BIG BLACK LANGSHANS —Bigger and better than ever. Eggs at the same old price, $1 for fifteen, $5 for 100. Postage or express prepaid. R. E. Buckneil, Hardy, Nebraska.

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BOURBON RED TURKEY EGGS, $2.50 per eleven.—Fred Watts, Havensville, Kan.

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MAMMOTH WHITE HOLLAND TURkeys—Eggs, $2.50 per eleven. Let us book your order early. Mrs. Roy Davisson, Sabetha, Kansas.

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MAMMOTH BRONZE TURKEYS — NO more toms for sale. Pullets, $5, $10; hens, $10, $15. Eggs—Yard, 1, $1 each; second, 50 cents. Black Langshan, Barred Plymouth Rock cockerels for sale, $2, $5. Eggs, $2-$5 per setting. Show record. Jas. W. Anders, Unionville, Mo.

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TWENTY VARIETIES POULTRY. EGGS, $1.50 setting. Royal Poultry Yards, Coffeyville, Kansas.

EGGS—BARRED ROCKS, BRONZE TURkeys and Pekin ducks. Grace Aspedon, Farragut, Iowa.

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TURKEYS, GEESE, WHITE RUNNERS, Buff Drakes, Single Comb White Orpingtons, Buff and Brown Leghorn cockerels. Emma Ahlstedt, Roxbury, Kansas.

EGGS—S. C. BLUE ANDALUSIANS, BLUE Orpingtons, Buff Leghorns, Buff Orpington ducks, Bourbon Red turkeys. Circular. John A. Huber, La Crosse, Kansas.

EGGS FROM EXTRA GOOD BOURBON Reds, $3 for eleven. Silver Laced Wyandotte eggs, $1 for fifteen. Julia Haynes, McDonald, Kansas.

ALL VARIETIES LAND AND WATER fowls, imported stock. Winners of thousands of prizes. List free. Rose Lawn Poultry Farm, Beaver Crossing, Nebraska.

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EGGS FROM PURE-BRED PRIZE WINning Bourbon Red turkeys, both combs. S. C. R. I. Reds, White and Black Langshans, Anconas and Light Brahmas. Write for mating list. Mr. Henry Gilien, Route No. 1, Osborne, Kansas.

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FOR SALE, EGGS—EGGS FROM PUREbreds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

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S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

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W. T. McBride, of Parker, Kansas, sold thirty head of March and April Duroc-Jersey gilts on March 15 for an average of $61.65. Nothing sold high. The top price, $77, was paid for No. 27, which went to J. O. Stulp, Hartford, Kansas. A number of breeders from Missouri, Kansas, and Oklahoma, were present. J. E. Jones, of Liberty, Missouri, purchased four year of valuable gilts for herd material. The sale was a quick, snappy one, and the prices received were very satisfactory to Mr. McBride.

Public Sale of Registered Holsteins at Newton, Kansas

SATURDAY, APRIL 7, 1917

The day following the meeting of the State Holstein Friesian Association



FANCHER FARM MAXIE

SIXTY CHOICE HOLSTEINS

This offering selected at a sacrifice from the herds of Dr. Axtell, of Newton, Kansas; Dr. Schuyler Nichols, of Herington, Kansas, and W. H. Mott, Herington, Kansas. The offering will consist of

30 COWS, MOST OF THEM NEAR TO FRESHENING
12 HEAD OF TWO-YEAR-OLDS TO FRESHEN SOON
12 HEAD OF YEARLINGS AND COMING TWO-YEAR-OLD HEIFERS
3 BULLS OF SERVICEABLE AGE
SEVERAL CALVES, BOTH MALE AND FEMALE, SIRED BY CANARY BUTTER BOY KING.

This offering consists of good individuals of the large square kind. All over six months of age tuberculin tested. This sale will be held in the pavilion at the Dr. Axtell Dairy Farm, adjoining the City of Newton, on April 7, the day following the meeting of the State Holstein-Friesian Association. For catalog or information address

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THE FARMER'S GENERAL PURPOSE HORSE

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38 Mi. E. of K. C. on C. M. & St. P.
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Two to six years old, heavy bone, right in every way. Imported Spanish jack, weight 1,200 pounds, at head of jennet herd. Come and see us. We mean business. Prices reasonable.

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DEMING RANCH POLANDS

Twenty strictly high class boars, bred the same as our grand champion sow and other prize winners. They are herd headers. Also gilts and bred sows and 150 fall pigs. All immune.

THE DEMING RANCH
H. O. Shelden, Herdsman Oswego, Kansas

TOWNVIEW FARM
Big-Type Poland Chinas.

For Sale—25 summer and fall gilts, sired by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 25 summer boars. Come and see my herd.

C. E. GREENE - PEABODY, KANSAS

ARKELL'S BIG POLANDS

Fall boars sired by Longfellow Again and Chief Big Bone, out of choice big-type sows. Choice individuals. Some herd header prospects.

JAS. ARKELL, JUNCTION CITY, KANSAS

OLD ORIGINAL SPOTTED POLANDS

Have only a few of last fall's litters left. Write your wants to

THE CEDAR ROW STOCK FARM
A. S. Alexander, Prop. R. 2. Burlington, Kan.

PROFITABLE TYPE POLANDS

Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.

L. C. WALBRIDGE - RUSSELL, KANSAS

LANGFORD'S SPOTTED POLANDS

Boars — Serviceable age, guaranteed to please. Breeding stock, both sexes.

T. T. LANGFORD & SONS, Jamesport, Mo.

PUBLIC SALE OF HOLSTEIN AND JERSEY SPRINGERS AND HEIFERS



At Oakwood Stock Farm, Salina, Kan., April 9

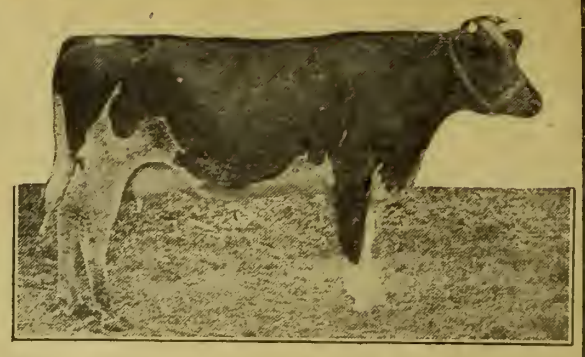
Two Hundred Head of Carefully Selected High Grade Holstein Springers and Heifers.

We will sell on the above date 200 head of Holstein cows and heifers, consisting of forty head of high grade springer cows of excellent type and conformation. If you want good producers, these cows will suit you.

One hundred head of three-year-old springer heifers, large and good type. These heifers are excellent quality and will make splendid cows.

Sixty head of coming two-year-old heifers of excellent type and quality.

Six head of registered Holstein bulls.



Twenty head of high grade two-year-old Jersey heifers, due to freshen April 1 to 15. These Jerseys are extra good quality. They will make good cows and will suit anyone wanting Jerseys.

All cattle offered for sale have been tuberculin tested. Salina is on the Union Pacific, Rock Island, Santa Fe and Missouri Pacific railroads, which offer excellent shipping facilities to any part of the state. If you want dairy stock, you cannot afford to miss this sale. Free transportation from Salina to Oakwood Stock Farm, four miles north.

M. E. PECK & SON, SALINA, KANSAS

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm — F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN-FRIESIAN FARM, TOWANDA, KANSAS

Breeders of pure-bred Holsteins. Special attractions in choice young bulls ready for service, with fashionable breeding. Write for pedigrees and prices. We maintain a breeding herd of pure-bred females and offer a grand lot of young springing heifers and cows, a number with A. R. O. records at prices within reason.

IT WILL PAY YOU TO SEE OUR OFFERING

Of choice extra high grade young cows and heifers, all springers in calf to pure-bred sires; large developed females, good udders, well marked and the right dairy type at prices that will challenge comparison for Holsteins of their breeding and quality. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone.

GIROD & ROBISON

HOLSTEIN CATTLE.

MAURER'S HOLSTEIN FARM

Is offering another choice lot of young pure-bred cows and springing heifers, including several granddaughters of Pontiac Korndyke. Also some registered yearling heifers, and a fine lot of large, heavy milking, high grade cows, and both pure-bred and grade calves of either sex. Write or call.

T. R. MAURER & CO., EMPORIA, KANSAS.

Pure-Bred Holstein Calves

Ten heifer calves from one to four months old. Also a few bull calves for sale. All these are nicely marked, good individuals, and from a 31-pound sire. Write for prices.

E. J. STEARNS, Route 1, ELKHORN, WIS.

CORYDALE FARM HERD

Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.

L. F. CORY & SON, BELLEVILLE, KAN.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

LILAC DAIRY FARM

Route No. 2, Topeka, Kansas.

BREEDERS OF PURE-BRED HOLSTEINS

Bulls from A. R. O. cows, all ages, for sale.

REGIER'S HOLSTEINS

Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.

G. REGIER & SONS, WHITEWATER, KAN.

25 - HOLSTEINS - 25

Fresh and heavy springing. Young grade cows extra well bred, also heifer calves.

GLEN C. SMITH - SEDGWICK, KAN.

Braeburn Holsteins

A. R. O. BULL CALVES

With De Kol-Netherland-Korndyke main blood lines, and Johanna, Walker, King Segis out-crosses.

H. B. COWLES - TOPEKA, KANSAS

NEMAHA VALLEY HOLSTEIN FARM

Choice yearling bulls and bull calves. World's record blood lines. Price reasonable. We invite inspection of our herd.

H. D. BURGER, Route 2, SENECA, KANSAS

REGISTERED HOLSTEINS

We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.

M. E. MOORE & CO. - CAMERON, MO.

CEDAR LANE HOLSTEIN HERD

We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.

T. M. EWING, INDEPENDENCE, KANSAS

32 1-2 POUND BREEDING

Bull calves from A. R. O. dams, sired by Beauty Pietertje Prince, a 32.52-pound bull. Good individuals, splendidly marked. Priced right. M. E. GUNDERSON & SONS, Route 25, Oconomowoc, Wisconsin.

HOLSTEIN CATTLE

We offer for sale 200 choice, high grade Holstein cows, heifers and service bulls of various ages; well marked and in good condition. Also can furnish a few choice, beautifully marked, 15/16ths pure-bred heifer or male calves, 1 to 2 weeks old, out of heavy milk-producing dams, at $15 each, crated f. o. b. cars. First draft takes them. Write

W. C. KENYON & SONS, ELGIN, ILLINOIS

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

HOLSTEIN CALVES.

Very high grade heifer calves, five weeks old, nicely marked, $20 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

Look to the future.

Tredico Bulls
(Holsteins)
Kingman, Kansas

CEDAR LAWN FARMS
C. A. Schroeder & Sons, Props.

Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.

W. C. SCHROEDER - WEST BEND, WIS.

JERSEY CATTLE.

Sweet Spring Stock Ranch and Jersey Cream Dairy

The homes of
High Class Registered Jersey Cattle

Stock for sale at all times of very best blood lines.

D. S. MAYHEW, Prop. - MONETT, MO.

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

REDMAN & SON - TIPTON, MISSOURI

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. BERRY & SON, Jewell City, Kansas

DORNWOOD FARM JERSEYS

Some richly bred young Jersey bulls. Pedigrees and prices on request.

DORNWOOD FARM - TOPEKA, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

LINSCOTT JERSEYS

BIG Dispersal Sale, May 31

R. J. LINSCOTT - HOLTON, KAN.

YOUNG'S REGISTERED JERSEYS

Won 150 prizes at six leading state fairs in 1916. Am offering cows, heifers and bulls, over 100 head of the best milk and butter strains. Write at once to

HAL C. YOUNG - LINCOLN, NEB.

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

Registered Kentucky Jacks



I have shipped from my home, Poplar Plains, Kentucky, eighteen head of jacks to Newton, Kansas, and they are for sale privately. This is a good load of jacks, with lots of bone and size, with all the quality and finish you would ever see in a load of jacks. Ages from two to eight years; height from 14½ hands to 16 hands standard, and good performers.

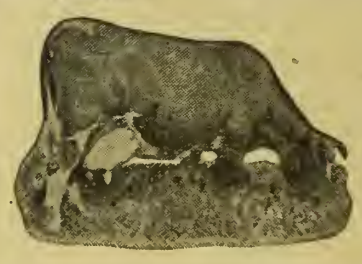
I have shipped jacks to Kansas since 1879 and I do not believe I ever shipped a better load.

Any one wanting a good jack, call and see me at Welsh's Transfer Barn, two blocks from Santa Fe Depot, one block from Interurban. Come and see me.

E. P. MAGGARD

Successor to Saunders & Maggard NEWTON, KAN.

GUERNSEY CATTLE.



THIS GRADE GUERNSEY COW in Illinois produced in one month 93.9 lbs. of butter fat, equivalent to 109.5 lbs. butter—over 3½ lbs. daily—and 1566.1 lbs. milk testing 6% fat.

GUERNSEYS are the MOST ECONOMICAL PRODUCERS of BUTTER FAT

Write for a free breeder's calendar and our beautiful booklets

THE AMERICAN GUERNSEY CATTLE CLUB
BOX R. K., PETERBORO, N. H.

HEREFORD CATTLE.

Walnut Breeding Farms



Where real Anxiety 4th blood is found in abundance. The home of Concentrate 289644, a double Beau Brummel. Young stock always on hand for sale from this noted sire. Five extra herd headers on hand at reasonable price, blood lines considered. Twenty choice young bulls for sale. Come and see my herd. Satisfaction guaranteed. Also a few Berkshire pigs.

LEON A. WAITE, R. F. D. 8, WINFIELD, KAN.

RED POLLED CATTLE.

Red Polled Cattle

A few 1916 fall bull calves for sale. Also a few cows and heifers.

AULD BROS. - FRANKFORT, KANSAS

FOR SALE

Red Polled Cattle

Three cows. Nine yearling heifers. Two yearling bulls. One two-year-old bull.

A. E. WHITZEL - STERLING, KANSAS

DUROC JERSEYS.

DUROC JERSEY GILTS

We have fifteen well bred Duroc gilts, priced for immediate sale.

C. D. WOOD & SONS, ELMDALE, KANSAS

One of the good Poland China sales of the season was held by Olivier & Sons of Danville, Kansas, February 23. Fifty bred sows sold for an average of $101. The top price was $300.

HEREFORD CATTLE.

HEREFORDS AND PERCHERONS

Choice 2-year-old bull, weight 1,600 lbs.; extra good bull calves. One May calf, weight 600 lbs., outstanding herd header prospect. Two choice yearling Percheron stallions. Priced to sell.

M. E. GIDEON - EMMETT, KANSAS

AUCTIONEERS.

Live Stock and Farm Auctioneer

Write or wire for date. I can please you.

LAFE BURGER, WELLINGTON, KANSAS

Jas. T. McCulloch

Live Stock Auctioneer. I make sales anywhere.

Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer

Write for terms and date. Clinksdale, Mo.

ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE

Twenty-five young bulls, also some good cows and heifers for sale. All registered.

D. J. WHITE, CLEMENTS, KANSAS

Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

SUNFLOWER HERD 3rd ANNUAL SALE OF

160 - REGISTERED HOLSTEINS - 160

TWO DAYS SALE, APRIL 10-11, 1917



SUSAN AAGGIE RUE BURKE 133979

At 2 years, 249.3 pounds milk, 11.19 pounds butter. At 7 years, 486.3 pounds milk, 19.3 pounds butter. One A. R. O. Son. Sire, Johanna Rue Burke Sascastic 55700. Dam, Susan Aaggie Posch 88331. One of the heavy producing cows of the herd. Owned by F. J. Searle, Oskaloosa, Kansas.

This will be a dispersal of the entire herd of fifty cattle comprising the Sunflower Herd, as I have decided for various reasons to change my plans for the future. It is with much regret that I part with this VERY BEST lot of cattle I have ever owned, but the purchasers of this herd will reap the reward of my efforts that have held Sunflower Herd as the foremost of Holsteins in Kansas and the Middle West.

Our herd sire, Prince Artis Pontiac Abbekerk No. 136382, goes in this sale. In 1914 I began scouting for the best bull that would fill my requirements as to breeding and individuality, and found this bull at Stevens Bros. Co., Liverpool, N. Y. He was the kind I had been looking for, being by a son of King of the Pontiacs, from a 30-pound daughter of Tidy Abbekerk Prince, and his general make-up was to my liking. My judgment proved good from future development of this bull, and the kind of calves we are getting from him.

His sire, King Pontiac Artis (eighteen A. R. O. daughters and six A. R. O. sons) is a son of that famous daughter of Hengerveld De Kol, Pontiac Artis, 31.71 pounds butter, 550 pounds milk in seven days; 129.43 pounds butter in thirty days from 2,488.50 pounds milk; 1,076.91 pounds butter in 365 days from 21,834 pounds milk. She won all prize money. His dam, Tidy Abbekerk Princess Bettina, has A. R. O. record of 30.13 pounds butter in seven days from 617.50 pounds milk (the largest yield of any daughter of her sire); 113.74 pounds butter in thirty days from 2,351 pounds milk, and she has eight A. R. O. sisters above 30 pounds seven days, of which not less of these eight sisters carry 75% to 100% same breeding as herself. Her sire, Tidy Abbekerk Prince, is a son of the noted show cow, Tidy Abbekerk (27.29), who has shown her great transmitting ability by producing five daughters with records up to 28 pounds, and three sons with a large list of splendid A. R. O. daughters.

The 44-pound cow, Changeling Tidy Abbekerk Wayne, has for her dam a daughter of Tidy Abbekerk Prince, with 100% the same breeding as the dam of Prince Artis Pontiac Abbekerk. The two grand-sires of Prince Artis Pontiac Abbekerk have together 280 A. R. O. daughters, of whom **twenty-seven are above 30 pounds, seven days,** including two above 40 pounds—certainly a backing that would be difficult to equal. He is bred to sire both large producers and fine individuals, for his backing is the very best of the breed.

Thirty cows and heifers in this sale bred to this great sire, including ten cows with A. R. O. records of from 12 pounds as two-year-olds to 21 pounds for cows. Several young cows and bred heifers sired by the 30-pound sire, Pabst Segis Pontiac Champion, with a long string of heifer calves by same sire. A lot of excellent bred yearlings by one of the greatest sons of King Walker, a few young bulls by my 30-pound sire, and one by the great 33-pound sire, Woodcrest Pietje Clyde, also a daughter of same sire.

I have a number of cows that have milked above 85 pounds each, one day this winter, and a number that have produced and will produce from 15,000 to over 20,000 pounds during this lactation period of less than 365 days.

Big, strong, healthy, fine individuals with the right kind of udders, the kind everybody likes.

Among our consignments will be a large number of daughters of that great sire, King Segis Pontiac, together with a few of his good sons.

Ten daughters of King Frontier Pontiac (a son of King of the Pontiacs from a 26-pound show cow). King Frontier Pontiac will also be sold.

There will be many other cows and heifers sired by bulls carrying the best blood of the breed, and from dams of equally good breeding.

Altogether 160 head of registered cattle, including two great herd sires, young herd sires, A. R. O. cows, heifers and calves. You have been wanting Holsteins, and here, on April 10 and 11, will be the place for you to procure the best there is. For information and requests for catalogs, address

F. J. SEARLE, - - - - - OSKALOOSA, KANSAS

All cattle from outside the state will have federal test. All Kansas cattle tested by proper state authorities

AUCTIONEERS—HAEGER, KELLEY AND CREWS.



Central Shorthorn Breeders Association

Fourth Annual Sale of

SHORTHORN CATTLE

Two Days, April 4, 5, 1917

At Fine Stock Pavilion, Kansas City, Mo.

120 - HEAD OF SHORTHORNS - 120

Drafted from the best herds in the corn belt. Sixty bulls from yearlings to matured sires. Sixty cows and heifers, consisting of cows with calves at side and re-bred, heifers bred and open.

These cattle are contributed by the best breeders in the corn belt and are sired by the most popular sires known to the breed. The best lot of cattle ever consigned to our Central Shorthorn Breeders' Sale. Make your arrangements early to attend. Write today for illustrated catalog to

W. A. FORSYTHE, Sale Manager, Greenwood, Mo.

Auctioneers—R. L. Harriman, Carey M. Jones.

WALLACE'S MAMMOTH POLAND CHINA SALE

At Farm, Bunceton, Missouri, Thursday, April 12, 1917

50 - Head of Bred Sows and Gilts - 50

Forty gilts by Big Bone Model, A Monarch, and Grand Mammoth, and most all bred to the great King Joe for April and May litters.

Ten tried brood sows bred to Big Bone Model, A Monarch, and Grand Mammoth, for April and May litters.

This is a splendid offering and should attract breeders and farmers.

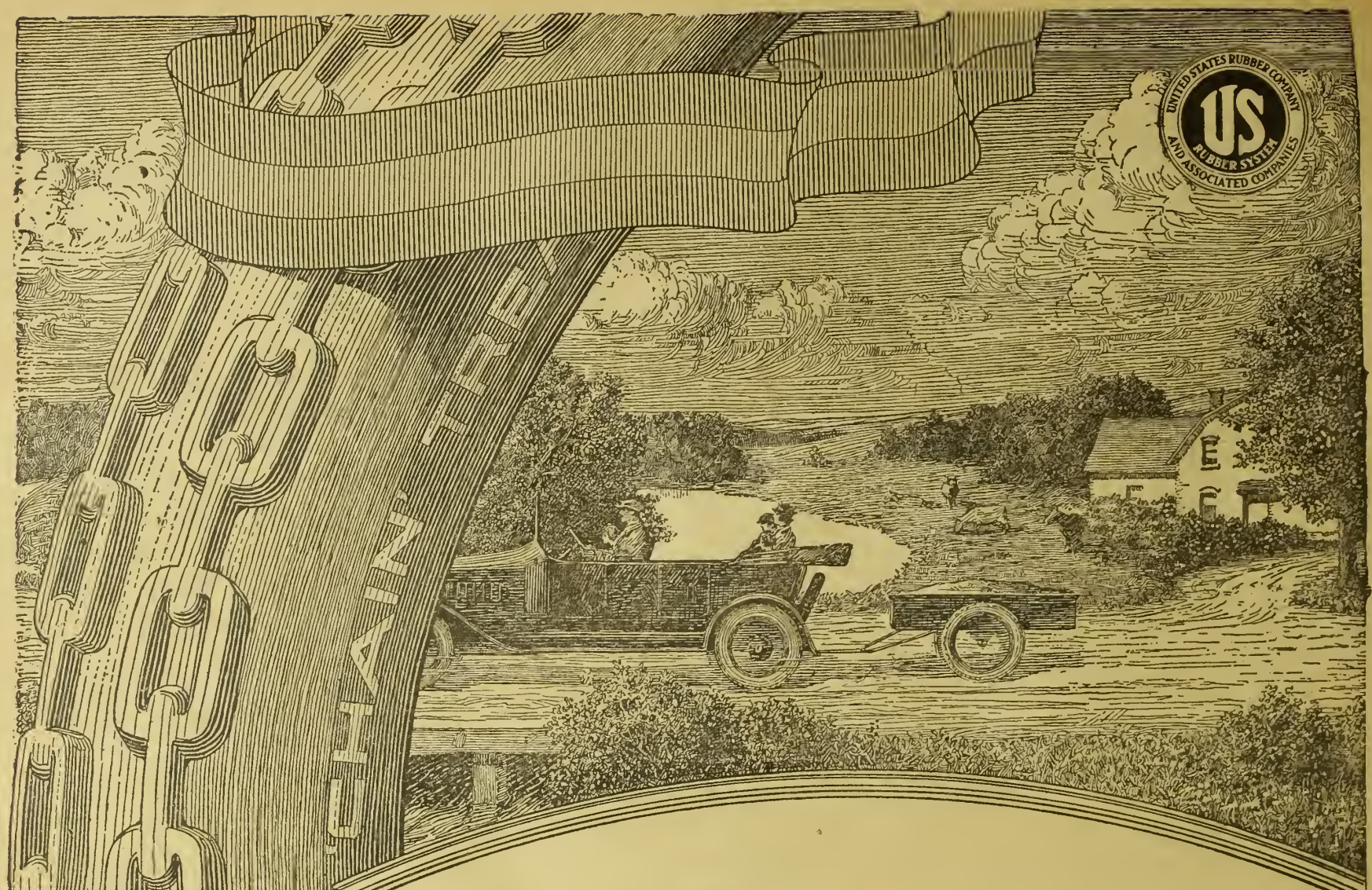
I will also sell a few fall boars and gilts sired by King Joe. Some choice herd header prospects.

Please send for nicely illustrated catalog and arrange to attend my sale. O. W. Devine will represent Kansas Farmer at sale. Farmers and breeders are especially invited to attend. For catalog write to



A GROUP OF THE SALE OFFERING

W. B. WALLACE, - - - - BUNCETON, MISSOURI



The Farmer

knows that country conditions require tires that are GOOD tires. That is why he insists on getting United States Tires. Tough, resilient, giving more mileage-per-dollar and better service, the five famous brands of United States Tires are the ideal tires for the farmer's use. Choose which tread best meets your needs, and order TO-DAY.

Insist on getting United States Tires.

United States Tires
Are Good Tires

'Nobby' 'Chain' 'Usco' 'Royal Cord' 'Plain'

A tire for every need of price and use

United States Tire Company

KAF

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 11. TOPEKA, KANSAS, MARCH 31, 1917. Established 1863. $1 a Year

POTATO GROWING FOR WEST

Can Be Profitably Grown for Home Use on Farms of Western Kansas

OVER 100 bushels of potatoes to the acre can be grown in regions where the average annual precipitation does not exceed sixteen to twenty inches. On the government experiment station farm at Akron, Colorado, potatoes made a yield of over 200 bushels to the acre as an average of the years 1908 and 1909.

Early in February we had a talk with W. M. Jardine, director of the Kansas Experiment Station, relative to growing potatoes in Western Kansas. We were so impressed with Director Jardine's explanation of the possibilities of growing potatoes under dry-land conditions in the western part of our state that we urged him to give his experiences to the public in the form of a special article.

The prohibitive price of potatoes at the present time practically bars them from our tables, and if they can be grown successfully on the farms of the West, as was so conclusively shown by Director Jardine, we felt that our readers in Western Kansas should have their attention directed to these facts. Growing enough for home consumption will not greatly tax the labor available. Potatoes mature in a comparatively short period of time and would be a most welcome addition to the family larder.

The quality of the western-grown potato is exceptionally good. Director Jardine said that Western Kansas farmers might easily make a good profit by making a specialty of growing seed potatoes. They could not expect to compete with commercial growers, but good seed potatoes are always in demand and bring high prices.

Director Jardine is not a mere theorist on growing potatoes in regions of light rainfall. Before coming to the Kansas Experiment Station he grew potatoes at a number of points in the plains regions and knows what can be done under conditions of light rainfall. In what follows he gives the results and conclusions of his experiences in growing this crop under such conditions as prevail in the western part of our state.

"I would urge every farmer in the western half of the state to plant at least a half acre of potatoes this spring. That potatoes can be grown profitably in areas of limited rainfall has been proved entirely possible. A limited acreage has been grown at the Fort Hays Branch Station during each of the last five years with very fair success. At this station in the season of 1916 just past, Early Ohio potatoes planted in early April yielded without irrigation an average of 74.8 bushels per acre.

"In Kansas, Early Petoskey, Irish Cobbler, and Early Ohio will produce the largest yields of marketable potatoes. The difficulty this year, however, will be in obtaining seed for planting. It will probably be necessary to plant those varieties of which seed can be secured. Seed can probably be best secured through the established seed houses of the state.

"It might be of interest to Kansas farmers to know that experiments have been conducted in growing potatoes under dry-land conditions, and to learn what were the results of those experiments. In traveling over dry-farming areas while connected with the United States Department of Agriculture, I found an occasional farmer growing potatoes successfully in a small way. It occurred to me that it would be desirable to undertake some experiments with potatoes to ascertain if there was any difference in the adaptation of varieties and whether or not there might be a best method of growing potatoes under dry-land conditions. In the spring of 1908 I was given permission to conduct some investigations with potatoes in connection with the dry-land grain investigations which I had in charge at points in North and South Dakota, Montana, Colorado, and Utah. Experiments with potatoes were conducted as follows:

"Variety tests — ten to twenty-five varieties were grown at the various points.

"Rate of planting tests—one medium-sized tuber was planted to a hill in rows varying from two to four feet apart; hills varying from nine to thirty-six inches apart in the rows.

"Depth of planting tests — in which single tubers of medium size were planted in a hill to depths of four, six, eight, and ten inches.

"Miscellaneous tests—such as comparing whole tubers of different sizes; tubers cut into different sizes, and of three grades, large, medium and small; tubers of the same size, but varying in the number of eyes they contained, etc.

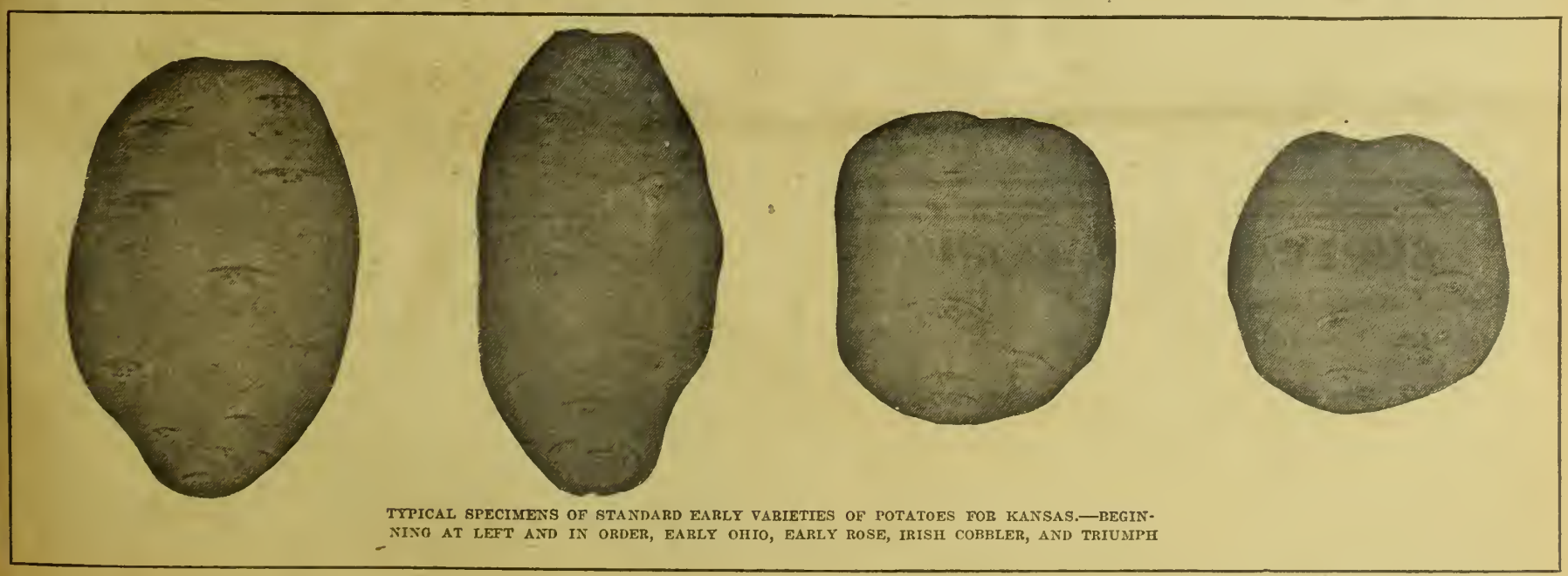
"The following are the most practical features brought out in these investigations: Early Petoskey, Irish Cobbler, and Early Ohio proved to be the best varieties for planting, not because they were the highest yielders, but because they matured early—the chief requirement under dry-land conditions. These varieties yielded as an average at Akron, Colorado, for the years 1908 and 1909, and under a rainfall of sixteen and twenty inches respectively, 225, 202, and 186 bushels respectively, of which amounts four-fifths were marketable. Almost equally large yields were obtained at Williston and Dickinson, North Dakota. Of course these yields were considerably higher than can be expected on an average, although the seasons were not above normal.

"Taking all the stations into consideration for the two years, the probable average yield was in the neighborhood of 100 bushels to the acre. This amount can reasonably be expected when the right potato is grown under reasonably favorable treatment. Only the early-maturing varieties should be grown since the growing season on the dry lands is short.

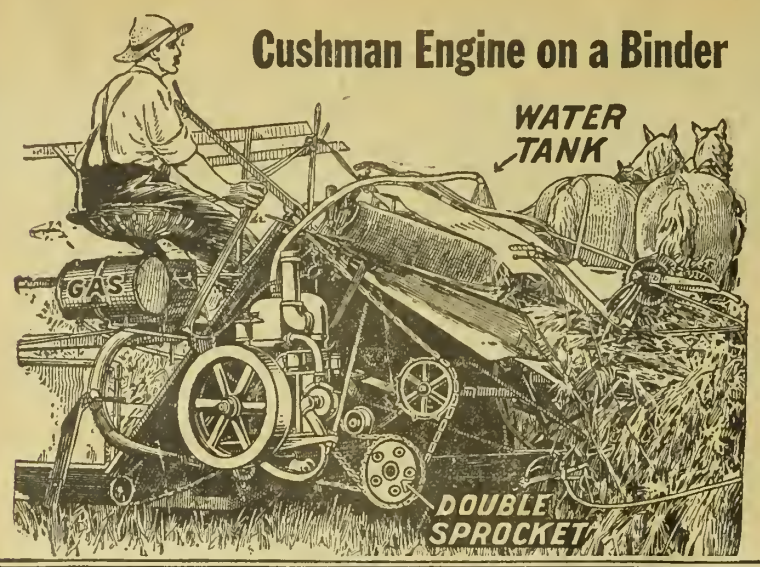
"It was found that potatoes planted in rows three feet apart, hills eighteen to twenty-four inches apart in the rows, gave best results. Medium to large tubers—either whole or sectioned—produced larger yields and more marketable tubers than medium to small tubers—either whole or sectioned. Plantings at depths of four to six inches were more satisfactory than shallow or deeper planting. Tubers with one or two eyes produced to better advantage than tubers with a greater number of eyes. It was also found that potatoes when given the proper cultural treatment during their growth, left the land in very good condition for growing wheat.

"In the western half of Kansas, potatoes should be planted during the last week in March, but the middle of April is not too late for good results. As with other crops, a good seed bed should be prepared and land that has been plowed early should be used. The crop should be well cultivated. Arrangements should be made to combat the common insect pests and diseases affecting potatoes. Probably the greatest danger lies in the Colorado potato beetle. The most effective method of controlling this insect is by spraying the vines with poison. Spraying should begin as early as necessary to prevent injury to the plants and should be repeated as often as necessary to keep the vines covered with poison. For this insect alone two or three sprayings, perhaps more, will be required, but by combining the poison with Bordeaux mixture, both fungus and insect pests are controlled without making separate applications necessary.

"For detailed information on potato growing, spraying materials, and spraying machinery, write to the Kansas Experiment Station, Manhattan, Kansas, for Bulletin No. 194 on Potato Culture."



TYPICAL SPECIMENS OF STANDARD EARLY VARIETIES OF POTATOES FOR KANSAS.—BEGINNING AT LEFT AND IN ORDER, EARLY OHIO, EARLY ROSE, IRISH COBBLER, AND TRIUMPH



Saves a Team

and in Wet Harvest, Saves the Crop

The 4 H. P. Cushman is the original and successful Binder Engine. Attaches to rear of Binder by patented Cushman Bracket, and drives sickle and all machinery, leaving horses nothing to do but pull binder out of gear. Sickle runs at same speed all the time, regardless of horses slowing up, and keeps itself clean. Sickle never clogs, even in heavy or wet grain. With a Cushman, two horses do the work of four, saving a team in harvest.

In a wet harvest, the Cushman saves the crop. The sickle keeps right on going when the bull-wheel slips, making it possible to cut wet grain without trouble. **Same 4 H. P. Cushman does all other farm work,** after harvest. Weighs only 190 lbs. and is easy to move around from place to place.

Cushman 4 H. P. Engine

For Binders and All Other Farm Work

When stripped for binder Cushman weighs only 167 lbs. Water tank on front **balances engine on rear,** therefore binder is not thrown out of balance. Engine and tank are connected by hose, through which water is forced by pump, driven by engine. This keeps engine cool on all-day run in hot field. **Proper water cooling is very important** on a binder engine, as without it any engine will soon overheat.

Cushman Bracket and Attachments are patented and designed to fit any make of binder. They are the result of 10 years' success in field work. The Cushman Bracket is the one proven successful method. Make sure the engine you buy has proper Cushman Bracket and Attachment; then you will not be experimenting.

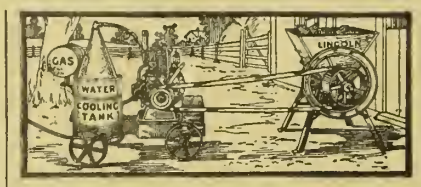
There is no farm work that requires so much of an engine as binder work. If the engine fails for a few days, or if it is necessary to experiment with it, the crop may be lost. You want an engine that you **know will do the work** quickly and without trouble when the time comes.

Cushman Binder Engines have been used for 10 years by farmers all over America, and thousands of them are in use all the time—**saving the crop** during harvest and **doing all other work** the rest of the year.

Arrow marked (1) indicates the Cushman adjustable clamp, to attach to the main cross bar of any binder. Arrow marked (2) indicates slots in bracket or iron frame on which the engine sets, and by which it may be adjusted to proper position forward or backward. No holes to drill, easy to attach.



Position of engine on the rear of binder may be adjusted in three ways—forward and backward, right or left and up or down.



4 H. P. Cushman is shown above, mounted on iron truck, which we supply, with water and gas tanks in front. Easy to pull around by hand from job to job. This is the same engine used on binder.

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Ben F. Barnes, Miama, Mo., writes: "I purchased a 4 H. P. Cushman last summer for my binder. I think it is the best engine on the market. I have used it on the binder and wheat fan, wood saw, washing machine, and I also rigged up a drag saw which it handled to perfection. I have never tried this engine on anything that it failed to give satisfaction. It pulls the wood saw as good as lots of the six and eight horse power engines."

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Orchards Made Profitable

Proper Treatment Made Orchard Produce $1,01. in 1916 Compared With $100 in 1915. — By Zenith Mullen

THE old apple orchard may be made an important source of revenue on the farm and should be given the chance it deserves. Thousands of orchards through neglect have ceased bearing sound fruit and many do not bear at all. That many such orchards, considered practically worthless, can be made to yield abundantly, has been proved by the orchard demonstration work of George O. Greene and his associates in the extension division of the agricultural college.

The orchard of John W. Rothenberger, in Leavenworth County, produced $1,015.92 in 1916 as compared with $100 in 1915. This orchard was renovated and cared for under Mr. Greene's direction as stated in a contract drawn up between the extension division and Mr. Rothenberger.

The cost of pruning and spraying and all other expenses was $224.98. This leaves a profit of $790.94 for one season. As the expense is greater the first year and the yield less, because of the necessity of cutting back so much of the tree, his profits should be greater next year.

In a report sent to the college—one condition of the contract in demonstration orchard work—Mr. Rothenberger says he is now making preparations for next year's crop. He considers his experience a valuable part of last year's profit.

Some of the trees were left unpruned and unsprayed, the others being carefully pruned and given four sprays during the season. The report points out that the check trees—those not treated—showed the presence of various apple diseases and pests in the early summer while the renovated trees did not. At apple picking time five trees of Cooper's Early White yielded an average of fifteen bushels to the tree, with a loss of one bushel per tree. Three-fourths of the apples from the unrenovated trees had fallen before picking time and the remaining one-fourth were so small and scabby as to be practically worthless.

O. J. Brown, a traveling salesman, bought a Kansas farm near Potter, with an old orchard on it which had not borne for years. A contract for rejuvenating it was drawn up with the extension department. Mr. Greene and some of his associates in orchard demonstration, on request, visited it, pulled out many trees considered useless or unprofitable, and directed pruning and spraying through the summer. These men did more than boss the job. While at the farm they donned overalls and helped in the work of pruning and spraying this orchard.

Mr. Brown reports a profit of $290.20 after reserving twenty bushels of apples for home use and deducting seventy-five bushels fed to the hogs. Although many of the trees were pulled out, the orchard produced more than it ever did before. Quite an impression was made on the community and many of his neighbors who had practically no apples are preparing to follow his example.

Four important steps are necessary in renovation. They are pruning, fertilization, cultivation, and spraying. In the winter or early spring before the growth starts, cut out all dead and diseased wood, leaving a smooth wound. All wounds over two inches in diameter should be painted over with a mixture of white lead and raw linseed oil. This treatment excludes moisture and consequent disease and decay. The pruning saw is the most important tool in dealing with old trees, as it is necessary to cut off large limbs.

As a rule neglected trees are too high for spraying and fruit picking handily. In such trees the top must be lowered and thinned to admit more sunlight. The work of lowering should not be done in one pruning, but should cover a period of three or four years. Always prune to throw the growth outward and to allow sunlight to reach the inner part of the tree. Begin at the top and work downward. If the crotch of the tree is splitting, two eyebolts with number nine wire may be used to draw and hold the limbs together.

A limb badly rotted on one side may be strengthened and the rot prevented from spreading by clearing out the rotted portion thoroughly, disinfecting the bare surfaces, applying tar, and then filling the cavity with cement. Poor or unknown varieties are usually pulled out or top grafted.

Mature trees closer together than thirty by thirty feet are too close for profit and it is necessary to cut out alternate trees.

If it is necessary to fertilize the orchard, barnyard manure will best supply the necessary plant food. It should be applied during the winter and should be uniformly spread over the surface of the ground. Some growers plant some leguminous crop, such as clover, cowpeas, or alfalfa, in the orchard about the middle of August and plow it under in the spring.

Plow the orchard in the fall or spring to a depth of three to five inches. Deep plowing breaks the roots. After plowing, the disk harrow is the best tool to use. The orchard should be gone over with this several times during the first month in which it is possible to get on the ground in the spring. After the soil has been worked into fine mechanical condition it should be given subsequent cultivation in order to maintain moisture and to keep down weeds.

It is usually necessary to spray the orchard to prevent disease and insect attacks. It is impossible to give a spraying schedule applicable to all orchards. Judgment, experience, and keeping in touch with the methods of successful growers are essential to successful orcharding.

Four sprays at least are ordinarily recommended. For apple scab, plum curculio, spring canker worm, and apple rust, the spray should be applied when the cluster buds are showing pink but before the blossoms open.

The second spray, which is for control of codling moth, apple scab, black rot, and rust, is applied when the petals are two-thirds off the blossoms. The third one, for apple blotch, black rot, plum curculio, and codling moth, is applied twelve to eighteen days later. The fourth spray, for the control of codling moth, apple blotch, bitter rot, and black rot, is applied from eight to ten weeks after the second one has been applied.

The methods for preparing sprays can be procured from the Kansas Agricultural College upon request. One unfamiliar with spraying should consult with some experienced person on the subject, as it is important to have the material properly prepared.

Do not now prune lilacs and other shrubs that flower early in the spring. Wait until they have flowered.

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ORCHARD DEMONSTRATION.—HEADING IN OLD TREES.—CUT IS MADE JUST ABOVE SMALL LIMB LEADING OUTWARD

Editorial, Advertising and Business Offices, Topeka, Kansas

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KEEP RECORD OF EACH COW

At each station where the Santa Fe Dairy and Poultry Special made a stop, a demonstration talk on dairy cows was given, illustrated by the four typical animals of the Ayrshire, Holstein, Jersey and Guernsey breeds carried on the train. Following this talk, which was given by Prof. J. B. Fitch of the agricultural college, at the points visited last week, the people were permitted to pass through the exhibit cars. It was easy to single out those having a real interest in dairying by the way they gathered around the cows and lingered after the crowd had passed on. To these men there loomed up an ideal toward which they were working, and these exceptional cows served to visualize these ideals. They remained to ask questions and to admire and study the animals more closely. These are the men who will make a success of dairying by ever striving to learn better methods of feeding and of breeding and thus realize a larger return from their land and their cows.

We noted such a group at Vinland, where the train made a stop last week, and we lingered to hear the discussions taking place. Among other things, the matter of records was mentioned. Many busy farmers maintain that it takes too much time to keep production records of individual cows. One farmer in this group told how he had kept close account of the cream produced by his seven cows for a year, and found he had sold an average of $84 worth per cow. We asked him how the cows were fed and found that alfalfa hay and silage was all the feed used with the exception of a ton of bran fed last spring when the hay and silage were getting low. They had good bluegrass pasture during the pasture season.

Keeping account of this herd's production record for a year had furnished valuable information, but a herd record is not enough. There is so much difference in cows that it is almost impossible to even feed most economically without having some information as to the capacity of the different individuals. Some cows will return a good profit on a heavy grain ration, while others will produce to their full capacity on hay and silage without grain.

Feed can be saved and production increased by keeping records on individual cows in the herd so each cow can be fed according to her and her individual appetite and taste. Sometimes cows are so poor that they might be wholesaled and the feed they consume given to the better individuals. Unless records are kept, the real producers might easily be carrying the poor cows along. It is also impossible to know what heifer calves are worth keeping for the herd without having information as to the production of their mothers. These and other points were brought out in the talks taking place after Professor Fitch's lecture. Professor Fitch went on to explain that the dairy department of the agricultural college is anxious to co-operate with dairy farmers who would keep records and will furnish the blank forms necessary. We were somewhat disappointed when the man who told us of keeping account of his herd production for the year refused to take one of the blanks that he might more easily keep individual production records.

It may seem like quite a chore, but it is time spent in doing something that can be made to return a good profit. Every real dairyman will sooner or later come to the point where he will see he cannot afford to do otherwise than keep individual production records of the cows in his herd.

SUMMER FALLOW WHEAT GROUND

It is probable that a good many acres of winter wheat will be badly winter-killed. There is always a certain percentage of the acreage of winter wheat that must be put to other crops. It is too early yet to know whether it will pay to leave the crop or not. In view of the high price of wheat and the probability that it will continue high for another year, we believe it good policy to delay as long as possible before plowing up wheat. Every wheat grower knows how the crop can revive and improve under favorable spring conditions when early outward indications are all against its making anything.

Nothing can be done to the wheat crop at the present time to increase its probable yield. For the time being it is simply a waiting game. If the loss from winter-killing should prove to be unusually heavy, some might be tempted to put out a larger acreage of spring crops that could be tended properly with the labor and equipment at hand. We believe considerable caution should be exercised in this respect. Little would be gained by planting a larger acreage of spring crops than could be properly tended.

We would suggest that if a large acreage of wheat is winter-killed, plans be made to do some advance preparation for the 1918 crop. Put out only such spring crops as can be handled and hold the rest in reserve for wheat, beginning the preparation in May. In the western part of the wheat belt in Kansas, summer fallowed land frequently produces double the acre yield of wheat put in by usual methods of preparation. Plow or blank list this land after the spring crops are seeded. Give it such cultivation through the summer as will keep down all weed growth, always striving to leave the surface as rough as possible to avoid danger of blowing. Land prepared in this way accumulates a reserve of moisture and the cultivation is favorable for the development of plenty of available plant food for the crop.

PREPARE GOOD SEED BED

The planting of good seed in a good seed bed is the first step in the growing of a profitable crop. This is a means of increasing the profitableness of crops which involves reducing the amount of necessary cost in proportion to the acre yield. In other words, the cost of seed adapted to the conditions and of known vitality is not much greater than that of uncertain vitality and unadapted to the conditions. It takes just as much work to plant the wrong kind of seed as to plant that adapted to the conditions. The same amount of cultivation is necessary.

It of course takes more work to prepare a good seed bed than to prepare a poor one, but the same amount of work given to a little better preparation will bring greater returns than if devoted to increasing the acreage. This is becoming more and more true as land increases in value.

It has been our observation and experience that the early work in preparation for spring crops is the work that counts. The very best corn or kafir growers always disk or blank list their land just as early as it can be worked in the spring. A good double disking in February or March is of far greater value than the same work done just before listing in the seed. It is thus not a matter of doing more work, but doing it early so that it will produce maximum results. A second disking of stalk land at right angles to the first disking would in many cases prove valuable if weather and time will permit this work to be done.

The statement made many years ago by Jethro Tull, one of the earliest of agricultural writers, that "tillage is manure," is based on sound scientific facts. There may be plenty of plant food in the soil, but unless it is in such form that the plant can use it, it is of no value in crop production. Tillage or cultivation has a most important part in making plant food available, and since time is an element it is necessary to have the working of the soil take place a reasonable time in advance of planting the crop that is to use the fertility thus made available.

We believe no work can be done that will be of greater value in the growing of corn or kafir, than thoroughly disking the land just as long in advance of the listing or plowing as possible.

We would call the attention of our readers to the article on "Potatoes for Western Kansas," which appears on the front page of this issue. We believe it would be unwise to urge the planting of potatoes on every farm in the state unless they could be planted in ground that has been carefully prepared. Seed potatoes are too high in price to justify planting them in poorly prepared ground, but we believe more potatoes could be grown with profit on many Western Kansas farms. The article referred to tells what has been done under such conditions as prevail in the western part of our state and directs attention to the important points to observe in making a success of growing this crop. The commercial potato growers of Kansas have greatly reduced their acreages this year, mainly on account of the high cost of seed. The prospect for cheaper potatoes next year does not look very promising. If there is some patch of land on the Western Kansas farm that can be properly prepared for potatoes, it certainly would be good policy to try and grow at least enough for home use.

KANSAS HOLSTEIN ASSOCIATION MEETING

The Holstein-Friesian Association of Kansas is now one year old. It has been a busy and prosperous year for this organization and it has already justified its right to existence.

The annual meeting will be held in Newton, April 6, the program beginning at 1:30 P. M. Dr. J. T. Axtell of Newton will give the address of welcome, followed by the annual address of Schuyler Nichols of Herington, president of the association, and the report of the secretary-treasurer, W. H. Mott.

The rest of the program has to do with subjects of special interest to breeders of Holstein cattle. The subject of H. N. Holdeman, of Meade, Kansas, is "Why I Breed Holsteins." Prof. J. B. Fitch, of the agricultural college, will report on "The Progress of Holsteins in Kansas." P. W. Enns, of Newton, will speak on "The Future for Pure-Bred Holsteins in Kansas." "Co-Operation in Live Stock Advertising" is the subject that will be presented by this writer. "Reducing the Overhead" is the subject that will be presented by Marco Morrow of Topeka. Harry Mollhagen, of Bushton, will speak on "Association Bulletins," and J. P. Mast, of Scranton, on "Holstein Sales Organization." F. T. Price, the well known breeder of Holsteins, from Syracuse, New York, will be present and will address the meeting.

At the business meeting immediately following will be taken up the election of officers for the coming year. It is important that every member be present and take part in the election.

At 6:45 in the evening there will be a banquet, followed by a number of after-dinner talks.

The county commissioners in Morris and Franklin counties have made the appropriations requested by the farm bureaus which were organized in these counties several years ago. All the other details have been attended to and everything is now ready for getting the work started. The next step is the employment of agricultural agents to direct and carry into effect the work planned by these bureaus. Anderson and Shawnee counties are next in line. The organizations in these counties are now practically complete. At a recent meeting in Topeka, attended by many of the best farmers of Shawnee County, the sentiment seemed to be in favor of securing a man of experience in county agent work. Such man will command a higher salary, but the work will start off more vigorously than if one is employed who has not had previous experience in this line of work. It is a requirement of the state leader that no man be employed as an agricultural agent who has not had considerable experience in actual farm work, both before receiving agricultural college training and after. This makes it certain that all men employed as agents will be familiar with practical farm problems.

We recently heard a good farmer say he wished he might spend all his time on his manure spreader for in this way he could make more profit than through any other work on his farm. This farmer has learned the value of putting back into the soil the fertility taken out by the feed crops grown. The use of the spreader is a great improvement over the old method.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

THE question as to what constitutes an "actual farmer" as the term is used in the Federal Farm Loan Act, is frequently asked.

The Federal Loan Board interprets this to mean one who conducts the farm and directs its entire operation, either cultivating it with his own hands or by means of hired labor. An owner who wishes to borrow under the Farm Loan Act must therefore be responsible in every way—both financially and otherwise—for the cultivation of his land.

The same question is frequently asked in connection with organizing the county farm bureaus. The Kansas law states specifically that the farm bureau must have at least 250 bona fide farmers enrolled before the county can legally vote funds to its support. This question was discussed at some length at the recent meeting held in Shawnee County for the purpose of organizing a bureau. It was explained that a man might live in town and still be a bona fide farmer if he owned a farm and operated it by hired help working entirely under his direction. The farmer who rents his farm, receiving either a cash rental or a portion of the crop, cannot be counted as a bona fide farmer in the farm bureau membership.

Anyone interested in agriculture can become a member of the farm bureau, but such members do not count in that portion of the membership designated as bona fide farmers.

Tankage and Hog Cholera

A Wabaunsee County reader expresses fear that tankage or meat meal may bring hog cholera to the farm.

These packing house by-products are the most valuable feeds on the market for supplementing farm-grown feeds for hogs. High grade tankage or meat meal contains approximately 60 per cent of digestible protein. There are lower grades offered that are not guaranteed to contain as much protein. These, however, are just as safe to feed as the high grade, but should of course be purchased at a less cost.

Corn, which constitues the chief grain feed for hogs on farms, is very deficient in protein and the tankage supplies this protein more cheaply than any other feed that can be purchased. Seldom is it necessary or desirable to feed more than a half pound daily per hog.

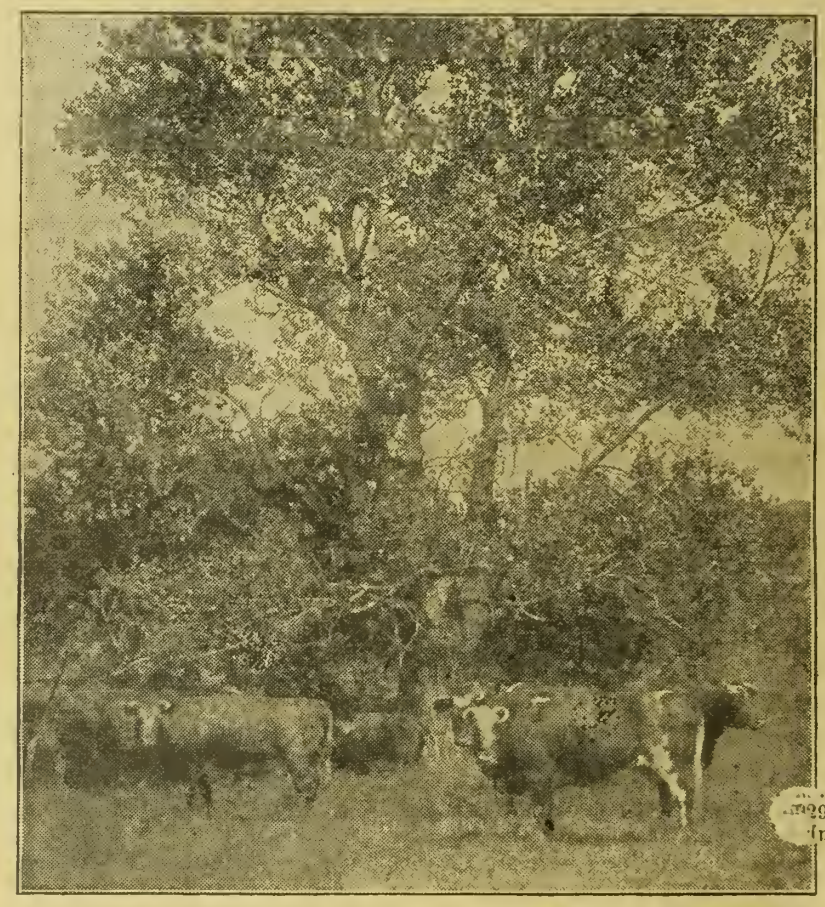
The material is so thoroughly sterilized by the cooking process which it undergoes, that there is not the slightest danger of its carrying cholera or any other disease. In government inspected packing houses no diseased animals or waste material is allowed to go into the feeding tankage, but even if cholera germs did get into the tank they would be killed by the heat. There is no more danger in buying tankage for feeding hogs than there is in buying bran or shorts.

Feed to Mature Gilt

T. B. H., a Shawnee County reader, asks how many pounds of feed it will take to properly feed a gilt weaned May 1, up to farrowing time March 1 the following year. The feed used will be alfalfa pasture, alfalfa hay, corn, shorts and tankage.

It is of course desirable to make as large use of the alfalfa pasture as possible in order to lower the cost. In order to grow a gilt out properly, however, a grain ration should be fed with the pasture. This might be spoken of as a limited grain ration, meaning that the gilts are not fed all the grain they would consume. Beginning May 1, it should be possible to have good pasture for 150 days. Various experiments have shown that a very satisfactory growth can be made on good alfalfa pasture by feeding in addition, grain to the amount of about two per cent daily of the live weight of the pig. Feeding this amount of grain will result in a gain of at least a half pound a day during this period, and the amount of grain required would be from 250 to 300 pounds. There would then follow a period of 150 days in which there would be no pasture. The most economical and satisfactory method of feeding during this period is to use alfalfa hay to the limit. In other words, keep hay of the best quality in racks where the gilts can get at it all the time. In addition a grain ration which probably will not average more than four pounds a day for the period, should be fed, this to consist of corn, shorts, and a little tankage. Tankage should not be fed in excess of a quarter of a pound daily per sow. On this basis the young sow would consume about 600 pounds of grain during the dry-lot period. It is rather difficult to estimate the exact amount of hay that will be eaten, since this will depend to a considerable extent on its quality. As an average, young sows could be expected to consume at least a pound daily of alfalfa during this period. Of course they should not be expected to eat coarse alfalfa without waste. It would be more profitable to feed a large enough quantity so they could eat the finer parts and reject the stems.

Fed in this way, gilts will develop into strong healthy brood sows and the pigs will be large at birth and possess unusual strength and vigor. The vigor of pigs farrowed by sows fed all the alfalfa they will eat has been observed by all hog men who have handled hogs in this way.



TYPICAL PASTURE SCENE ON FARM OF W. A. FORSYTHE, GREENWOOD, MISSOURI

Feeding Young Sow

A fourteen-year-old boy reader in Johnson County writes that he has a dandy little sow that will weigh about 125 pounds. He asks if corn chop is good feed for pigs.

Corn is the great fattening feed but it is not a good growing feed, and young animals must always be fed for growth. They need feeds containing plenty of protein, for this is the part of the feed that is used by the pig or other young animal in making bone and muscle.

There is a great difference between feeding fattening hogs for market and feeding the brood sow and little pigs. The young sow of 125 pounds weight is not full grown yet, so she should have all the alfalfa or clover hay and pasture she will eat, and in addition such feeds as shorts, bran, oil meal or tankage, because these feeds all contain more protein than does corn. They also contain more of the mineral elements which are needed in the bones. Hogs fed on corn only always have weak bones because there is not enough of the right kind of material in corn to make strong bones. These feeds can all be mixed up and fed in a trough after wetting, or the crop can be fed separately and the rest of the mixture fed wet. Some feeders like to feed the tankage dry in a trough or on a clean feeding floor. If a number of hogs are fed in the same pen, it is important that the tankage be scattered out enough so that each one will get his share. If some one hog should get a chance to eat too much at one time it might be sick for a few days.

When the sow has little pigs she must be well fed so she can give enough milk for them. She should not be fed any feed at all, however, for the first twenty-four hours after the pigs are born. She should be given only plenty of water. Only a little feed should be given at first, gradually increasing it. Sometimes when the pigs are real young they get too much milk. As they get older they will require more and more and by the time they are a week or ten days old it is hardly possible to feed the sow too much, providing the feeds contain plenty of protein. The feeds suggested for the growing ration are also good for producing milk because they contain plenty of protein.

Even with the best of feeding the sow will probably lose weight while suckling the pigs, and since she is a young sow and has not had her full growth she should be fed well on growing feeds after the pigs are weaned. Full grown brood sows can be let run on good pasture with almost no grain after the pigs are weaned, but this is not the right way to treat the gilt that has just weaned her first litter. If she is fed in this way she will never get to be a full-sized brood sow.

The little pigs will begin to eat grain and other feed when quite young if given a chance in a pen by themselves. They like skim milk and shorts, or if there is no skim milk, shorts made into a slop with water. Feed them a little shelled corn also just as soon as they will eat it. If they are fed in this way while they are suckling, they will not shrink at weaning time, since they will be eating other feeds that will take the place of the mother's milk.

It is always important to have plenty of good pasture in order to make pork cheap. The sow and the pigs should be turned out on some alfalfa, clover or other pasture after the pigs are four or five weeks old. The pasture will not take the place of grain, but it will take less grain to keep them growing as they should. After the pigs are weaned and running on pasture, a good way to figure how much grain to feed them is to weigh them occasionally and then feed them each day about two per cent as much grain as they weigh. The fifty-pound pig would thus be allowed one pound of grain a day.

They should always have plenty of clean water, and both brood sow and pigs must have plenty of exercise. They will not do well if kept shut up in a small pen.

Summer Fallowing for Wheat

We have been asked by a Western Kansas reader for information relative to summer fallowing some land for wheat. This correspondent wishes to make some reasonable stipulations in a lease in which the tenant is to summer fallow some land that produced wheat in 1916.

W. A. Boys, agricultural agent, having headquarters at Hays, is thoroughly familiar with the most successful farming practices of Western Kansas, having farmed in that section himself and also having wide experience in traveling over the territory and observing the methods of the best farmers. He offers the following suggestions:

"One of the main things in fallowing is to keep down weed growth. Of the two methods of fallowing—plowing and listing—I prefer the latter, as the ground of codling moth may be economically and and is better handled to prevent soil drifting.

"Unless the soil is loose and free of weeds I would prefer to give the field a disking after the weeds start in the spring. It would ordinarily then be satisfactory to blank list the field after corn planting. Usually two cultivations —one before harvest and one after—will be sufficient to get the field in good condition for fall seeding. It is better to leave the field a little rough, as it will not blow so easily. If the tenant does not have enough interest to give a cultivation when needed to destroy weeds, I would state in the lease that there must be two cultivations as given above. If we should have a wet season and rank growth of weeds, this would probably not be sufficient, but is probably as much as one could expect the average tenant to do.

"One double disking, listing, one cultivation before harvest and one after harvest I think is not an unreasonable amount of work to be required of a tenant. If he wishes to do more, it might be to his interest to do so, depending upon seasonal conditions. Conditions might arise making it advisable to split the lister ridges to destroy weeds, but this is not liable to happen. Ordinarily single listing will give as good yields of wheat as double listing and necessitates less expense in preparing the ground."

Feeding Ewes for Milk

C. R. B., Anderson County, writes that he has one hundred ewes, twenty of which have lambed. The rest of the lambs are due in April. The ewes now having lambs are starving them. Their

udders seem large but they give little or no milk. He has no alfalfa or silage and is feeding the ewes fodder and clover hay. He asks how he can feed the rest of the ewes so as to be sure they will give milk for their lambs.

Knowing of the experience, A. M. Paterson, of the animal husbandry department of the agricultural college, has had with sheep, we asked him to give this reader the desired help by letter, as he needed advice at once. The reply is of interest to others who may be having their first experience with breeding ewes this spring:

"If you have been feeding your ewes nothing but the fodder, it has not been sufficient to stimulate a large flow of milk. I would suggest that you feed these ewes which have already lambed a ration composed of 60 per cent bran, 30 per cent ground corn, and 10 per cent oil meal. It may be well, also, to feed these ewes a gruel for a few days. This gruel could be made from bran and oil meal with a little ground oats added. This feed should be fed wet, rather thin and warm.

"In regard to the ewes which are to lamb in April, I would suggest feeding them a pound to one and one-half pounds of the ration mentioned, daily. If you have oats or barley, it may be substituted for the corn. Of course, the ration will depend largely upon the kind of feed you have on hand and the price you have to pay for these other feeds. I would also advise that if you could get a little alfalfa hay, it would be well to feed some each day. If this hay could be bought at the proper price it might pay to feed some of it regularly, then lessen the grain ration. This might prove more economical.

"You will doubtless have to feed the lambs which these ewes now have. It will be best to feed them warm cow's milk, giving them as much as they will take at a time and feeding them every two or three hours. I see no reason why these ewes will not give enough milk to feed their lambs after you have given them proper care and feed."

Cost of Formalin Treatment

The cost of treating seed for smut will depend upon the quantity of formalin purchased. A gallon of the solution will treat about one and one-third bushels of grain. In buying less than a gallon, the price per pint (a pint is equivalent, approximately, to one pound) is about 50 cents, but in purchasing large quantities it may be bought for about 15 cents a pint. Solutions which have been used for treating seed may be used several times, but if they have stood exposed to the air for longer than twelve hours they should not be used. It is better to mix fresh solutions, or keep the containers covered so as to prevent evaporation.

Formaldehyde (formalin is the commercial term for a 37 per cent solution) is a gas dissolved in water, and has a strong penetrating odor and biting taste. It may be bought from any wholesale drug company or chemical supply store. It can be handled more cheaply in bulk. The treatment for covered smut of barley is one pint of formaldehyde to forty gallons of water is used. The dipping process must be used if successful results are to be obtained. The seed must be soaked for two hours. If sacks are used one should allow more than sufficient room for the swelling of the seed. This treatment will also control to an appreciable extent the so-called loose smut of barley, which generally is difficult to combat.

In order to eliminate all possibilities of contamination, new sacks should be used for storing the seed, or the sacks should be soaked for a period of two hours in the solution employed for treating the seed for smut. It is advisable to sprinkle the floor with a strong solution of formaldehyde before spreading the seed to dry. Care should be taken that bins and drills are free from smut spores, by sterilizing them through washing with a strong solution of formaldehyde.

The germination of treated seed should be tested, and if it is low, the rate of planting should be proportionately increased. Precautions should be taken against freezing and sprouting after the treatments.

Date to Plant Corn

Corn will not grow during cold weather as wheat and oats. Corn-planting time is, therefore, a little later than the best time for sowing spring wheat or spring oats. However, according to Farmers' Bulletin 773, when seed of perfect vitality is used, it is remarkable how early in the spring corn can be planted and result in good stands and good yields. Seed of perfect vitality will often remain in cold or dry soils for several weeks and afterwards germinate and yield well. Irregular stands are sometimes attributed to poor seed, when dry, poorly prepared spots are the cause. Fields are sometimes seen in which the seed germinated promptly in moist spots but did not germinate in dry spots until rains came.

Where the seasons are long and moisture plentiful, it is customary to wait until the soil is warm before planting. In semi-arid regions, however, corn should be planted early. With the soil in proper condition it is generally advisable in semi-arid regions, south as well as north, to plant corn before danger from frost is entirely past. Corn planted very early usually makes a slow, tough growth and a month after planting may be smaller and look less promising than that planted later. The early planted corn ripens first, however, and usually produces the larger or the better crop. Because of its slow, tough growth, corn planted very early is not so susceptible to frost and dry weather as corn planted later and growing more rapidly. In a series of years the gain in mature corn secured from early planting will more than make up for any injury from spring frosts. Excellent corn crops have been produced from plantings frozen off or frozen back when the plants were from a few inches to a foot or more tall. Corn is not often entirely killed by spring frosts, and if some should be injured the loss is much less serious than that from the dry weather of mid-summer or from fall frost.

Early planted corn derives more benefit from the spring moisture supply, becomes well rooted and may even mature before the dry weather becomes severe.

When the growing season is very long and warm, plantings made at about thirty-day intervals increase the chances of hitting the season right and raising some good corn.

It has just been announced that the required twenty herds have been nominated for the Poland China futurity hog show to be held at the Topeka fair next fall. The Duroc Jersey futurity is also assured for this same fair, and in order that breeders who did not make their nominations in time may have another chance, the association has decided to accept additional nominations up to April 1.

$1150 F. o. b. Racine
Mitchell Junior—a 40 h. p. Six
120-inch Wheelbase

Mitchell SIXES

$1460 F. o. b. Racine
7-Passenger—48-Horsepower
127-inch Wheelbase

Mitchell Junior—$1150
Now Added to Mitchell Line

Many buyers prefer a 5-passenger car. Such a car has ample room with a 120-inch wheelbase. Few such cars are that long. And a 40-horsepower motor gives them ample power.

To meet that demand we build Mitchell Junior, which sells for $1150. It is our big, 7-passenger Mitchell in a little smaller size. So you now pay only for the room and power you need.

Saving Every Waste

Note how John W. Bate, our efficiency engineer, is saving every waste. These two Mitchell ...es form a new example.

He has built and equipped here a model plant, which now covers 45 acres. It is designed to build the Mitchell at the lowest factory cost. About 98 per cent of the Mitchell is built under his methods. Our factory cost has been cut in two.

Our new body plant this year brings another big saving — hundreds of thousands of dollars. Nowhere else in the world could a car like the Mitchell be built at so low a cost.

Extras That Result

These savings show in Mitchell extras. There are hundreds in the car.

There are 31 features which nearly all cars omit. And each is a thing you'll want.

There is 100 per cent overstrength in every vital part. Over 440 parts are built of toughened steel. Many parts are oversize. Steering and transmission parts are built of Chrome-Vanadium. The gears we use are tested for 50,000 pounds per tooth.

There are springs which never have broken — the Bate cantilever springs. In two years of use, on many thousand cars, not a single leaf has broken.

There is beauty and luxury which few cars can afford. This year alone we add 24 per cent to the cost of finish, upholstery and trimming. Our new body-plant savings pay that.

See These Extras

Before choosing a car for years to come, learn what these extras mean. See the 31 features—like a power tire pump—which hardly a car includes. See the beauties and luxuries which distinguish the Mitchell.

The vast over-strength, in all probability, means a lifetime car. It means safety, low upkeep, small repairs.

See what Mitchells give as compared with cars built in wasteful ways. The facts are bound to win you to the Mitchell.

If you don't know our nearest dealer, write us for his name.

MITCHELL MOTORS COMPANY, Inc.
Racine, Wis., U. S. A.

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Mitchell—a roomy, 7-passenger Six, with 127-inch wheelbase. A high-speed, economical, 48-horsepower motor. Disappearing extra seats and 31 extra features included.
Price $1460, f. o. b. Racine

Mitchell Junior—a 5-passenger Six on similar lines, with 120-inch wheelbase. A 40-horsepower motor—¼-inch smaller bore than larger Mitchell.
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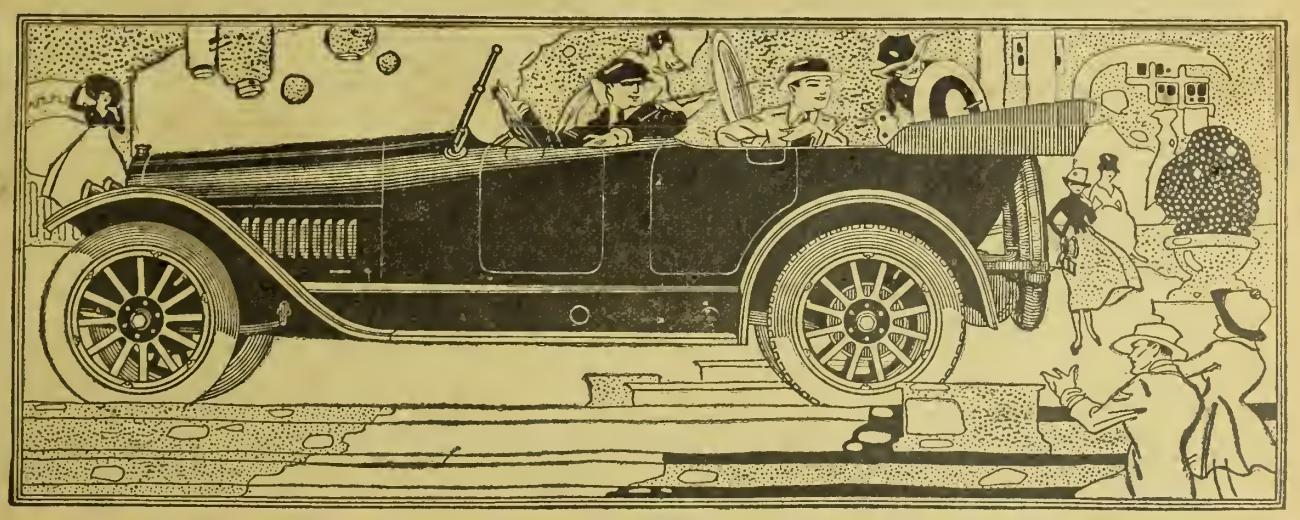
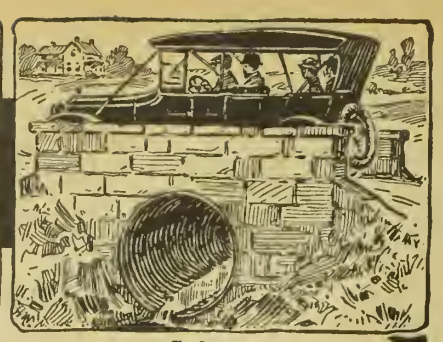
Also all styles of enclosed and convertible bodies. Also demountable tops.





Danger



Safety

"Armco" Iron Corrugated Culverts Make Dangerous Places SAFE!

Following the example of the railroads, highway builders are abolishing bridges wherever possible and substituting the safety, economy and convenience that is possible with

"ARMCO" IRON CORRUGATED CULVERTS

Never "closed to traffic", never put "out of commission" by floods or storms, never in danger of breaking down beneath heavy tractors or motor trucks, never requiring repairs, or painting, "Armco" Iron Culverts eliminate all the objectionable features of bridges and make travel safe and sure.

"Armco" Iron's remarkable rust-resistance results from its *purity* and *evenness*. It endures for years and years without one cent of cost for maintenance. The "Armco" Trade-Mark on every section is evidence that your taxes are being wisely applied.

For full information on "Armco" Iron Culverts, Flumes, Sheets, Roofing and Formed Products, write the manufacturer in your vicinity, or

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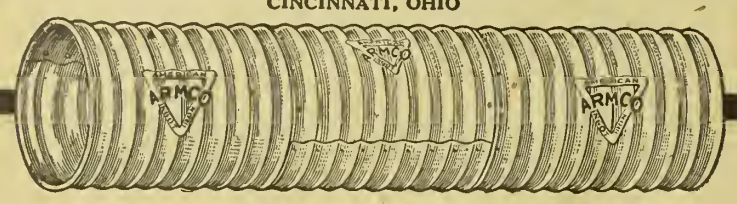

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Western Canada Farmers Require 50,000 American Farm Laborers AT ONCE!

Urgent demand sent out for farm help by the Government of Canada. Good wages. Steady employment. Low railway fares. Pleasant surroundings. Comfortable homes. No Compulsory Military Service. Farm hands from the United States are absolutely guaranteed against Conscription. This advertisement is to secure farm help to replace Canadian farmers who have enlisted for the war.

A splendid opportunity for the young man to investigate Western Canada's agricultural offerings, and to do so at no expense. Only those accustomed to farming need apply.

For particulars as to railway rates and districts where labor is required, or other information regarding Western Canada, apply to

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Special Baseball Season Offer

The baseball season opens April 4. We make this exceptional offer at the beginning of the season for the benefit of all baseball lovers. BASEBALL MAGAZINE is the only national monthly devoted to baseball. It is the official organ of the baseball players' fraternity, which includes all players in the big leagues.

Special Bargain Offer to Kansas Farmer Readers Only

Order Now

KANSAS FARMER	$1.00
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Total	$3.50

Our price, **$1.75** Save $1.75

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Start the Baseball Season Right

WHO'S WHO IN BASEBALL is the greatest baseball record ever published. A regular one-dollar book that every man or boy should have. Gives all the information about players and the game that you want.

Order Now and Get the April Number

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I accept your BASEBALL SEASON OFFER and enclose remittance of $.....

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READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

Kansas Farmer Dairy Club

Send Your Sample for Quality Test

MEMBERS of tbe Dairy Club who have not made tbeir grade for quality of product, are to send a pint sample to Prof. L. D. Bushnell, Kansas Agricultural College, Manhattan, Kansas, this sample to be produced April 3. Send the sample by prepaid express as soon as it can be properly prepared for shipment. Take your sample from the morning's milk so you can ship it the same day.

Use a pint milk bottle, if possible, sealed with a sanitary cap such as is used by milk men in sealing bottles of milk for delivery. After the cap is in place seal with melted paraffin and tie a piece of clean muslin or cheesecloth over tbe top of the bottle. The bottle should be packed in a pail or box large enough so some cracked ice can be put around the bottle to keep it cold. Be sure tbe express agent knows what is in the package.

You should milk your cow as usual, being very careful to keep dirt of all kinds from getting into the pail. Be sure your cow is clean, washing ber udder if it is dirty, and drying it with a clean cloth before starting to milk. It is not a good plan to curry the cow just before you sit down to milk, for the air will be full of dust. Do not handle bay or bedding in the barn just before you milk. If there is any dust in the air it will get into the milk and every particle will have on it a lot of germs that will develop and spoil its quality. Be sure also that your bands are clean and that all hairs and other forms of dirt are brushed from your clothes.

Be sure the bottle in wbich you place your sample is perfectly clean. It should be scalded with hot water and after scalding don't put cold water inside tbe bottle. It can be cooled by pouring cold water on the outside. After it is scalded keep a piece of cheesecloth over the mouth until you are ready to pour in your sample.

After milking your cow, stir the milk as you do in taking your sample for the butter fat test, and immediately fill the pint bottle you have prepared. It should be cooled at once by setting it in ice water, or if you do not have ice use cold water direct from the well. Do not seal the bottle until the milk is cool, but keep it covered witb a piece of scalded cheesecloth. This will keep out dust, but will permit the odors from the milk, as it is cooling, to escape. The quicker you can get milk cooled after it is milked, the better it will keep. The bacteria that gets in cannot grow and increase in numbers unless the milk is warm. It is the growth and increase of the bacteria that cause milk to spoil.

The principles governing the production of good milk are to keep all the bacteria possible out of the milk and then to cool it as quickly as possible and keep it cool so that the bacteria that do get in—for it is impossible to keep them all out—will not be able to develop and increase in numbers. If all the methods you use in handling your milk are based on these principles, you are sure to have a good quality of product.

In the work of the Dairy Club twenty points are allowed on the quality of tlie product. Milk is a food product and should always be so handled as to keep it free from dirt and filth of all kinds. Milk that has not been kept clean is dangerous to those who use it. Handling milk so it will be safe to those who use it, is a duty every dairyman should be willing to assume, and we hope this will be one of the lessons the Dairy Club members will learn from their work.

If you sent a sample to the market milk contest at Manhattan Farm and Home Week and it scored 80 or more, you need not send a sample April 3. If you did not send a sample to the market milk contest or if you did and your score was less than 80, you are to send the pint sample, prepared according to the above directions, April 3. We are giving this second chance to those making poor scores because it is apparent from their score cards that they did not know how to prepare samples for shipping and as a result the milk was in bad condition when it reached the college.

Before preparing your sample, read the article in the Dairy Club Department of KANSAS FARMER for March 3 on "Care of Milk," also article in Dairy Club Department in issue of March 10, "Did You Understand Your Score Card?" Also read the article on page 9, March 17 issue on "Flavors in Milk."

If your sample is good enough to score 80 or bigher when it reaches Manbattan, you will be allowed the full twenty points on quality of product. It is not an easy matter to handle milk so that it will score 80 or higher several days after being produced. You will have to make considerable effort to handle your milk so carefully that you will be able to secure this score. We hope none will fail in making the full twenty points on quality of product.

High Tribute to His Mother

I am sending you the picture of my cow and myself. My cow is doing fine. She has all tbe oat straw she can eat besides tbe other feed I give her, but as our silage is about all gone I am worrying about what to feed her instead of it, as she is a lover of silage.

I was surprised to see my milk score so low—only 67.75—and Harold Bentz's score so high. Did Harold put his milk tbrough a clarifier? I did not, but bedded my cow with about two feet of straw and kept her well curried and cleaned. Also kept the barn clean. In fact was very careful about everytbing.

My calf is surely doing fine. A man offered me $45 for her about a month ago.

I notice some of the club members are having trouble with tbeir cows. I



JOE READICKER, FRANKLIN COUNTY, AND HIS GRADE JERSEY

haven't had any trouble with mine only in finding enough for her to eat. My mother is our veterinary and we think wbat Mother can't do about a horse, cow, or pig, can't be done. My brother bought a young heifer. When she was fresh the calf could not take all the milk and it was not milked out. In a week there were big lumps in all four quarters of her udder. My mother used real hot water, plenty of salt and a cup of vinegar each treatment. She washed the cow's udder night and morning, and there is now no sign of a lump in her udder. The same treatment is fine for swollen udders.—JOE READICKER, Franklin County.

Your mother's treatment for the cow's lumpy udder is excellent. Other Dairy Club members whose cows have swollen or inflamed udders, will do well to use this same treatment.

It is unfortunate that you no longer have silage for your cow, as there is nothing that will take the place of it except pasture. You should see to it, however, that she has all the straw and alfalfa and clover she will eat.

Correction on Prize

In announcing the offer of a two-unit Hinman milking machine as one of the Dairy Club prizes, we stated that the two units would milk four cows at a time. This was an incorrect statement, as one unit will milk only one cow. The offer of the Hinman Company is two milking units with the necessary shafting, pulleys and hangers to operate them. Of course power must be provided.

Each year the state club work has grown and 1917 will be no exception to this rule. Hundreds of boys and girls all over the state are now enrolling in this year's clubs. There is no greater work than that which has to do with boys and girls.



Cost of Marketing Butter Fat

THE dairy industry in Kansas is only in its infancy. When it becomes better established the cost of marketing will be reduced materially because it will not be necessary to drive so far to dispose of the butter fat.

"For many years there has been a feeling that the prices paid for butter fat in Kansas were low as compared with those paid for this commodity in Wisconsin," said Theodore Macklin in an address given Farm and Home Week.

Comprehensive investigations of the methods of marketing butter fat were conducted by Mr. Macklin in Kansas and Wisconsin in 1914, 1915, and a part of 1916, and the results are now available for comparison. It is shown in a Wisconsin Experiment Station bulletin that farmers of that state receive an average of 23.33 cents for butter fat in one pound of butter, while Kansas farmers receive but 21.06 cents. This difference of 2.27 cents is explained by the difference in cost of getting butter fat from farm to creamery.

Because there are less than one-fourth as many cows in Kansas per square mile as in Wisconsin, there are less than 200 pounds of butter fat per square mile to be delivered to a creamery instead of more than 800 pounds as in Wisconsin. Since a farmer drives on the average only about five miles to deliver cream, there must be sufficient butter fat in a radius of five miles to warrant the economical making of butter in a creamery.

Mr. Macklin found that in Kansas there is not on the average enough butter fat within a similar radius to enable a small creamery to exist. Butter fat, consequently, must be assembled from wide areas in order to secure a sufficient amount at some central point for the economical manufacture of creamery butter. The average cost in Kansas of getting fifteen million pounds of butter to the creamery was 3.46 cents a pound. In Wisconsin it costs but 1.5 cents to get the butter fat in a pound of butter from the farm to the creamery. The central creamery, with its highly efficient selling facilities, can dispose of the product to much better advantage and must be given credit for the development of the dairy business as it is conducted in Kansas.

Unusual Butter Fat Production

Several years ago some tests were made at the Missouri Experiment Station which showed how abnormally high seven-day butter records could be made. The cow is fed heavily while dry for some time before calving and begins the milking period with a large amount of surplus fat on the body. If the cow is naturally a heavy milk producer these conditions invariably result in her being underfed for a period of time after calving. It is this underfeeding which causes the cow to take off her excess body fat laid on before calving and put it into the milk.

Recently published results of these experiments show that the butter fat produced during the high seven-day tests has a composition such that it appears to have been mixed with oleomargarine. The butter would not pass for pure butter, according to the government pure food standards.

The Missouri Station tests also indicate that underfeeding is probably involved in all manipulations which cause abnormally high fat production for short periods of time. The butter fat produced is also likely to be below the standards for pure butter of the United States pure food laws.

Breeders are more and more recognizing the value of longer production records.

Feed Cow Before Calving

In these days of high priced feeds we feel that we cannot call to mind too often the fact that the time to begin feeding a good dairy cow is six or eight weeks before she freshens. The dry cow should not be kept on a mere maintenance ration. It is not the profitable thing to do. Practical dairymen are agreed that the feeding during this period has perhaps as much to do with the amount of milk and butter fat the cow gives during the lactation period as does the feeding while she is giving milk.

The milk cow should not be fed in such manner as to keep her lean and scrawny during this period just before freshening. Because the good producers always get thin as the milking period progresses, too many have the idea that a good milk cow should never be allowed to get fat. The big producer will not stay fat while giving milk, for the fat and other body tissue stored during the dry period will be converted into milk. It is not only fat that is so stored and used later in milk production, but mineral matter as well. A cow that comes to the calving period in a weak and run-down condition has no reserve and seldom gives a large flow of milk during that lactation period, no matter how well she may be fed.

Feed the dry cow the best of alfalfa and clover hay, silage if possible, and some grain also if the roughage is not good enough to enable her to accumulate some reserve of body fat during the dry period.

How Much Silage?

We have the following letter from R. A. G., Morris County: "What in your opinion would be a fair estimate of the number of tons of silage in a 20-foot silo, the silage being 21½ feet deep? This silo was re-filled, the fodder being cut in quarter-inch lengths and a 1¼-inch stream of water run in continually during the process of filling. Four men were kept tramping inside. It was filled in fifteen hours."

According to the figures given on the capacity of silos, 21½ feet of settled silage in a 20-foot silo would amount to about 115 tons. This, however, is for well-matured corn placed in the silo in green condition. It is our judgment that this dry fodder, even though wet when run in, has not settled as solidly as green fodder would. It would be our guess that this silo does not contain to exceed 100 tons.

Mulvane Cow Testing Report

The Mulvane Cow Testing Association, which began work the first of January, is the second association of its kind in the state. Merrill R. Groton, the official tester, writes that the work is progressing nicely and the members are all well pleased. In January thirty cows produced over forty pounds of butter fat, and ten produced over fifty pounds. In February, thirty-two cows produced over forty pounds of butter fat and eleven over fifty.

We are glad to note that this association is calculating results in pounds of butter fat instead of pounds of butter. This gives an absolute measure of the production. Different breed associations have different rules as to the amount of fat contained in a pound of butter. For example, the Holstein association calculates butter to contain 80 per cent of fat, while the Jersey Cattle Club figures 85 per cent of butter fat in a pound of butter.

We give below the records of the cows in this association producing over fifty pounds of fat.

JANUARY RECORDS

Owner's Name—	Milk, Lbs.	Fat, Lbs.
N. W. Wheeler, Holstein	1,725	63.8
Appleman Bros., Holstein	1,566	61.1
Fred Lukamp, Holstein	1,491	58.1
E. T. Wagner, Holstein	1,065	55.4
M. L. Howard, Holstein	1,239	54.5
E. C. Howard, Holstein	1,500	54.0
B. R. Gosney, Holstein	1,296	53.1
B. R. Gosney, Holstein	1,386	52.8
Fred Lukamp, Holstein	1,482	51.9
Clarence Short, Holstein	1,260	50.4

FEBRUARY RECORDS

B. R. Gosney, Holstein	2,121	89.1
B. R. Gosney, Holstein	2,538	73.7
B. R. Gosney, Holstein	1,929	73.3
W. R. Stubbs, Holstein	1,179	62.5
Fred Howard, Holstein	900	60.3
Fred Howard, Holstein	1,059	56.1
F. T. Wagner, Holstein	1,398	55.9
Clarence Short, Holstein	1,431	54.4
Fred Lukamp, Holstein	1,470	52.9
E. C. Howard, Holstein	1,461	52.6
George Appleman, Holstein	1,581	52.2

By burning the cornstalks where they are extra heavy a better crop may be produced that season, because of the better seedbed that may be prepared without the stalks in the way; but in the long run burning the stalks is sure to decrease crop yields.



DE LAVAL

The First, the Best Known and the Greatest

CREAM SEPARATOR

Better Now Than Ever Before

THE first practical continuous cream separator, the De Laval has easily maintained its original success and leadership for nearly forty years. Step by step, year after year, by one improvement after another, the De Laval has led in every single step of cream separator development and improvement.

The first belt driven, the first steam turbine driven, the first of every kind of hand turnable, the first disc bowl, the first blade bowl, the first bottom or suction feed, the first split-wing feed, the first feed-through-the discs, the first self-centering bowl, the first automatically oiled—all these and a hundred other features of separator development and improvement has been conceived by De Laval inventors and perfected by the De Laval Company, most of them to be cast aside for something still better in the ever onward advance of De Laval construction.

The New 1917 De Laval

And now, in the De Laval machines for 1917, a number of new and still further improvements have been made, which make the De Laval machines of today much better in many respects than they have ever been before.

Their capabilities are greater per dollar of cost; they skim cleaner under the more difficult conditions of separator use; they are equipped with the most improved speed regulator, thus insuring the proper speed necessary for complete separation; they are even better lubricated, and the bowl construction is even more sanitary than ever.

In other words, superior as the De Laval machines have always been to all would-be competitors and utilizers of abandoned De Laval features, the De Laval machines of 1917 are improved and superior in every way to all previous types and models of De Laval construction.

All these improvements and new features are described and explained in the new 1917 De Laval catalog now ready for mailing, but some of them are difficult to describe and make fully understood by words.

Be Sure to See a New De Laval

The new De Laval machines themselves best explain their new and superior features, and their use does this more completely and convincingly than even an examination of them. Every local agent is glad to afford opportunity for examination, and better still, for home test of a new De Laval machine.

But the demand for the new machines is a month ahead of the possible supply under the present difficult conditions of manufacture and freight distribution. More De Laval machines by half have been made in 1917 than ever before, but the De Laval Works is now ten thousand machines behind actual orders, and the demand is ever increasing.

Hence, the importance of securing a machine quickly if your local dealer happens to have one, and of ordering well ahead if he does not. And likewise, the importance of waiting patiently a little for a machine need be.

A new De Laval catalog will be gladly sent on request, and if you don't know your nearest local agent please simply address the nearest De Laval main office as below.

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York 29 E. Madison St., Chicago

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Low in price—low in upkeep. Two models. Model "A" 8-16 h.p.—$585. Gasoline or kerosene. Pulls 2 or 3 plows. Model "B" 12-24 h. p.—$735—our wonderful new kerosene burner. Same type tractor as Model "A," economizing weight for pull. Unbreakable cast steel frame. Twin cylinder motor—overhead valves—perfect combustion—mechanically oiled. Hyatt Roller Bearings throughout.

Model B 12-24 H. P. $735.00

Write for catalog. Also ask about La Crosse Tractor-drawn implements. We have a distributor near you for prompt service.

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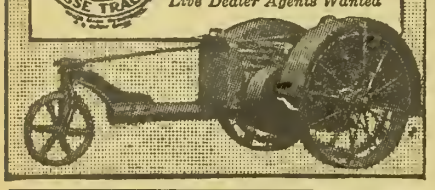



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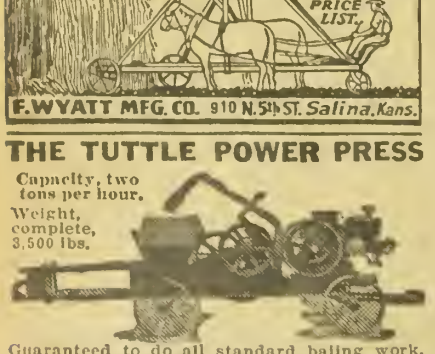

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

ACCORDING to figures just given out by the Federal Department of Agriculture, there will be 2,287 tractors used in Kansas in actual farming operations this year. Illinois is the only state leading Kansas in the number of tractors used on farms.

To obtain this information, inquiries were sent to 32,000 selected correspondents. They were asked to report all tractors which were to be actually used in farm operations this season. Steam-driven tractors, tractors purchased but not delivered, tractors out of commission or not to be used this season, and tractors employed for road or work other than farming, were to be excluded.

Mere estimates as to the probable number of tractors in any county were disregarded. The figures, therefore, are offered not as an actual count of all tractors, but as indicating the relative employment of tractors in farming in the different sections. The total for all the states is given as 34,371.

The figures given have been compared with all available data. The numbers in the states east of the Mississippi agree reasonably well with other data and may be looked upon as fairly complete. In some of the western states, however, marked discrepancies exist between these figures and those of local or unofficial counts. Such discrepancies are explained in part by the fact that tractors have been used much longer in the West and a number of old tractors doubtless have been retired. It is likely, also, that the reporters in some of the more sparsely settled sections would have less intimate knowledge of tractors in their territories than would those in the more thickly populated and smaller counties of the East.

Automobile Trucks

The farm truck problem has been solved for the farmer by the invention of the truck attachment for the small automobile, according to E. V. Collins, instructor in steam and gas engineering in the Kansas Agricultural College.

These attachments, pointed out Mr. Collins, can be placed upon the light automobile that has been used as the family touring car and will convert it into a serviceable one-ton truck. The attachments are so arranged that 90 per cent of the load is placed on the rear axle and, with the gearing furnished, the small twenty-two to twenty-five horsepower engine can handle 2,000 pounds at a speed of ten to fifteen miles an hour.

The farmer can place the body which best suits his purpose on the truck chassis, but care should be taken not to place a body on the truck that is out of proportion to the loads that the truck will be required to carry.

Size of Engine

There are many uses for a gasoline engine on the farm. As the uses to which an engine can be profitably put increase, the size of the engine becomes a matter of greater importance.

It has happened in countless instances that an engine has been purchased which in the end proved to be too small, either because the purchaser underrated the amount of power he would require, or through a mistaken notion that a small capacity engine is economical because it is lower in initial cost. Common experience has been that as the capabilities of an engine as a labor-saving factor on the farm come to be recognized, more and more strenuous demands are made upon it, these demands often being beyond its power capacity. Realization comes then that the really economical thing to have done would have been to buy a larger engine at the start. Almost always it happens that the second engine the farmer buys is one of greater power capacity than was his first, thus testifying to the soundness of the reasoning which would recommend a good sized engine as a first purchase.

Overhauling Your Car

The automobile which has not been used much through the winter will give better service if overhauled carefully this spring.

In going over the car there are a number of points to consider. The old oil should not be left in the motor. Drain the crank case and put in a gallon of kerosene. Run the motor for five minutes—not longer. Let it stand for an hour or so, then drain and fill to the high level with fresh gas engine oil of good quality.

This cleans out all the dirt and carbon accumulated last season and gives the motor a good start on clean oil.

Take the front wheels off and pack both bearings with a good grade of hard grease; cheap or common axle grease contains lye, which is detrimental to the high grade bearings used in an automobile.

If your car is equipped with a full or three-quarter floating rear axle, do the same with the rear wheels. When you put them back on, be sure that you adjust the bearings properly (see the instruction book furnished with the car) and that the nut locks are in place.

Read the instruction book again; possibly there is something you have forgotten that will help you get better service.

Tractors in Road Building

Another important use of the gas tractor is in road building. A tractor can easily pull two road graders. With the agitation for good roads in Kansas the system of using tractors in grading should appeal to every man. In cities the tractor is used in removing earth from the streets where paving is to be laid. By the use of a machine to elevate the dirt into wagons a section of earth one foot thick can be removed from the top of the roadbed. The tractor is used in cutting drainage ditches on flat land at a smaller cost than any other excavating machine.

The extensive use of the tractor is shown by the large number of tractor factories in the United States. At present there are perhaps more than 125 of these factories in this country. Enormous orders for tractors are being placed in our factories by European countries for the cultivation of this year's crops.

The gas tractor is being used more extensively in the wheat belt because it makes possible the cultivation of more than could be cultivated by horses. The gas tractor is rapidly replacing the steam engine in threshing because there is less danger from fire.

What Is a Day's Plowing?

Farmers frequently want to know how much land can be plowed in a day and how much work it requires to break an acre. Records at the Missouri College of Agriculture on 2,122 acres of land show that it required 3.4 hours of man labor and 9.3 hours of horse labor for each acre. Of course, the time required to plow an acre will depend on the size of the plow and the number of horses used. A four-horse gang plow with two 12-inch bottoms will average about 4.12 acres a day of 9.6 hours when it is running six inches deep. The same plow running eight inches deep will break a quarter of an acre less. A three-horse sulky with a 14- or 16-inch bottom will average about 2.5 acres at a six-inch depth and about 0.2 of an acre less for the eight-inch depth. A two-horse, 14-inch walking plow will break about 1.75 acres a day at a six-inch depth and about 0.2 acres less at the eight-inch depth.

Gravel for Surfacing Roads

Kansas now has an average of one automobile for every mile of road and if the state expects to keep pace with this increasing traffic the main traveled roads, sooner or later, must be surfaced with durable materials. Of all the different kinds of material available for road surfacing, gravel probably is the best for Kansas conditions so long as the traffic does not exceed 200 vehicles a day. When the traffic increases beyond this number, brick or cement is the best material.

W. S. Gearhart calls attention to the fact that gravel deposits are numerous throughout all of that part of Kansas east of a north and south line through Solomon. This fact makes gravel the cheapest surfacing material.

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Ewes at Lambing Time

A. M. PATERSON, Kansas Agricultural College

MANY are having their first experience with sheep. The flock should have a little additional attention at this season of the year when the lambs are coming. Ewes that are in poor condition should be sorted out by themselves and given a little extra feed. This feed should be such as will stimulate the flow of milk. With alfalfa or clover hay for roughness, a pound or one and one-half pounds of grain daily should put the flock in excellent condition. A good mixture of grain at this time would be 60 per cent of corn chop, 30 per cent of bran, and 10 per cent of oil meal. If the flock is in good condition, the proportion of corn might be decreased or eliminated altogether. Oats and barley make an excellent substitute for corn, but are generally too expensive in Kansas.

When the lambs begin coming and especially if the weather is cold and disagreeable, as it often is in March and frequently in April, close attention must be given the flock if all the lambs are to be saved. Many new-born lambs are very delicate, and if the flock has not been properly fed and cared for during the winter season often the lambs are weak and have not strength enough to get up and nurse. If a lamb gets badly chilled before it gets up, it will be lost unless given prompt attention.

Many of the ewes will have twins, and some triplets. In cases of this kind one lamb may be weaker than the other and is frequently neglected by its mother. Pens about four feet square should be provided for the ewes to lamb in. This protects the young lambs from the rest of the flock and keeps them from getting separated from their mothers. A portable hurdle which may be placed around the ewe when lambing is inexpensive and serves the purpose. It sometimes happens where twins are born that the mother will refuse to own the weaker lamb. In a case of this kind take the stronger lamb away for an hour or two and the mother will usually turn her attention to the other lamb, and when the stronger lamb is put back with her she will own them both.

In case one ewe has lost her lamb and another has twins or triplets, one of them should be given to the ewe that has lost her lamb. Sometimes there is a little trouble in getting the foster mother to own such lambs, and it may be necessary to tie her up with a small rope halter or in a small stanchion for a day or two so that she cannot injure the lamb. Some shepherds advise taking the skin from the dead lamb and rubbing it thoroughly over the lamb that is to be changed. The reason for this is that ewes recognize their lambs largely by scent, and if the scent from the dead lamb is fastened on the lamb being changed the ewe will usually quickly claim it as her own. It is also sometimes helpful, where lambs are being changed from one ewe to another, to milk a little from the ewe that is to adopt the lamb over the lamb, but the halter or stanchion will usually be found sufficient, and less bother.

Attendants should see that the young lamb gets up and nurses by the time it is fifteen or twenty minutes old. When it is once up and full of milk, there will be little need of giving it further attention. In case the lambs should have been dropped without the attendant being present and have become badly chilled before being found, they should be taken in by a fire. If this is not convenient, a jug of hot water set in a covered box will aid greatly in reviving and drying off the young lambs. A little warm milk should also be given to supply internal heat.

When the lamb is warm and revived, it can be put back with its mother, and the chances are it will not need any further attention. The ewe should be allowed to remain in her small pen until the lambs are strong enough to follow her about. By the time the lambs are ten days or two weeks old they begin craving solid food and will be found nibbling bits of hay, and then grain should be provided for them. This can be easily arranged by making a slat hurdle or panel with the slats five or six inches apart. The size of such a pen will depend entirely upon the number of lambs, but should be large enough to accommodate them comfortably. Within this enclosure a shallow trough should be provided, in which there should always be found a little corn chop, bran and oil meal.

International Feeding Contest

The boys' live stock feeding contest which was inaugurated at the last International Live Stock Exposition proved very popular and aroused a great deal of interest, not only among the boys who entered the calves and fed them out, but among live stock men as well.

At the 1917 International there will be another feeding contest. The management has just made the preliminary announcements. With a view to enlarging the scope of the contest the feeding period has been changed to begin in April instead of August.

Any boy or girl over ten and under nineteen years of age January 1, 1917, can enter. The entries close April 1. Some time between April 1 and April 30 the calf selected by the contestant will be weighed and from that time on accurate record of its feeding will be kept. The calves selected may be pure-bred, grade or cross-bred steers, spayed or martin heifers, calved since January 1, 1916.

The following prizes are offered: First, $50; second, $40; third, $30; fourth, $20; fifth, $10.

Entry cards and other information about the contest can be secured by addressing B. H. Heide, secretary International Live Stock Exposition, Union Stock Yards, Chicago.

Actual tests have shown that the animal with the best appetite is usually the most profitable. The greedy animal that always seems able to stow away a little more feed usually has a digestive and assimilative system in proportion to its appetite. It takes a fairly definite amount of feed to merely maintain the animal—keep the machinery running. The dainty feeder uses about as much of the feed it consumes for body maintenance as does the heavy feeder. It is the feed consumed over and above maintenance that brings the profit, whether it be milk production or the making of growth or fattening. The profitable animal is the one having the greatest capacity for turning feed into some animal product. It is not always the one that eats most greedily that gives the best results, for sometimes excessive greediness results in imperfect mastication and digestion. The profitable animal, however, must have a large capacity for feed.



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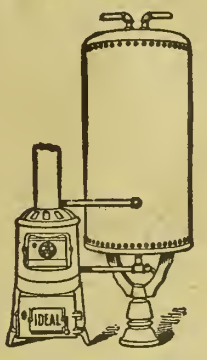

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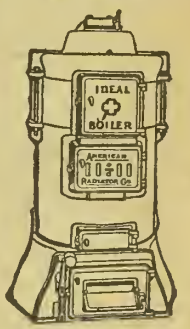

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We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Just to be good, to keep life pure from degrading elements, to make it constantly helpful in little ways to those who are touched by it, to keep one's spirit always sweet and avoid all manner of petty anger and irritability—that is an idea as noble as it is difficult.—EDWARD HOWARD GRIGGS.

Graham and whole wheat breads are very good foods for people troubled with constipation, but are undesirable for those having weakened digestive systems.

Graham Bread

2 cupfuls white bread sponge
2 tablespoonfuls brown sugar
Enough graham flour to make stiff batter

Let this mixture rise, then add enough graham flour to knead, but do not make very stiff. Put in pan, let rise, and bake. This amount will make one loaf.

Start Cannas Indoors

Cannas should be started indoors the first or second week in April and transplanted the second week in May. This plan has numerous advantages over the old method of planting the bulbs directly in the beds in which they are to grow.

By the new method it is possible for the grower to select plants of uniform size and color. There is less danger from frost when the plants are not set out until May.

The indoor plan is simple. The bulbs are cut in lengths varying from two to four inches. Individual specimens are placed in pots or several may be planted in a shallow box. The pots or boxes should be put in sunny basement windows, under greenhouse benches, in hotbeds, or in cold frames. Strong, well developed plants are produced that will stand the strain of transplanting.—M. F. AHEARN, Professor of Landscape Gardening, K. S. A. C.

Setting Tomato Plants

A very good practice in setting out a limited number of tomato plants is to plant three or four seeds in a small pasteboard box. When the plants have come, pull out the weaker ones and leave only the most vigorous one. When transplanting to the garden, put the box right in the ground.

In this way the plant will go right on growing without suffering the set-back so often the result of transplanting.

If you do not have enough pasteboard boxes to do this, tin cans may be used, but instead of burying the can a knife should be run around the edges, which will allow the dirt to be removed without disturbing the young plant. This dirt as it comes from the can around the plant, should be placed in the tomato patch with the plant.

Home-Made Canning Device

In the course of a recent visit, one of our readers who is a homekeeper in the Ozark Mountain region, told of the methods used for saving fruits and vegetables for the winter and spring use of a large family.

A canner was made of an old iron kettle with a capacity of twenty gallons. For this a false bottom of slats was made and a cover of heavy galvanized sheet iron. This kettle hangs on a chain supported by three posts fastened together at the top and spread at the bottom. This canning outfit stands in the back yard.

When it is time to do the canning work, some of the women from near-by cabins are hired by the day. These women are accustomed to the hardships and privations of unproductive hillside farms and at first knew practically nothing about canning the products of the garden.

They pick the peas, beans and asparagus and under careful instruction prepare them and pack them in sterilized jars. One teaspoonful of salt is placed in the top of each quart jar and the jar is then filled with water that has been boiled and cooled. The rubbers are then put on and the sterilized covers screwed only loosely to permit the escape of steam. The kettle accommodates sixteen jars at a time and enough water is put in the kettle to furnish the required steam. The galvanized cover is then placed over the kettle and held in place by two sticks of wood.

When the vegetables have been cooked sufficiently the kettle cover is removed, the jar covers are tightened and the jars removed to a table away from a draft so the cold air will not break them. When thoroughly cooled the jars are wrapped in dark paper and placed in the fruit and vegetable closet.

Many vegetables, fruits, meat and wild game are canned in this manner.

The canning work of this Ozark homekeeper serves two good purposes, namely, supplying the family with healthful food throughout the year at a minimum cost, and also teaching these neighbor women how to supply their families with home-canned products in addition to giving them an opportunity to earn a day's wages now and then.

At the time of the visit this homekeeper stated the high cost of living had not yet been felt because of this adequate home provisioning.

Understanding Mothers

Isn't it a pleasure to visit with a mother who understands her children? Is it possible that there is a mother who doesn't understand her own children? We think it is, and this conclusion has been reached after having made mental note of the actions of many. The mother who never reasons with the child who is dependent upon her for so much of his knowledge and so many of his life impressions, does not study that child life to the point of understanding, and there are many other ways in which some mothers evince a lack of understanding.

But what an inspiration is the mother whose handling of her children leaves no doubt in the mind as to her understanding. We visited with one of these mothers last week. Much of this mother's knowledge has been gained the hardest way—in the school of life, without educational training—but to this knowledge is ever added her memory of her own childhood of very limited advantages and she is earnestly trying to do for her children everything that will bring them to young manhood and young womanhood equipped for useful lives. She sees to it that their bodies are nourished and clothed as they should be to promote development and health, and she is never too busy to help them with their school work, nor too old to enjoy their sports. When she told how many times she had been skating this winter, her daughter, who is in the eighth grade at school, proudly said the boys skated with Mother more than they did with the girls. These children are having their fun and their mother is supervising it in a way that adds to the pleasure.

All mothers are not physically able to enter into the life of the child to this extent, but an understanding interest will accomplish practically the same results.

This mother's ambition is to make it possible for her three children to complete at least high school work and then be able to help or interest them in working their way through vocational colleges.

As we thought over our visit and the financial means at this mother's disposal, her ambitions and her vision of possibilities grew larger and larger to our mind and we realized what a tremendous power for good and for the advancement of humanity she is wielding in just being an understanding mother.

A root or two of mint set out this spring will supply enough leaves to use for flavoring many times during the year.



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MOISTURE IN INCUBATION

WHILE lack of moisture is not alone responsible for the great mortality in incubator chicks, it undoubtedly causes a large percentage of losses at hatching time. The following discussion of the moisture question is from a recent bulletin of the West Virginia Experiment Station:

In common practice the air surrounding incubators is usually considerably colder than that in the incubating chamber. In fact this difference in temperature is usually the chief factor in bringing about the circulation of air in the machine, for if the temperature were the same inside and outside special equipment would be necessary to bring about the circulation. Hence, it is generally understood that in warm weather the ventilators should be opened much wider than in cold weather.

When air is warmed it becomes relatively dryer, and so it happens that under ordinary conditions the air that is used for ventilating the machine becomes dryer than the outside air, and tends to take too much moisture away from the eggs, the effect of which, if carried to extremes, would be to reduce or entirely destroy the hatch. From this it can be understood that in practical incubation ventilation and moisture are closely related factors. The greater the ventilation and the colder and dryer the outside air, the greater is the general tendency to rob the eggs of an excessive amount of moisture.

When eggs are incubated they decrease in weight. This decrease consists of moisture which escapes through the shells and carbon dioxide that is produced as a result of the vital processes. If it be assumed that the carbon dioxide given off is uniform in amount for all fertile eggs, then the loss in weight of eggs incubated under hens may be used as a guide to indicate whether eggs are being dried sufficiently in artificial incubation. The author studied this problem and found that during the first nineteen days of incubation eggs which hatched, when incubated under hens, lost 16.54 per cent of their original weight, fertile eggs which did not hatch, 15.83 per cent, and infertile eggs, 14.15 per cent.

The following directions for the practical use of these results in artificial incubation are offered:

After placing the eggs upon the trays ready for the incubator, set the trays upon a pair of scales reading to ounces and note the total weight of the eggs and trays. The trays should be thoroughly dry. After a few days weigh again. Subtract this from the first weight. This will give the actual loss in weight of the eggs.

Suppose that you have 208 eggs on the trays; that the first weight with trays is 24 pounds, 2 ounces; and that on the sixth day the weight is 23 pounds, 6 ounces. Then the loss in weight is 12 ounces. Now look in the table for the loss in weight of 100 eggs for six days. This is 10 ounces. Ten ounces multiplied by 2.08 gives 20.8 ounces, which is the calculated loss for 208 eggs for six days. Therefore, the eggs have not been losing weight as rapidly as they should, and the eggs should be given more ventilation or the incubator should be removed to a drier location. (It is assumed that the eggs are kept uniformly at the proper temperature.) After the eggs have been tested for the infertile ones, weigh again and proceed as before.

If the eggs have not lost enough weight, open the ventilators or place the incubator in a drier place.

Table showing normal loss in weight of 100 eggs in ounces for the first nineteen days of incubation follows:

Day	Ounces	Day	Ounces
1	1.65	11	18.60
2	3.31	12	20.33
3	4.96	13	22.10
4	6.62	14	23.88
5	8.28	15	25.66
6	10.00	16	27.44
7	11.72	17	29.21
8	13.44	18	30.99
9	15.16	19	32.77
10	16.88		

If the eggs have lost too much weight, give more moisture or less ventilation, but in reducing ventilation great care should be used, as pure air in the egg chamber is absolutely necessary.

Artificial Brooding

In brooding chicks by artificial methods, care should be taken to keep them quiet and warm during the first days of their lives.

The heat from the brooder should be radiated downward onto the chicks' backs. Heat rays are reflected like light rays.

The heat should be so applied that the chicks can select exactly the desired temperature. The better class of mammoth brooder heaters fulfills this condition, as it is hottest nearest the base of the heaters and colder farther away.

An abundance of fresh air is necessary.

The chicks should have opportunity to exercise where it is relatively cool and yet have immediate access to the source of heat. They should be gotten outside on the ground as soon as possible.

In any brooding system the chicks should not be overcrowded. A small indoor brooder may be overcrowded relatively more with seventy-five chicks than will a mammoth brooder with a thousand chicks. With the right kind of a heater and proper supervision and attention one thousand chicks may be satisfactorily handled in one flock.

Successful results should not be expected in hatching by either hens or incubators if the breeding stock has not been properly mated. Birds of poor vitality produce chicks similar in nature, and many of the chicks that die in the shell are not the fault of the incubator but of poor stock improperly cared for. Birds of low vitality are also more apt to transmit the white diarrhea germ to the little chick, and chicks of low vitality do not possess great resisting power toward the disease.

Eggs for hatching, either by natural or artificial methods, should be uniform in size, with smooth shells of good texture.

As a rule it is not wise to place both white and brown eggs in the same incubator, as the white eggs have a tendency to hatch one or two days sooner than those with brown shells. There is nothing in the color of the shell which affects the time of hatching, but the small, quick maturing birds nearly all lay white shelled eggs. The embryo chicks of these breeds will develop more rapidly than those of the heavier breeds.

Eggs that vary greatly in size should never be set in an incubator, as the large eggs seem to receive more heat due to projecting higher in the machine than the smaller ones. Eggs with shells of poor texture, which appear porous, allow the moisture to evaporate too readily, and seldom, if ever, hatch.

Leg Weakness in Chicks

Brooder chicks that are closely housed and fed too heavily are very likely to develop weight too fast in proportion to their strength. Unsteadiness in the walk is first visible, followed by frequent resting and sitting, particularly while eating.

A change from a forcing ration to a non-forcing ration, as well as a change from a heavy feed to a light one, is essential. The substitution of bran, wheat, and oat meal for corn meal and corn, and the addition of bone-strengthening materials, such as skim milk, green feed, and commercial dried bone, remedy the ration. Outdoor exercise and more room must also be given.

Tells Why Chicks Die

E. J. Reefer, poultry expert, of 463 Reefer Bldg., Kansas City, Mo., is giving away free a new book which tells of a simple home solution that raises 98 per cent of all chicks hatched and cures white diarrhea over night. All poultry raisers should write for this valuable free book.—[Adv.]

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BERMUDA GRASS — HARDY, RANKgrowing variety. Stands drouths, floods, hot winds and eevere freezing. Best and hardiest pasture grass. Great milk producer. Write for leaflet today telling how to get started. Henry Jefferies, Ottawa, Kansas.

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ALFALFA AND KAFIR SEED — REcleaned, home-grown, non-irrigated. Alfalfa seed, $5, $6, $7, $8 and $9. White Flower sweet clover, hulled, $12; unhulled, $7.50. Pure white kafir, $2; good growing kafir, 1% cane seed, $1.75 per bushel, our track. Seamless bags, 30c each. Samples on request. The L. C. Adam Mercantile Co., Cedar Vale, Kansas.

FROST-PROOF CABBAGE PLANTS — Offer our thousands of customers in the Southwest same high class plants as in the past. Jersey, Charleston, Wakefield, Succession, Flat Dutch. Ono hundred, postpaid, 40c; 200, postpaid, 75c; 500, postpaid, $1.25; 1,000, postpaid, $1.75; over 5,000, cheaper. You know us. Largest plant shippers in the Southweet. Ozark Seed & Plant Co., Nashville, Ark.

TREES, SEEDS AND PLANTS.

SEED CORN — LAPTAD STOCK FARM, Lawrence, Kansas.

WHITE BLOSSOM SWEET CLOVER seed reasonable. John Lewle, Hamilton, Kansas.

TEN ELBERTA AND FIVE CHAMPION peach trees, postpaid, $1. Send now. Wellington Nurseries, Dept. C, Wellington, Kan.

FOR SALE—KAFIR CORN, AFRICAN Pink, per 100 pounde, $5. Hayee Seed House, 524-526 North Kansas Ave., Topeka, Kan.

BLACK HULLED WHITE KAFIR SEED, recleaned, tested and sacked, $2 per bushel. Grover Lee, Pratt, Kansas.

ALFALFA AND MILLET SEED — REcleaned, home grown, non-irrigated alfalfa eeed. $7, $8.50, $9. German millet at $1.50 per bushel. Sacke extra. Karl Ehrlich Grain Co., Marion, Kansas.

CATTLE.

FOR SALE—ONE PURE-BRED JERSEY bull calf, born January 24, 1917. Write H. H. Starr, Claflin, Kansae.

HIGH GRADE HOLSTEIN HEIFER calves, $17 each, crated. Edw. Yohn, Watertown, Wisconsin.

REGISTERED HOLSTEIN BULLS TWO to eeven months old, very reasonable. Wm. Mielenz, 97 Wieconsin, Milwaukee.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FOR SALE — A RED POLLED BULL calved November 19, 1914. Will make a ehow bull. Geo. Haae, Lyons, Kansas.

HIGH GRADE HOLSTEIN CALVES, males and females, ten days to two weeks old, at $12.50 to $15. Crated, f. o. b. West Concord, Minn. Chas. Jones & Son.

CHOICE CALVES—HOLSTEINS, GUERNseys, Shorthorne, high grades, $15 to $35 according to age. Expressed to you at little cost. Write Paul Johnson Company, South St. Paul, Minn.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-15ths pure, crated and delivered to any station by express, chargee all paid, for $23 aplece. Frank M. Hawee, Whitewater, Wis.

MISCELLANEOUS.

FOR SALE — 16-HORSEPOWER GASOline engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost $480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

THE STRAY LIST.

TAKEN UP—BY W. M. EDDINGTON, Moscow, Grant County, Kansas, on February 1, 1917, one bay mare, two years old, 14½ hands high, star in forehead; left hind foot white, no brands; appraised at $60. J. E. Corley, County Clerk.

TAKEN UP—BY B. F. FORD, OF SENeca, Adams Township, Nemaha County, Kansas, February 21, 1917, one red cow four or five years old. Tip of tail white, white streak under belly. No marks or brands. Appraised at $45. W. L. Kaufman, County Clerk.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

BUSINESS CHANCES

offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide neceesitiee and comforts for eelf and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll eend it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

DOGS.

COLLIE PUPPIES, $5. FRANK BARrington, Sedan, Kaneas.

FOR SALE—PAIR OF RUSSIAN WOLF hounds, guaranteed to catch and kill coyotes. Lora Farr, Route 10, Emporia, Kan.

REGISTERED SCOTCH COLLIES AND fox terriers. Western Home Kennele, St. John, Kansas.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

FOR SALE QUICK — BEAUTIFUL FOX Terrier bitch, four yeare old, U. K. C. registered (No. 79145), bred, $35. Splendid ratter and watch dog. Year old males, all registered, $10 each. Francee E. Rowe Kennels, Seymour, Missouri.

KODAK FINISHING.

LET EXPERTS FINISH WHAT YOUR kodak began. Our liberal offer good until June 1, 1917. We finish one roll (only) six-exposure film, any size, furnish six select prints, for 25c with order. Better pictures from each exposure. Fewer failures from each roll or money cheerfully refunded. T. V. Moreau Co., 618 Nicollet Ave., Minneapolis, Minn.

HOGS.

BIG-TYPE POLAND BOARS. U. A. Gore, Seward, Kansas.

At this time when so much is being said and written about excessive living costs, much might be done toward controlling the situation by just being thoughtful about the many ways in which each family can save something that has heretofore been wasted.

Real Estate For Sale

For Sale

EIGHT-ROOM HOUSE, MODERN, in Kenwood Addition. The best residence district of Topeka. Good terms. Write

KANSAS FARMER, BOX 3
TOPEKA, - - - KANSAS

480 ACRES, thle county. Near oil development. Can lease for oil. $1.50 per acre. Good pasture. $4.50 per acre. Terms. SOUTHERN REALTY CO., McAlester, Okla.

EXCHANGES.
I have good farms to trade for smaller farms and city property. Write me.
W. M. GARRISON - SALINA, KANSAS

640-Acre Homestead waiting for you. Good grass, water, plenty timber. Don't miss opportunity. Best ever. For particulars write J. C. WYNN, LOCATOR, GRANTS, N. MEX.

NESS COUNTY LAND

We have some good farm land in Ness and Trego counties, Kansas, from $15 to $40 per acre. Write us for list.
FOUQUET BROTHERS LAND CO.
Ransom - - - - - Kansas

160 Acres, slightly rolling, highly improved, 2½ miles of town, on mail route and telephone line. A good sandy loam. A bargain at $50.00 an acre.

190 Acres, 1 mile email town, most tillable, grain and stock farm. Only $45.00 an acre. Come at once.
MARTIN STRAFUSS, OTTAWA, KANSAS

Farm Items

Most of the orchard insect pests can he controlled hy simply applying good orchard management. One of the most pathetic sights about a farm is a neglected home orchard which often becomes so overgrown with weeds, sprouts, and hriers, and sō clogged with hrush and other rubhish, that it may resemble second growth timher more than a real orchard. In such a case the orchardist's first joh is to clean up the orchard, which will also eliminate many of the insect foes of the orchard.

Japan Clover for Pasture

Lespedeza, or Japan clover, which is proving its value in Kansas for pasture purposes—particularly in the southeastern section of the state—is being tried out by county agents in the various counties. Some farmers have already reported excellent results.

This clover is commonly grown in the lower Mississippi Valley and to some extent throughout the Southern States. It is a summer annual and like other legumes adds nitrogen to the soil.

Starting Plants from Seeds

There are many flowering plants ordinarily purchased that we can grow ourselves from seeds if we do not have access to the greenhouses or prefer to save the expense. Most of the plants used for bedding and sold by the florists are grown from cuttings, even of such plants as verhenas, salvias, sweet alyssum, mignonette, ageratum, and petunias. Others are grown from divisions and rooted runners, as Shasta daisies, pansics, violets, dahlias, cannas, and a few others that cannot he grown from seeds outside a greenhouse. Some of those I have mentioned are rather difficult to grow from seeds, but most of them will grow readily, and some of them are grown mostly from seeds by the florists.

Corn in Wide Rows

The statement is made in a recent hulletin from the Federal Department of Agriculture that in certain sections of light rainfall, where the seasons are comparatively long, increasing the width of row to seven feet and doubling the stand in the row has been found to he an advantage. On account of being close together within the rows the young plants compete for the near-by moisture and are prevented from making too rapid and too tender a growth. The roots do not meet between the rows until the plants have reached their full growth, and the moisture in the soil between the wide rows benefits the plants at the time they are forming ears. The blank rows receive the same amount of cultivation they would if planted.

Many who have tried this method have found it satisfactory.

The following bulletins on corn are available: Bulletin No. 205, State Experiment Station, Manhattan, "Growing Corn in Kansas," and Farmers' Bulletin No. 773, U. S. Department of Agriculture, Washington, D. C., "Corn Growing Under Droughty Conditions."

RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

BARRED PLYMOUTH ROCKS — FARMbred beauties. Eggs for hatching, 5c each. Mrs. W. C. Bocker, Solomon, Kan.

BARRED ROCK EGGS, $1 PER SETting, $4 per hundred. Mrs. Lillie Hirt, Parkerville, Kansas.

HIGH QUALITY BARRED "RINGLETS." 100 chicks, $15. Eggs, $5. Edward Hall, Junction City, Kansas.

BARRED PLYMOUTH ROCK EGGS, $4 hundred. Valley View Poultry Farm, Concordia, Kansas.

FINE BARRED ROCK EGGS FROM farm raised flock, $1.50 per fifteen. Mrs. J. A. Grimes, Milo, Kansas.

BARRED ROCK EGGS, FANCY STOCK, heavy laying strain, $4.25 per hundred. Earl Summa, Dept. G, Gentry, Missouri.

WHITE ROCK EGGS, HOLBACH strain, $1.25 per fifteen; $6 per hundred. Mrs. E. E. Merten, Clay Center, Kansas.

WHITE ROCKS, SIZE AND QUALITY, good egg strain. Eggs—fifteen, $1; fifty, $3; hundred, $5. G. M. Kretz, Clifton, Kansas.

WHITE ROCK EGGS, $1 PER FIFTEEN. Quality guaranteed. W. G. Allison, Sterling, Kansas.

PURE WHITE ROCK EGGS—FIFTEEN, $1; fifty, $2.25; hundred, $4. Mrs. Van Inskeep, Route 7, Manhattan, Kan.

WHITE PLYMOUTH ROCKS ARE PRIZE winners. Send for catalog. W. K. Trumbo, Box 66-C, Roseland, Kansas.

BUFF ROCK EGGS FOR HATCHING—Thirty eggs, $2; fifty eggs, $3; hundred, $5. Joe Carson, Bliss, Oklahoma.

PURE BARRED ROCK PEN AND RANGE eggs at let live prices. Write E. Hawley, Route 7, Garnett, Kansas.

BUFF AND WHITE ROCK EGGS, $2.50 per fifty, $5 per hundred. Excellent show record. W. H. Beaver, St. John, Kansas.

HIGH QUALITY PURE-BRED WHITE Rock eggs, $3, fifty; $5.50 hundred, prepaid. Mrs. John Ramsey, Route 5, Ft. Scott, Kan.

WHITE ROCK EGGS FOR HATCHING, 50c per setting, $3 per hundred. Arthur Alpers, St. John, Kansas.

WHITE ROCKS, FARM RAISED, PRIZE winners. Eggs, $1.25 setting; $3, fifty; $5, hundred. Mrs. Ben Miller, Newton, Kansas.

WEIGHER-LAYER BARRED ROCKS — Pens, $3 to $5 setting; flock, $5 hundred. C. F. Fickel, Earlton, Kansas.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." $35 cockerel heading Pen No. 1. Eggs, $4 per fifteen. Mrs. Iver Christenson, Jamestown, Kansas.

PURE-BRED BARRED ROCKS EXCLUsively. Choice stock. 100 eggs, $5; 50, $3. Safe delivery and satisfaction guaranteed. Adam A. Weir, Clay Center, Neb.

BARRED ROCKS — FIRST COCKEREL, Manhattan, 93½. Fifteen eggs, $3; hundred, $5. Duroc boars, gilts. F. F. Wood, Wamego, Kansas.

BARRED ROCKS, HENS AVERAGED 175 eggs, 1916. Trap-nest males and their pullets mated with fine cockerels. Eggs, 10c; fifty, $4. Farnsworth, 224 Tyler St., Topeka.

WHITE ROCKS—SEVENTEEN RIBBONS this season. Eggs, one and two dollars per fifteen. Mating list. Ed Fehr, Marquette, Kansas.

PRIZE WINNING BARRED ROCKS — Four entries, five prizes, State Show 1917. Eggs, special mating, $3 to $5; farm flock, $1. C. D. Swaim, Geuda Springs, Kansas.

BARRED PLYMOUTH ROCKS, E. B. Thompson strain. Eggs, $1.50 per fifteen; $3.50 per fifty; $6 per hundred. C. J. Rivir, Lafontaine, Ind.

BARRED ROCKS, EXCELLENT IN SIZE and quality. Eggs, first pen, $3 per fifteen; range flock, $6 per hundred. Mrs. Myrtle Henry, Route I, Lecompton, Kansas.

PURE BARRED ROCK EGGS FROM large well-marked range birds, $1.25 setting, $6 hundred. Choice Thompson strain pen eggs, $3 setting. S. R. Blackwelder, Isabel, Kansas.

LINDAMOOD'S BARRED ROCKS, BOTH dark and light matings. Prices for eggs from special matings, $5 per fifteen. Utility eggs, $5 per hundred. Send for circular. C. C. Lindamood, Walton, Kansas.

EGGS FOR HATCHING — FROM BEST laying strains of Barred Plymouth Rocks. Bradley Bros. and Parks 200-egg strains. $3, fifteen; $5, thirty. Catalog. Gem Poultry Farm, Haven, Kansas.

BARRED ROCK EGGS FROM RIBBON winners. Utility, $4 per hundred; fifty for $2.50. Pen eggs, $5 per fifteen. Have always won wherever shown. R. D. Ames, Walton, Kansas.

BARRED PLYMOUTH ROCKS — GENUine Thompson Ringlet prize winning strains. Pen eggs, either cockerel or pullet mating, also utility flock eggs. Circulars free. A. F. Siefker, Defiance, Missouri.

WHITE PLYMOUTH ROCKS, BEST ALLpurpose fowl. Bred them twenty-four years. No better anywhere. Eggs, $2 per fifteen, $5 per forty-five delivered. Thomas Owen, Poultry Editor, Topeka, Kansas.

BARRED ROCK SPECIALIST — PRIZE winnings: Hobart, 1st, 2d, 3d, 4th cockerel; 1st, 3d pullet; 1st pen, 2d, 3d cock, silver cup. Gold special, Oklahoma City, 1st pullet, bred pen, first cock. Eggs, fifteen, $2-$3; hundred, $6. Fred Hall, Lone Wolf, Okla.

PLYMOUTH ROCKS.

PARTRIDGE ROCK COCKERELS AND buff drakes. Mrs. Frank Neel, Beverly, Kan.

BUFF ROCK EGGS, ONE DOLLAR PER setting; choice stock. Mrs. E. C. Hicks, Columbus, Kansas.

EGGS — CHOICE BARRED ROCKS, thirty, $1.50; hundred, $4.50. Catharine Beightel, Holton, Kansas.

GUARANTEED EGGS FROM PUREbred Barred Rocks and Rhode Island Reds, $1.50 to $3 for fifteen. Send for booklet. Tom Leftwich, Winfield, Kansas.

"REALIZATION STRAIN" BUFF ROCKS lay in coldest weather, also win at best shows. Ask W. M. Godsey, 1253 College Avenue, Topeka, Kansas, for mating list.

BARRED AND WHITE ROCKS — BEST blood lines in America. Forty premiums, 1916-1917. Write for mating list. A few fine cockerels and cocks for sale. H. F. Hicks, Cambridge, Kansas.

BARRED ROCKS—73 PREMIUMS, Topeka, Manhattan, Clay Center, Denver. Eggs—Fifteen, $5; thirty, $9; fifteen, $3; thirty, $5. Chicks, 50c and $1. Italian bees. Mattie A. Gillespie, Clay Center, Kansas.

RHODE ISLAND REDS.

SINGLE COMB RED EGGS—GOOD FARM range, $4 per hundred, $1.50 per thirty. Mrs. Rosa Janzen, Box 242, Geneseo, Kan.

PURE-BRED ROSE COMB RED EGGS, $1 per fifteen, $5 per hundred. Fine laying strain. Oliver Spencer, Hesston, Kansas.

ROSE COMB RHODE ISLAND REDS—Utility stock. Winter layers. Eggs, $2, 15; $5, 45; $9, 100. Louise Krigbaum, Route I, Topeka.

ROSE COMB RED EGGS FROM BLUE ribbon winners, $3, $5, $7.50 per fifteen. Best of guarantee. Fred Kelm, Seneca, Kan.

ROSE COMB RED EGGS—RICH, RED, fine undercolor, winter layers. Mrs. Alice Dolson, Neal, Kansas.

HIGH SCORING R. C. R. I. REDS—EGGS, $1.50 per setting. Fertility guaranteed. Chas. Wodke, Council Grove, Kansas.

MACK'S SINGLE COMB REDS—FINEST quality. Best layers. Dark red. Large size. Eggs, chicks. Write H. H. McLellan, Kearney, Nebraska.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Baby chicks. Mating list. L. E. Castle, Wichita, Kansas.

NEEF'S FAMOUS BRED-TO-LAY S. C. R. I. Reds, prize winners, $1.25 per setting, $5 per hundred. Jno. H. Neef, Boonville, Missouri.

DARK R. C. REDS, PURE-BRED, EXTRA fine. Eggs, $3 and $2 per fifteen; $5 per hundred. W. J. Honeyman & Sons, Hillside farm, Madison, Kansas.

PURE-BRED ROSE COMB RHODE Island Reds. Eggs for hatching, $1 per fifteen, $5 per hundred. Mrs. L. F. Hinson, Stockdale, Kan.

R. C. REDS — EGGS FOR HATCHING. Laying strain headed by prize winning cockerel. Fifteen, $3. Mrs. Mira Lambert, Anderson, Missouri.

LARGE, DARK, RICH EVEN RED R. C. Reds—Eggs, fifteen, $1; fifty, $3. Dark colored range flock, $5 hundred. Nora Luthye, Route 6, North Topeka, Kansas.

SINGLE COMB RHODE ISLAND RED eggs, hundred, $4. Winter layers, large kind, guaranteed fertile. Mrs. Frank B. Smith, Route 2, Lawrence, Kansas.

EGGS FOR SALE—S. C. R. I. REDS.—Breeder for twelve years. $1.50 per setting of fifteen; $5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

WYANDOTTES.

R. C. BUFF WYANDOTTE EGGS, $1.50 for fifteen. G. G. Wright, Langdon, Kan.

WHITE WYANDOTTE EGGS, $1, FIFteen; $5 hundred. Mrs. Geo. Downie, Lyndon, Kansas.

WHITE WYANDOTTES — EGGS FROM choice stock, $1.80, thirty; $5, hundred. Mrs. Will Beightel, Holton, Kansas.

SILVER-LACED WYANDOTTE EGGS, $1.25 per fifteen; $3 per fifty; $5 per hundred. Mrs. H. R. Young, Stella, Neb.

ROSE COMB WHITE WYANDOTTE eggs, per fifteen, $1; one hundred, $4. H. A. Ritter, Route 2, Kiowa, Kansas.

WHITE WYANDOTTES — EGGS, SETting, $1; 100, $4. Mrs. J. W. Johnson, Cedarvale, Kansas.

EGGS FOR SALE FROM PURE WHITE Wyandottes, $6 per hundred. Mrs. D. J. White, Clements, Kansas.

ROSE COMB BUFF WYANDOTTE EGGS, fifteen, $1; hundred, $4. Mrs. Ida Alexander, Hilltop, Kansas.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuls, Fredonia, Kansas.

CHOICE ROSE COMB SILVER WYANdotte eggs, $1 for 15; $5 for 100. Mrs. Phillip Schuppert, Arrington, Kansas.

WYANDOTTES.

WHITE WYANDOTTE EGGS FROM farm range stock, $4 per hundred. Vida Hume, Tecumseh, Kansas.

ROSE COMB WHITE WYANDOTTES — Eggs from pen, setting, $2; from flock, setting, $1; hundred, $4.75. Mrs. Effie Acheson, Palco, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $6. Baby chicks. Mrs. Edwin Shuff, Plevna, Kansas.

COLUMBIAN WYANDOTTE EGGS, $1.50 setting. Special mating of blue ribbon winners, $3. J. J. Pauls, Hillsboro, Kansas.

SILVER WYANDOTTES—BEST ALL round breed, vigorous grand laced flock. Eggs, fifteen, $1; hundred, $5. Mrs. Ed Bergman, Paola, Kansas.

EGGS—SILVER LACED WYANDOTTES, fifteen, $1.25; fifty, $3.50. Rouen and Buff Orpington duck eggs, twelve, $1.50. Fred Kucera, Clarkson, Neb.

WHITE WYANDOTTE EGGS — REGAL strain, prize winners. Farm range, $5 hundred. Pen 1, Martin male direct, fifteen, $5. Pen 2, high scoring male, fifteen, $3. Prepaid. Frances Fleury, Concordia, Kansas.

PARTRIDGE WYANDOTTE EGGS, MAhogany strain, $1.50 per fifteen. Good cockerels, $3 to $5 each. Canaries, fine singers. Baby chicks. Mrs. Edith B. Taylor, Marion, Kansas.

EGGS — WHITE WYANDOTTES FOR quality. Good layers. Utility, $1.25 fifteen, $3 fifty, $5 hundred. Pen headed by $10 cockerel direct from Fishel, $2 fifteen. M. M. Weaver, Newton, Kansas.

SILVER WYANDOTTES. YES, I AM still selling Silvers. Have some good cockerels left. Eggs in season. Prices reasonable. Write me. M. B. Caldwell, Broughton, Kansas.

CAREFULLY SELECTED EGGS FOR hatching from pure-bred Partridge Wyandotte stock. Doolittle-Wolverine strain, $1.50 for fifteen, $2 for twenty-four. Golden rule strictly observed. R. F. Ayers, Route 5, Box 196, Independence, Mo.

LEGHORNS.

WHITE LEGHORN EGGS (FROM Young's best). G. D. Willems, Inman, Kan.

S. C. W. LEGHORN EGGS. STATE WINner. Mrs. W. R. Hildreth, Oswego, Kansas.

PURE-BRED SINGLE COMB BROWN Leghorns. Choice farm flock. Eggs, 100, $4. Mrs. D. A. Wohler, Hillsboro, Kansas.

PURE-BRED S. C. BROWN LEGHORN eggs, $1 per fifteen, $5 per hundred. Mrs. L. H. Hastings, Thayer, Kansas.

"BARRON'S 268-EGG LEGHORNS" — Eggs, $5 hundred. Sunlight Poultry Farm, Mt. Morlah, Mo.

EGGS, EGGS FROM KEEP-LAYING strain Single Comb White Leghorns. Thos. R. Wolfe, Conway Springs, Kansas.

SINGLE COMB BUFF LEGHORN COCKerels. Eggs. White Holland turkey toms. Eggs. Mrs. S. F. Crites, Florence, Kansas.

SINGLE COMB WHITE LEGHORN EGGS —English Barron strain. Baby chicks, F. B. Morger, Fowler, Colo.

ROSE COMB WHITE LEGHORNS — Eggs for hatching, $5 per hundred. Mrs. Joe Streeter, Route 5, Hamilton, Mo.

BUFF LEGHORNS, CHOICELY BRED. Eggs, $5 per hundred. J. A. Reed, Route 2, Lyons, Kansas.

BROWN LEGHORN HATCHING EGGS, $1 per fifteen, $3 per fifty, $5.50 per hundred. R. W. Getty, Downs, Kansas.

SINGLE COMB BUFF LEGHORN EGGS, $5 hundred. Satisfaction guaranteed. Alf Johnson, Leonardville, Kansas.

PURE-BRED ROSE COMB BROWN LEGhorn eggs, $1 per fifteen, $5 per hundred. Mrs. Daisy Denlinger, Frankfort, Kansas.

R. C. B. LEGHORNS, WINTER LAYERS, vigorous stock. Eggs, $5 per hundred. The Blue Grass Stock Farm, Oneida, Kansas.

GOLDEN BUFF LEGHORNS — GREAT layers, silver cup winners. 100 eggs, $6. Agnes Smiley, Braddyville, Iowa.

EUREKA FARM SINGLE COMB WHITE Leghorns, bred to lay. Farm range eggs, $4 per hundred. Henry Richter, Hillsboro, Kansas.

EGGS FOR HATCHING FROM HOGAN'S laying strain of Single Comb White Leghorns, $5 per hundred. Roy Rhodes, Maize, Kansas.

BROWN LEGHORNS — ROSE, SINGLE comb. Egg production scoring 200 to 280 eggs, $2 fifteen, $6 hundred, prepaid. Plainview Poultry Farm, Lebo, Kansas.

SINGLE COMB BROWN LEGHORNS — Thirty-one prizes at Kansas State Show, 1917, including eight firsts. W. J. Roof, Maize, Kansas.

PURE YESTERLAY 200 EGG LAYING strain Leghorns mated to 240 egg Barron stock. If you want winter layers write Shady Pine Leghorn Farm, Rossville, Kan.

FOR SALE — THIRTY SINGLE COMB White Leghorn hens and pullets, extra good laying strain, $1 each. Blue Grass Stock Farm, Oneida, Kansas.

PURE-BRED ROSE COMB WHITE LEGhorns. Eggs for hatching; forty-five, $2; one hundred, $4. Prepaid in Kansas. G. Schmidt, Route 1, Goessel, Kansas.

S. C. WHITE LEGHORNS EXCLUSIVEly. Decka's laying strain. Many winners. Eggs for hatching, $6 per hundred. Write for 1917 price list. Yours for quality (Nuf sed), Deckas White Poultry Farm, Route 1, Des Moines, Iowa.

LEGHORNS.

TIP TOP ROSE COMB BROWN LEGhorn eggs. J. E. Wright, Wilmore, Kan.

ROSE COMB BROWN LEGHORNS—WON five prizes. Eggs, fifteen, 90c; fifty, $2.20; hundred, $4.25. Rufus Standiferd, Reading, Kansas.

FOR SALE—SINGLE COMB BROWN Leghorn eggs from good stock, $4 per hundred; $2.50 per fifty. Cornelius Phillips, Route 9, Emporia, Kansas.

EGGS FOR SALE FROM PURE-BRED heavy winter laying Single Comb White Leghorns, $2 fifteen, $10 hundred; 100% fertility guaranteed on seventh day of incubation. H. M. Blaine, Sylvia, Kansas.

S. C. BROWN LEGHORNS — OH! YES, we have been raising them 21 years; the 222 to 266 trap nest egg record kind. Eggs, 15, $1.25; 100, $5.00. Gorsuch, Stilwell, Kansas.

EGGS — FROM BELMONT'S UTILITY strain Single Comb White Leghorns, bred to lay kind, that pays the grocery bill. Flock headed by White King, the largest and whitest bird we have ever owned. Setting fifteen, $1; fifty, $3; hundred, $5. Belmont Farm, Trenton, Mo.

S. C. BROWN LEGHORNS — WINTER layers and beauty strain. Booking orders for chicks to be delivered April 1, any quantity, at $12.50 per hundred. Eggs at $5.00 per hundred, trap-nested stock. Pullets in laying contest. Paradise Poultry Farm, Carona, Kansas.

WHITE LEGHORNS

WHITE LEGHORN EGGS (YOUNG'S $20 stock). Elsie Thompson, Mankato, Kansas.

YOUNG'S STRAIN WHITE LEGHORNS—Eggs, $5 hundred. Folder free. Reed Poultry Circle, Box H, Reed, Oklahoma.

HEAVY LAYING STRAIN S. C. WHITE Leghorns. 100 eggs, $4; 15 eggs, $1.50 prepaid. Mrs. W. E. McElvain, Denver, Mo.

ONE HUNDRED FERTILE SINGLE Comb White Leghorn eggs, $4.50 and $5. Quality guaranteed. Dave Baker, Conway Springs, Kansas.

SINGLE COMB WHITE LEGHORN EGGS from extra good layers and prize winners. Fifteen, $1; hundred, $5. I. H. Gnagy, Hutchinson, Kansas.

SINGLE COMB WHITE LEGHORN EGGS extra heavy winter layers. Pure-breds. $4 hundred. Mrs. Wm. Dugan, Appleton City, Missouri.

ENGLISH WHITE LEGHORNS, BRED for laying. Free booklet of practical experience, tells how I cleared $2,400 last year. Write for it. Eggs and baby chicks. Sunny Slope Farm, Morrison, Okla.

SINGLE COMB WHITE LEGHORNS—Farm range. Heavy laying strain. Hens, $1.50 each. Eggs, $1, fifteen; $5 per hundred. Mrs. Lloyd Kifer, Route 2, Boliver, Missouri.

BRED TO LAY S. C. W. LEGHORN eggs—fifteen, $1; hundred, $6. Exhibition pens, $2 and $3, fifteen. First prize winners fifteen shows in strong competition. Thirty silver cups and specials. Hyperion White Leghorn Farm, Route 1, Des Moines, Iowa.

UTILITY S. C. WHITE LEGHORNS—Ferris, Young, Frantz and Yesterlaid strains. Eggs, $1 per fifteen; $4 per hundred. Sold 8,000 eggs for hatching last season, no complaint. L. O. Wiemeyer, Route 1, Anthony, Kansas.

PHEASANTS.

PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Booking orders. Eggs of these, $4 dozen; Golden, $5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

ANCONAS.

SINGLE COMB ANCONAS—EGGS, FIFteen for $1.25 or $6 per hundred delivered. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

SINGLE COMB ANCONA AND SILVER Laced Wyandotte eggs, $1.25 per sixteen by post prepaid. Mrs. Cecile McGuire, Pratt, Kansas.

ANCONAS — BLUE RIBBON WINNERS. Eggs, $1.50 per fifteen, $6 per hundred. Pens two and three, $1.25 per fifteen, $5 per hundred. Frank Glenn, Newton, Kansas.

SEND FOR MY "ANCONA DOPE" AT once. Tells why I quit all other breeds. It's free and worth reading. Fill orders for eggs promptly. Page's Ancona Farm, Salina, Kansas.

RHODE ISLAND WHITES.

RHODE ISLAND WHITES—EGGS, $2.00 for fifteen. Shetland Pony Farm, Coffeyville, Kansas. Mrs. C. R. Clemmons.

POULTRY WANTED.

1,200 PRODUCERS HAVE RESPONDED with shipments poultry and eggs to our classified advertisements. We can satisfy you too. Paying: Eggs, 25c; hens, 18c. Coops and cases loaned free. The Copes, Topeka.

DUCKS AND GEESE.

BUFF ORPINGTON DUCKS — PURE white eggs, 10c each. Forest A. Thurmon, Jonesburg, Mo.

FAWN RUNNER DUCKS—WHITE EGGS, prize winners. Eggs, $1 setting, $5 hundred. Mrs. Ben Miller, Newton, Kansas.

FAWN WHITE INDIAN RUNNER DUCKS from best laying strains in the country. Fifteen eggs, $1; fifty, $2.50. Nora Luthye, Route 6, North Topeka, Kansas.

(Continued on Next Page.)

PURE BRED POULTRY

LANGSHANS.

BLACK LANGSHAN EGGS FOR HATCHing. C. E. Draile, Seward, Kansas.

GET MY FREE MATING LIST OF MADison Square and Chicago prize winning Langshans. John Lovette, Mullinville, Kan.

GOOD BLACK LANGSHANS—EGGS, 7c; over 100, 6c. Baby chicks, 15c. Mrs. Geo. W. King, Solomon, Kansas.

BLACK LANGSHAN EGGS, $3 FOR 15, from my San Francisco and Kansas State Show winners, 1917. H. M. Palmer, Florence, Kansas.

BLACK LANGSHANS—EGGS, FIFTEEN, $1.25, $1.50 mailed; 100 $5, $6 mailed. Baby chicks, 15 cents. Mrs. J. B. Stein, Smith Center, Kansas.

EGGS — PURE-BRED BLACK LANGshans exclusively from free range fowls, $1 for 15, $5 for 100. Mrs. John A. Roberts, Route 5, Stanberry, Mo.

PURE-BRED BLACK LANGSHANS—EXcellent stock, farm range. $1 for fifteen eggs, $2 for fifty eggs. Mrs. Ell Williams, Route 3, Riverton, Neb.

BUCKNELL'S BIG BLACK LANGSHANS —Bigger and better than ever. Eggs at the same old price, $1 for fifteen, $5 for 100. Postage or express prepaid. R. E. Bucknell, Hardy, Nebraska.

ORPINGTONS.

S. C. BUFF ORPINGTON EGGS, $4 PER hundred. J. W. Falkner, Belvue, Kansas.

PURE-BRED WHITE ORPINGTONS — Eggs for hatching, $1 per fifteen, $5 per hundred. Frank Hinson, Stockdale, Kansas.

BUFF ORPINGTONS EXCLUSIVELY.— Even buff, large type, prize winners. Eggs, $3 and $2 setting. John Shaffer, Alma, Neb.

EGGS FROM PRIZE WINNING BUFF Orpingtons, $2 per 15; fine Barred Rock, $1 per 15, $5 100. Mrs. M. Ditto, Newton, Kan.

FINE GOLDDUST BUFF ORPINGTONS— Eggs, $1.50 setting; $8 hundred. Prepaid. Mary E. Price, Route 7, Manhattan, Kansas.

BUFF ORPINGTONS, BRED TO LAY. Eggs—fifteen, $1.50, prepaid. Chicks, 15c. John Oiler, Adrian, Missouri.

BUFF ORPINGTON EGGS FROM MY Des Moines, Kansas City, Topeka, St. Joseph and Omaha winners. H. T. Farrar, Axtell, Kansas.

EGGS — BUFF ORPINGTONS, PARTridge Rocks, Bourbon turkeys, Toulouse geese and Buff ducks. Mrs. Frank Neel, Beverly, Kansas.

"PAYWELL" BUFF ORPINGTON EGGS from heavy winter layers and blue ribbon stock, $2 per fifteen. L. S. Weller, Salina, Kansas.

WHITE ORPINGTON COCKERELS, A few pullets. Eggs reasonable. Also Indian Runner duck eggs. James Kennicott, Bunker Hill, Kansas.

EGGS FROM CRYSTAL WHITE PRIZE winning stock, White Orpingtons. Great winter layers. Fifty-five eggs January 20 from sixty-five hens, at live and let live prices. Send for list. John Vanamburg, Marysville, Kansas.

BUFF ORPINGTONS — FIFTEEN EGGS, $1. Chicks. M. Spooner, Wakefield, Kan.

BARRED AND BUFF ROCKS — SINGLE Comb White Leghorns. Fawn and Penciled Runner Ducks. Eggs—Fifteen, $1; hundred, $5, from range flocks. J. T. Rickman, Kiowa, Kansas.

SEVERAL BREEDS.

TWENTY VARIETIES POULTRY. EGGS, $1.50 setting. Royal Poultry Yards, Coffeyville, Kansas.

EGGS—BARRED ROCKS, BRONZE TURkeys and Pekin ducks. Grace Aspedon, Farragut, Iowa.

TURKEYS, GEESE, WHITE RUNNERS, Buff Drakes, Single Comb White Orpingtons, Buff and Brown Leghorn cockerels. Emma Ahlstedt, Roxbury, Kansas.

EGGS—S. C. BLUE ANDALUSIANS, BLUE Orpingtons, Buff Leghorns, Buff Orpington ducks, Bourbon Red turkeys. Circular. John A. Huber, La Crosse, Kansas.

EGGS FROM EXTRA GOOD BOURBON Reds, $3 for eleven. Silver Laced Wyandotte eggs, $1 for fifteen. Julia Haynes, McDonald, Kansas.

ALL VARIETIES LAND AND WATER fowls, imported stock. Winners of thousands of prizes. List free. Rose Lawn Poultry Farm, Beaver Crossing, Nebraska.

PURE-BRED BOURBON RED TURKEY eggs, $3 per eleven. Pure-bred Rhode Island Red eggs from open range herd, $1 per fifteen, $4.75 per hundred. J. W. Harshbarger, Milo, Kansas.

EGGS FROM PURE-BRED PRIZE WINning Bourbon Red turkeys, both combs, S. C. R. I. Reds, White and Black Langshans, Anconas and Light Brahmas. Write for mating list. Mr. Henry Gillen, Route No. 1, Osborne, Kansas.

EGGS — M. B. TURKEY, NEW YORK prize winning blood in flock, $3 per eleven; geese eggs, African, Embden, Toulouse, $1.75 per seven; White Muscova ducks, $1.75 per eleven; White African guineas, $1.50 per seventeen; White Rock, Fishel strain, $5 per hundred. W. L. Bell, Funk, Neb. Dry Creek Poultry Farm.

FOR SALE, EGGS—EGGS FROM PUREbreds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

PURE BRED POULTRY

MINORCAS.

S. C. BLACK MINORCA EGGS, FIFteen, $1; 100, $5. Frank Scherman, Route 8, Topeka, Kansas.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

S. C. BLACK MINORCA EGGS FOR hatching. Pen No. 1, $2; pen No. 2, $1.50 for fifteen eggs, $6 per hundred. W. F. Fulton, Waterville, Kansas.

BRAHMAS.

EGGS FOR HATCHING FROM PRIZEwinning Light Brahmas. Write for prices. R. W. Getty, Downs, Kansas.

HIGH SCORING LIGHT BRAHMA EGGS $1.50 per fifteen, parcel post prepaid. Geo. Pratt, Route 2, Topeka, Kansas.

LIGHT BRAHMAS — EGGS, $1.50 SETting, $6 per hundred. Georgia Squires, Bosworth, Mo.

EGGS FROM FELTON'S STRAIN OF mammoth Light Brahmas, $1.50 per fifteen, postage paid. Mrs. Mark Johnson, Waldron, Kansas.

LIGHT BRAHMA EGGS FROM PRIZE winners at Wichita, Kansas, January, 1917. Geo. W. Craig, 2031 N. Water St., Wichita, Kansas.

TURKEYS.

BOURBON RED TURKEY EGGS, $2.50 per eleven. Fred Watts, Havensville, Kan.

FOR SALE—WHITE HOLLAND TOMS, $5. S. A. Spitz, Exeter, Nebraska.

PURE-BRED WHITE HOLLAND TURkey eggs. Winnie Litton, Peabody, Kansas.

BOURBON RED TURKEYS—EGGS, $3.50, eleven. Mrs. J. E. Bundy, Goodrich, Kansas.

WHITE HOLLAND TURKEYS, SINGLE Comb White Leghorns, Single Comb Buff Orpington eggs. Baby chicks. Mrs. S. A. Warren, Reger, Mo.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

MAMMOTH BRONZE TURKEYS — NO more toms for sale. Pullets, $5, $10; hens, $10, $15. Eggs—Yard, 1, $1 each; second, 50 cents. Black Langshan, Barred Plymouth Rock cockerels for sale, $2, $5. Eggs, $2-$5 per setting. Show record. Jas. W. Anders, Unionville, Mo.

Water for the Hens

FEW people realize the importance of plenty of clean, fresh water for the hens. It is not often that the chickens go all day without something to eat, but it is a fact that many flocks are woefully neglected when it comes to water—clean water.

To emphasize the need of water, consider the amount of water in an egg. Sixty-five per cent of the whole egg is water. In every dozen eggs gathered there is about sixteen ounces of water. In a recent experiment it was found that a six-pound hen consumed about five ounces of water in a day.

Aside from the real necessity of water for egg production, the body of the hen needs water. Approximately 60 to 65 per cent of the body weight of the hen is water. Experimentally it has been determined that when a hen loses 10 per cent of her body weight from thirst she cannot survive. However, the hen will lose all of the fat and nearly 50 per cent of the protein before death occurs from starvation. This indicates that for body maintenance, as well as for egg production, water is one of the most important adjuncts to successful poultry keeping.

If the fact is remembered that each dozen of eggs sold at 40 cents means that the water in those eggs is sold for 25 cents per pound, it may be an incentive to give the hens all the clean, fresh water they need. It should be made a rule to keep available at least one quart of water for every three hens every day. —R. B. THOMPSON, Poultryman, New Mexico Experiment Station.

New Bulletins

The Use of a Diary for Farm Accounts. (Farmers' Bulletin No. 782.)

Contagious Abortion of Cattle. (Farmers' Bulletin No. 790.)

How the Federal Farm Loan Act Benefits the Farmer. (Farmers' Bulletin No. 792.)

Home-Made Fireless Cookers and Their Use. (Farmers' Bulletin No. 771.)

Corn Growing Under Droughty Conditions. (Farmers' Bulletin No. 773.)

Growing Cherries East of the Rocky Mountains. (Farmers' Bulletin No. 776.)

Castration of Young Pigs. (Farmers' Bulletin No. 780.)

To secure copies of these bulletins, address Department of Agriculture, Division of Publications, Washington, D. C.

Registered Kentucky Jacks



10 - JACKS - 10

To sell, and I want to sell them quick. Will cut the price for ten days to close them out. Ages from two to eight years; height from 14½ hands to 16 hands standard, and good performers.

I have shipped jacks to Kansas since 1879 and I do not believe I ever shipped a better load.

Any one wanting a good jack, call and see me at Welsh's Transfer Barn, two blocks from Santa Fe Depot, one block from Interurban. Come and see me.

E. P. MAGGARD

Successor to Saunders & Maggard NEWTON, KAN.

HORSES AND MULES. HORSES AND MULES.



30 JACKS AND JENNETS

A few good jacks suitable for herd jacks and good mule jacks from fifteen to sixteen hands standard. Prompt workers and sure breeders. Guaranteed absolutely right in every way. Priced to sell. We mean business. Come and see us.

LOUIS MILLS & SON - - - ALDEN, RICE COUNTY, KANSAS



German Coach Stallions and Mares

THE FARMER'S GENERAL PURPOSE HORSE

Twenty-three stallions from weanlings to 5-year-olds. Handsome, stylish, gentle, but powerful young stallions, 1,300 to 1,600-pound fellows, the right kind to produce durable, active farm horses and command attention in any stud. Priced where you will buy. Satisfaction guaranteed. Come or write at once.

BERGNER BROS., ROUTE 4, PRATT, KANSAS
Waldock Lake Ranch



JACKS AND JENNETS

15 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. Fifteen good jennets for sale. Come and see me.

PHIL WALKER,
Moline, Elk County, Kansas



Imported and Home-Bred
PERCHERONS AND BELGIANS

A gilt edge guarantee of 60 per cent, good for two years, given with each horse sold.

W. H. RICHARDS
Emporia - - Kansas
Barns four blocks from A. T. & S. F. depot.

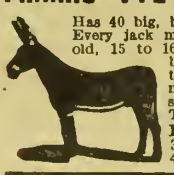


PERCHERONS—BELGIANS

Imported and home-grown 4 and 5 yr. old stallions, ton and heavier, 3 yr. olds, 2 yr. olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. Fred Chandler, R. 7, Charlton, Iowa. (Above Kansas City.)

Home-Bred Draft Stallions, your choice $500 with the exception of two. Also mares for sale. A. Latimer Wilson, Creston, Iowa

PRAIRIE VIEW STOCK FARM



Has 40 big, black Mammoth jacks and jennets. Every jack my own raising; two to six years old, 15 to 16 hands high, extra heavy bone, big bodies. I can sell you a better jack for $500 to $600 than most speculators can for a thousand. Come and see for yourself. They must sell.

ED BOEN, LAWSON, MO.
38 Mi. E. of K. C. on C. M. & St. P.
40 Mi. S. W. of St. Joe, on Santa Fe

40 Head Percheron Stallions 40
- Jacks and Jennets -

Two to six years old, heavy bone, right in every way. Imported Spanish jack, weight 1,200 pounds, at head of jennet herd. Come and see us. We mean business. Prices reasonable.

J. P. & M. H. MALONE

CHASE - - - - KANSAS

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL E. SMITH, Lawrence, Kansas.

REGISTERED PERCHERONS

Yearling and two-year-olds, both sexes. Good breeding and individuals grown in a way to make useful animals. Would trade filley for Shorthorn bull good enough to head herd of registered cows.

GEO. S. APP, Route 2, ARCHIE, MISSOURI

SHORTHORN CATTLE.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

H. M. HILL - LAFONTAINE, KANSAS

Doyle Spring Shorthorns

Scotch-topped Shorthorns. Ten bulls, age 9 to 11 months, sired by the famous Star Goods, Orange Marshall. Write your wants.

F. P. WILSON - PEABODY, KANSAS

Shorthorn Bull For Sale

A strictly first class finely bred registered bull twenty-three months old. Used on a few heifers. Price, $200.

HERBERT LAUDE - ROSE, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS

Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.

H. H. HOLMES, Route 28, Topeka, Kansas

Breeders' Directory

ANGUS CATTLE.
Geo. M. McAdam, Holton, Kan.
Geo. A. Deltrich, Carbondale, Kan.
D. J. White, Clements, Kan.

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.

DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

POLAND CHINAS

FOR SALE
Good Stretchy Poland China Fall Boars.
Ed Beavers, Junction City, Kansas.

DEMING RANCH POLANDS

Twenty strictly high class boars, bred the same as our grand champion sow and other prize winners. They are herd headers. Also gilts and bred sows and 150 fall pigs. All immune.

THE DEMING RANCH
H. O. Shelden, Herdsman Oswego, Kansas

TOWNVIEW FARM
Big-Type Poland Chinas.

For Sale—25 summer and fall gilts, sired by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 25 summer boars. Come and see my herd.

C. E. GREENE - PEABODY, KANSAS

ARKELL'S BIG POLANDS

Fall boars sired by Longfellow Again and Chief Big Bone, out of choice big-type sows. Choice individuals. Some herd header prospects.

JAS. ARKELL, JUNCTION CITY, KANSAS

OLD ORIGINAL SPOTTED POLANDS

Have only a few of last fall's litters left. Write your wants to

THE CEDAR ROW STOCK FARM
A. S. Alexander, Prop. R. 2, Burlington, Kan.

PROFITABLE TYPE POLANDS

Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.

L. C. WALBRIDGE - RUSSELL, KANSAS

LANGFORD'S SPOTTED POLANDS

Boars — Serviceable age, guaranteed to please. Breeding stock, both sexes.

T. T. LANGFORD & SONS, Jamesport, Mo.

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

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CLAIM SALE DATES.

Holsteins.
April 7—Breeders' consignment sale, Newton, Kan. W. H. Mott, Herington, Kan., sale manager.
April 10-11—F. J. Searle, Oskaloosa, Kan.
March 20—Oakland Stock Farm, Chillicothe, Missouri.
April 18—Iowa Holstein Breeders, Waterloo, Iowa. Under management Liverpool Sale & Pedigree Company.

Holsteins and Jerseys.
April 9—M. E. Peck & Son, Salina, Kansas.

Shorthorn Cattle.
April 4-5—Central Shorthorn Association at Stock Yards Pavilion, Kansas City, Mo. W. A. Forsythe, Sale Manager, Greenwood, Missouri.

Jerseys.
May 31—R. J. Linscott, Holton, Kansas.

Double Standard Polled Durhams.
June 8—Ed Stegelin, Straight Creek, Kan.

Poland Chinas.
April 12—W. B. Wallace, Bunceton, Mo.

Durocs and Polands.
April 25—Fred G. Laptad, Lawrence, Kan.

W. H. Richards, of Emporia, Kansas, reports his fine lot of imported and home-bred Percheron and Belgian horses doing well. Mr. Richards is one of the successful draft horsemen and for years his barns have been recognized as the headquarters for high class draft horses. Breeding stock from his herd is making good in many of the best herds and breeding barns in the country.

Phil Walker, of Moline, Kansas, owner of one of the great herds of jacks and jennets in Kansas, reports his herd doing well. He also reports that buyers this year want the high quality jacks. Mr. Walker has one of the big herds in the state and his herd is noted for its great number of big high-quality jacks and jennets. Many of the best jacks now in service are from his herd.

C. D. Wood & Sons, of Elmdale, Kansas, owners of a good herd of pure-bred Duroc hogs, report their herd doing well. This firm has succeeded in building up a richly-bred herd of Durocs of the right type. A feature of their herd at this time is the large number of choice sows and gilts bred for spring farrow.

Olivier & Sons, of Danville, Kansas, owners of one of the great prize winning herds of Poland Chinas, report their herd doing fine. Olivier & Sons' show herd has been a consistent winner at all the principal fairs for years. Their February bred sow sale was one of the good sales of this season. They have a large number of extra fine sows bred for spring farrow.

Spring Lake Dairy Farm is consigning to the F. J. Searle sale, to be held at Oskaloosa, Kansas, on April 10 and 11, thirty-five head of very choice Holsteins, including their herd sire, King Frontier Pontiac, a beautiful 26-pound son of King of the Pontiacs, and ten of his daughters running in ages from six months to two years, and a dozen cows and heifers bred to this bull; three daughters of Johanna McKinley Segis, the $25,000 son of King Segis, out of a 40-pound dam. One of these is bred to King Frontier Pontiac and one to King Segis Pontiac, the noted sire at the head of Haeger's famous herd. These are all out of A. R. O. dams. Three daughters of King Segic Pontiac out of daughters of King Frontier Pontiac, Johanna McKinley Segis, and one out of a 26-pound dam. Riverside Stock Farm consigns five two-year-old daughters of King Segis Pontiac. Included in the lot is the first prize two-year-old heifer at the Iowa Dairy Show, 1916. These are bred to the herd sire and show bull, Joe Calamo Hengerveld. They also consign five heifer calves by King Segis Pontiac. Rock Brook Farm consigns thirty head, including King of the Pontiacs Johanna Lyons, his dam, Lady Hengerveld Johanna Lyons, and fifteen cows and heifers in calf to him, also four young daughters of Sir Pontiac Rag Apple Korndyke, a 31-pound double grandson of Pontiac Korndyke. The balance consists of young, well bred, useful cattle.

About thirty Hampshire swine breeders met in Topeka, March 3, and organized the Kansas Hampshire Swine Breeders' Association. George W. Reeves, Peoria, Illinois, representing the Hampshire Advocate, was present and assisted in perfecting the organization. The following officers of the association were elected: F. M. Watkins, Cherryvale, Kansas, president; F. B. Wempe, Frankfort, Kansas, first vice president; Walter Shaw, Wichita, Kansas, second vice president. L. B. Mettlen, Brownell, Kansas; H. L. Peppmeyer, Topeka, Kansas, and George W. Ela, Valley Falls, Kansas, constitute the board of directors. George W. Ela was elected secretary and treasurer. The annual meetings of the association will be held at Manhattan, Kansas, during Farmers' Week each year.

The Iowa Holstein Breeders' Sale Company has announced a sale of ninety head of choice Holsteins to be held at Waterloo, Iowa, April 18. The sale will be under the management of the Liverpool Sale & Pedigree Company, of Liverpool, N. Y. The offering will include sixteen daughters of King Segis Pontiac Combination, a son of King Segis Pontiac; also heifers from daughters of such bulls as King of the Pontiacs, Homestead, Jr. De Kol, also daughters of Hengerveld King, a noted show bull and one of the best sons of King Walker.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

The annual jack and jennet sale held by Monsees & Sons, of Limestone Valley Stock Farm, March 15, was largely attended by buyers from a number of states. Twenty-five jacks sold for $12,190, making an average of $487.60. A number of these jacks were yearlings. The top jack, Limestone Good Boy, went to G. T. Flora, of Sweet Water, Tennessee, for $1,450. The second highest priced jack, Grand Jumbo, went to John Marr, of Marshall, Missouri, for $1,250. Twenty jennets brought $4,560, an average of $222.25. It was the universal opinion of the jack men present that it was a great jennet sale. The top price paid for a jennet was $450, paid by George Worley, of Dongola, Illinois.

J. R. Smith, of Newton, Kansas, is one of the progressive breeders of pure-bred stock. He has herds of Holstein cattle and Duroc Jersey hogs. In his Holstein herd he has record breeding and as a result has a herd of producers. The blood lines of his Duroc Jersey herd include the best of the breed and he has the profitable type. He makes a specialty of developing foundation stock and his herd is drawn upon heavily for herd material. He has a choice lot of young stock, including some outstanding fall boars.

Louis Mills & Son, of Aiden, Kansas, are among the breeders in Kansas that have succeeded in building up a choice herd of jacks and jennets. They have at the head of their herd a half brother to Kansas Chief, the world's champion jack. At this time their herd consists of thirty head of very high class jacks and jennets, among them some very promising young jacks.

Herbert Laude, of Rose, Kansas, is the owner of one of the good herds of Shorthorn cattle in this state. The bulls that have been used in his herd have all been choice individuals and of the best blood lines. The cows in his herd are the good beef type and Mr. Laude has succeeded in developing a number of cows with choice milking qualities. The young stock in the herd is a choice lot, including an outstanding two-year-old bull.

New Seed Corn Book of Interest to Farmers.

Farmers who do not have a sufficient supply of seed corn on hand, or who are not satisfied with the quality of what they have, will be interested in the recent announcement of the Zeller Seed Company in regard to their new 1917 Seed Corn Book. This book is just off the press and ready for distribution. It is the most complete and informative corn book ever issued by this company—crammed full of valuable information about seed corn. It gives the facts about the popular Zeller Prize Seed Corn—how this seed is produced and why it is of exceptional value to the corn grower. Explains scientific methods of producing seed corn. The president of the Zeller Seed Company—Willard Zeller—is well qualified to write authoritatively about seed corn. He is a seed corn specialist, known to his thousands of friends and customers as the "Master Corn Grower." He devotes practically all his time to study and experiments with corn and has a notable record of prize winnings. Zeller corn received the award for world's champion bushel at the Panama-Pacific Exposition and has won prizes at every corn show and fair where shown. The information contained in the new Zeller book is of value to any farmer who wants to increase his yield of corn. The selection of the right seed corn is a matter of large importance—success depends very largely upon the seed. The labor and time to produce half a crop costs as much as that to produce a big yield and poor seed is a handicap that no sort of corn can overcome. The Zeller Prize Seed Corn Book will be sent free if you want it. Address your card to the Zeller Seed Company, 420 McKinley St., Jefferson, Iowa.—(Adv.)

Findlay Bros., of Whitewater, Wis., owners of Cold Springs Farm and one of Wisconsin's great herds of Holsteins, reports their herd doing well. They also report a very heavy demand for high class Holsteins and they are shipping a lot of stock from their herd to Kansas and the Southwest.

T. R. Maurer, of Maurer's Holstein Farm, Emporia, Kansas, reports their excellent herd of Holsteins doing well. This is one of the record bred herds in the state and they have at this time a very fine lot of young stock, including young cows with A. R. O. records, also yearling calves of both sexes with world's record breeding.

H. C. LaTourette, of Oberlin, Kansas, is one of the successful breeders of pure-bred sheep in Kansas. Mr. LaTourette has a choice flock of Horn Dorsets and they are proving the most profitable stock on his farm. Last year he purchased a very fine ram from the Tranquility Farm Flock, New Jersey. This ram is of choice breeding and a very fine individual, and the great lot of spring lambs in Mr. LaTourette's flock show him to be a fine breeder. A feature of the flock at this time is the choice lot of young rams.

Inquiries for catalogs indicate that the two days Holstein sale to be held April 10 and 11 by F. J. Searle, at Oskaloosa, Kansas, will be one of the great sale events in Holstein circles. One hundred and sixty head of Holsteins from Mr. Searle's famous Sunflower Herd and other noted herds have been catalogued for this sale, and a glance through the catalogue shows an offering that is bred right for production.

Methods of planting corn by which one or two rows of an early-maturing variety alternate with one or two rows of a later-maturing variety have given higher yields than either variety planted alone, according to the annual report of the Bureau of Plant Industry. Where there is likely to be a shortage of moisture during certain periods of the growing season, dependence should not be placed in a single variety; under such conditions two or three varieties which differ considerably in length of growing season should be grown.

Irregular shaped eggs will hatch nearly as well as smooth shelled eggs, but it is not considered good practice to set the irregularly shaped eggs, as there is a possibility that pullets hatched from them will inherit the undesirable characteristic of producing poorly shaped eggs.

HOLSTEIN CATTLE. HOLSTEIN CATTLE.

Iowa Holstein-Breeders Sale Waterloo, Iowa, April 18



This will be a sale of "selected" stock. No culls in this one. The consignments are from some of the best known herds in the state.

Here are a few of the 90 HEAD that will be offered:

Sixteen daughters of King Segis Pontiac Combination, a son of King Segis Pontiac. Study his pedigree. Several of these are bred to one of the best sons of King Walker.

A three-year-old daughter of a 30-pound cow.

Heifers from daughters of such bulls as King of the Pontiacs, Homestead Jr. De Kol, and others.

Six daughters of Hengerveld King, a noted show bull and one of the best sons of King Walker.

A couple of 31-pound bulls. Send for catalog for the rest.

Sale Managed by the

LIVERPOOL SALE AND PEDIGREE CO.

of Liverpool, N. Y.

IOWA HOLSTEIN BREEDERS' SALE COMPANY

CLYDE GIROD, At the Farm — F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN-FRIESIAN FARM, TOWANDA, KANSAS

Breeders of pure-bred Holsteins. Special attractions in choice young bulls ready for service, with fashionable breeding. Write for pedigrees and prices. We maintain a breeding herd of pure-bred females and offer a grand lot of young springing heifers and cows, a number with A. R. O. records at prices within reason.

IT WILL PAY YOU TO SEE OUR OFFERING

Of choice extra high grade females, good udders, well Holsteins of their breeding purchasing. Wire, write or phone. young cows and heifers, all springers in calf to pure-bred sires; large developed marked and the right dairy type at prices that will challenge comparison for and quality. A visit to our farm will convince you. Keep ua in mind before

GIROD & ROBISON

MAURER'S HOLSTEIN FARM

Is offering a number of choice young pure-bred cows with good A. R. O. records; also yearlings and heifer calves and a select lot of young bull calves with world's record backing. Write for pedigrees and bargain prices. Also grade cows, heifers and heifer calves.
T. R. MAURER & CO. - - - - - - - - EMPORIA, KANSAS



Purebred Registered

HOLSTEIN CATTLE

Tilly Alcartra, a pure-bred Holstein-Friesian, is the most wonderful cow in the world. In 165 consecutive days she produced 30,451.4 pounds of milk or about 15 tons. In two years she produced 60,728 pounds of milk. She holds the world's milk record for one, two, three and four years. Holstein cows hold all world's records for milk and butterfat production, but the claim of the Holstein breed to the title of the "most profitable dairy breed" is not based on individual tests. It is the great uniformity of high productiveness of Holstein cows everywhere that makes them the greatest money makers for dairymen, the world over. There's big money in the big "Black and White" Holsteins.
Send for FREE Illustrated Descriptive Booklets.
The Holstein-Friesian Association of America
F. L. Houghton, Sec'y. Box 114, Brattleboro, Vt.

Pure-Bred Holstein Calves

Ten heifer calves from one to four months old. Also a few bull calves for sale. All these are nicely marked, good individuals, and from a 31-pound sire. Write for prices.
E. J. STEARNS, Route 1, ELKHORN, WIS.

CORYDALE FARM HERD

Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.
L. F. CORY & SON, BELLEVILLE, KAN.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

REGIER'S HOLSTEINS

Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.
G. REGIER & SONS, WHITEWATER, KAN.

25 - HOLSTEINS - 25

Fresh and heavy springing. Young grade cows extra well bred, also heifer calves.
GLEN C. SMITH - SEDGWICK, KAN.

Braeburn Holsteins A. R. O. BULL CALVES
With De Kol-Netherland-Korndyke main blood lines, and Johanna, Walker, King Segis out-crosses. H. B. Cowles, Topeka, Kan.

NEMAHA VALLEY HOLSTEIN FARM

Choice yearling bulls and bull calves. World's record blood lines. Price reasonable. We invite inspection of our herd.
H. D. BURGER, Route 2, SENECA, KANSAS

REGISTERED HOLSTEINS

We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.
M. E. MOORE & CO. - CAMERON, MO.

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

Look to the future.
Tredico Bulls
(Holsteins)
Kingman, Kansas

CEDAR LAWN FARMS
C. A. Schroeder & Sons, Props.
Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.
W. C. SCHROEDER - WEST BEND, WIS.

CEDAR LANE HOLSTEIN HERD

We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.
T. M. EWING, INDEPENDENCE, KANSAS

CHOICELY BRED HOLSTEINS

Bull calves from A. R. O. dams, sired by Beauty Pietertje Prince, a 32.52-pound bull. Good individuals, splendidly marked. Priced right. M. E. GUNDERSON & SONS, Route 25, Oconomowoc, Wisconsin.

HIGH GRADE HOLSTEIN CALVES

Five to six weeks old, nearly pure, well marked, $20, express paid.
COLD SPRINGS FARM, Whitewater, Wis.

MULEFOOT HOGS.

Bargain in BIG TYPE fall boars for the next forty days.
Sinn's Mulefoot Ranch, Alexandria, Neb.

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Live Stock and Farm Auctioneer

Write or wire for date. I can please you.
LAFE BURGER, WELLINGTON, KANSAS

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.



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LIVE STOCK AUCTIONEER
Pure Bred Sales a Specialty
MACON, MISSOURI
"Twelve Years on the Block"
Sales Made Anywhere

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

WALLACE'S MAMMOTH POLAND CHINA SALE

At Farm, Bunceton, Missouri, Thursday, April 12, 1917

50 - Head of Bred Sows and Gilts - 50

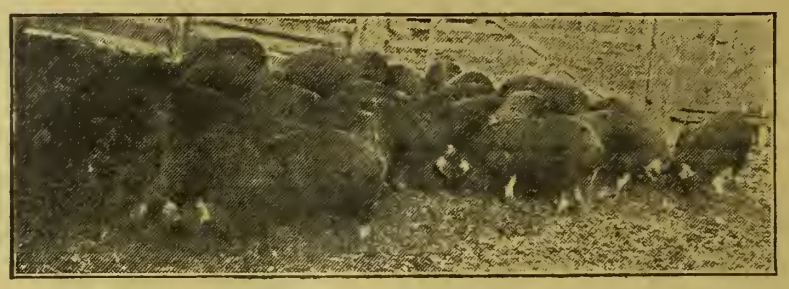
Forty gilts by Big Bone Model, A Monarch, and Grand Mammoth, and most all bred to the great King Joe for April and May litters.

Ten tried brood sows bred to Big Bone Model, A Monarch, and Grand Mammoth, for April and May litters.

This is a splendid offering and should attract breeders and farmers.

I will also sell a few fall boars and gilts sired by King Joe. Some choice herd header prospects.

Please send for nicely illustrated catalog and arrange to attend my sale. O. W. Devine will represent Kansas Farmer at sale. Farmers and breeders are especially invited to attend. For catalog write to



A GROUP OF THE SALE OFFERING

W. B. WALLACE, - - - - BUNCETON, MISSOURI

PUBLIC SALE OF HOLSTEIN AND JERSEY SPRINGERS AND HEIFERS



At Oakwood Stock Farm, Salina, Kan., April 9

Two Hundred Head of Carefully Selected High Grade Holstein Springers and Heifers.

We will sell on the above date 200 head of Holstein cows and heifers, consisting of forty head of high grade springer cows of excellent type and conformation. If you want good producers, these cows will suit you.

One hundred head of three-year-old springer heifers, large and good type. These heifers are excellent quality and will make splendid cows.

Sixty head of coming two-year-old heifers of excellent type and quality.

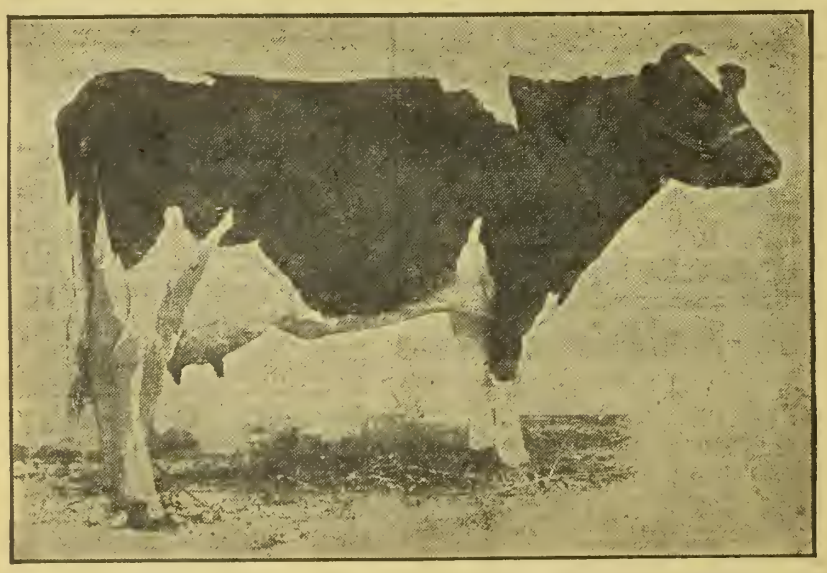
Six head of registered Holstein bulls.



Twenty head of high grade two-year-old Jersey heifers, due to freshen April 1 to 15. These Jerseys are extra good quality. They will make good cows and will suit anyone wanting Jerseys.

All cattle offered for sale have been tuberculin tested. Salina is on the Union Pacific, Rock Island, Santa Fe and Missouri Pacific railroads, which offer excellent shipping facilities to any part of the state. If you want dairy stock, you cannot afford to miss this sale. Free transportation from Salina to Oakwood Stock Farm, four miles north.

M. E. PECK & SON, SALINA, KANS. W. H. MOTT, SALES MANAGER



Public Sale of Registered Holsteins at Newton, Kansas

SATURDAY, APRIL 7, 1917

The day following the meeting of the State Holstein Friesian Association

FANCHER FARM MAXIE

SIXTY CHOICE HOLSTEINS

This offering selected at a sacrifice from the herds of Dr. Axtell, of Newton, Kansas; Dr. Schuyler Nichols, of Herington, Kansas, and W. H. Mott, Herington, Kansas. The offering will consist of

30 COWS, MOST OF THEM NEAR TO FRESHENING
12 HEAD OF TWO-YEAR-OLDS TO FRESHEN SOON
12 HEAD OF YEARLINGS AND COMING TWO-YEAR-OLD HEIFERS
6 BULLS OF SERVICEABLE AGE, EXCELLENT BREEDING AND INDIVIDUALITY
SEVERAL CALVES, BOTH MALE AND FEMALE, SIRED BY CANARY BUTTER BOY KING.

This offering consists of good individuals of the large square kind. All over six months of age tuberculin tested. This sale will be held in the pavilion at the Dr. Axtell Dairy Farm, adjoining the City of Newton, on April 7, the day following the meeting of the State Holstein-Friesian Association. For catalog or information address

W. H. Mott, Sales Manager, Herington, Kan.

AUCTIONEERS: McCULLOCH, NEWCOM, OLIVER.

HEREFORD CATTLE.

Walnut Breeding Farms



Where real Anxiety 4th blood is found in abundance. The home of Concentrate 289644, a double Beau Brummel. Young stock always on hand for sale from this noted sire. Five extra herd headers on hand at reasonable price, blood lines considered. Twenty choice young bulls for sale. Come and see my herd. Satisfaction guaranteed. Also a few Berkshire pigs.

LEON A. WAITE, R. F. D. 8, WINFIELD, KAN.

HEREFORD CATTLE.

HEREFORDS AND PERCHERONS

Choice 2-year-old bull, weight 1,600 lbs.; extra good bull calves. One May calf, weight 600 lbs., outstanding herd header prospect. Two choice yearling Percheron stallions. Priced to sell.

M. E. GIDEON - EMMETT, KANSAS

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

RED POLLED CATTLE.

Red Polled Cattle

A few 1916 fall bull calves for sale. Also a few cows and heifers.

AULD BROS. - FRANKFORT, KANSAS

FOR SALE

Red Polled Cattle

Three cows. Nine yearling heifers. Two yearling bulls. One two-year-old bull.

A. E. WHITZEL - STERLING, KANSAS

WHEN WRITING ADVERTISERS, MENTION KANSAS FARMER

ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE

Twenty-five young bulls, also some good cows and heifers for sale. All registered.

D. J. WHITE, CLEMENTS, KANSAS

Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

DUROC JERSEYS.

DUROC JERSEY GILTS

We have fifteen well bred Duroc gilts, priced for immediate sale.

C. D. WOOD & SONS, ELMDALE, KANSAS

JERSEY CATTLE.

DORNWOOD FARM JERSEYS

Some richly bred young Jersey bulls. Pedigrees and prices on request.

DORNWOOD FARM - TOPEKA, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

YOUNG'S REGISTERED JERSEYS

Won 150 prizes at six leading state fairs in 1916. Am offering cows, heifers and bulls, over 100 head of the best milk and butter strains. Write at once to

HAL C. YOUNG - LINCOLN, NEB.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. BERRY & SON, Jewell City, Kansas

LINSCOTT JERSEYS

BIG Dispersal Sale, May 31

R. J. LINSCOTT - HOLTON, KAN.

Sweet Spring Stock Ranch and Jersey Cream Dairy

The homes of
High Class Registered Jersey Cattle

Stock for sale at all times of very best blood lines.

D. S. MAYHEW, Prop. - MONETT, MO.

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

REDMAN & SON - TIPTON, MISSOURI

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

B. E. FRIZELL, Frizell, Pawnee Co., Kansas

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 14. TOPEKA, KANSAS, APRIL 7, 1917. Established 1863. $1 a Year

KANSAS HAS A HEALTH CAR

Board of Health Spreads Valuable Information on Hygiene and Sanitation

KANSAS' Public Health car "Warren" has been carrying the gospel of health to the people of Kansas for three months and at every stopping place much interest has been shown in the exhibits contained in the car and in the work the State Board of Health is seeking to do through this medium. This interest is not surprising, for we are realizing more and more that the state's greatest asset is the health of her citizens and we are slowly but surely concerning ourselves in those movements having for their purpose the conservation of human life and health.

The object of the health car is to arouse a more general interest in the prevention of disease by bringing about voluntary investigations into conditions affecting health in farm homes and in the homes in the cities and towns of the state. The equipment is simple and entirely comprehensible. Two Public Health Nurses and a state field agent for the State Association for the Study and Prevention of Tuberculosis are with the car all the time, and in addition some one member of the State Board of Health spends part of the time with the car.

So far, about seventy-five towns on the Union Pacific Railroad in the state have been visited, one day only having been spent in each place excepting some half dozen cities in which stops of two days were made. The car will be hauled over the entire system of the Union Pacific in the state and will next be switched to the Missouri Pacific lines. These railroads are carrying the car free of charge and are thus making possible this dissemination of health knowledge, for without this generous co-operation on their part this effective health campaign could not be waged.

One very commendable feature in connection with the health car is that the attention of the young people is specially called to the preventive and curative measures taught there. This is accomplished through the co-operation of the local school authorities. The pupils in the upper grades and high schools are permitted to attend in squads of fifteen or twenty, a few minutes apart, and after their visit are required to write about what they saw and learned, this being a part of their school work. In this way these young people gain impressions of right living conditions which will provoke fruitful thought along these lines.

One of the exhibits which attracts much attention is that showing the pollution of the family's water supply by placing wells without regard to the unhealthful drainage into them. After studying this exhibit many have admitted this weakness in the water supply on their own farms and have voiced a determination to change these conditions.

The following incident alone justifies the establishment of this car. In one of the first cities in which it stopped, a pale, thin man studied the exhibits long and thoughtfully. He returned, and came even the third time, when he sought an interview with a member of the State Board of Health who was present. He told his symptoms—how he had been losing weight, was unable to put his usual energy into his work, and had an annoying cough. He had been trying to regain his strength and had bought at random so-called remedies which seemed to fit his case but none had brought relief and he had steadily declined. Investigation into the case revealed the fact that the man was a victim of tuberculosis in the first stages. were taken in the treatment of the diswas taken in the treatment of the disease there was hope for his recovery and he was fully advised as to that proper course. As a result of his visit to the health car, this man is now in that city's tuberculosis sanatorium where the disease is being scientifically treated and he is being remodeled into a useful citizen who will be able to care for himself and those dependent upon him. He is also learning valuable laws of health for himself and his family.

At another place, a farmer who was in town on other business came to the car and so impressed was he with the practical knowledge there available that he wanted to know if there were not some way by which the car might remain another day. It was then late and he was anxious to bring his wife in that she might have an opportunity to study the helpful exhibits. This man lived eight miles in the country in the opposite direction from which the car was going.

It would be impossible to here give a half of the instances in which appreciation has been expressed for the opportunity thus made possible for a study of the simple laws and practices so vitally affecting health. Much of the spread of communicable diseases might be checked if care were exercised in the handling of them. No one who studies the exhibits in the health car and reads the literature there distributed, can profess ignorance on this subject.

Another most important subject which is impressed upon the car visitor is the proper care, feeding and clothing of infants. The source of the family water supply and its effect upon the health of the family, is another. The risk involved by the patent medicine habit is forcefully called to the attention, also the danger surrounding the insanitary outside toilet. Simple, effective preventive measures and remedies for all these evils are suggested.

This taking of the principles of health and hygiene to the people of our state is but another spoke in the wheel of balance that is being shaped. We will not have taken full advantage of our opportunities to make the most of life until we make a united effort to conserve health and save life, and this can be brought about only by individual diligence in matters pertaining to health.

The new schedule of the health car is here given. It will be noted that it includes stops of several days in towns of one thousand population or more. The stop shown at Salina is merely for changing of lines, as the car has been there before.

Arrive Lindsborg	April 6,	8:35 a. m.
Leave Lindsborg	April 10,	8:35 a. m.
Arrive Assaria	April 10,	8:58 a. m.
Leave Assaria	April 11,	8:58 a. m.
Arrive Salina	April 11,	9:35 a. m.
Leave Salina	April 11,	3:00 p. m.
Arrive Beloit	April 11,	6:35 p. m.
Leave Beloit	April 16,	8:30 a. m.
Arrive Simpson	April 16,	8:59 a. m.
Leave Simpson	April 17,	8:59 a. m.
Arrive Glasco	April 17,	9:11 a. m.
Leave Glasco	April 18,	9:11 a. m.
Arrive Delphos	April 18,	9:29 a. m.
Leave Delphos	April 19,	9:29 a. m.
Arrive Minneapolis	April 19,	10:01 a. m.
Leave Minneapolis	April 21,	10:01 a. m.
Arrive Bennington	April 21,	10:25 a. m.
Leave Bennington	April 22,	10:25 a. m.



KANSAS STATE BOARD OF HEALTH CAR, "WARREN"



INTERIOR VIEW OF CAR SHOWING PART OF THE EXHIBITS

Fly Danger Time Is Here

To treat the danger from flies lightly, is to willfully expose human beings to deadly infectious diseases. It will never be known how many cases of typhoid fever, tuberculosis and the various intestinal diseases could be traced to flies as the carriers, but it is known definitely that the fly carries all these diseases. Therefore, to persistently fight the fly means to effectively fight these dreaded diseases.

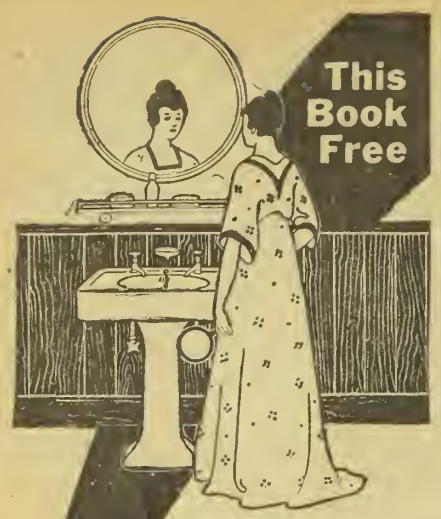
Flies breed in filth and manure and spend much of their lives there, though leaving often enough with their stores of germs clinging to legs, mouth parts, hairs, wings and feelers, to do far more damage than is generally charged to them.

Flies are most abundant where there is the most filth within their reach. Open privy vaults and accumulations of stable manure are very inviting to them. Protection of the vault by screening, and the hauling out of manure once a week, will greatly lessen the number of flies. Nothing—clean or filthy—that will attract flies should be left open for them.

All windows and doors of the dwelling—including the cellar and the summer kitchen—should be tightly screened. The place where the milk is strained and seperated and the milk pails washed, should also be fly-proof.

The individual fly lays probably 120 eggs at one time. Each female lays at least two, and possibly four, batches of eggs. These usually hatch in le twenty-four hours. Numerous ments have shown that the s time between the laying of the eggs and the emergence of the adult fly, is eight days, and ten and twelve-day records were common. In three to four days more another generation of flies is started. These facts emphasize the necessity for hauling the manure to the fields at least once a week in order that the hatching of the eggs may be stopped, which will be the result of exposing the thin layer of manure to the sun and air.

April is the month when the flies start their season's work and for this reason the work of decreasing their numbers should be begun at once. One fly killed in April means a million less to be killed in August, and who can say how much sickness will have been avoided?



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"Standard" Plumbing Fixtures

represent the longest and broadest experience in manufacture—the greatest variety of styles and prices. Whatever your plumbing needs, you will find useful *service* in "Standard". Ask your plumber about this old, reliable line. Insist that every fixture you buy has the Green and Gold label.

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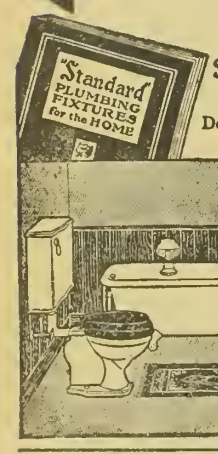

Standard Sanitary Mfg. Co.
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The Largest Mower in the World

Cuts a swath any width up to 8 ft. wide. Compensating lever and spring carries the cutter bar on the drive wheels, increases traction, does away with side draft and weight on horses' necks. Standard Mowers are one of the many implements in the E-B line. Backed by 65 years' experience. Look for the E-B trade mark on the implements you buy. It is our pledge of quality and your guide to easier, better, more profitable farming.

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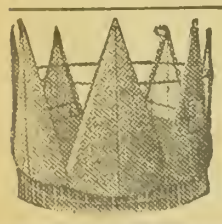
Name _____

Address _____



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Gives 6 to 9 feet more silo space and 15 to 40 tons more silage worth up to $160 each year. Delivered prices quoted. Special discount to early buyers. Act quickly. Write today.

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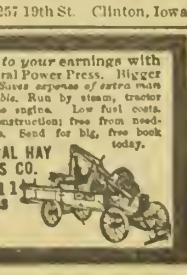

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

OILED earth roads should not be regarded as a permanent improvement, but are much better than common earth roads. Oiled roads do not require so much dragging as ordinary earth roads. They shed water better and do not become so dusty. Although oiled roads are not so satisfactory as gravel roads, they may be a help in developing good roads sentiment.

The best results from oiling are to be obtained by applying the oil when the road is hard, smooth, dustless, and without any ruts or pockets.

Where there is a pocket in the road water will gather after every storm. Oil works better on sandy soils than on clay or heavy loams. Loam soils may be helped by sprinkling a light coating of sand over the oiled surface.

For the first application, half a gallon of oil containing from 40 to 60 per cent asphalt is sufficient for each square yard of road surface. Usually a strip sixteen feet wide is oiled, and at the rate of three cents a square yard—all expenses included—it will cost a little more than $250 a mile.

After the first year it is better to apply from one-quarter to one-third of a gallon of oil to each square yard of surface in the spring and the same amount again in the fall.

For laying the dust on city streets, oil may be as economical and more satisfactory than water, particularly if the soil is sandy. When city streets are oiled it is best to cover the cross walks with dust or dirt so that they will not be covered with oil. When the oiling process is finished the dust or dirt may be swept away. Surface oiled streets are not satisfactory if the soil is clay or loam, for the oily dust blows about and is carried into buildings and upon walks.

Tractor Lubrication

A high grade lubricant is as necessary to the efficient and profitable operation of a tractor as good feed is vital to the health and money-earning qualities of live stock.

The feed requirements of different kinds of live stock differ widely. No one fodder will feed all animals. So it is with tractors. No one oil will correctly lubricate all tractor engines. For like live stock, they are not all alike and different types of engines require different grades of oil.

Gas tractors are of the following types: One-cylinder, horizontal or vertical; two-cylinder, horizontal; four-cylinder, horizontal or vertical, and six-cylinder, vertical.

Tractor engines range in horsepower from four to one hundred and over. They are generally of the four-cycle type, air or water cooled, of L-head, T-head or valve-in-head construction.

The fuels used are gasoline, kerosene and distillates, kerosene being the more commonly employed. Ignition may be by battery, low tension magneto and coil, or high tension magneto.

The cooling systems of tractor engines are as a rule considerably larger than those employed in automobiles. The capacity of the cylinder water-jacket is greater in proportion to the bore and stroke and the radiators are more sturdy to withstand the stress of vibration. Certain manufacturers employ a special cooling oil in place of water.

The clutch is generally an adaptation of standard principles. The following types are commonly used: Interlocking, contracting external, expanding internal, or friction drive.

The transmission may be gear train of the following types, selective sliding, planetary, spur and bevel, of variable speed ratio, accomplished by exchange of pinion gears; friction drive; chain, usually on lighter machines, or belt.

The following are the types of oiling systems usually employed for tractors: Full force feed, force feed, force feed and splash, splash circulating, and splash.

The problem of minimizing friction in the operation of the gas tractor (using for fuel gasoline, kerosene and distillates, kerosene being the more commonly employed), is even more difficult than that of correctly lubricating an automobile.

Automobiles are much higher powered relative to the weight and work performed. An automobile motor is seldom called upon to work at full capacity, while tractor motors are required to work continually at from 70 to 80 per cent of their rated load.

Tractor engines are subjected to rough usage and great strain due to the character of the ground over which they must travel and the absence of springs and rubber tires. Slower traveling speed is, therefore, necessary in order to reduce vibration.

Due to the low speed at which it travels, the tractor does not have the benefit of the additional cooling value of air circulation which is produced by a fast moving automobile.

All of these facts point to one conclusion, namely, that the gas tractor is a heavy, hard working, slow moving machine which tends to run hot and which requires an oil that fits it—an oil of a body that will reach every friction point and of a quality that will stand up under the terrific strain and heat of service.

To determine the correct lubricating oil for tractors requires both scientific study and broad practical experience. Such study involves the construction of the engine, whether horizontal or vertical type cylinder arrangement; two or four-stroke cycle; bore and stroke; engine speed; valve construction, size and location; piston clearance; number and fit of piston rings; cooling system (air or water); bearings, size and type; and lubrication system.

Because of the exposed oil piping and to permit easy starting of the engine in low temperatures, cold test conditions must also be considered in some types.

You cannot try all lubricating oils. You would spend years without reaching a conclusion. And you would ruin scores of motors.

How then are you to know what oil to buy? There is only one way to obtain the correct oil, and that is to ask your dealer for an oil that is suited to the exact requirements of your particular make and model of tractor. Make him prove that it is correct, that the company which makes it has analyzed the operating conditions of your motor.

Do not buy on a price per gallon basis. Lubrication is your smallest item of expense in the operation of your tractor and your best insurance against undue wear and depreciation. Pennies saved in buying lubricants are danger pennies.

You bought a tractor that suits your needs. Make sure that you buy an oil that suits your tractor.

Safe Grade Crossings

Repeated investigations of accidents at places where highways cross railways at grade show that a large part of these accidents is due to the failure of drivers to slow down as they approach the crossings. For this reason some public officials believe that the roads should be so constructed at the most dangerous crossings that drivers must reduce speed to a low rate. The California Railroad Commission has recently sent to a number of cities and counties six plans for accomplishing this, with a request that they be tried or at least criticised. In each case there is a conspicuous signal or sign in the middle of the road near or at the crossing, and the driver must swerve to one side to reach the track. In some of the plans the driver must make an abrupt right-hand turn and another left-hand turn before the track is reached, so that slowing down is compulsory and not voluntary.

An oil or gasoline engine will not stand an over-load. It is therefore important to select an engine large enough to do the required work. An engine too large for the work, however, will not use fuel as economically as one of the proper size.

When you start to use your car this spring, be sure there is plenty of lubricant in the transmission and differential. Refill all the grease cups. Go all over the car and put a little oil on every moving part.

The gasoline engine should always be located in a separate room if possible. It should be well lighted and free from dirt and dust.

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SCHOOLS VISIT SANTA FE SPECIAL

At every town where the Santa Fe Dairy and Poultry Special stopped a considerable portion of the audience consisted of students from the schools. During the second week of the trip we spent a day on the special beginning at Ottawa, where an audience of 600 greeted the speakers. Probably half of these were high school students accompanied by their teachers. They had their notebooks with them and used them. They seemed to consider the information they were receiving was worthy of a place in their school work.

This changed attitude of our schools toward this fundamental occupation is most significant. It is being recognized that there is a vast amount of basic knowledge that can be put to practical use in working out and following the art of agriculture. The time to acquire this knowledge of basic principles is while attending school. In listening to the lectures given by Mr. Bainer, the Santa Fe agricultural agent, in charge of the train, Prof. J. B. Fitch of the agricultural college, Prof. Ross M. Sherwood of the college, J. B. Jarvis of the De Laval Separator Company, and George Benoy, farmer and poultry specialist, we observed that their statements were largely concerned with things that must be understood before we can work out the best practices to follow in making agriculture more profitable and more permanent.

Franklin County has kept in the front ranks in this matter of interesting young people in agriculture. We have attended a number of farmers' institutes in Ottawa, the county seat, and always found the idea of leading children to see and appreciate the dignity and basic character of agriculture, given a prominent part in the programs. Peter Shiras, of the People's National Bank of Ottawa, has always been most liberal in offering prizes to encourage young people in various lines of agricultural effort, and we were not surprised to see him in the audience at Ottawa. Before the dairy lecture was finished, Mr. Shiras sent up the following note which was read from the flat car where the demonstration talk was being given: "The banks of Ottawa will furnish money on twelve months' time at a low rate of interest to boys or girls to purchase heifers of good milk stock." This offer evidences in a most substantial way the attitude of the banking interests of Ottawa in helping young people to acquire early in life knowledge and experience that will be useful to them later.

The Kansas Farmer Dairy Club has only one member in Franklin County, but we feel sure that this publicly announced offer of the banks will insure a much larger enrollment in the 1917 club which is now being formed.

At Baldwin over 800 met the train, and here also the boys and girls from the school were present with their notebooks, ready to record for future use such points as were made by the speakers. At Vinland, not only were the pupils from the rural high school in that place in attendance, but the children from the grades had been dismissed early in the afternoon so they and their teachers could attend. The writer had the privilege of speaking to these boys and girls in one of the coaches carried on the train and was highly pleased with the genuine interest in the subject presented, which in this instance was better poultry on the farm.

Mr. Bainer told us that this interest on the part of the schools was found at every point touched by this lecture train. Progress in every line is dependent upon the attitude and interest of the rising generation and it seems certain that those who take up the tilling of these Kansas farms in the years to come will have received a vision of the possibilities of agriculture that will raise the industry to an even higher level than it now occupies.

GROW ADAPTED CROPS

We were asked last week why spring wheat could not be sown in Kansas where the winter wheat had been winter-killed. The man making this inquiry was not a wheat farmer and he seemed to think that Kansas should be able to produce spring wheat the same as do the Northern States.

In the early days attempts were made to grow spring wheat but the results were unprofitable. The crop is not adapted to Kansas conditions. Our experiment station records show that for a period of ten years oats have yielded over five times as much to the acre in Kansas as has spring wheat. Oats or barley, while not highly profitable crops, are much better to grow under Kansas conditions than is spring wheat. In the northern part of the state barley is more successfully grown than oats.

It is always important to plant crops adapted to the conditions. Oftentimes the mere matter of planting the right variety will mean the difference between profitable and unprofitable results. Prof. L. E. Call of the agricultural college predicts that the wheat crop in Kansas this year will be cut a million bushels because soft wheat was extensively sown in the hard wheat belt of the state.

Growing adapted varieties is one of the ways of increasing production that does not involve any extra work or expense. W. M. Jardine, director of the Kansas Experiment Station, made the statement at the recent food conference in Topeka, that we are trying to grow fifteen or twenty different kinds of sorghums here in Kansas instead of five or six that have been demonstrated to be the most profitable and best adapted to the various conditions over the state. The county agricultural agent of Jewell County learned during his first year's work in that county, that the farmers were trying to grow entirely too many varieties of corn. There was enough practical experience already available on the various farms of the county to warrant such conclusion. The farm bureau, through its agent, gave this information to farmers of the county and urged that they restrict their planting to the standard varieties that were giving the best results. The application of such information on all the farms of a given section is certain to result in raising the average acre yield of the crop and at no increase in cost.

NEW KANSAS FARMER DAIRY CLUB

WE ARE now ready to enroll boys and girls in our second Kansas Farmer Dairy Club. In this enterprise we have the co-operation of the Kansas State Agricultural College and many of the bankers of the state.

Any boy or girl 12 to 18 years of age who will agree to do the work carefully according to instructions which we will furnish, and keep accurate records, is eligible to membership in the club. Valuable prizes will be offered for the work of those making the best year's records.

The first step in becoming a member of the Dairy Club is to consult with the banker your parents patronize, or some other banker, and make arrangements to borrow the money needed to buy a cow to be used in the club work. As soon as you have secured the promise of the loan, send in your name and address and that of the banker, to Kansas Farmer Dairy Club, care of Kansas Farmer, Topeka, Kansas. We will then send the membership blanks to be filled out and returned to us.

The best recommendation we can offer for the Dairy Club is that the boys and girls who are members of the present Kansas Farmer Dairy Club are all making money and are greatly interested in their work. The milk and feed records they are keeping are showing them the value of a cow. Eight of these boys and girls have already paid their notes, these notes ranging from $60 to $300. In making these monthly payments they have gained valuable business experience and established themselves in the confidence of the banker. This training will be invaluable to them in later years.

A number of bankers have already stated to us that they will loan money to boys and girls who wish to buy cows and become members of the Kansas Farmer Dairy Club. One banker was interested to the extent of offering to loan money to as many trustworthy boys and girls as come to him for this help. If your banker has not been following the work of the present club in the Dairy Club Department of Kansas Farmer, and wants some information about it, let us know and we will take the matter up with him at once.

It is not always easy to find a cow that is worth milking, so you should not delay in taking this matter up with your banker if you wish to join the club. Do not hesitate to go to him for a loan. It is his business to loan money to those who will use it for productive purposes. If you show that you mean business and will enter seriously into this project of milking a cow for a year and paying the note from the proceeds of the milk or cream sold, you will have little difficulty in securing the money needed.

Consult with the county agricultural agent or the local club leader if there is an agent or leader in your county. These people will gladly furnish help in directing you to the proper bank, in securing a cow, and in other ways.

RELIEF FOR STARVING BELGIANS

The Belgian Relief Commission has expended 250 million dollars in furnishing food to starving Belgians. Of this sum only nine millions have been contributed by the people of the United States. Because of the wonderful work done by Herbert C. Hoover, chairman of the Belgian Relief Commission, and other American citizens who have had charge of the organized distribution of food in Belgium, the impression has been widespread that this country is leading in this great international work of saving this nation from starvation.

The United States was selected as a sort of trustee by both neutrals and belligerents, and thousands of American citizens have been working in Belgium under Mr. Hoover's direction. But even little New Zealand has given several hundred times as much money per capita as has been furnished by citizens of the United States.

Mr. Hoover, who has recently been in America, feels keenly the reproach that goes with the statement that the people of this country have not only contributed a comparatively small proportion of the money expended, but have greatly profited from the sale of supplies. On a most conservative estimate we have received a profit of at least thirty million dollars from the sale of 150 million dollars' worth of food supplies at war prices to the Relief Commission.

We are giving these facts so that no one will be misinformed as to the position of the people of the United States in the matter of Belgian relief. The Rocky Mountain Club of New York City, which includes in its membership leading business men from all over the country, has been aroused by this condition and is sending out an appeal for contributions. Mr. Hoover states there are a million and a quarter children in Belgium that are now receiving barely enough food to sustain life. They are being stunted in their growth and diseases are spreading because of their poorly nourished condition. It will take at least a million a month to supplement the rations of these children. The club referred to has organized an executive committee, of which William R. Thompson, 65 West Forty-fourth Street, is treasurer. The organization has already provided for all administrative expenses so that every dollar contributed goes direct to the relief fund.

KEEPING SOIL FERTILE

Add Organic Matter by Keeping Live Stock and Spreading Manure

WITHOUT a fertile soil it is difficult to grow crops profitably. Keeping the soil bighly productive is one of the important parts of a farming system. Many do not realize bow essential is a plentiful supply of organic matter to the maintenance of soil fertility. Perhaps less attention has been given to this point in semi-arid regions than in regions of greater rainfall. At the last annual session of the International Farm Congress held in El Paso, Texas, R. I. Throckmorton of the Kansas Agricultural College emphasized the importance of organic matter in maintaining soil fertility and especially in connection with farming in regions of light rainfall.

Mr. Throckmorton called attention to the fact that organic matter bears a close relation to soil fertility in chemical, bacteriological, and physical ways. The decaying of this organic matter liberates large quantities of available plant food. The food of the nitrifying bacteria makes large quantities of nitrates available for the plants, and the soil becomes porous, absorbing and retaining more water.

Soils which have been cultivated for several years without the addition of organic matter in some form are rapidly becoming deficient in this material. The loss is more rapid in warm, dry regions than in humid sections and also greater in continuous grain farming than where a rotation which contains a grass is practiced. Thus the climatic conditions and agricultural practices of the great plains region are such as to rapidly destroy this very important material.

Chemical determinations of native soils and adjoining soils cultivated to wheat for thirty years in Russell County show that the cultivated soils have lost 30.5 per cent of their nitrogen and 34.5 per cent of their organic matter. Similar determinations in Reno County show that the cultivated fields have lost 43.5 per cent of their nitrogen and 51.3 per cent of their organic matter. These are not exceptional cases, but two instances of what is happening throughout the wheat belt where crops are grown continuously.

INCREASING ORGANIC MATTER

The question which immediately arises is: How are we to increase the organic content of our soils? Many methods have been suggested but all of them have not proved satisfactory. Use of green manure crops, application of straw and other crop residue, and application of manure are methods used in various sections of the country.

At various times it has been suggested that green manure such as cowpeas, sweet clover, or rye, be plowed under to increase the organic content of the soil. Such a practice has its place in agriculture, but is not well adapted to the section of the country under discussion, because these plants use large quantities of water in their development and demand the use of the soil during one season. In addition to this, they leave the soil too dry for seeding to winter crops the fall the material is plowed under, and frequently there is not sufficient moisture in the soil during the winter and early spring months to decompose the coarse material. The layer of undecayed organic matter will separate the surface soil from the subsoil, thus leaving the soil in poor condition for spring crops.



CROWDS PASSING THROUGH EXHIBIT CARS ON SANTA FE DAIRY AND POULTRY SPECIAL

HINTS ON CROP ROTATION

Experiments have been conducted at the Fort Hays Experiment Station with green manuring crops compared with fallow in wheat production. The rotations followed were fallow, wheat, corn, barley; cowpeas for green manure, wheat, corn, barley; rye for green manure, wheat, corn, and barley.

In the first rotation where fallow was used, the average yield for eight years was 21.3 bushels an acre. When cowpeas were used in place of the fallow the average yield was 13.4 bushels an acre, and when rye was used as the green manure crop the average yield was 12.9 bushels an acre. In addition to the differences in yield there was considerable extra expense encountered in seeding the green manure crops. In view of these facts, green manure crops should be used only as a last resort.

DO NOT BURN THE STRAW

The straw produced in the wheat belt is a valuable by-product of the wheat industry and should be returned to the field instead of being allowed to decay in large piles in the field, or even worse, burned to get it out of the way.

Straw may be used satisfactorily in two ways—as bedding for live stock and later applied in the field, or it may be applied direct as a surface dressing during the late fall and winter months. When applied in this way the straw will have decayed sufficiently to have no bad effect on the soil when plowed under the following season. In addition to adding considerable organic matter to the soil, straw will aid in preventing blowing, in retaining the moisture that falls as snow, in preventing winterkilling, and will add considerable plant food to the soil.

USE OF MANURE RECOMMENDED

Undoubtedly manure is the best form in which to apply organic matter to the soil. It has all the advantages of green manure crops and straw, and many more, for it decays more rapidly and adds much larger quantities of plant food. With manure as with straw, many objections have been made to its use throughout the areas of light rainfall. Some of these objections are due to too heavy application, poor seasonal conditions, or are purely imaginary on the part of the farmer because he doesn't enjoy hauling and spreading manure on his fields.

It is true that yields have been decreased through the use of manure in various places but invariably the decrease has been brought about by carelessness in applying very large quantities. Such applications will tend to cause the plants to make a very rapid and heavy growth of straw in the spring and thus use large quantities of water and not leave sufficient moisture to mature the crop, or if the season proves to be extremely dry the heavy applications will cause a burning of the crop early in the season and thus decrease the yield.

EXPERIMENTS WITH MANURE

Reasonably light applications, however, will increase the present yields and aid in keeping the soils in good condition. Experiments conducted over the hard wheat section of Kansas during the last three years justify this statement. In 1914 experiments were conducted with manure on wheat in six localities. The average yield of the manured fields was 24.49 bushels an acre and of the unmanured 21.45 bushels.

In 1915 experiments were conducted in three localities in which the manured fields averaged 26.55 bushels an acre as compared with 20.47 bushels for the unmanured fields. The experiments were conducted in nine localities in 1916 with an average yield of 22.55 bushels an acre on the manured fields and 17.75 bushels on the unmanured fields. The average increase from the use of manure on wheat from the eighteen determinations extending over a period of three years is 5.64 bushels an acre. The amount of manure applied on these fields varied from six to ten tons an acre. Heavier applications than this should not be made and lighter applications are advisable.

If the fertility of the soils of the light rainfall area of the United States is to be maintained, more live stock must be kept and the best possible use made of the manure produced. By-products from the grain fields should also be utilized.

Dairying and Soil Fertility

THAT dairy farming practically solves the question of soil fertility, was the theme of the talks made by H. M. Bainer on the Santa Fe Poultry and Dairy Special which ended its trip over the Santa Fe lines in Eastern Kansas last week. One hundred and nine towns were visited and almost 40,000 people passed through the exhibit cars of the train and listened to the lectures.

It was our pleasure to spend a day with the train during the second week of the schedule and also one day during the last week. During this last day the towns visited were in Saline, Dickinson and Marion counties. At every stop Mr. Bainer opened the program by pointing out how crops sold from the farm steadily reduce its producing power. Every bushel of corn, including the fodder, removes 37 cents' worth of fertility; a bushel of wheat, 26 cents' worth; a bushel of oats, including the straw, 32 cents' worth. A ton of alfalfa hay sold from the farm carries with it $9.60 worth of fertility. At Solomon, Mr. Bainer was interrupted by a man in the audience who announced that 37,000 tons of alfalfa had been shipped from Solomon during the past year by a single shipper. This represents $351,500 worth of fertility lost to the farms of Dickinson County. Mr. Bainer reminded his listeners that this alfalfa went to Wisconsin, Minnesota, Pennsylvania, New York, and other states to the east and north and was sold largely to dairymen who paid the freight, the cost of baling, commission charges, etc., and fed it to dairy cows, selling the products to markets that could just as readily be supplied from cows eating the alfalfa on the farms in the locality where it was produced.

Such illustrations show the character of dairying as a business. Practically no raw material is shipped from the dairy farm. A ton of butter worth at least $600 removes only 50 cents' worth of fertility, and a ton of cream 66 cents' worth. If any care is taken of the manure, a dairy farm is almost certain to increase in its capacity to produce crops. Dairying makes it possible to bring outside fertility to the farm. The Pennsylvania man feeding Kansas alfalfa, in addition to making a profit from the sale of the product, is adding to his farm from 75 to 90 per cent of the fertilizing value of the hay he buys. A ton of cottonseed meal contains fertilizing value to the amount of $18.80, and on many dairy farms it is highly profitable to buy the concentrated feeds, thus bringing additional fertility to the farm.

It is not true, as many used to claim, that manure is harmful to the soil. This was a very common belief in the wheat belt of Kansas in past days. There is now plenty of evidence that even in this section of the state spreading manure is a most profitable practice. The truth of this statement had been proven by men in the audiences in that section. Mr. Bainer told at Solomon of a report that was made a day or so previous at one of the meetings. A farmer said he manured a 28-acre field of wheat last year and it threshed out 38 bushels to the acre. His neighbor had wheat on the other side of the fence on the same kind of land, used the same kind of seed, the same methods of preparation and sowed at the same date; his wheat yielded but 17 bushels to the acre.

Even straw has a fertilizing value and there is no better way to get it back to the soil than to feed good dairy cows with it and let them work it into manure. Lack of organic matter in the soil is easily overcome on the dairy farm. The presence of organic matter in the manure gives it a value far in excess of what a chemist's analysis would show. A pound of decayed organic matter or humus will retain seven and one-half times as much water as a pound of sand. The capacity to take in and hold water is often what makes soil productive in years of short rainfall. The presence of an abundance of organic matter brings about this result.

The maintenance of soil fertility is fundamental to permanence in agriculture. We were impressed with the sincerity of purpose of the Santa Fe in so insistently directing the attention of those who came to the train to the importance of reducing to the minimum the amount of raw material shipped out. Looked at from the standpoint of immediate profit, it might seem that the railroad would not be very much concerned as to the character of the freight hauled out so long as it brings revenue—that it would just as soon haul out alfalfa and corn or other raw material, as butter or eggs. A railroad company such as the Santa Fe, however, looks into the future. The continued prosperity of its patrons is closely linked with its future prosperity as a common carrier. The Santa Fe and other railroads doing similar work are to be commended for taking so broad a view of our agricultural development.

Often the poor cow eats as much as the good one and the amount of work in feeding is the same. In the face of these facts it could hardly be called good business to keep the poor milk cow or the one of unknown producing ability these days when all feeds are so high in price. It would be more profitable to sell the poor cows and keep only the good ones and feed them up to their capacity. Simple, individual feed and milk records will be valuable in this weeding out process.

GENERAL FARM NOTES

Uniting Country and Town

It is for the best interests of all concerned that the rural communities and the towns should co-operate in a business way and also in a social way. The farmers need the towns and the towns must have the help of the farmers in order to exist. Anything that causes friction is bound to injure both. In these days of automobiles the towns are easily accessible to our boys and girls and it is of the utmost importanec to the country people what kind of entertainments are furnished in the towns.

Warden Codding of the state penitentiary at Leavenworth, said recently that they did not get enough farmer boys down there to milk the cows and do the neeessary farm work, but that they had to teach the city boys how. Now this is something to be proud of, but we must be careful lest our good record be lowered. That is why we should co-operate with our towns in a social way, and why we should be vitally interested in the kinds of entertainment provided—not only to protect ourselves but to place on a higher scale the moral life of our towns and small cities. It is not best for the farmer to become too independent of the small towns and cities for the best interests of both will suffer as a result.—MRS. MABEL POMEROY, Chaplain Kansas State Grange.

Growing Chrysanthemums

Pompom chrysanthemums are so easily grown and so beautiful that they should be planted very freely. The varieties now offered by all florists are so superior to the old "button chrysanthemums" with their semi-double, flat, daisy-like flowers, that they can hardly be classed with them, yet they are as hardy and will bloom as freely in the garden.

The pompoms eome in almost all the shades of color of the large Chinese and Japanese sorts. I have had fine plants of the Angelique with splendid globe-shaped flowers an inch in diameter, creamy white, and so double they were as deep as wide. Zenobia is a splendid yellow, as double as the Angelique, but with a flatter flower. There are many good pinks, reds, and whites, and all are beautiful.

One of the good features of the pompoms is their value for cutting. There are not so many fine flowers that can be cut in the fall that we can afford to ignore this splendid class. They will bloom outside and hold their color well, and can be cut and kept in water for a long time. The single flowers work up well in flat bouquets or designs, will not fade quickly even if not kept in water, and will keep for days in water if it is changed often.

No flower is finer to pot for the window or to use for church decoration than pompom chrysanthemums. With good soil, and care to keep pruned into tree form, they can be made to grow into symmetrical bushes covered on top and sides with blooms.

The roots of the pompoms are practically hardy with us, and it is only during the most severe winters that they need protection, yet it is well to cover the clumps in the garden with several inches of strawy manure in the fall. When the plants start into growth in the spring dig them up and divide the roots into single plants. Clumps will not form nice bushes for potting, the flowers will not be nearly so pretty, and are almost sure to run back to the semi-double or single flowers if left to grow that way long. A well grown single plant will have a mass of blooms as large as it spreads, and if the plants are set two feet apart they will come together by fall, when they bloom.

Chrysanthemums require very rich soil and plenty of water for best results. Good culture will take the place of watering somewhat, for it keeps the soil water from evaporating.

Don't forget to include several colors of these valuable plants in your order this year, and then divide them each spring and plant and grow well, and you will have fine flowers for years. They can be allowed to run wild in the border, and will be beautiful, but not nearly so fine, either single flowers or clusters, as will those grown under better conditions.—L. H. COBB.

Cow Test Report

The following is a record of the cows in the Dickinson County Cow Testing Association which produced fifty pounds of butter or more for the month ending January 30, 1917:

Owner—	Pounds Milk	Per Cent of Fat	Pounds Butter 80% Fat
J. A. Welshar, H.	1,212	4.3	65.1
Ira Zercher, H.	1,119	4.0	56.0
L. L. Engle, H.	1,182	4.0	69.1
H. S. Engle, H.	1,155	3.6	50.5
H. S. Engle, H.	1,182	3.8	56.1
H. S. Engle, H.	1,139	3.6	51.2
H. S. Engle, H.	1,155	3.9	56.2
D. S. Engle & Son, H.	1,113	3.6	50.1
D. S. Engle & Son, H.	1,065	4.4	58.6
D. S. Engle & Son, H.	1,590	3.1	61.6
George Lenhert, H.	1,488	2.9	64.0
George Lenhert, H.	1,380	3.0	61.8
J. M. Gish, H.	1,272	4.2	66.8
A. B. Wilcox, H.	1,152	4.0	57.6
A. B. Wilcox, H.	1,398	3.7	62.1
A. B. Wilcox, H.	1,866	3.8	88.6
Mott & Seaborn, H.	909	4.4	50.0
Mott & Seaborn, H.	729	5.6	51.0
Mott & Seaborn, H.	1,335	3.7	61.8
Mott & Seaborn, H.	1,941	4.7	61.1
Hoffman Bros., H.	933	4.8	56.0
E. S. Engle & Son, H.	1,194	3.6	52.3
E. S. Engle & Son, H.	1,689	4.0	84.5
E. S. Engle & Son, H.	1,650	3.0	61.9
E. S. Engle & Son, H.	1,448	4.0	72.4
E. S. Engle & Son, H.	1,647	4.0	82.4
E. S. Engle & Son, H.	1,428	3.1	55.4
E. S. Engle & Son, H.	1,874	3.5	81.9
E. S. Engle & Son, H.	1,740	3.5	76.1
E. S. Engle & Son, H.	1,437	3.6	64.6
Joe Pryor, H.	1,164	3.8	55.2
J. A. Engle, H.	1,216	4.3	65.2
J. A. Engle, H.	1,119	3.6	50.4

Seventy-two cows in the association produced more than forty pounds of butter in the thirty-day period ending January 30. J. R. Collins, whose name does not appear in the above list, had one cow which produced only a fraction of a found under fifty for the period. Almah Smith likewise had one cow which was only a fraction under the fifty-pound mark and two others above forty pounds.

Few investments pay better than money put into feed for good milk cows. The man who has sold the product of a good milk cow this winter has been well paid for his trouble over and above the cost of feed.

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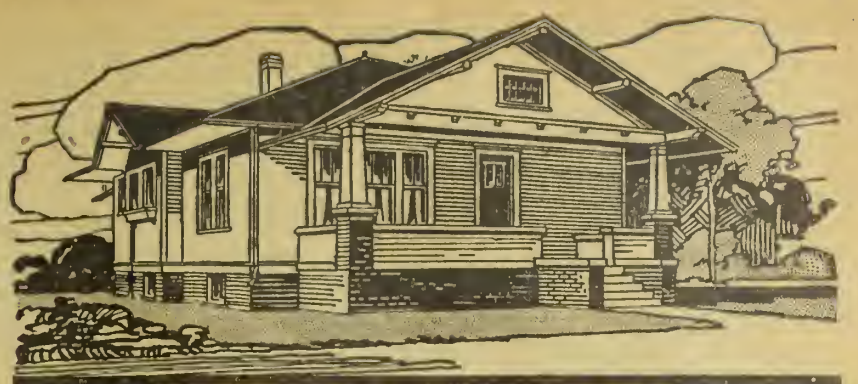

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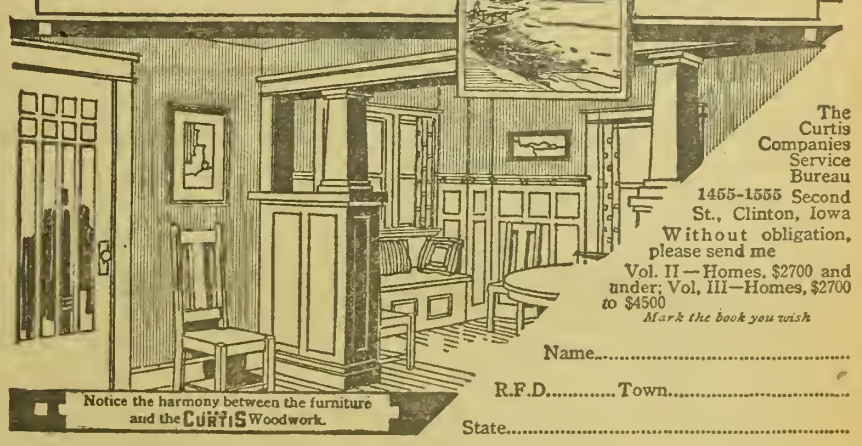

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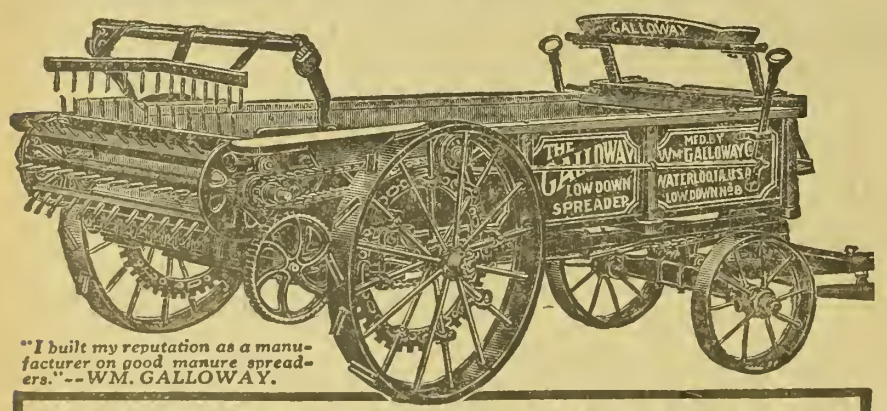

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Compare big, clumsy, ponderous, old-fashioned spreaders, which sell for more money, to this modern, down-to-date, patent covered Galloway 1917 Model low down No. 8 spreader (or to my popular No. 1A and No. 5 machines) with its double chain drive, roller feed, endless apron, and, above all, its light draft, and it will prove to you that its down-to-the-minute scientific construction, patented, exclusive improvements and features put it in a class by itself! And remember that it is sold to you guaranteed to give you satisfaction by Galloway himself—that it is not a horse-killer, that it does the same amount of spreading with two horses that others do with three and even four, and that the Galloway takes less actual horse power than any other so-called two-horse spreader on the market. My book tells the whole story. I want you to get it.

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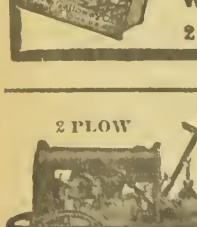

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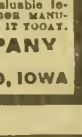

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Kansas Farmer Dairy Club

Keep Off the Grass

WHEN the pastures begin to show green in the spring the cows look longingly through the fence at the grass which is coming to life and beginning its growth. Probably all who are milking cows are looking forward to the pasture season as the time when the heavy feed cost of winter can be reduced. Grass seems a most important part of keeping live stock of all kinds, and the better the pasture the more economically can milk be produced.

We want to warn our Dairy Club members, however, against yielding too early in the season to the lure of the pasture. It may be hard to keep cows contented when the pastures are beginning to look green. They are getting tired of dry feed and a special effort is necessary to tempt their appetites and keep them eating the winter ration a little longer. Those having silage to feed will not have much trouble. Silage is sometimes spoken of as grass in the winter time and it is true that cows do relish it even when they are getting some fresh grass. If the silage runs out at this season just between winter feeding and pasture it is almost impossible to feed so as to keep up the milk flow.

If the cows are turned on to grass too early they lose all desire for the dry feed and as the pasture does not supply enough nutrient material to keep up the milk flow, they fall off. The first grass that starts is watery and does not contain very much nutrient material. It is palatable and the cows like it so well that they refuse to eat dry feed, but it does not have the substance necessary to take the place of the winter feed. Better keep your cow off the grass until it has made a good start. It will pay better in the long run, for what she gets at first simply spoils her appetite for the dry feed and does not take its place.

Then the effect on the pasture should also be considered. Plants cannot establish themselves unless they are permitted to grow some leaves. Plants do part of their feeding through their leaves and if the first leaves that start are kept nipped down closely the plant cannot become strong and vigorous. It always injures a pasture to let stock graze it too early in the season. This is true of the prairie pasture and also of the bluegrass. The bluegrass comes on much earlier than the wild grass.

Feed is high in price and it is a great temptation to turn your cow out to pasture as soon as the grass shows green, but she will fall off in milk if turned out too soon.

Thankful for Dairy Club

How are you feeling? I suppose you are very busy. Well, I have been trying to write for a long time, but have been very busy. We run two places. They are two miles apart and we have to haul silage from one place to the other and it keeps anyone very busy to haul silage for fifty head of cattle. It is very cold here now and there is about two inches of snow on the ground.

My cow is doing good for such cold weather. She isn't giving quite forty pounds of milk a day now. I think I will pay her off when I get my February check for milk. I hope I do. If I do, I will let you know. I suppose you are as glad as I.

I think you fellows are very good to give us boys a good chance to start life. I think the banker is, too.—LESTER KINCAID, Logan County.

A Good Word for Banker and Dairy Club

My cow is doing fairly well under the conditions, as I am not feeding her very heavy now. With the increase of feed prices I have become more economical. For the past three months I have been cutting up all my hay with a feed chopper. In this way I have eliminated the waste which always occurs in feeding hay otherwise.

Through the agency of my banker, Mr. Otto Wulfekuhler, I was also enabled to buy cottonseed meal at slightly more than $1.70 a hundred.

After all, everything considered, I have found it to be a paying as well as an interesting and educational enterprise.—GEORGE H. KUHNHOFF, Leavenworth County.

The Fifty-Pound Cow

A new world's record for all breeds for butter fat production in the seven-day division was established by the pure-bred Holstein-Friesian cow, Segis Fayne Johanna 114656, in a test ending January 8, 1917. This remarkable cow produced 50.68 pounds of butter in seven consecutive days, and the official test was conducted by supervisors from the New York State Agricultural College, Ithaca, N. Y.

Segis Fayne Johanna, by her wonderful achievement, is now the most talked of cow in the world, and her sensational record marks a signal triumph in the forward march of the Holstein-Friesian breed.

She was bred by A. A. Cortelyou, of Somerville, N. J., and her present owner is Oliver Cabana, Jr., proprietor of Pine Grove Farms, Elma Center, N. Y., at which noted establishment four other world's record holders have been developed during the past six months.

The new world's record holder freshened at the age of 8 years, 2 months and 17 days. She is four-fifths white, weighs about 1,450 pounds, and is sired by King Fayne Segis 46767. Her dam is Vikina Johanna 64385, a daughter of Johanna Rue 3d's Lad and Vikina Clothilde.

The test was made under perfect conditions, absolute quiet, systematic feeding and milking, and a roomy stall constructed of clean white enameled walls.

The time is close at hand cows and pastures will be r fer on account of turning th before the grass has a good start. Because the meadow looks a little green is not a good sign that the cows can there get enough feed to maintain their bodies and keep up their milk flow. Too early and too close pasturing does much damage to the grass.

Many have been the lessons taught by silage and good alfalfa hay this winter.



SEGIS FAYNE JOHANNA—PRODUCED 50.68 POUNDS OF BUTTER IN SEVEN DAYS

Dairying Versus Beef Production

A FEW weeks ago we published a letter from J. E. Kinzer of Rooks County, in which he took the stand that the man who started in with four registered Hereford heifers, a pure-bred bull, a couple of registered yearling brood sows and a flock of hens, would in five years be ahead of the man who started with an equal number of dairy-bred heifers and the brood sows and hens.

Each type of farming requires different qualifications and conditions and we believe there are places for both. On some farms the dairy proposition might win out and on others the beef production would be more profitable.

There are many things to consider in connection with adopting any particular line of farming. We are glad to give space to a letter received from a reader who presents some of the advantages of dairy farming. The letter follows:

"I read with interest the letter by J. E. Kinzer, of Rooks County, but cannot say that I exactly agree with him on the Dairy Versus Beef question.

It is a conceded fact that if the fertility of our farms is to be maintained, grain farming must give place to live stock farming. Grain farming tends to lower the productive power of the soil while live stock farming tends to raise it.

Animals are merely machines for the transformation of grain and roughage into a form that may be used as human food. In recent years there has been considerable discussion, and the experiment stations have worked on the relative efficiency of the beef and dairy animals in making this transformation. It must be conceded that both types of farming have an important place in our agriculture.

While the preference of the individual must be taken into consideration, as well as the price of land and feeds, in determining whether beef or dairy animals will be handled, yet the man with a small farm and small capital to invest is far more apt to make a success with the dairy than with the beef animals. Statistics show that the beef animals are produced in relatively large groups—that is, on large farms or ranches—while the most of our dairy products come from small groups of animals kept on small farms—with the exception of some of the dairies near the larger cities.

Coming back to the question, "Which is the more profitable, beef or dairy farming?" we find that the evidence points strongly in favor of the latter. As land, labor, and feed increase in price, the dairy cow tends more and more to displace the beef animal as she produces human food with far greater economy. This is proven by the fact that dairy animals are kept on high priced land where the steer has failed to yield a profit.

Statistics show that between the years 1900 and 1910 the number of dairy cows in the United States increased 20 per cent while the total number of cattle actually decreased.

Because of the abnormal prices of all of the foodstuffs, it is hard to make a comparison of the profits that these two forms of agriculture will give. However, they may be compared by means of the nutrients produced by each when on full feed. The following figures are from Gilbert and Laws in the Journal of the Royal Agricultural Society of England, and show the relative economy of the steer and the dairy cow as producers of human food.

Edible nutrients produced in a week by a cow giving 30 pounds of milk daily are protein 7.67 pounds, fat 7.35 pounds, sugar 9.67 pounds, ash 1.57 pounds, the total being 26.25 pounds. The steer gaining 15 pounds a week produces 1.13 pounds of protein, 9.53 pounds of fat, no sugar, and .22 pound of ash, or a total of 10.88 pounds.

The steer making a gain of 2.1 pounds daily produced in a week 1.13 pounds of protein material while the dairy cow produced 7.67, over six times as much. While the steer has an advantage of a trifle over 2 pounds in the amount of fat produced, yet at the same time the cow produced 9.67 pounds of milk sugar against which there is no equivalent produced in the body of the steer. While the steer puts .22 pound of mineral matter in his bones, the cow puts 1.57 pounds into her milk.

At the Missouri Experiment Station the entire body of a 1,250-pound steer was analyzed. At the same station a Holstein cow produced 18,400 pounds of milk in a year. The following figures by C. H. Eckles, professor of dairy husbandry at the University of Missouri, show a comparison of the total nutrients in the body of the steer and in the cow's milk.

The 18,400 pounds of milk produced by the cow in one year contained 552 pounds of protein, 618 pounds of fat, 920 pounds of sugar, and 128 pounds of ash or mineral matter, a total of 2,218 pounds of dry matter. The balance of the 18,400 pounds is water. The body of the 1,250-pound steer contained 172 pounds of protein, 333 pounds of fat, no sugar, and 43 pounds of mineral matter—a total of 548 pounds of dry matter.

The 548 pounds of dry matter in the body of the steer included not only the edible part but also all other parts such as hide, hair, horns, bones, tendons, and internal organs. In one year this cow produced sufficient protein to build the bodies of three such steers, fat for nearly two, and mineral matter for three, in addition to 920 pounds of milk sugar which is equivalent in food value to a like weight of cane sugar.

Eckles says: "These figures show the remarkable efficiency of the dairy cow as a producer of human food. It is because of this economy of production that the dairy cow and not the steer is kept on high priced land. When land is cheap and feed abundant, the meat-producing animals are kept, but as the land becomes higher in value and feed more expensive, the farmer turns to the dairy cow."

Bearing in mind what has been said about the economy of production, let us consider some other reasons why the small farmer will make more money with dairy cows than with beef animals.

The beef cow is kept solely for her calf and if this is lost she gives no returns for the year's keep. On the other hand the dairy cow is kept both for her calf and for the milk she produces. Thus there is less chance of losing a year's profit from her than from the beef cow. The beef cow is not as sure a breeder as the dairy cow.

The soil on dairy farms is more productive than the soil on the farms where beef cattle are produced. This may be explained by the fact that on the latter the cattle are fed in an open lot and little manure is hauled out upon the fields. Also there would be less fertility sold off the dairy farm, for in 2,000 pounds of butter there is only 66 cents' worth of fertilizing material, mostly casein.

Taking the two farms with equal numbers of chickens, cattle, and hogs, there would be a marked difference in the amount of concentrates that would have to be purchased to supplement the grain produced on the farm. This is due to the fact that the dairy cow has a larger capacity than has the beef animal and can handle more of a roughage like alfalfa which is high in protein. This alfalfa will supply the protein that is needed to balance the ration, but the steer requires his feed in a more concentrated form, especially in the last period of fattening.

On the farms where the beef animals were produced it would be necessary to purchase high priced protein supplements for the hogs, while on the dairy farm this money would be saved as there would be an abundance of skim milk to take the place of the tankage or other expensive protein feed. Indiana Bulletin No. 137 gives the results of a feeding trial at that station. A comparison was made of skim milk, tankage, and wheat middlings as supplements for hogs. The skim milk produced the most rapid and most economical gains. Corn, alfalfa pasture, and skim milk is a hard combination to beat when it comes to producing pork economically.

Where chickens are kept — and they are kept on every farm — the winter and early spring egg production can be materially increased by a liberal feeding of skim milk. There is no better feed known for little chicks than sour milk. It improves their digestion, makes them more vigorous, and lowers the percentage of mortality. In growth they are more uniform than the chickens that are not fed milk, and when put on the market the milk-fed chickens will sell better than any others.—W. HOUGHTON, Riley County.

Good treatment will many times conquer the kicking cow or the one with a bad disposition which is shown in other ways. Bad treatment is sure to ruin the best cow.

MOLINE ADRIANCE MOWER

60 years without a peer



It Can't be Clogged

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High wheels, exposed driving pawls and ratchets, long wearing, easy running gears, automatic spring draft, correct balance and easy riding are features you'll appreciate.

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MOLINE PLOW CO., MOLINE, ILL. DEPT. 19

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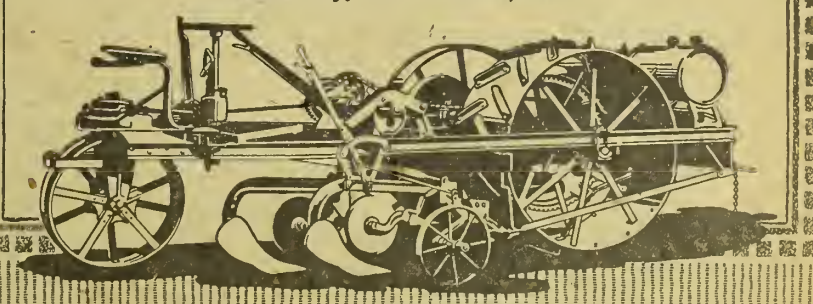

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12x35	90	150	197
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Thousands in use. None better. Fully warranted. Agents wanted.



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Those who located in Central Kansas 20 years ago are the big farmers today. Their land has made them independent.

Your chance *now* is in the five Southwestern Kansas counties adjacent to the Santa Fe's new line, where good land is still cheap.

With railroad facilities this country is developing fast. Farmers are making good profits on small investments. It is the place today for the man of moderate means.

Wheat, oats, barley, speltz, kaffir and broom corn, milo and feterita grow abundantly in the Southwest counties referred to. Chickens, hogs, dairy cows and beef cattle increase your profits.

You can get 160 acres for $200 to $300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6 per cent—price $10 to $15 an acre.

Write for our book of letters from farmers who are making good there now, also illustrated folder with particulars of our easy-purchase contract. Address

E. T. Cartlidge,
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$24 Buys the New Butterfly Jr. No. 2. Lightrunning, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 95 quarts per hour. Made also in five larger sizes up to No. 8 shown here.

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IMPROVE BREEDING HERD

THE present conditions in the cattle business are such as to greatly stimulate the building up of breeding herds. Everywhere cows are in demand at high prices.

It requires considerable nerve to cull out and sell undesirable cows and heifers from a herd under present conditions, but some of our stock men are doing it in spite of the unusual prospects ahead for beef production. These culls in all probability will be picked up at the central market by someone with less discrimination and used to start new herds.

Quality will count more and more in the live stock business, and the men with the nerve and good judgment to keep improving their herds will profit in the long run. The market stock from the best herds will be of better quality and will bring better prices. It will cost no more to feed and finish this class of animals for market than the inferior ones.

The subject of improving live stock was discussed at considerable length at the conference held in Fredonia by the Southeast Kansas Live Stock Association. In connection with this program the writer gave an address on community live stock improvement, and following this talk we were told how two farmers in Crawford County had owned and used a high class pure-bred bull in partnership for several years and during that time had made not the slightest improvement in their breeding herds. The man telling of this incident was a good stock man and he was lamenting the fact that these men had failed to realize on the value of this pure-bred sire in improving their herds. It was evident that the dollar close to the eye had so obscured the future that they had sold every good heifer produced and now bad only their herd of old cows.

There is no way whereby improvement in a breeding herd can be brought about more rapidly and economically than by using a good pure-bred bull of good individuality and breeding. Farmers can co-operate in owning such sire just as these two men did, and by using good judgment in selecting the females saved for breeding purposes, bring about a remarkable improvement in their cattle and at a cost per man so low that we do not see how anyone can consider using a "scrub" sire.

The secret of quickly building up a valuable herd of high quality is the use of good pure-bred sires. The sire is half the herd in any case, and in the beginning his influence may be counted as considerably more than half if he is good enough. A single cross with a really high class sire will make more progress in one generation than can be brought about in several generations where ordinary animals are used.

If you cannot afford to do it alone, get acquainted with your neighbors and work out a plan whereby it can be done co-operatively. The first step in every co-operative enterprise is the bringing about of perfect confidence between the parties wishing to co-operate. A group of men cannot co-operate successfully until they know and understand each other thoroughly. Many co-operative schemes fail because this fact is not recognized.

Permanent Hog Houses

One of the pictures is of a makeshift shed where fall pigs were sheltered—as well as could be expected under the conditions. In the spring they showed but very little growth. The other picture is of a well built permanent house where several litters were nicely housed during the winter and consequently made a good growth. These pictures were taken in January, when the thermometer was hovering around twenty degrees below zero. The pigs with the poor shelter used their feed for heat, and then couldn't keep warm; the others show for themselves.

We are fast coming to realize that good housing conditions for stock mean money in our pockets. We are building now for permanency. The old or first buildings are fast being replaced by those of a permanent nature.

The tile hog house was built in Iowa—the home of permanent farm structures. It was the intention of the builder to keep down the expense of a large building and at the same time provide warm quarters especially for farrowing time.

This building is forty-eight feet by eight feet, inside measurement, and provides space for six pens each eight feet square. In this case tile walls were used for partitions, although the writer prefers gates which can be removed so as to make larger pens if so desired. The walls are constructed of hollow building tile, which are laid so as to make an eight-inch double air space wall. The height of this building is four feet to the plate, and about seven



MAKESHIFT HOGHOUSE

to the ridge. On the south side of the roof two storm sash were placed directly over each pen. These windows provide ample sunlight for the pigs. The sash were placed flush with the sheathing and tin flashing was then nailed over the joints. Asbestos shingles were used so as to make the building a permanent structure.

On the north side of the roof a trap door was made for each pen. Through these trap doors the sows are taken care of without having to go into the pen.



PERMANENT HOUSE SAVES MONEY IN LONG RUN

This allows the sows to be kept more quiet during farrowing time than if an alley way extends through the pen.

Ventilation is secured by placing the top sheathing board about four inches from the ridge, then placing a six-inch board, supported by cleats, over this opening.

The cost of this building need not be great. Second quality porous tile can be purchased for the floor. These tile when laid on a sand cushion and covered with an inch of cement, make a warm as well as a durable floor. The cost of this building, including foundation, floor, and all necessary material and labor, would be approximately $220. This price would vary somewhat, owing to conditions such as quality of blocks and roofing chosen and cost of labor in each particular locality.

Can you afford to put up with the old shelter when a permanent house can be had at such a reasonable price?—Bert R. Mullen.

The agricultural agent idea is fast gaining favor with thinking people. The best way to draw the right conclusions regarding the real worth of the agricultural agent is to make inquiry of the most successful farmers in those counties and districts having agents.



Save Your Thresh Bill

YOU can do it with a Red River Special threshing outfit. Good work without breakdowns. The Red River Special saves the farmer's grain. *Beats it out.* "Saved enough more of our grain over other machines to pay our thresh bills," say Andrew Scott and 17 other farmers of Kerwin, Kansas. Buy or hire a

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Beating shakers toss and beat the straw just as you would by hand. 90 per cent of the grain is separated at the big cylinder—by "the Man Behind the Gun." Low upkeep and repair cost. Frames made of seasoned hard maple lumber. Steel used where iron lacks strength. Tell your thresherman to get a Red River Special. It means better threshing and less lost time for you. Or write and learn about our "Junior" machine. Small enough to make threshing your own grain pay. *Write for the Red River Special Paper.*

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In Continuous Business Since 1848
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Fifty thousand are now in use on the finest farms in America.

If you are going to buy a silo—this satisfactory service rendered everywhere—should be of special interest to you.

The cost of all materials is advancing like the price of wheat and corn.

Why not save money by contracting for your silo now. It undoubtedly will cost you more next spring or summer.

Let us send you our proposition—to contract now for your silo and deliver it later.

We still have openings for a limited number of farmer agents.

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Your Choice of 16 New Automobiles

Some one is going to receive from me within a short time $1000 in cash to apply on his choice of the following 1917 automobiles:

Studebaker 4	Elcar 4	Allen 4
Hupmobile 4	Grant 6	Reo 4
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You may be that fortunate person. Write today for free booklet containing specifications of all above named cars and details of this unusual offer. A post card will do. Just say: "Send me your auto booklet and particulars of your offer. *I am interested.*"

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113 Success Bldg., Des Moines, Iowa



PLANT SOME EARLY CORN

WE HAVE always advocated the growing of a few acres of early corn for late summer and early fall feeding. No matter what the season may be some corn to feed a few weeks in advance of the main crop is most acceptable. A few acres of early corn should prove highly profitable this season, since the price of corn will probably continue high until the next crop is ready for market.

In a recent issue of the Kansas Industrialist. C. C. Cunningham who looks after the cooperative experiments over the state points out that an early variety planted as soon as conditions will permit will produce corn from three to four weeks sooner than the larger varieties ordinarily grown. The early variety may not be as productive as the ones usually grown, but the difference between the July and August and the October and November price of corn will probably more than offset a considerable difference in yield.

Results of experiments show that varieties that mature in 100 to 105 days and grow to a height of six to seven feet often yield almost as well as the larger varieties, while the small 90 day varieties are not very productive.

Early varieties of corn must necessarily be grown in western Kansas because of the short season and low annual rainfall. They are hardy, vigorous growers and are excellent early varieties for growing in eastern Kansas.

Unfortunately, little corn was produced in western Kansas in 1916 and seed cannot be obtained from that source. A limited amount of early corn was grown in eastern Kansas, but not in sufficient quantities to supply the demand for seed. Early varieties of corn will have to be introduced from the northern states. East central Nebraska is perhaps the best locality from which to obtain seed of early varieties of corn for growing in eastern Kansas, since conditions for the two states are somewhat similar. Iowa is perhaps the next best source of early corn.

Care should be taken to secure seed of good vitality, cautions Professor Cunningham. Because of early frost, much of the corn in these states failed to mature properly.

Because of the small size of the stalks, early corn should be planted somewhat thicker than the large varieties. The following varieties are suitable ones for growing in Kansas: Freed's White Dent, Hogue's Yellow Dent, Twentieth Century Yellow Dent, early strains of Iowa Silvermine, Pride of the North, and most varieties ordinarily grown in Central and Northern Nebraska and Northern Iowa.

Home grown seed or seed produced under conditions similar to those under which it will be grown should be obtained if possible, as acclimated seed usually outyields that introduced from distant sources.

Stock Yards Boost Pig Club

The Wichita Union Stock Yards Company is offering eight additional prizes to boys in the State Pig Clubs. The Wichita packing companies also offer to give a cent a pound above the market price to each boy for the best hogs, up to 100 boys who take advantage of this offer and sell their hogs to either of the two Wichita packing companies.

This chance to work for additional prizes and secure a cent a pound above market prices for the hogs grown should appeal to the boys in the territory tributary to Wichita. J. C. Holmes, who has charge of the cattle and hog feeding demonstrations at the Wichita Stock Yards, states that the company is cooperating with Otis E. Hall, who is the state club leader for the agricultural college and the Federal Department of Agriculture. All who take advantage of the above offer, enrolling for the stock yards prizes, must first become members of the pig clubs organized under Mr. Hall's leadership and must conform to all the rules of these state clubs.

The eight cash prizes offered amount to $59, the first being $15 for the best hog shipped to the Wichita market by one of the members. Mr. Holmes is offering to help boys secure pigs and states that the Stock Yards Company will loan boys money to buy pigs where necessary. Send in your applications to Mr. Holmes at the Wichita Stock Yards, and he will furnish full instructions. Remember you must also become a member of one of the State Pig Clubs under Mr. Hall's leadership.

Spraying Schedule

The following spraying schedule should meet the conditions in most parts of the state this season. It has been worked out by F. S. Merrill of the horticultural department of the agricultural college. Cut it out and paste it up somewhere so it can be referred to quickly.

The cluster cup spray should be applied when the blossom buds are just beginning to show pink. This spray should be composed of a 3:4:50 Bordeaux mixture to which has been added two pounds of arsenate of lead. This is a most efficient spray for controlling scab and curculio.

The petal-fall spray should be applied when two-thirds of the petals have fallen and should be composed of 1½ gallons of concentrated lime sulphur and two pounds of arsenate of lead. This is the most valuable spray for controlling the codling moth. Particular care should be taken to force the spray into the calyx cup of the apple.

The blotch spray should be applied fourteen to eighteen days after the petal-fall spray. This spray should be composed of 3:4:50 Bordeaux and two pounds of arsenate of lead. This is the most effective spray for controlling the apple blotch.

The fourth spray should be applied two or three weeks after the blotch spray and should be composed of the same material as the blotch spray. It should be applied to trees that are particularly susceptible to blotch or to orchards that have been seriously affected with this disease for several years.

The second brood codling moth spray should be applied eight or ten weeks after the petal-fall spray. It should be composed of 3:4:50 Bordeaux mixture and two pounds of arsenate of lead.

The application of a sixth spray may be necessary, under conditions such as were present last year, in order to control a late brood of codling moth. It should be composed of two pounds of arsenate of lead to fifty gallons of water.

W. A. Boys, agricultural agent working along the Union Pacific Railroad in Western Kansas, reports that the Red Amber and Orange varieties of cane have given the best results for the greater part of the district. For the extreme western portion, Red Amber will usually prove the best. Freed's Sorgo is a good variety also for this section, as it is the earliest variety included in the tests. It is of more value for grain than forage and is a good "safety" crop for any part of the district, as it will mature in extremely dry years when others will not.

When the soft horse is started at heavy work in the spring, the shoulders should be given a good deal of care. The horse will need frequent breathing spells and it is a good plan to lift the collar during these resting periods so as to give the shoulder a chance to cool and to dry. When it becomes moist from sweat, it will become sore much quicker than if dry. The collar should be kept smooth. The crusts of dirt that accumulate should be scraped off. Care should be used in making sure that the horse has a collar that is fitted to its shoulders. A misfit collar is apt to lead to shoulder trouble.

Mrs. Mabel Pomeroy, chaplain of the Kansas State Grange, writes that National Master Oliver Wilson will spend a week in Kansas during the coming summer—probably the period from July 23 to July 30. Plans are being made for him to speak at grange picnics and field meetings every day during his visit. This visit of the national master will be of great interest to all Patrons of Husbandry in the state. It is a rare treat to hear Mr. Wilson. The places and dates where he will speak will be given later.



"The Old Lines"

EVERYBODY speaks of them as "the old lines," many perhaps without realizing how thoroughly new and up to date are all these **Champion, Deering, McCormick, Milwaukee, Osborne** and **Plano** mowers, rakes and tedders. What really good improvement was ever made in haying machines that did not show itself first on one of these machines? Where can you find mowers, rakes, or tedders that need so little adjustment, so few repairs, or that are so easy to repair when they do need it? Nowhere. These old standard machines, known to farmers for three quarters of a century, can still be depended upon to get in all the hay from any field and to make the work light for the farmer.

When you need a mower, rake, or tedder, see the local dealers who handle the **International Harvester** lines. We can remind you here that our machines have always done good work, but the dealer can show you why they still do it. You will find that the local dealer has just the size and style you need. Buy from him.

International Harvester Company of America
(Incorporated)
CHICAGO U S A
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ARE YOUR CROPS PROTECTED?

You know the deadly work of hail. Within a few hours all your crops can be destroyed. Your income is gone. Your labor is wasted.

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15c each
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Canada Offers 160 Acres Land Free to Farm Hands

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The demand for farm labor in Canada is so great that as an inducement to secure at once the necessary help required, Canada will give one hundred and sixty acres of land free as a homestead and allow the farm laborer, who files on land, to apply the time he is working for other farmers as residence duties the same as if he had lived on the land he had applied for. This offer made only to men working on Canadian farms for at least six months during 1917, thus reducing the necessity of actual residence to two years instead of three years, as under usual conditions. This appeal for farm help is in no way connected with enlistment for military service but solely to secure farm laborers to increase agricultural output. A wonderful opportunity to earn good wages while securing a farm. Canadian Government will pay all fare over one cent per mile from St. Paul and Duluth to Canadian destination. Information as to low railway rates, etc., may be had on application to

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is all it costs to have this light. See one at your dealers or order our free catalog showing over 100 different styles of lamps, lanterns, wall fixtures, and lighting plants. Agents wanted everywhere.

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contains a vast amount of interesting and valuable information covering that great state.

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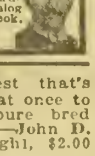
Ask now! This beautiful 96-page four-color book describes 1917 varieties vegetables and flowers; handsomely illustrated; beautiful home grounds, flower and vegetable gardens, landscaping, shrubbery, orchards, farms. A dictionary on gardening! Flower lover's delight! Berry grower's book! An orchardist's manual! Most wonderful gardening guide catalog ever published. Better than our famous 1916 book. Don't miss it. Ask today. A postal gets it.



Galloway Bros. & Co., DJ218 Waterloo, Ia.

SEED CORN For the best that's raised send at once to the Lawndale Seed Farm, for pure bred seed, also garden and field seeds.—John D. Ziller, Hiawatha, Kan. Prices right, $2.00 per bushel.

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We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

What is it that counts here? Only that which is truly given, only that which is done for the love of doing it, only those plans in which the welfare of others is the master thought; only those labors in which the sacrifice is greater than the reward, only those gifts in which the giver forgets himself—these are the things that the King never forgets.—HENRY VAN DYKE in The Mansion.

A few choice flowers planted where they can be seen from the kitchen window, will give the busy housewife much more pleasure than will the beds that can be seen only from the front porch or front yard.

Setting Colors in Wash Goods

Mrs. R. T. W., Marshall County, asks for help in setting colors in wash materials.

Salt will set browns, blacks, and pinks. Definite proportions cannot be given, but two cupfuls of salt to one gallon of cold water will be enough in most cases. If this amount does not stop the bleeding of the color, add more until it is stopped.

One-half cupful of vinegar to one gallon of water will set blues.

One tablespoonful of sugar of lead to one gallon of water will set lavenders. The sugar of lead is poisonous to the mouth and for this reason should be used with great care.

Has the district school received its reasonable share of your attention the past year? Think of it as an investment in useful citizenship and then check up the school equipment and see whether or not you have a right to expect a great deal of the children who spend so much of their time there. During vacation is the ideal time to make repairs and improvements. True, it is the busiest time on the farm, but no work is more important than that of making provision for the best educational advantages possible for the boys and girls who will so soon be ruling the affairs of our nation.

Summer Flowering Bulbs

Many of us do not distinguish between the summer flowering bulbs and other summer blooming plants. These bulbs have many advantages over bedding plants or seedling annuals, and some should be in every collection.

I plant bulbs largely because they require so much less work. It is easy to weed a bulb bed, for the plants are large enough so the hand hoe can be freely used. I like poppies, but I do not like to weed a poppy bed. Petunias and rose moss have such small seedlings it is very hard to keep them free from weeds. Nearly all the annuals have the same fault, and this is one of the reasons why I prefer to plant bulbs.

Bulbs start the plants so sturdily that they are more certain to bloom than are most other plants. Gladioli will make a grand display, and by planting at intervals there will be blooms all summer. Few flowers are nicer for cutting, as the stems are long, the flowers large and showy, and yet they are delicate in color. Florists grow these by the thousands for cut flowers.

Dahlias can be grown from seeds or from bulbs, but the bulbs will bloom sooner than the seedlings, and the plant will be much larger, producing a correspondingly larger number of flowers. The bulbs can be had in all the finest double sorts, while a large percentage of the seedlings will come single.

Tube roses require a long season to come into bloom, and many of the bulbs will not bloom until they are potted. There are both double and single varieties of these, but I like the single and they are more certain to open up well.

There are many different kinds of lilies, and these will make a good collection. They should be planted in the fall, yet can be planted in the spring. Lilies have two sets of roots, and the perennial roots do not die during the winter, but remain fleshy. The annual roots come out above the bulbs along the blooming stock, and when the stalk dies after the blooming season these die also. It is best not to move lilies for several years, until they form a clump so large that they crowd. The best three are the Tiger lily, the Madonna or Candidum lily, and the Speciosum lily. The Speciosums are pure white, and white background with varying sized stripes of red down the middle of the petals. The Candidum is pure white, and the Tiger lily is orange spotted with dark brown. Both double and single Tiger lilies are beautiful, and it is the most hardy and certain lily that you can grow.

The Maderia vine is one of the prettiest and most rapid growing vines we have. It is produced from bulbs very easily kept over winter in any cellar. This is one of the cleanest vines we can grow, and insects do not bother it.

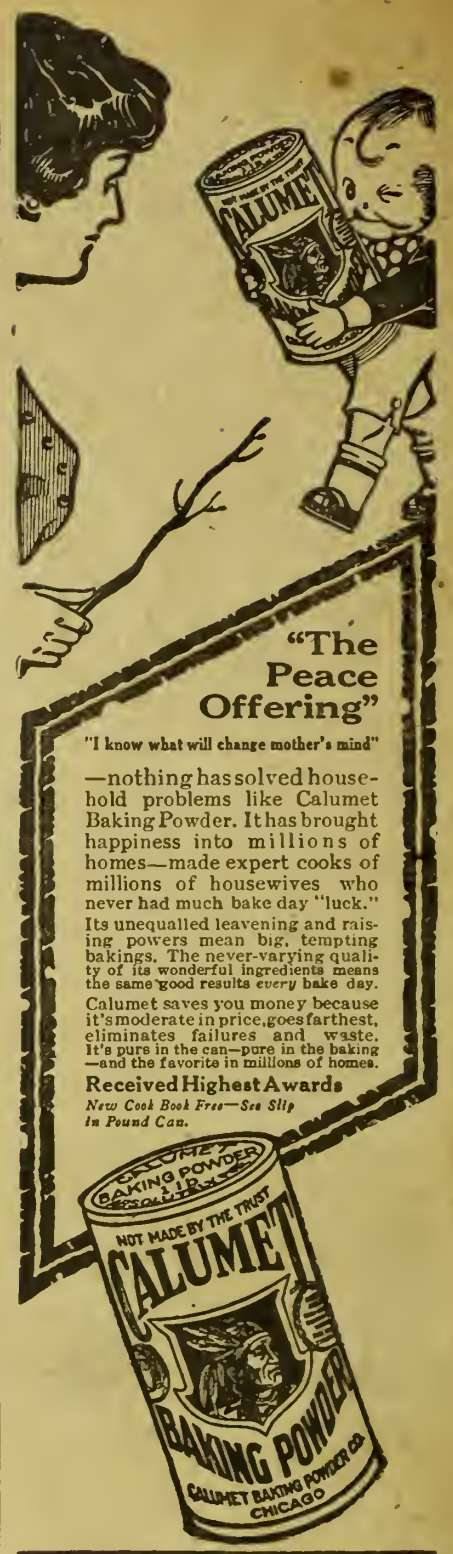
Most of the summer flowering bulbs are not costly, and all of those named, except the lilies, can be taken up and kept over winter easily. The canna is another summer flowering plant grown from bulbs, and one that is very popular. Cannas are not quite so easily kept over winter, but they can be kept if dug with all the soil possible on their roots, and stored in a warm cellar.—L. H. COBB.

As a rule, most little girls look prettier in plain, neat dresses than in those which look overdone. The sweet, childish face should be the feature of attraction rather than the clothes worn. These simple dresses are more durable, too, and will look better much longer than will the ones with the frills. The better ginghams will outwear the cheaper materials and will not fade so easily if washed carefully. Plain white dresses of durable materials are practical because they are more easily washed than colored clothes, as the scalding takes the place of much of the rubbing required on the colored dresses. Plain, simple hats that have nothing on them that will fade or be easily spoiled, are also more becoming than the fancier ones.

Plant a tree of the right variety and plant it well, and you will leave behind you a monument worth while. Even though you do not expect to always live where you are at present, you owe it to those who will follow you to help them beautify their future home. The time for tree planting yet this spring is short and you should decide this matter at once. If you are at a loss to know the best kind of tree to plant or the proper way to plant, a letter addressed to the State Forester at Manhattan will bring you prompt and valuable help.

One of the best spring tonic prescriptions is more vegetables and fruits and less meat. If the winter supply of canned or stored vegetables has been used, it would be better to sell a piece of the pork of which there is still plenty and buy some vegetables with the money, than to make the meat take the place of vegetables in the diet. Cabbage, carrots and parsnips can be bought at most stores and these will be better for the system than will too much meat. Dried or canned fruits are better desserts at this time of the year than is rich pastry. The system needs a change from the heavy winter diet and will be better off if this law of Nature is obeyed.

Thought and care put into the selection of the family's water supply is a cheap form of very good health insurance. And do not stop with making sure that your own well does not receive impure drainage, but look into the conditions surrounding the school well and the one at the church. One drink from an impure well may cost a life, which should be enough to make us interested in the public water supply as well as in the one affecting our own family.



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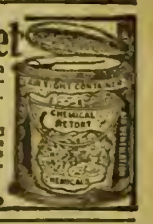

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Exercise For Little Chicks

EXERCISE is essential in the proper development of the chick. When chicks are hatched late in the season they will get all the exercise necessary for healthy growth by scratching for bugs, worms, and small green shoots. When they are hatched early it is often impossible to allow them to run outdoors. For this reason some means must be provided whereby the chicks will have the necessary exercise.

All grain should be scattered in a shallow litter of chaff or alfalfa leaves. This will induce scratching. Another method which has proved highly satisfactory is the use of "onion worms." Slice an onion crosswise. If the slices are thin enough, long pieces of onion somewhat resembling worms will result. The tussle over this improvised angle worm will furnish the much needed exercise and the onion will also serve as an appetizer.—N. L. HARRIS.

Feeding Little Chicks

The young chickens must be fed liberally on nutritious easily digestible feeds that supply all the materials necessary for building up their bodies. The following practical suggestions are from the observations and experiences of the poultrymen connected with the Federal Department of Agriculture.

These and others who have been successful in raising chickens agree that young chicks may be fed any time after they are thirty-six to forty-eight hours old, whether they are with a hen or in a brooder. The first feed may contain either hard-boiled eggs, johnnycake, stale bread, pinhead oatmeal, or rolled oats, which feeds or combinations may be used with good results. Mashes mixed with milk are of considerable value in giving the chicks a good start in life, but the mixtures should be fed in a crumbly mass and not in a sloppy condition. After the chicks are two months old they may be fed four times a day, and after three months old three times a day, with good results. Johnnycake composed of the following ingredients in the proportions named is a very good feed for young chicks: One dozen infertile eggs, or one pound of sifted beef scrap to ten pounds of corn meal; add enough milk to make a pasty mash, one tablespoonful of baking soda, and bake thoroughly. Dry bread crumbs may be mixed with hard-boiled eggs, making about one-fourth of the mixture eggs, and rolled oats may be used in place of the bread crumbs. Feed the bread crumbs, rolled oats, or johnnycake mixture five times a day for the first week; then gradually substitute for one or two feeds of the mixture finely cracked grains of equal parts by weight of cracked wheat, finely cracked corn, and pinhead oatmeal or hulled oats, to which about 5 per cent of cracked peas or broken rice and 2 per cent of charcoal, millet, or rape seed may be added. A commercial chick feed may be substituted if desired. The above-mentioned ration can be fed until the chicks are two weeks old, at which time they should be placed on grain and a dry or wet mash mixture.

After the chicks are ten days old, a good growing mash composed of two parts by weight of bran, two parts middlings, one part cornmeal, one part low-grade wheat flour or red-dog flour, and 10 per cent sifted beef scrap may be placed in a hopper and left before them at all times. The mash may be fed either wet or dry; if wet, only enough moisture (either milk or water) should be added to make the feed crumbly, but in no sense sloppy. When this growing mash or mixture is not used, a hopper containing bran should be accessible to the chicks at all times.

When one has only a few chicks it is less trouble to purchase the prepared chick feeds, but if a considerable number are reared it is sometimes cheaper to buy the finely cracked grains and mix them together. Many chick feeds contain a large quantity of grit and may contain grains of poor quality, so that they should be carefully examined and the quality guaranteed before they are purchased.

As soon as the chicks will eat the whole wheat, cracked corn, and other grains, the small-sized chick feed can be eliminated. In addition to the above-mentioned feeds the chickens' growth can be hastened if they are given sour milk, skim milk, or buttermilk to drink. Growing chicks kept on a good range may be given all their feed in a hopper. Mix two parts by weight of cracked corn with one part of wheat, or equal parts of cracked corn, wheat, and oats in one hopper and the dry mash for chicks in another. The beef scrap may be left out of the dry mash and fed in a separate hopper so that the chicks can eat all of this feed they desire. If the beef scrap is to be fed separately, it is advisable to wait until the chicks are ten days old, although many poultrymen put the beef scrap before the young chicks at the start without bad results. Chicks confined to small yards should always be supplied with green feed such as lettuce, sprouted oats, alfalfa, or clover, but the best place to raise chicks successfully is on a good range where no extra green feed is required. Fine charcoal, grit, and oyster shell should be kept before the chicks at all times. Cracked or ground bone may be fed if the chicks are kept in small bare yards, but the latter feed is not necessary for chicks that have a good range.

Guineas Profitable

Raising guinea fowls in Kansas is profitable, according to N. L. Harris, superintendent of the Kansas Agricultural College poultry farm.

"Large farms are now being established where guineas are raised for meat purposes," said Mr. Harris. "The eggs are small and consequently are of little value commercially.

"Guinea fowls are easy to raise. They are noisy and good fighters and are not subject to the attacks of hawks.

"There is a good market for guinea fowls in Kansas City. The meat of the young guineas resembles that of prairie chickens and wild ducks. The clubs and stylish cafes use the guineas as a substitute for ducks, prairie chickens, quail, and other game which the laws make it impossible for them to secure."

The poultry speakers on the Santa Fe Dairy and Poultry Special all emphasized the importance of early hatches in order to have early maturing fowls and early layers. April is the month most favorable for hatching chicks. Such breeds as the Plymouth Rock, Wyandotte, Rhode Island Red, Orpington, etc., require six to seven months' time in which to mature and start producing eggs. Chicks hatched from these breeds now should be laying by December 1. At this time most of the hens are idle—molting or resting—and fresh eggs are very scarce. Prices rule high, and it is the early layer that makes the profit.

As soon as possible after chicks have been placed in the brooder they should be allowed a small run on the ground. The first sense developed in a baby chick is that of location. Once it learns where the source of heat is, it will return as soon as it becomes chilled.

The most critical period in the life of a baby chick is the first four days. Many of the fatalities at this time can be traced directly to the condition of the breeding stock. An overfat hen is not in a condition to produce a strong, vigorous germ. Neither can good results be expected from hens confined in small houses and runs.

Tells Why Chicks Die

E. J. Reefer, poultry expert, of 463 Reefer Bldg., Kansas City, Mo., is giving away free a new book which tells of a simple home solution that raises 98 per cent of all chicks hatched and cures white diarrhea over night. All poultry raisers should write for this valuable free book.—[Adv.]

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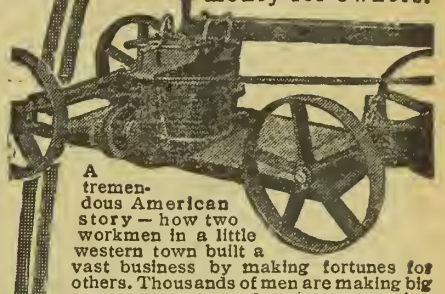

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HOLSTEIN CALVES — TEN HEIFERS and two bulls 15-16ths pure, 4 to 6 weeks old, $18 each, crated for shipment. Also one pure-bred heifer, three months old, $75. These calves are nicely marked. Four Way Farm, Whitewater, Wis.

MISCELLANEOUS.

BOG SPAVIN CURED BY MAIL. SEND $1 for treatment. Money refunded if it fails. Dr. B. Parker, Boaz, Ky.

FOR SALE — 16-HORSEPOWER GASOline engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost $480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

FOR EXCHANGE — THRESHING MAchine outfit. Engine, separator and tank wagon used little, A-1 perfect running condition. Cost new three thousand dollars. Will take one thousand dollars and accept second-hand auto as part payment. Write Whan Trading Co., Marysville, Kansas.

SITUATION WANTED.

MARRIED MAN WANTS WORK ON farm by month or on shares. H. W. Hall, 1321 Logan St., North Topeka, Kansas.

HEDGE POSTS.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

FOR SALE—FIFTY THOUSAND OSAGE hedge posts. H. W. Porth, Winfield, Kan.

FARM AND HERD.

Segrist & Stevenson, of Holton, Kansas, owners of one of the good Holstein herds in Kansas, report their herd making a good record this year. Lady May Hilton, a 7-year-old cow in their herd, has just completed a seven-day record of 26.29 pounds butter and 460 pounds milk. She is of the DeKol strain and is the mother of their herd sire. This cow and four half sisters have been consigned to the F. J. Searle sale.

S. E. Smith, of Lyons, Kansas, owner of one of the good herds of registered Hampshire hogs in Kansas, reports his herd doing fine. Mr. Smith has found the Hampshires a very profitable farm hog. The blood lines of his herd are the best of the breed and at this time he has a very fine lot of youngsters, farrowed in October, that are well grown out and extra well belted.

The first of the American Aberdeen-Angus Association's annual spring bull shows will be held at St. Joseph, Mo., April 24. Seventy-five bulls and eighteen cows and heifers have been catalogued for the St. Joseph sale. The consignments to this sale are from the herds of W. A. Berg, Omer Catterson, E. A. Cobb & Son, Davis Bros., E. T. Denton & Sons, William F. Flechner, Giffin & Harden, William Gubser, Orville Holman, W. A. Holt, J. M. Jones, Phillip Keller Jr., C. C. Kimbrell & Son, Jesse Lovitt & Son, Grover C. Moritz, William Palmer, Robenstine & Millsap, John Seller, J. S. Turner and A. D. Wilcox. All of the animals in the sale will be tested and can be shipped to any state. Four hundred head of bulls have been catalogued for the series of sales to be held at St. Joseph, Mo.; Omaha, Neb.; Sioux City, Iowa; East St. Louis, Ill.; Chicago, Ill., and Rochelle, Ill., April 24 to May 4 inclusive.

Inquiries for catalogs indicate that the Iowa Holstein Breeder's sale to be held at Waterloo, Iowa, April 18, will be one of the big events of this season in Holstein circles. The ninety head of Holsteins catalogued for this sale were selected from Iowa's best herds and the entire offering will be in the class of Holsteins that produce profits.

E. L. Stunkel, of Peck, Kansas, has made a success with his herd of Shorthorn cattle. The herd was started seventeen years ago and now numbers more than a hundred head. A number of very high class herd bulls have been used in this herd, among them Victor Orange, Star Goods, Orange Marshall, Cumberland Diamond now stands at the head of the herd, assisted by Marshall Goods, a very fine roan two-year-old by Star Goods and out of Miss Lady Bell by Marie Marshall. The hundred head of breeding cows are a well bred lot and regular producers. They have been handled in a way that they have proven regular breeders and profitable to Mr. Stunkel. A feature of the herd at this time is the choice lot of young stock of both sexes.

J. B. Porter & Sons, of Mayetta, Kansas, owners of Spring Hill Dairy Farm and one of the very high class herds of imported and American-bred Jersey cattle in this state, report their herd making a good record this year. Twelve of the sixteen calves dropped since last August are heifers. The daughters of Medal Oxford, one of the bulls used in the herd, are proving great producers. They have a fine lot of daughters of their Fern Oxford bull, although none of them are in milk. They are great prospects. They have a very choice lot of young stock in the herd at this time.

Park E. Salter, of Wichita, Kansas, owns one of the strong herds of Shorthorn cattle now in Kansas. The herd consists of over 200 head of Scotch and Scotch-topped from the very best milking families. A number of the cows have records of 13,000 pounds of milk in one year and have won premiums in the Royal Stock Show in England for butter and milk records. The stock bulls are four great herd bulls, Imported Bapton Corporal by Hoar Frost and a winner at the Royal shows in England; Imported Newton Friar, sired by Violet's Victoria and out of the great show cow, Marr Flora. Imported Newton Friar is a great show bull and a splendid sire. Rosewood Dale, by Avondale and out of Imported Rosewood 92d, is also used in the herd and has proven a great sire of profitable types of cattle. Royal Major is probably one of the most popular bulls on the farm. He is bred from a great family of milking Shorthorns in America. Both his dam and two full sisters have records of over 13,000 pounds of milk in one year. A feature of the herd at this time is the choice lot of young stock, including young bulls, bred heifers and cows with calves at foot.

H. E. Anderson, owner of Clover Valley Holstein Farm, Whitewater, Wis., and one of Wisconsin's noted herds of Holstein cattle, reports his herd making a good record. This herd is headed by Sir Pontiac Chief 100732, dam Pontiac De Nijlander, with records as follows at three and one-half years: Butter 7 days, 30.10 pounds; milk, seven days, 588.60 pounds; butter, thirty days, 123.88 pounds; milk, 30 days, 2,522.2 pounds. At four and one-half years: Butter, seven days, 32.72 pounds; milk, 613.30 pounds; butter, thirty days, 135.31 pounds; milk, 2,632.01 pounds. At five and one-half years: Butter, seven days, 35.43 pounds; milk, 750.20 pounds; butter, thirty days, 144.60 pounds; milk, 3,090.06 pounds.

H. B. Cowles, of Topeka, the well known breeder of high class Holsteins, reports recent sales of bulls from his famous Braeburn herd to go to herds in Anderson, Greenwood and Rice counties, Kansas, also to Colorado. The demand has been so heavy that he has closed out all bulls of serviceable age. However, he has a choice lot of youngsters in the herd that are coming along fine.

The Aberdeen-Angus Association announces the following dates for the annual association bull shows and sales: April 24, St. Joseph, Mo.; April 25, Omaha, Neb.; April 26, Sioux City, Iowa; May 1, East St. Louis, Ill.; May 2, Chicago, Ill.; May 3, female sale at Chicago. There will also be a sale of cows and heifers at St. Joseph, Mo., on the morning of April 24. This sale of females will be under the management of J. D. Blackwell, of Fayette, Mo., secretary of the Missouri Aberdeen-Angus Breeders' Association. The offerings that will be catalogued for this series of sales will be one of the best lots ever sold under the auspices of the association.

W. W. Otey & Son held one of the successful Duroc sales of the season at his farm Thursday, March 29. Forty head of bred sows and bred gilts sold for an average of $68.72. No records were broken nor high prices made. The top price was $137.50, paid for No. 6 in the catalog. It was a quick, snappy sale, and the prices received for the entire offering were very satisfactory to Otey & Son.

M. E. Moore & Co. of Cameron, Mo., owners of one of Missouri's most noted herds of Holstein cattle, report their herd doing well. They also report a very heavy demand for high class Holsteins. This is one of the oldest established herds in the West and for years has been famous as a herd of heavy producers. Many of the best herds in the West were started with foundation stock from this herd.

V. O. Johnson, cashier of the State Bank of Auline, Kansas, is also one of the live boosters for improved stock on Kansas farms and has good herds of Hereford cattle and Poland China hogs. His Hereford herd consists of twenty-five head of choice animals, including two very fine heifers from the R. H. Hazlett herd, one of them bred to the champion, Beau Caldo 6th, and the other to Beau Caldo 2d. His Poland China herd consists of 150 head, including 100 head of March pigs. The herd is headed by Johnson's Big Fashion by Big King by Big Ben, assisted by Fashion Price by Big Price by Long Price. The herd sows have been bought from the best herds in Missouri, Iowa and Kansas.

Real Estate For Sale

For Sale

EIGHT-ROOM HOUSE, MODERN, in Kenwood Addition. The best residence district of Topeka. Good terms. Write

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TOPEKA, - - - KANSAS

480 ACRES, this county. Near oil development. Can lease for oil. $1.50 per acre. Good pasture. $4.50 per acre. Terms. SOUTHERN REALTY CO., McAlester, Okla.

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I have good farms to trade for smaller farms and city property. Write me.
W. M. GARRISON - SALINA, KANSAS

NESS COUNTY LAND

We have some good farm land in Ness and Trego counties, Kansas, from $15 to $40 per acre. Write us for list.
FOUQUET BROTHERS LAND CO.
Ransom - - - - - Kansas

RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

BUFF ROCK COCKERELS. EGGS, $1.75, thirty. A. Olmsted, Route 1, Lawrence, Kan.

BARRED PLYMOUTH ROCKS — FARMbred beauties. Eggs for hatching, 5o each. Mrs. W. C. Bocker, Solomon, Kan.

HIGH QUALITY BARRED "RINGLETS." 100 chicks, $15. Eggs, $5. Edward Hall, Junction City, Kansas.

BARRED PLYMOUTH ROCK EGGS. $4 hundred. Valley View Poultry Farm, Concordia, Kansas.

WHITE ROCK EGGS, HALBACH strain, $1.25 per fifteen; $6 per hundred. Mrs. E. E. Merten, Clay Center, Kansas.

FINE BARRED ROCK EGGS FROM farm raised flock. $1.50 per fifteen. Mrs. J. A. Grimes, Milo, Kansas.

BARRED ROCK EGGS, FANCY STOCK, heavy laying strain, $4.25 per hundred. Earl Summa, Dept. G, Gentry, Missouri.

WHITE ROCKS, SIZE AND QUALITY, good egg strain. Eggs—fifteen, $1; fifty, $3; hundred, $5. G. M. Kretz, Clifton, Kansas.

PURE WHITE ROCK EGGS—FIFTEEN, $1; fifty, $2.25; hundred, $4. Mrs. Van Inskeep, Route 7, Manhattan, Kan.

BUFF ROCK EGGS FOR HATCHING—Thirty eggs, $2; fifty eggs, $3; hundred, $5. Joe Carson, Bliss, Oklahoma.

BUFF AND WHITE ROCK EGGS, $2.50 per fifty, $5 per hundred. Excellent show record. W. H. Beaver, St. John, Kansas.

HIGH QUALITY PURE-BRED WHITE Rock eggs, $3, fifty; $5.50 hundred, prepaid. Mrs. John Ramsey. Route 5, Ft. Scott, Kan.

WHITE ROCKS — PURE-BRED FARM range choice stock. Eggs, fifteen, 75c; 100, $4. H. F. Richter, Hillsboro, Kansas.

WHITE ROCK EGGS FOR HATCHING, 50c per setting, $3 per hundred. Arthur Aipers, St. John, Kansas.

WHITE ROCKS, FARM RAISED, PRIZE winners. Eggs, $1.25 setting; $3, fifty: $5, hundred. Mrs. Ben Miller, Newton, Kansas.

WEICHER-LAYER BARRED ROCKS — Pens, $3 to $5 setting: flock, $5 hundred. C. F. Fickel, Earlton, Kansas.

EGGS—FANCY BARRED ROCKS, WINter layers, $1.25 and $2.50 setting. Clyde Karel, Clarkson, Nebraska.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." $35 cockerel heading Pen No. 1. Eggs, $4 per fifteen. Mrs. Iver Christenson, Jamestown, Kansas.

PURE-BRED BARRED ROCKS EXCLUsively. Choice stock. 100 eggs, $5; 50, $3. Safe delivery and satisfaction guaranteed. Adam A. Weir, Clay Center, Neb.

EGGS — BARRED PLYMOUTH ROCKS from pure line-bred stock, finest mated pens, $2 per fifteen, $3 per twenty-five, delivered. Roseacre Farm, Des Moines, Iowa.

WHITE ROCKS—SEVENTEEN RIBBONS this season. Eggs, one and two dollars per fifteen. Mating list. Ed Fehr, Marquette, Kansas.

BIG BONED IVORY WHITE ROCKS—Gold medal and silver cup winners at Hutchinson shows. Eggs from farm flock, $5 per hundred. Minnie Clark, Haven, Kan.

PRIZE WINNING BARRED ROCKS — Four entries, five prizes, State Show 1917. Eggs, special mating, $3 to $5; farm flock, $1. C. D. Swalm, Geuda Springs, Kansas.

BARRED PLYMOUTH ROCKS, E. B. Thompson strain. Eggs, $1.50 per fifteen; $3.50 per fifty; $6 per hundred. C. J. Rivlr, Lafontaine, Ind.

BARRED ROCKS, EXCELLENT IN SIZE and quality. Eggs, first pen, $3 per fifteen; range flock, $6 per hundred. Mrs. Myrtie Henry, Route 1, Lecompton, Kansas.

PURE BARRED ROCK EGGS FROM large well-marked range birds, $1.25 setting, $6 hundred. Choice Thompson strain pen eggs, $3 setting. S. R. Blackweider, Isabel, Kansas.

LINDAMOOD'S BARRED ROCKS, BOTH dark and light matings. Prices for eggs from special matings, $5 per fifteen. Utility eggs, $5 per hundred. Send for circular. C. C. Lindamood, Walton, Kansas.

EGGS FOR HATCHING — FROM BEST laying strains of Barred Plymouth Rocks. Bradley Bros. and Parks 200-egg strains. $3, fifteen; $5, thirty. Catalog. Gem Poultry Farm, Haven, Kansas.

BARRED PLYMOUTH ROCK, RINGLET and Bradley strain. Have good show record. Stock for sale. Cockcrels, hens and pullets. Eggs, $2 per setting. Jas. W. Anders, Unionville, Missouri.

BARRED ROCK EGGS FROM RIBBON winners. Utility, $4 per hundred; fifty for $2.50. Pen eggs, $5 per fifteen. Have always won wherever shown. R. D. Ames, Walton, Kansas.

WHITE ROCKS—GOOD LAYING EXHIbition strain. Eggs, $1 per fifteen, $5 per hnndred. Selected pens, $4 and $2 per fifteen. Send for mating list. I. L. Heaton, Route 1, Harper, Kan.

BARRED PLYMOUTH ROCKS — GENUine Thompson Ringlet prize winning strains. Pen eggs, either cockerel or pullet mating, also utility flock eggs. Circulars free. A. F. Siefker, Defiance, Missouri.

BARRED ROCK SPECIALIST — PRIZE winnings: Hobart, 1st, 2d, 3d, 4th cockerel; 1st, 3d pullet; 1st pen, 2d, 3d cock, silver cup. Gold special, Oklahoma City, 1st pullet, bred pen, first cock. Eggs, fifteen, $2-$3; hundred, $6. Fred Hall, Lone Wolf, Okla.

PLYMOUTH ROCKS.

BUFF ROCK EGGS, ONE DOLLAR PER setting; choice stock. Mrs. E. C. Hicks, Columbus, Kansas.

EGGS — CHOICE BARRED ROCKS, thirty, $1.50; hundred, $4.50. Catharine Beightel, Holton, Kansas.

GUARANTEED EGGS FROM PUREbred Barred Rocks and Rhode Island Reds, $1.50 to $3 for fifteen. Send for booklet. Tom Leftwich, Winfield, Kansas.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, $3 for fifteen. Cholee cockerels for sale cheap. W. H. Ward, Nickerson, Kansas.

BARRED ROCK EGGS FROM PRIZE winners at State Fair, 1917. Pens, $3 per fifteen; range, $6 per hundred. S. H. Vincent, Sterling, Kansas.

BARRED AND WHITE ROCKS — BEST blood lines in America. Forty premiums, 1916-1917. Write for mating list. A few fine cockerels and cocks for sale. H. F. Hicks, Cambridge, Kansas.

BARRED ROCKS—73 PREMIUMS, TOpeka, Manhattan, Clay Center, Denver. Eggs—Fifteen, $5; thirty, $9; fifteen, $3; thirty, $5. Chicks, 50c and $1. Italian bees. Mattie A. Gillespie, Clay Center, Kansas.

RINGLET BARRED ROCKS—GOOD LAYers. Eggs from pens prize stock, Pittsburg and Oklahoma City, both matings $5 setting. Range headed by pen males $5 hundred. Chicks 12c and 50c each. Circular free. Mrs. W. E. Schmitendorf, Vassar, Kansas.

RHODE ISLAND REDS.

FINE ROSE COMB REDS—EGGS, $4.00 hundred. Adda Walker, White City, Kan.

SINGLE COMB RED EGGS—GOOD FARM range, $4 per hundred, $1.50 per thirty. Mrs. Rosa Janzen, Box 242, Geneseo, Kan.

PURE-BRED ROSE COMB RED EGGS, $1 per fifteen, $5 per hundred. Fine laying strain. Oliver Spencer, Hesston, Kansas.

ROSE COMB RHODE ISLAND REDS—Utility stock. Winter layers. Eggs, $2, 15; $5, 45; $9, 100. Louise Krigbaum, Route 1, Topeka. Phone 2427 K-4.

ROSE COMB RED EGGS FROM BLUE ribbon winners, $3, $5, $7.50 per fifteen. Best of guarantee. Fred Kelm, Seneca, Kan.

HIGH SCORING R. C. R. I. REDS—EGGS, $1.50 per setting. Fertility guaranteed. Chas. Wodke, Council Grove, Kansas.

S. C. R. I. REDS—EGGS FOR HATCHing, $1 for fifteen. $5 per hundred. M. M. Long, Maitland, Mo.

MACK'S SINGLE COMB REDS—FINEST quality. Best layers. Dark red. Large size. Eggs, chicks. Write H. H. McLellan, Kearney, Nebraska.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Baby chicks. Mating list. L. E. Castle, Wichita, Kansas.

NEEF'S FAMOUS BRED-TO-LAY S. C. R. I. Reds, prize winners, $1.25 per setting, $5 per hundred. Jno. H. Neef, Boonville, Missouri.

DARK R. C. REDS, PURE-BRED, EXTRA fine. Eggs, $3 and $2 per fifteen; $5 per hundred. W. J. Honeyman & Sons, Hillside farm, Madison, Kansas.

PURE-BRED ROSE COMB RHODE Island Reds. Eggs for hatching, $1 per fifteen, $5 per hundred. Mrs. L. F. Hinson, Stockdale, Kan.

R. C. REDS — EGGS FOR HATCHING. Laying strain headed by prize winning cockerel. Fifteen, $3. Mrs. Mira Lambert, Anderson, Missouri.

ROSE COMB REDS — PRIZE WINNERS and special on color at State Fair, 1917. Pens, $3 per fifteen; range, $6 per hundred. S. H. Vincent, Sterling, Kansas.

LARGE, DARK, RICH EVEN RED R. C. Reds—Eggs, fifteen, $1; fifty, $3. Dark colored range flock, $5 hundred. Nora Luthye, Route 6, North Topeka, Kansas.

EGGS FOR SALE—S. C. R. I. REDS.—Breeder for twelve years. $1.50 per setting of fifteen; $5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

WYANDOTTES.

R. C. BUFF WYANDOTTE EGGS, $1.50 for fifteen. G. G. Wright, Langdon, Kan.

WHITE WYANDOTTES — EGGS FROM choice stock, $1.80, thirty; $5, hundred. Mrs. Will Beightel, Holton, Kansas.

SILVER-LACED WYANDOTTE EGGS, $1.25 per fifteen; $3 per fifty; $5 per hundred. Mrs. H. R. Young, Stella, Neb.

ROSE COMB WHITE WYANDOTTE eggs, per fifteen, $1; one hundred, $4. H. A. Ritter, Route 2, Kiowa, Kansas.

EGGS—SILVER LACED WYANDOTTES, fifteen, $1.25; fifty, $3.50. Rouen and Buff Orpington duck eggs, twelve, $1.50. Fred Kucera, Clarkson, Neb.

SILVER WYANDOTTES. YES, I AM still selling Silvers. Have some good cockerels left. Eggs in season. Prices reasonable. Write me. M. B. Caldwell, Broughton, Kansas.

WYANDOTTES.

WHITE WYANDOTTE EGGS FROM farm range stock, $4 per hundred. Vida Hume, Tecumseh, Kansas.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuls, Fredonia, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $6. Baby chicks. Mrs. Edwin Shuff, Plevna, Kansas.

COLUMBIAN WYANDOTTE EGGS, $1.50 setting. Special mating of blue ribbon winners, $3. J. J. Pauls, Hillsboro, Kansas.

WHITE WYANDOTTES — EGGS, SETting, $1; 100, $4. Mrs. J. W. Johnson, Cedarvale, Kansas.

CHOICE ROSE COMB SILVER WYANdotte eggs, $1 for 15; $5 for 100. Mrs. Phillip Schuppert, Arrington, Kansas.

GOLDEN WYANDOTTE EGGS FOR sale, $1.25 for fifteen. Pens headed by high scoring cockerels. Della B. Bilson, Route 3, Eureka, Kansas.

SILVER WYANDOTTES—BEST ALL round breed, vigorous grand laced flock. Eggs, fifteen, $1; hundred, $5. Mrs. Ed Bergman, Paola, Kansas.

WHITE WYANDOTTE EGGS — REGAL strain, prize winners. Farm range, $5 hundred. Pen 1, Martin male direct, fifteen, $5. Pen 2, high scoring male, fifteen, $3. Prepaid. Frances Fleury, Concordia, Kansas.

PARTRIDGE WYANDOTTE EGGS, MAhogany strain, $1.50 per fifteen. Good cockerels, $3 to $5 each. Canaries, fine singers. Baby chicks. Mrs. Edith B. Taylor, Marion, Kansas.

EGGS — WHITE WYANDOTTES FOR quality. Good layers. Utility, $1.25 fifteen, $3 fifty, $5 hundred. Pen headed by $10 cockerel direct from Fishel, $2 fifteen. M. M. Weaver, Newton, Kansas.

LEGHORNS.

S. C. W. LEGHORN EGGS. STATE WINner. Mrs. W. R. Hildreth, Oswego, Kansas.

PURE-BRED SINGLE COMB BROWN Leghorns. Choice farm flock. Eggs, 100, $4. Mrs. D. A. Wohler, Hillsboro, Kansas.

"BARRON'S 268-EGG LEGHORNS" — Eggs, $5 hundred. Sunlight Poultry Farm, Mt. Moriah, Mo.

PRIZE SINGLE COMB BUFF LEGhorns—Eggs, $5 hundred; $13, 300. White turkeys. Mrs. S. F. Crites, Florence, Kan.

ROSE COMB WHITE LEGHORN EGGS, $1 per fifteen, $4 per hundred. Ed Goin, Route 3, Stafford, Kansas.

SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

SINGLE COMB WHITE LEGHORN EGGS from heavy laying strain, $1 per setting, $5 per hundred. F. E. Fisher, Wilson, Kansas.

EGGS, EGGS FROM KEEP-LAYING strain Single Comb White Leghorns. Thos. R. Wolfe, Conway Springs, Kansas.

SINGLE COMB BROWN LEGHORNS — Fifteen eggs, 75c; 100, $4. Postpaid. W. A. White, Sarcoxie, Missouri.

BUFF LEGHORNS, CHOICELY BRED. Eggs, $5 per hundred. J. A. Reed, Route 2, Lyons, Kansas.

BROWN LEGHORN HATCHING EGGS, $1 per fifteen, $3 per fifty, $5.50 per hundred. R. W. Getty, Downs, Kansas.

SINGLE COMB BUFF LEGHORN EGGS, $5 hundred. Satisfaction guaranteed. Alf Johnson, Leonardville, Kansas.

R. C. B. LEGHORNS, WINTER LAYERS, vigorous stock. Eggs, $5 per hundred. The Blue Grass Stock Farm, Oneida, Kansas.

GOLDEN BUFF LEGHORNS — GREAT layers, silver cup winners. 100 eggs, $6. Agnes Smiley, Braddyville, Iowa.

EUREKA FARM SINGLE COMB WHITE Leghorns, bred to lay. Farm range eggs, $4 per hundred. Henry Richter, Hillsboro, Kansas.

BROWN LEGHORNS — ROSE, SINGLE comb. Egg production scoring 200 to 280 eggs, $2 fifteen, $6 hundred, prepaid. Plainview Poultry Farm, Lebo, Kansas.

SINGLE COMB BROWN LEGHORNS — Thirty-one prizes at Kansas State Show, 1917, including eight firsts. W. J. Roof, Malze, Kansas.

PURE YESTERLAY 200 EGG LAYING strain Leghorns mated to 240 egg Barron stock. If you want winter layers write Shady Pine Leghorn Farm, Rossville, Kan.

FOR SALE — THIRTY SINGLE COMB White Leghorn hens and pullets, extra good laying strain, $1 each. Blue Grass Stock Farm, Oneida, Kansas.

PURE-BRED ROSE COMB WHITE LEGhorns. Eggs for hatching; forty-five, $2; one hundred, $4. Prepaid in Kansas. G. Schmidt, Route 1, Goessel, Kansas.

S. C. WHITE LEGHORNS EXCLUSIVEly. Decka's laying strain. Many winners. Eggs for hatching, $6 per hundred. Write for 1917 price list. Yours for quality (Nuf sed), Deckas White Poultry Farm, Route 1, Des Moines, Iowa.

PRIZE WINNING S. C. WHITE LEGhorns at two state shows. Eggs, $2, $3 and $5 per fifteen. Eggs from flock, $5 per hundred. Chicks. Send for free mating list. C. G. Cook, Box F, Lyons, Kansas.

TOM BARRON. HAVE ASSEMBLED the Wykoff, Cyphers and Dr. Hess bred-to-lay strains and used Tom Barron cocks out of imported dams and sires. I know of no better. Eggs, $1.25 per setting; $4.50 per hundred. J. L. Stratton, Ottawa, Kan.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

LEGHORNS.

TIP TOP ROSE COMB BROWN LEGhorn eggs. J. E. Wright, Wilmore, Kan.

ROSE COMB BROWN LEGHORNS—WON five prizes. Eggs, fifteen, 90c; fifty, $2.20; hundred, $4.25. Rufus Standiferd, Reading, Kansas.

EGGS FOR SALE FROM PURE-BRED heavy winter laying Single Comb White Leghorns, $2 fifteen, $10 hundred; 100% fertility guaranteed on seventh day of incubation. H. M. Blaine, Sylvia, Kansas.

S. C. BROWN LEGHORNS — OH! YES, we have been raising them 21 years; the 222 to 266 trap nest egg record kind. Eggs, 15, $1.25; 100, $5.00. Gorsuch, Stilwell, Kansas.

S. C. BROWN LEGHORNS — WINTER layers and beauty strain. Booking orders for chicks to be delivered April 1, any quantity, at $12.50 per hundred. Eggs at $5.00 per hundred, trap-nested stock. Pullets in laying contest. Paradise Poultry Farm, Carona, Kansas.

WHITE LEGHORNS

WHITE LEGHORN EGGS (YOUNG'S $20 stock). Elsie Thompson, Mankato, Kansas.

YOUNG'S STRAIN WHITE LEGHORNS—Eggs, $5 hundred. Folder free. Reed Poultry Circle, Box H, Reed, Oklahoma.

HEAVY LAYING STRAIN S. C. WHITE Leghorns. 100 eggs, $4; 15 eggs, $1.50 prepaid. Mrs. W. E. McElvain, Denver, Mo.

ONE HUNDRED FERTILE SINGLE Comb White Leghorn eggs, $4.50 and $5. Quality guaranteed. Dave Baker, Conway Springs, Kansas.

EGGS FOR HATCHING FROM HOGAN'S laying strain of Single Comb White Leghorns, $5 per hundred. Roy Rhodes, Malze, Kansas.

SINGLE COMB WHITE LEGHORN EGGS from extra good layers and prize winners. Fifteen, $1; hundred, $5. I. H. Gnagy, Hutchinson, Kansas.

SINGLE COMB WHITE LEGHORN EGGS extra heavy winter layers. Pure-breds. $4 hundred. Mrs. Wm. Dugan, Appleton City, Missouri.

ENGLISH WHITE LEGHORNS, BRED for laying. Free booklet of practical experience, tells how I cleared $2,400 last year. Write for it. Eggs and baby chicks. Sunny Slope Farm, Morrison, Okla.

SINGLE COMB WHITE LEGHORNS—Farm range. Heavy laying strain. Hens, $1.50 each. Eggs, $1, fifteen; $5 per hundred. Mrs.-Lloyd Kifer, Route 2, Bolivar, Missouri.

SINGLE COMB WHITE LEGHORNS AND Anconas. The White males we use are from Panama prize winners. Eggs, $1.50 sixteen by parcels post. H. Harrington, Bucklin, Missouri.

BRED TO LAY S. C. W. LEGHORN eggs—fifteen, $1; hundred, $6. Exhibition pens, $2 and $3, fifteen. First prize winners fifteen shows in strong competition. Thirty silver cups and specials. Hyperion White Leghorn Farm, Route 1, Des Moines, Iowa.

UTILITY S. C. WHITE LEGHORNS—Ferris, Young, Frantz and Yesterlaid strains. Eggs, $1 per fifteen; $4 per hundred. Sold 8,000 eggs for hatching last season, no complaint. L. O. Wiemeyer, Route 1, Anthony, Kansas.

PHEASANTS.

PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Booking orders. Eggs of these, $4 dozen; Golden, $5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

ANCONAS.

SINGLE COMB ANCONAS—EGGS, FIFteen for $1.25 or $6 per hundred delivered. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

SINGLE COMB ANCONA AND SILVER Laced Wyandotte eggs, $1.25 per sixteen by post prepaid. Mrs. Cecile McGuire, Pratt, Kansas.

ANCONAS — BLUE RIBBON WINNERS. Eggs, $1.50 per fifteen, $6 per hundred. Pens two and three, $1.25 per fifteen, $5 per hundred. Frank Glenn, Newton, Kansas.

RHODE ISLAND WHITES.

RHODE ISLAND WHITES—EGGS, $2.00 for fifteen. Shetland Pony Farm, Coffeyville, Kansas. Mrs. C. R. Clemmons.

GUARANTEED EGGS FROM EXCELsior Rose Comb Rhode Island Whites, $2 per fifteen, $3.50 per thirty prepaid. V. O. Jones, Bancroft, Kansas.

DUCKS AND GEESE.

FAWN RUNNER DUCKS—WHITE EGGS, prize winners. Eggs, $1 setting, $5 hundred. Mrs. Ben Miller, Newton, Kansas.

TOULOUSE GEESE AND EGGS FOR sale or trade for Runner ducks. All breeds. Emma Ahlstedt, Roxbury, Kansas.

FAWN WHITE INDIAN RUNNER DUCKS from best laying strains in the country. Fifteen eggs, $1; fifty, $2. Nort Luthye, Route 6, North Topeka, Kansas.

BABY CHICKS.

REDS, ROCKS, LEGHORNS; 12c. REquest folder. McCune Hatchery, Ottawa, Kansas.

CHICKS FROM FRANTZ-YESTERLAID strains S. C. White Leghorns, 12½c each. Box F, C. G. Cook, Lyons, Kansas.

(Continued on Next Page.)

PURE BRED POULTRY

LANGSHANS.

BLACK LANGSHAN EGGS FOR HATCHing. C. E. Dralle, Seward, Kansas.

GET MY FREE MATING LIST OF MADison Square and Chicago prize winning Langshans. John Lovette, Mullinville, Kan.

GOOD BLACK LANGSHANS—EGGS, 7c; over 100, 6c. Baby chicks, 15c. Mrs. Geo. W. King, Solomon, Kansas.

BLACK LANGSHANS — STOCK FOR sale. Cocks, cockerels, hens and pullets. My birds have great show record. Eggs, $2 per setting. Jas. W. Anders, Unionville, Mo.

BLACK LANGSHAN EGGS, $3 FOR 15, from my San Francisco and Kansas State Show winners, 1917. H. M. Palmer, Florence, Kansas.

BLACK LANGSHANS—EGGS, FIFTEEN, $1.25, $1.50 mailed; 100 $5, $6 mailed. Baby chicks, 15 cents. Mrs. J. B. Stein, Smith Center, Kansas.

EGGS — PURE-BRED BLACK LANGshans exclusively from free range fowls, $1 for 15, $5 for 100. Mrs. John A. Roberts, Route 5, Stanberry, Mo.

PURE-BRED BLACK LANGSHANS—EXcellent stock, farm range. $1 for fifteen eggs, $2 for fifty eggs. Mrs. Ell Williams, Route 3, Riverton, Neb.

BUCKNELL'S BIG BLACK LANGSHANS —Bigger and better than ever. Eggs at the same old price, $1 for fifteen, $5 for 100. Postage or express prepaid. R. E. Bucknell, Hardy, Nebraska.

ORPINGTONS.

BUFF ORPINGTONS — FIFTEEN EGGS, $1. Chicks. M. Spooner, Wakefield, Kan.

S. C. BUFF ORPINGTON EGGS, $4 PER hundred. J. W. Falkner, Belvue, Kansas.

PURE-BRED WHITE ORPINGTONS — Eggs for hatching, $1 per fifteen, $5 per hundred. Frank Hinson, Stockdale, Kansas.

BUFF ORPINGTONS EXCLUSIVELY.— Even buff, large type, prize winners. Eggs, $3 and $2 setting. John Shaffer, Alma, Neb.

EGGS FROM PRIZE WINNING BUFF Orpingtons, $2 per 15; fine Barred Rock, $1 per 15, $5 100. Mrs. M. Ditto, Newton, Kan.

FINE GOLDDUST BUFF ORPINGTONS— Eggs, $1.50 setting; $8 hundred. Prepaid. Mary E. Price, Route 7, Manhattan, Kansas.

BUFF ORPINGTONS, BRED TO LAY. Eggs—fifteen, $1.50, prepaid. Chicks, 15c. John Oiler, Adrian, Missouri.

BUFF ORPINGTON EGGS FROM MY Des Moines, Kansas City, Topeka, St. Joseph and Omaha winners. H. T. Farrar, Axtell, Kansas.

EGGS — BUFF ORPINGTONS, PARTridge Rocks, Bourbon turkeys, Toulouse geese and Buff ducks. Mrs. Frank Neel, Beverly, Kansas.

"PAYWELL" BUFF ORPINGTON EGGS from heavy winter layers and blue ribbon stock, $2 per fifteen. L. S. Weller, Salina, Kansas.

BUFF ORPINGTON EGGS AND BABY chicks from winners. Write for list. Maple View Fruit & Poultry Farm, H. W. Smith, Prop., Junction City, Kansas.

WHITE ORPINGTON COCKERELS, A few pullets. Eggs reasonable. Also Indian Runner duck eggs. James Kennicott, Bunker Hill, Kansas.

EGGS FROM CRYSTAL WHITE PRIZE winning stock, White Orpingtons. Great winter layers. Fifty-five eggs January 20 from sixty-five hens, at live and let live prices. Send for list. John Vanamburg, Marysville, Kansas.

TURKEYS.

MAMMOTH WHITE HOLLAND TURKEY eggs from the large boned kind, $3 per ten. Box F, C. G. Cook, Lyons, Kansas.

WHITE HOLLAND TURKEYS, SINGLE Comb White Leghorns, Single Comb Buff Orpington eggs. Baby chicks. Mrs. S. A. Warren, Reger, Mo.

MAMMOTH BRONZE TURKEYS OF high quality. Good copper bronze and white edging. Have show record. Eggs—$6-$10 per dozen. Jas. W. Anders, Unionville, Mo.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

MINORCAS.

S. C. BLACK MINORCA EGGS, FIFteen, $1; 100, $5. Frank Scherman, Route 8, Topeka, Kansas.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

S. C. BLACK MINORCA EGGS FOR hatching. Pen No. 1, $2; pen No. 2, $1.50 for fifteen eggs, $6 per hundred. W. F. Fulton, Waterville, Kansas.

BRAHMAS.

EGGS FOR HATCHING FROM PRIZEwinning Light Brahmas. Write for prices. R. W. Getty, Downs, Kansas.

HIGH SCORING LIGHT BRAHMA EGGS $1.00 per fifteen, parcel post prepaid. Geo. Pruitt, Route 2, Topeka, Kansas.

EGGS FROM FELTON'S STRAIN OF mammoth Light Brahmas, $1.50 per fifteen, postage paid. Mrs. Mark Johnson, Waldron, Kansas.

LIGHT BRAHMA EGGS FROM PRIZE winners at Wichita, Kansas, January, 1917. Geo. W. Craig, 2031 N. Water St., Wichita, Kansas.

PURE BRED POULTRY

SEVERAL BREEDS.

TWENTY VARIETIES POULTRY. EGGS, $1.50 setting. Royal Poultry Yards, Coffeyville, Kansas.

EGGS—BARRED ROCKS, BRONZE TURkeys and Pekin ducks. Grace Aspedon, Farragut, Iowa.

EGGS—S. C. BLUE ANDALUSIANS, BLUE Orpingtons, Buff Leghorns, Buff Orpington ducks, Bourbon Red turkeys. Circular. John A. Huber, La Crosse, Kansas.

EGGS FROM EXTRA GOOD BOURBON Reds, $3 for eleven. Silver Laced Wyandotte eggs, $1 for fifteen. Julia Haynes, McDonald, Kansas.

ALL VARIETIES LAND AND WATER fowls, Imported stock. Winners of thousands of prizes. List free. Rose Lawn Poultry Farm, Beaver Crossing, Nebraska.

SELL YOUR PURE-BRED EGGS AT THE Hatchery, Smith Center, Kansas, and get a better price. Don't let them chill. Line case with newspapers thickly. Heavier breeds wanted. Must test 85% fertile.

BARRED AND BUFF ROCKS — SINGLE Comb White Leghorns. Fawn and Pencilled Runner Ducks. Eggs—Fifteen, $1; hundred, $5, from range flocks. J. T. Rickman, Kiowa, Kansas.

PURE-BRED BOURBON RED TURKEY eggs, $3 per eleven. Pure-bred Rhode Island Red eggs from open range herd, $1 per fifteen, $4.75 per hundred. J. W. Harshbarger, Milo, Kansas.

EGGS — M. B. TURKEY, NEW YORK prize winning blood in flock, $3 per eleven; geese eggs, African, Embden, Toulouse, $1.75 per seven; White Muscova ducks, $1.75 per eleven; White African guinea, $1.50 per seventeen; White Rock, Fishel strain, $5 per hundred. W. L. Bell, Funk, Neb. Dry Creek Poultry Farm.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

FOR SALE, EGGS—EGGS FROM PUREbreds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

POULTRY WANTED.

OUR EGG AND POULTRY PAYING prices published daily in Topeka Capital. Copy free on request. Coops and cases loaned. The Copes, Topeka.

STATEMENT OF THE OWNERSHIP and management of Kansas Farmer, published weekly, at Topeka, Kan. For April 1, 1917. Required by the Act of August 24, 1912.

State of Kansas } ss.
County of Shawnee }

Before me, a notary public in and for the state and county aforesaid, personally appeared Chas. C. Younggreen, who, having been duly sworn according to law, deposes and says that he is the manager of Kansas Farmer and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management of the aforesaid publication for the date shown in the above caption.

President and Editor—T. A. Borman, Topeka, Kan.
Vice-President—S. E. Cobb, Topeka, Kan.
Business Manager—Chas. C. Younggreen, Topeka, Kan.
Publisher—The Kansas Farmer Company, Topeka, Kan. (A corporation.)

Names and addresses of stockholders holding 1 per cent or more of total amount of stock:

T. A. Borman, Topeka, Kan.
M. A. Low, Topeka, Kan.
S. H. Pitcher, Topeka, Kan.
John R. Mulvane, Topeka, Kan.
E. W. Rankin, Topeka, Kan.
O. W. Devine, Topeka, Kan.
C. C. Younggreen, Topeka, Kan.
E. T. Guymon, Hutchinson, Kan.
W. C. Richardson, New York, N. Y.
W. J. Cody, Topeka, Kan.
W. F. Evans, St. Louis, Mo.
Dean R. Low, Bartlesville, Okla.
F. W. Barteldes, Lawrence, Kan.
A. T. Reid, Topeka, Kan.

Known bondholders, mortgagees, and other security holders, holding 1 per cent or more of total amount of bonds, mortgages, or other securities:

None.

(Signed) CHAS. C. YOUNGGREEN, Business Manager.

Sworn to nnd subscribed before me, this 28th day of March, 1917.

S. H. PITCHER, Notary Public.
(Seal.)
My commission expires March 17, 1919.

Garclaugh May Mischief, champion of the Ayrshire breed, continues to make records. May Mischief was born February, 1906, and was bred by Andrew M. Baird and imported from Scotland in 1910. As breed champion at the age of ten years she produced 25,329 pounds milk, 1,080 pounds butter, and at time of drying off was giving fifty pounds of milk dnily and freshened two months after completing test. On February 2, 1917, she finished a record of 14,802 pounds milk and on February 8 dropped a heifer calf, her sixth cnlf within a period of five years, eight months and nine days, five of which were heifers nnd one bull, a remarkable breeding record for a world's champion cow. During the time May Mischief was carrying her progeny she was also doing "her bit" ns a milk producer. Penshurst Fnrm reaping a hnrvest of 74,800 pounds milk—38¾ tons, which fignred nt 6 cents a quart, the wholesale price pair for same at the farm, amounts to $2 214. Not only is May Mischief a producer but she produces economically, her world record production netting her owner $529.34 nbove cost of feed. Coupled with those records we must not forget her progeny. Probably her greatest offspring is her son, Penshurst Mischief Maker, sold recently for $6,000. This youngster being sired by Kat's Good Gift, a son of Auchenbrain Brown Mate 4th.

Registered Kentucky Jacks



10 - JACKS - 10

To sell, and I want to sell them quick. Will cut the price for ten days to close them out. Ages from two to eight years; height from 14½ hands to 16 hands standard, and good performers.

I have shipped jacks to Kansas since 1879 and I do not believe I ever shipped a better load.

Any one wanting a good jack, call and see me at Welsh's Transfer Barn, two blocks from Santa Fe Depot, one block from Interurban. Come and see me.

E. P. MAGGARD

Successor to Saunders & Maggard NEWTON, KAN.

HORSES AND MULES.



30 JACKS AND JENNETS

A few good jacks suitable for herd jacks and good mule jacks from fifteen to sixteen hands standard. Prompt workers and sure breeders. Guaranteed absolutely right in every way. Priced to sell. We mean business. Come and see us.

LOUIS MILLS & SON - - - ALDEN, RICE COUNTY, KANSAS



JACKS AND JENNETS

15 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. Fifteen good jennets for sale. Come and see me.

PHIL WALKER,
Moline, Elk County, Kansas



Imported and Home-Bred PERCHERONS AND BELGIANS

A gilt edge guarantee of 60 per cent, good for two years, given with each horse sold.

W. H. RICHARDS
Emporia - - Kansas
Barns four blocks from A. T. & S. F. depot.



PERCHERONS—BELGIANS

Imported and home-grown 4 and 5 yr. old stallions, ton and heavier, 3 yr. olds, 2 yr. olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. Fred Chandler, R. 7, Charlton, Iowa. (Above Kansas City.)

Home-Bred Draft Stallions, your choice $500 with the exception of two. Also mares for sale. A. Latimer Wilson, Creston, Iowa

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

REGISTERED PERCHERONS

Yearling and two-year-olds, both sexes. Good breeding and individuals grown in a way to make useful animals. Would trade filley for Shorthorn bull good enough to head herd of registered cows.

GEO. S. APP, Route 2, ARCHIE, MISSOURI

SHORTHORN CATTLE.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

H. M. HILL - LAFONTAINE, KANSAS

STUNKEL SHORTHORNS

Herd Headed by Cumberland Diamond.

For Sale—Twenty bulls from yearlings to eighteen months old, Scotch and Scotch-topped. Also a few bred cows and heifers. Come and see me. Prices reasonable.

E. L. STUNKEL - PECK, KANSAS

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.

A. L. HARRIS - OSAGE CITY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS

Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.

H. H. HOLMES, Route 28, Topeka, Kansas

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

B. E. FRIZELL, Frizell, Pawnee Co., Kansas

HEREFORD CATTLE.

HEREFORDS AND PERCHERONS

Choice 2-year-old bull, weight 1,600 lbs.; extra good bull calves. One May calf, weight 600 lbs., outstanding herd header prospect. Two choice yearling Percheron stallions. Priced to sell.

M. B. GIDEON - EMMETT, KANSAS

POLAND CHINAS

FOR SALE

Good Stretchy Poland China Fall Boars. Ed Beavers, Junction City, Kansas.

TOWNVIEW FARM
Big-Type Poland Chinas.

For Sale—25 summer and fall gilts, sired by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 25 summer boars. Come and see my herd.

C. E. GREENE - PEABODY, KANSAS

ARKELL'S BIG POLANDS

Fall boars sired by Longfellow Again and Chief Big Bone, out of choice big-type sows. Choice individuals. Some herd header prospects.

JAS. ARKELL, JUNCTION CITY, KANSAS

OLD ORIGINAL SPOTTED POLANDS

Have only a few of last fall's litters left. Write your wants to

THE CEDAR ROW STOCK FARM
A. S. Alexander, Prop. R. 2. Burlington, Kan.

PROFITABLE TYPE POLANDS

Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.

L. C. WALBRIDGE - RUSSELL, KANSAS

LANGFORD'S SPOTTED POLANDS

Boars — Serviceable age, guaranteed to please. Breeding stock, both sexes.

T. T. LANGFORD & SONS, Jamesport, Mo.

POLAND CHINA HOGS

150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.

V. O. JOHNSON - AULNE, KANSAS

MULEFOOT HOGS.

Bargain in BIG TYPE fall boars for the next forty days.

Sinn's Mulefoot Ranch, Alexandria, Neb.

ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE

Twenty-five young bulls, also some good cows and heifers for sale. All registered.

D. J. WHITE, CLEMENTS, KANSAS
Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

HAMPSHIRE HOGS

SMITH'S HAMPSHIRE HOGS

Extra good October boars and gilts. Best breeding, well belted. Also herd boar, proven breeder. Priced right.

S. E. SMITH - - LYONS, KANSAS

RED POLLED CATTLE.

Red Polled Cattle

A few 1916 fall bull calves for sale. Also a few cows and heifers.

AULD BROS. - FRANKFORT, KANSAS

FOR SALE

Red Polled Cattle

Three cows. Nine yearling heifers. Two yearling bulls. One two-year-old bull.

A. S. FITZEL - STERLING, KANSAS

AMERICAN

Aberdeen-Angus Breeders' Association

SPRING BULL SHOWS AND SALES

400 - BULLS - 400

TO BE SOLD IN A SERIES OF TWO WEEKS SALES.—THERE WILL BE MATURED BULLS, TWO-YEAR-OLDS AND YEARLINGS—ALL READY FOR HEAVY SERVICE. SHOW BULLS, FARMERS' BULLS AND RANGE BULLS.

75 Bulls and 18 Cows and Heifers at St. Joseph, Mo., Stock Yards, Tuesday, April 24
86 Bulls at Omaha, Nebraska, Stock Yards, Wednesday, April 25
68 Bulls at Sioux City, Iowa, Stock Yards, Thursday, April 26
67 Bulls and 11 Heifers at East St. Louis, Ill., Stock Yards, Tuesday, May 1
81 Bulls at Chicago, Ill., Union Stock Yards, Wednesday, May 2
50 Cows and Heifers at Chicago, Ill., Union Stock Yards, Thursday, May 3
50 Bulls, Cows and Heifers, at Rochelle, Ill., Friday, May 4

CLASSIFICATION AND CASH PRIZES TO BE OFFERED AT EACH BULL SALE

	1st	2d	3d	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th
Bull over 18 months of age....	7	6	6	5	4	4	3	3	3	2	2	2	1	1	1
Bull under 18 months of age..	7	6	6	5	4	4	3	3	3	2	2	2	1	1	1



The Association during the past three months has made a complete inventory of all the bulls of the breed of serviceable age in the country and has listed same for these sales. This will be the last opportunity this season to secure bulls of serviceable age, because all the bulls that are not listed are too young for heavy service.



Don't forget, cattlemen, breeders and rangemen, the Aberdeen-Angus is the greatest beef breed in the world. This has been demonstrated at all the leading shows and stock yard markets of the country.

At Chicago, out of a possible fifteen prizes for single steers, Aberdeen-Angus have won ten grand championships and nine reserves. In the fat carloads they have won twelve out of a possible fifteen, and out of fifteen grand championships for carcass they won fourteen times.

Aberdeen-Angus have also proved their superiority in Feeder Competition at all the leading shows and stock yards of the country by winning grand championships and selling at record prices. At Denver in 1917 a load of Aberdeen-Angus feeders sold for $14.50 per cwt., which is the record up to date.

SUMMARY OF 1916 FAT CARLOAD LOT PRICES AT CHICAGO INTERNATIONAL EXPOSITION

Ten loads of Aberdeen-Angus steers averaged.....$18.58
Ten loads of Hereford steers averaged 15.75
Ten loads of Shorthorn steers averaged 15.93

These figures show that the Aberdeen-Angus sold for an average of $2.65 per hundred pounds more than the Shorthorns and $2.83 more than the Herefords. These figures are practical because they were obtained where the same number of loads of the best of each breed were assembled. They further show very clearly the degree in which the Aberdeen-Angus breed leads all other beef breeds in establishing top market prices.

If you are in need of a bull, or bulls, or some females, and cannot attend sale, or sales, send your order to your commission man.

AUCTIONEERS: IGO, COOPER, TELLIER AND KEPNER
For further information and catalogs address

CHARLES GRAY, Secretary and Sales Manager
817 EXCHANGE AVENUE CHICAGO

PARK PLACE SHORTHORNS

Four Great Herd Bulls

IMPORTED BAPTON CORPORAL
Bred by J. Dean Willis. Sire, Hoar Frost, winner at Royal Shows of England.

IMPORTED NEWTON FRIAR
Dam, A Marr Flora. Sire, Violet's Victory. Bred by Wm. Duthie and a great show bull.

ROSEWOOD DALE
Dam, Imported Rosewood 92d. Sire, Avondale.

ROYAL MAJOR is bred from the greatest family of milking Shorthorns in America. Dam with a great record. Two full sisters making 13,000-pound record now.

BREEDING STOCK FOR SALE AT ALL TIMES

Scotch, Scotch Topped, and Milking Families. Two Hundred Head in Herd.

FOR IMMEDIATE SALE—One carload of bulls, one carload of heifers, one carload of cows that will drop calves soon or calf at foot.

Come and bring your neighbors with you and save freight. I pay the freight and send a competent man in charge and deliver free to you carload lots. Will meet buyers at Wichita by appointment.

PARK E. SALTER, Wichita, Kansas
PHONE MARKET 3705 OR 2087 302 BITTING BUILDING

JERSEY CATTLE.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

LINSCOTT JERSEYS

BJH **Dispersal Sale, May 31**
R. J. LINSCOTT - HOLTON, KAN.

Sweet Spring Stock Ranch and Jersey Cream Dairy

The homes of
High Class Registered Jersey Cattle
Stock for sale at all times of very best blood lines.
D. S. MAYHEW, Prop. - MONETT, MO.

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

JERSEY CATTLE.

DORNWOOD FARM JERSEYS

Some richly bred young Jersey bulls. Pedigrees and prices on request.
DORNWOOD FARM - TOPEKA, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

YOUNG'S REGISTERED JERSEYS

Won 150 prizes at six leading state fairs in 1916. Am offering cows, heifers and bulls, over 100 head of the best milk and butter strains. Write at once to
HAL C. YOUNG - LINCOLN, NEB.

Breeders' Directory

ANGUS CATTLE.
Geo. M. McAdam, Holton, Kan.
Geo. A. Deltrich, Carbondale, Kan.
D. J. White, Clements, Kan.
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

HOLSTEIN CATTLE.

IOWA-HOLSTEIN-BREEDERS'-SALE

WATERLOO, IOWA, APRIL 18

90 HEAD of TUBERCULIN TESTED ANIMALS

A Few of the Females are

Nineteen daughters of King Segis Pontiac Combination, the noted son of King Segis Pontiac. Several of them are bred to one of the best sons of King Walker. A 3-year-old daughter of a 30-pound cow. Two heifers from 23-pound daughters of Homestead Jr. DeKol. A granddaughter of King of the Pontiacs. Nine daughters of Hengerveld King. A daughter of Korndyke Queen DeKol's Prince. Twelve females bred to King Korndyke Sadie Vale 24th.

A Few of the Bulls are

A 10-months-old son of a 31-pound cow and sired by a 32-pound bull. Another sired by Sir Sadie Cornucopia with a 30-pound average for his five nearest dams. Others sired by such bulls as King Segis Pontiac Combination, Hengerveld King, King Korndyke Sadie Vale 24th, and others.

Sale Starts at 10 a. m. Sharp

HIGH CLASS OFFERINGS FROM BREEDERS HERDS

SEND FOR CATALOG

SALE MANAGED BY
Liverpool Sale & Pedigree Co.
OF LIVERPOOL, N. Y.

Auctioneer B. V. Kelley

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN-FRIESIAN FARM, TOWANDA, KANSAS

Breeders of pure-bred Holsteins. Special attractions in choice young bulls ready for service, with fashionable breeding. Write for pedigrees and prices. We maintain a breeding herd of pure-bred females and offer a grand lot of young springing heifers and cows, a number with A. R. O. records at prices within reason.

IT WILL PAY YOU TO SEE OUR OFFERING

Of choice extra high grade young cows and heifers, all springers in calf to pure-bred sires; large developed females, good udders, well marked and the right dairy type at prices that will challenge comparison for Holsteins of their breeding and quality. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone.

GIROD & ROBISON

MAURER'S HOLSTEIN FARM

Is offering a number of choice young pure-bred cows with good A. R. O. records; also yearlings and heifer calves and a select lot of young bull calves with world's record backing. Write for pedigrees and bargain prices. Also grade cows, heifers and heifer calves.
T. R. MAURER & CO. - - - - - - - EMPORIA, KANSAS

Pure-Bred Holstein Calves

Ten heifer calves from one to four months old. Also a few bull calves for sale. All these are nicely marked, good individuals, and from a 31-pound sire. Write for prices.
E. J. STEARNS, Route 1, ELKHORN, WIS.

CORYDALE FARM HERD

Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.
L. F. CORY & SON, BELLEVILLE, KAN.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

REGIER'S HOLSTEINS

Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.
G. REGIER & SONS, WHITEWATER, KAN.

25 - HOLSTEINS - 25

Fresh and heavy springing. Young grade cows extra well bred, also heifer calves.
GLEN C. SMITH - SEDGWICK, KAN.

Braeburn Holsteins

A. R. O. BULL CALVES
With De Kol-Netherland-Korndyke main blood lines, and Johanna, Walker, King Segis out-crosses. H. B. Cowles, Topeka, Kan.

NEMAHA VALLEY HOLSTEIN FARM

Choice yearling bulls and bull calves. World's record blood lines. Price reasonable. We invite inspection of our herd.
H. D. BURGER, Route 2, SENECA, KANSAS

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

Look to the future.
Tredico Bulls
(Holsteins)
Kingman, Kansas

CEDAR LAWN FARMS
C. A. Schroeder & Sons, Props.
Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.
W. C. SCHROEDER - WEST BEND, WIS.

Shady Brook Holsteins

A few choice young springers, also some high class young bulls. If you want record breeding, we will be pleased to have you inspect our offering.
M. E. MOORE & CO. - CAMERON, MO.

HOLSTEIN CATTLE

We offer for sale 200 choice, high grade Holstein cows, heifers and service bulls of various ages; well marked and in good condition. Also can furnish a few choice, beautifully marked, 15/16ths pure-bred heifer or male calves, 1 to 2 weeks old, out of heavy milk-producing dams, at $15 each, crated f. o. b. cars. First draft takes them. Write
W. C. KENYON & SONS, ELGIN, ILLINOIS

CEDAR LANE HOLSTEIN HERD

We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.
T. M. EWING, INDEPENDENCE, KANSAS

CHOICELY BRED HOLSTEINS

Bull calves from A. R. O. dams, sired by Beauty Pietertje Prince, a 32.52-pound bull. Good individuals, splendidly marked. Priced right. M. E. GUNDERSON & SONS, Route 25, Oconomowoc, Wisconsin.

HIGH GRADE HOLSTEIN CALVES

Five to six weeks old, nearly pure, well marked, $20, express paid.
COLD SPRINGS FARM, Whitewater, Wis.

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $23 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

AUCTIONEERS.

Live Stock and Farm Auctioneer

Write or wire for date. I can please you.
LAFE BURGER, WELLINGTON, KANSAS

Jas. T. McCulloch

Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

DUROC JERSEYS.

DUROC JERSEY GILTS

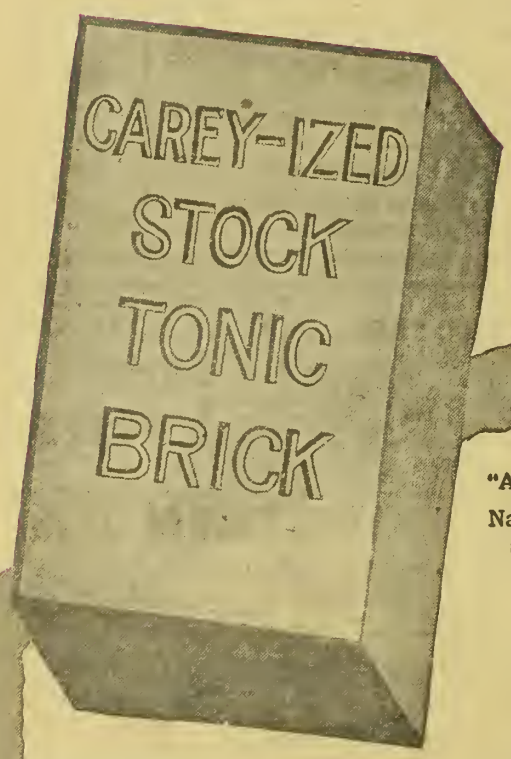
We have fifteen well bred Duroc gilts, priced for immediate sale.
C. D. WOOD & SONS, ELMDALE, KANSAS

Duroc Boars

For Sale—Ten fall boars ready for service. Sired by C. H. S. Col. first and out of my best herd sows. Priced to sell at $35. First check gets choice. Write at once.
J. R. SMITH - NEWTON, KANSAS

"It Saved My Hogs"





Your hogs are in constant danger from cholera, pneumonia, worms, indigestion and other diseases. High pressure feeding tests their digestion and other vital organs to the limit and makes them easy victims to death-dealing germs. They are in daily need of health-promoting medicines which will enable them to resist disease and insure the biggest results at lowest feed cost.

Don't Wait Until You Can See That Your Hogs are Sick

"An ounce of prevention is worth a pound of cure."

Nature has endowed your hogs with an unerring instinct, which is better than human judgment.

They know when they need medicine long before you can be aware of the fact.

Give your hogs a chance to doctor themselves with Carey-ized Stock Tonic Brick.

Carey-ized Stock Tonic Brick

A Scientifically Compounded Complete Health Prescription

Contains powdered gentian root, sulphur of iron, bi-carbonate of soda, sulphur, carbonized peet, quassia, charcoal and pure dairy salt. These medicines are as carefully compounded as a physician's prescription, according to a formula scientifically worked out by chemists of the highest standing.

Any reputable veterinarian will tell you that these ingredients constitute an unfailing worm destroyer, keep the stomach and bowels in order, stimulate the digestive process, promote healthy activity of kidneys and liver—an effective blood purifier and general conditioner.

The solid brick form in which these medicines are combined preserves their full strength until the last particle is eaten. Also makes it economical to feed—no waste. After your hogs have satisfied their first craving, they will consume only limited quantities from time to time as they feel the need of the medicines. **Cheaper than the ordinary stock powders, stock foods, etc.**

You are Relieved of Constant Care and Watching

There's no danger of overdosing or underdosing or missing when you happen to be busy or away from the farm. Just place Carey-ized Stock Tonic Brick in the feed lot, or hog trough, and the hogs will "doctor themselves." This brick also supplies the animals regularly with pure dairy salt without which they cannot thrive.

Carey-ized Stock Tonic Brick has stood the severest feeding tests, by leading stock and hog raisers. **Equally Valuable for hogs, horses, cattle and sheep.**

J. O. Schuler, R. F. D. No. 3, Hutchinson, Kan., writes: "If every farmer knew the good this Carey-ized Stock Tonic Brick will do, they would not experiment with all kinds of powders. You surely have the right thing for knocking the worms. A neighbor of mine was losing his hogs, I recommended your brick to him and he never lost another hog after feeding it."

Guy C. Glassock, Hutchinson, Kan., writes; "Have just sold fifty head of hogs that grew up on your Carey-ized Stock Tonic Brick. They averaged 205 lbs. at seven months. To say I am pleased with the results from your Tonic is putting it mildly."

Agents wanted where we have no dealers. Write today and obtain our proposition.

We Positively Guarantee Satisfactory Results

Carey-ized Stock Tonic Brick will do all we claim for it and we are willing to take all the risk of a 30-day fair test by you in your own hog lot.

Order a dozen or more bricks from your dealer today. If after a fair 30-day test feed you are not entirely satisfied with the results, return what you have left and get all your money back.

If your dealer does not handle Carey-ized Stock Tonic Brick write us his name and we will see that you are supplied.

Write us for free illustrated literature giving fuller information. You owe it to yourself to know just what Carey-ized Stock Tonic Brick will do for your hogs and other stock.

Carey Salt Company, Dept. 256 Hutchinson, Kan.



Carey Salt Company,
Department 256
Hutchinson, Kansas.

Please send me full information on Carey-ized Stock Tonic Brick.

I have.....hogs,.....cows,.....sheep,.....horses.

My dealer's name.....

P. O. .....State.....

My name .....

P. O. .....State.....

Our Liberal 30-Day Trial Offer

Don't miss it. It may save you many dollars. Order a dozen or more Carey-ized Stock Tonic Bricks from your local dealer at once. Let your hogs have access to them for 30 days, as directed, and if you are not satisfied with the result, return what you have left of the bricks and your dealer will cheerfully refund all your money. You take no risk.

AAF

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 15. TOPEKA, KANSAS, APRIL 14, 1917. Established 1863. $1 a Year

WORK OF A FARM BUREAU

Much Progress Made Through Co-Operation of Bureau Members

By R. E. LEWIS, Paola

THAT the raising of more live stock and the devoting of more attention to the dairy business is more profitable to the farmers of Eastern Kansas than is the raising of crops, is the conclusion advanced in the annual report of the Miami County Farm Bureau, issued by O. C. Hagans, county agricultural agent.

The report covers the work of the bureau for the year 1916 and sets forth the following facts, which were established as a result of work done during that period:

Grain crops cannot be relied upon continuously.

Live stock pays even when crops fail.

The better paying farms average ten more head of live stock than the average farm.

The better paying farms were more heavily stocked for each acre of pasture and of crops than the average farm.

The stock on the better paying farms returned $19 more per head than the average of the area.

Forage and grass crops succeed when grain is a failure.

"The season of 1915 was exceptional in that practically all of the grain crops failed on many farms," says the report. "The man who had nothing but crops was very unfortunate, as the larger his area the more he lost. The only group of men who did not lose much are those who had a large bunch of live stock in connection with the large crop area.

Farming has not been a profitable business on many of the farms of Miami County. On others it has paid well. In some instances the failure to make a profit has been attributed to one cause while in other cases this "unprofitable farming" was accounted for in other ways. This led to a need for an investigation, which brought forth as a remedy for the leak in the profits the above six principles. The investigation was conducted among sixty-three farmers of the county and was made by P. E. McNall, farm management demonstration specialist of the extension department of the Kansas Agricultural College.

At the annual meeting of the farm bureau last year the project of live stock improvement was discussed and was approved as needing the attention of the bureau. The plan was to advance the interests in the live stock of the county in the following ways:

By holding township colt shows, fairs and stock judging contests, and encouraging all county fairs.

By conducting feeding and management demonstrations.

By assisting in buying, selling and exchange of pure-bred live stock and encouraging co-operative breeding.

By issuing circular letters and newspaper articles and conducting campaigns for the betterment of the live stock interests of the county.

Following the above plan, township colt shows and community fairs were held at Spring Ridge, Fontana and Wea. The total attendance at these fairs was 3,600. The total number of colts and other live stock exhibited was 150. Stock judging contests were held at two of these fairs and proved to be very interesting. At each of these meetings a demonstration in judging live stock and pointing out the unsoundness in horses was given. The demonstrations were very interesting and highly instructive to the farmers of Miami County and the bureau considers them of great value in improving the live stock interests of this community.

During the past year there have been several outbreaks of hog cholera on farms in different sections of the county. Prompt action on the part of all concerned has kept the disease from spreading to but few farms and in several instances it has been confined to the farm where it first appeared. Notification of neighbors, vaccination of the herd where disease first appeared and of surrounding herds and a strict quarantine of all diseased hogs, placing them in a small enclosed pen, burning thoroughly and immediately every hog that dies and urging all neighbors to take every precaution to keep from carrying it to their herds, are the most important measures which have been observed in controlling the cholera, according to the management of the farm bureau.

A plan which meant better eggs, more pay to the farmers, less loss to the dealer and a less number of spoiled eggs to the consumer, was put in force by the bureau in the inauguration of what was known as "Rooster Week," which was observed May 22 to 27. More than 3,000 roosters were shipped out of the county during Miami County's "Rooster Week." Dealers handled roosters that week without a commission, which means that the dealers of the county paid the farmers about $250 or $300 more for the roosters than they would have paid for the same number of roosters if there had been no campaign to get the roosters out of the county.

Since corn is the leading money crop in Miami County, it was planned by the farm bureau to conduct variety tests with corn in every township in the county. At the present time there are a large number of varieties of corn being grown upon the soils of this county, which are not well adapted to the soil and climatic condition of the county. This fact has been demonstrated by the results of the corn variety tests in this county the past two years and by the results from the state experiment station, obtained from similar tests in this section of the state for a period of six years. These tests have demonstrated that the medium early maturing varieties of corn are better yielders on the upland soils of the county than either the late maturing varieties or the extra early maturing varieties. Shawnee White Dent proved to be a good yielder, maturing medium early, and a number of farmers are expecting to use this variety of corn this season.

In order to obtain the best yielding strains of a variety of corn, W. E. Hays and Earl Aiken each conducted an ear-to-the-row test last season from which they selected seed from the highest yielding rows. By continuing the test for a period of three or four years as these corn breeders expect to do, they will have selected a strain of their varieties of corn which will be a higher yielder than the average seed of the same variety which has been field-selected. It was found that some of the ears produced three times as much as other ears that were seeded in rows the same length and with practically the same number of stalks in each row.

The farm bureau also conducted clover demonstrations, wheat variety tests, fertilizer tests on wheat, fertilizer tests on alfalfa, treating oats for smut, silage crop demonstration tests, forage crop tests, urged co-operation in control of insect pests, boosted community welfare work, assisted in boys' and girls' club work, organized pig clubs for boys and canning clubs for girls, conduct a "for sale and exchange" bureau which is a clearing house for farmers who wish to purchase live stock or who wish to dispose of any articles on their farms.

Mr. Hagans, the county agricultural agent, and all who are connected in any way with the farm bureau, are highly gratified with the accomplishments of the past year. It has been very helpful to the farmers and has done more to further the agricultural interests of this section of Kansas than any other agency.

Miami County boys won eight prizes at the state corn contest held at the agricultural college during Farm and Home Week, and at the Hutchinson fair last fall. The prizes included: Sweepstakes on best exhibit at Hutchinson, two first prizes and one second prize. In the state corn contest at Manhattan the boys won one first, one third and one sixth prize, and the first prize in the rope tieing contest. Roy Slyter, of Fontana, tied twenty-five different kinds of knots in five minutes, walking away with first money.



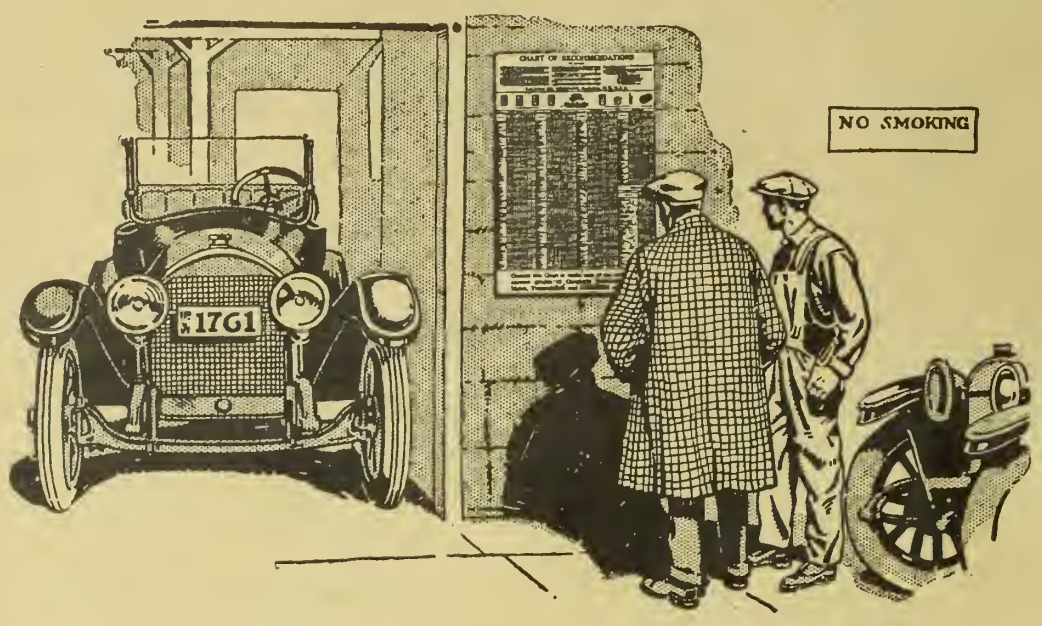
MIAMI COUNTY FARM BUREAU MEMBERS INSPECTING P. L. WARE & SONS' PURE-BRED POLAND CHINAS



ABOUT TWO THOUSAND PEOPLE ATTENDED COMMUNITY FAIR ON FARM OF M. A. KELLY, MEMBER OF MIAMI COUNTY FARM BUREAU

H. J. Brann, of Stafford County, produced 30 bushels of wheat to the acre last year on summer fallowed land. This is more than double the yield he had been securing by the usual methods of preparation on this same land. Mr. Brann firmly believes that all the wheat farmers of that section will sooner or later take up summer fallowing for wheat. He maintains that this method will bring better returns and at less expense to the wheat grower.

Make this Chart your Guide



Look for it on your dealer's wall

Your oil runs low. You stop for a fresh supply.

You now come to a vital question. What oil will the dealer pour into your oil-reservoir? Will it be just "oil"—or will it be the correct lubricant for *your* engine?

Among thousands of dealers this is what happens:

The dealer recognizes the make of your car—and the year's model. He runs his finger down the Vacuum Oil Company's Chart (shown above in miniature) until he finds your car's make and model. Then he supplies you with the grade of Gargoyle Mobiloils specified for your car by the Chart. This oil will effectively seal your piston rings against power-waste, gasoline-waste and oil-waste.

Why are thousands of dealers placing such reliance in this Chart?

Experience has taught them that something like 50% of all engine troubles are due to incorrect lubrication.

They realize that scientific lubrication is a problem for specialists. Since the dealer has neither time nor equipment for studying this intricate subject he draws on the experience of a recognized authority.

That is why you find on his walls the large Chart of Recommendations, issued by the Vacuum Oil Company.

If you inquire about the Chart you will find this:

The Vacuum Oil Company for 50 years have specialized in scientific lubrication. Today their world-wide leadership in lubrication matters is unquestioned in scientific circles.

For years their Chart of Recommendations has been recognized as the only standard guide to correct automobile lubrication.

In keeping this Chart up to date, each new model of every automobile is carefully analyzed. This work involves lengthy and painstaking engineering study by the Vacuum Oil Company's Board of Engineers. The recommendations of this Chart are proven correct by repeated practical tests.

But nothing has given dealers such faith in this Chart as their experience with the oils themselves. For no one knows better than the dealer how difficult it is to secure efficient lubrication—and how much efficient lubrication means.



Write for new 56-page booklet containing complete discussion of your lubrication problems, list of troubles with remedies, and complete Charts of Recommendations for Automobiles, Motorcycles, Tractors and Marine Engines.

Mobiloils

A grade for each type of motor

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. If the dealer has not the grade specified for your car, kindly write our nearest branch, giving dealer's name and address.

VACUUM OIL COMPANY, Rochester, N. Y., U. S. A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world.

Domestic Branches: Detroit New York Philadelphia Minneapolis Boston Chicago Indianapolis Pittsburgh Kansas City, Kan. Des Moines

Correct Automobile Lubrication

Explanation:—The four grades of Gargoyle Mobiloils, for engine lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A"
Gargoyle Mobiloil "B"
Gargoyle Mobiloil "E"
Gargoyle Mobiloil "Arctic"

In the Chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A", "Arc" means Gargoyle Mobiloil "Arctic", etc. The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

Model of	1917		1916		1915		1914		1913	
CARS	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Abbott-Detroit	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc
" " (8 cyl)			A	A	A	A				
Allen	A	Arc	A	Arc	A	Arc	A	A	A	A
" (Mod. 33-34-35)					A	Arc				
American Six	Arc	Arc								
Apperson	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A	A						
Auburn (4 cyl)			A	Arc	A	Arc	A	A	A	A
" (6 cyl)	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Autocar (2 cyl)	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Avery			A	A	A	A	A	A	A	A
" (Mod. 5 & C ton)			Arc	Arc	Arc	Arc	Arc	Arc		
Briscoe	A	Arc	A	Arc	A	Arc	A	Arc		
" (8 cyl)			A	A						
Buick	Arc	Arc	Arc	Arc	Arc	Arc	A	A	A	Arc
Cadillac							Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A	A	Arc	Arc				
Case	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Chalmers			Arc	Arc	Arc	Arc	A	A	Arc	Arc
" (Mod. 6-40)			A	Arc						
" (Mod. 6-36)	A	A	A	A						
Chandler Six	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Chase (air)			B	B	B	B	B	B	B	B
Chase (water)	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Chevrolet	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc	A	A
Cole			Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A	A	A	A				
Cunningham					Arc	Arc	Arc	Arc	A	A
" (8 cyl)	A	A	A	A						
Daniels (8 cyl)	A	A	A	A						
Dart	A	Arc	A	Arc	Arc	Arc	A	A	A	Arc
" (Mod C)	A	Arc	A	Arc	A	Arc	A	A		
Delaunay-Belleville					B	A	B	A	B	A
Detroiter	Arc	Arc	Arc	Arc	A	Arc	A	A	A	Arc
" (8 cyl)					Arc	Arc				
Dodge	A	Arc	A	Arc	E	E				
Dort	A	Arc	A	Arc	A	Arc				
Empire (4 cyl)	A	Arc	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (6 cyl)	Arc	Arc	Arc	Arc						
Federal	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Fiat	B	A	B	A	B	A	B	A	B	A
Ford	E	E	E	E	E	E	E	A	E	E
Franklin	A	A	A	A	A	A	A	A	A	Arc
Grant	A	Arc	A	Arc	Arc	Arc	Arc	Arc		
H. A. L.	A	A	A	A						
Hayne	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (12 cyl)	A	A	A	A						
Hollier (8 cyl)			A	A	A	A				
Hudson			Arc	Arc	Arc	Arc	Arc	Arc	A	Arc
" (Super Six)	A	Arc	A	A						
Hupmobile	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
I.H.C. (air)					B	A	B	A	B	A
I.H.C. (water) (3 cycle			A	A	A	A	A	A	A	A
I.H.C. (water) (4 cycle			A	Arc						
Interstate	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Jackson	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc
Jackson (8 cyl)	A	A	A	A						
Jeffery	A	Arc	A	Arc	A	Arc	A	A		
" (Chesterfield)			A	Arc	A	Arc				
" Com'l	A	Arc	A	Arc	A	Arc	Arc	Arc	Arc	Arc
Jordan	Arc	Arc								
Kearns			E	E	E	E				
" Com'l	A	Arc	A	Arc	A	Arc				
Kelly Springfield	A	A	A	A	A	A	A	A	Arc	Arc
King					A	Arc	A	A	A	S
" (8 cyl)	A	A	A	A	Arc	Arc				
" Com'l	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Kissel Kar	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" " Com'l	A	Arc	A	Arc	A	Arc	A	Arc	Arc	Arc
" " (Mod. 48)			A	A	A	A	A	A		
Knox			B	A	B	A	B	A	B	A
" (Mod. 35)	A	A	A	A	A	A				
Lexington	Arc	Arc	Arc	Arc	Arc	Arc				
Liberty (Detroit)	Arc	Arc								
Lippard Stewart	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" " (Mod. M)	A	Arc	A	Arc						
Locomobile	E	E	E	E	E	E	E	E	Arc	Arc
Marion Handley	Arc	Arc								
" " (Mod 6-40)	A	Arc								
Marmon	A	A	A	A	A	Arc	A	Arc	A	Arc
Maxwell	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Mercer	A	A	A	A	A	Arc	A	Arc	A	Arc
" (22-70)					Arc	Arc				
Mitchell	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Mitchell (8 cyl)			A	A						
Moline									A	Arc
" Knight	A	A	A	A	A	A	A	A		
Moon (4 cyl)					Arc	Arc	A	Arc	Arc	Arc
" (6 cyl)	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Murray (8 cyl)	A	A								
National	Arc	Arc	A	Arc	A	Arc	A	A	A	A
" (12 cyl)	A	A	A	A						
Oakland	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc
" (8 cyl)			A	A						
Oldsmobile			Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A	A						
Overland	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Owen Magnetic	A	Arc	A	Arc	A	Arc				
Packard					A	Arc	A	Arc	Arc	Arc
" (12 cyl)	A	A	A	A						
" Com'l	A	A	A	A	A	A	Arc	Arc	Arc	Arc
Paige					A	Arc	A	A	A	E
" (6-46)	Arc	Arc	Arc	Arc	Arc	Arc				
" (6-36 & 38)	A	Arc	A	Arc	A	Arc				
Pathfinder	Arc	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc	
" (12 cyl)	A	A	A	A						
Peerless	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A	A						
Pierce Arrow	A	A	A	A	Arc	Arc	Arc	Arc	Arc	Arc
" " Com'l	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Premier	A	A	A	Arc	A	Arc	A	A	A	Arc
Pullman	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Regal	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A	A	Arc	Arc				
Renault			A	Arc	A	Arc	A	Arc	A	Arc
Reo	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Richmond	Arc	Arc	Arc	Arc	A	Arc	A	Arc	Arc	Arc
Riker	E	E								
Saxon	E	E	E	E	E	E	E	E		
Scripps-Booth (air)							B	A		
" " (water)	A	Arc	A	Arc	E	E				
" " (6 cyl)	A	A	A	A						
Selden	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Semples	A	A	A	A	Arc	Arc	Arc	Arc	Arc	Arc
Standard (8 cyl)	A	A	A	A	A	A				
Stearns-Knight	A	A	B	A	B	A	B	A	A	A
" (8 cyl)	A	A	B	A						
Sterling (Wisconsin)	A	Arc	A	Arc						
Studebaker	A	Arc	A	Arc	Arc	Arc	A	Arc	A	Arc
Stutz	A	A	A	A	A	A	A	Arc	Arc	
Velie (4 cyl)					A	Arc	A	Arc	A	Arc
" (6 cyl)	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Vim	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Westcott	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc
White	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Willys-Knight	A	A	B	A	B	A	A	A		
Willys Six	Arc	Arc								
Winton	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc

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Agricultural Preparedness For War

THE United States has entered upon the great World War. War is a terrible thing and many of us are accepting it with heavy hearts, but having put our hands to the plow it becomes a patriotic duty to our nation and to the world-wide cause of humanity to bring every resource to bear in order to hasten the day when the world shall have universal peace. There need be no hatred in the hearts of the people of the United States in entering upon this great international adventure which we hope will result in speedily bringing liberty and peace to all nations and to all peoples.

Already we have felt the economic pressure coming from the taking of twenty-five millions of men from the ranks of production. With our own nation actively engaged, the effects and consequences of war will be brought to our very doors. Agriculture, the basic industry of our country, must back our armies if they are to succeed. The patriotism of the soldier is no greater than the patriotism of the people engaged in producing the food we must have, and that patriotism can find its outlet by the subordinating for the time being of the plans of individuals to the broad program of the nation's needs in this crisis.

The food situation of the nation was the subject of a national conference held in St. Louis this week, at the call and under the direction of D. F. Houston, Secretary of Agriculture. This conference was attended by Dr. H. J. Waters, president of the Kansas Agricultural College; W. M. Jardine, director of the Kansas Experiment Station and Dean of Agriculture; Edward C. Johnson, Dean of the Extension Division of the Kansas Agricultural College; J. C. Mohler, secretary of our Kansas State Board of Agriculture, and others of our agricultural leaders.

We feel that Kansas will do her part. This state has never been known to falter when the nation called, and this call for agricultural preparedness will be met with as much real patriotism as the call that takes the soldier to the training camp or the battle field.

* * *

SHUT down the breweries and distilleries, close the saloons, and utilize the grain and labor productively, was the constructive preparedness note in the address of President Waters, before the food conference at St. Louis this week.

"We face the problem of very soon supporting two million men in army camps," said President Waters. "We must also feed our own people at home while they produce munitions and equipment for our soldiers and those of our allies, and we must also assist in supplying our allies with food.

"We are entering upon one of the greatest of wars without any reserve of food. Germany spent years in accumulating a food reserve to prepare herself for this emergency. This country's visible supply of food, however, will be consumed before another harvest. If we should have an unfavorable season, this country will face the greatest food shortage it has had since the Civil War. We must therefore immediately proceed to increase our food output and to practice the most rigid economy in the consumption of products already produced.

"Since the American soldier lives on hardtack, pork and beans, we must increase at once these army necessities. We must increase the bean acreage this year. In the North and West we can grow a larger acreage of the navy bean, and in the South and West of the Mexican and Tepary bean. We must increase our pork production by breeding all the sows for fall litters and holding a reserve of corn to winter and fit the new output for the spring market. We must increase our bread supply by milling all our wheat to 81 per cent flour instead of 73 per cent, as at present. In this way we can increase our flour output eighteen million barrels on our present production, thus increasing the bread-carrying capacity of this country by twelve million people. This is the only way we can increase this season's bread supply.

"Such an increase in the bread supply will occasion a corresponding decrease in stock feed supplies. On the other hand, a large saving in grain suitable for fattening live stock can be made by shutting down the breweries and distilleries. By closing the saloons and shutting down the breweries and distilleries of the country, we would save annually 618,508,095 bushels of grain. We would release for productive labor 101,755 laborers now engaged in manufacturing liquor, 17,736 retail dealers, and perhaps twice as many bartenders now employed in the liquor business. We would also release others connected with the traffic, such as policemen, constables and other officers, penitentiary guards, and attendants of our hospitals and almshouses. Even large numbers of our doctors could then be spared to care for the sick and wounded in the army. Much of this labor could be utilized on the farms, thus helping to solve the greatest difficulty in the way of a permanent increase in the national food supply. In addition to all this, the equipment of our breweries and distilleries could be put to work to manufacture munitions, to refine fuel oil for farm tractors, and even to can fruits and vegetables.

"The United States can meet the emergency before her only by directing her labor into the most productive channels and by applying her intelligence to the production and conservation of her food supply."

* * *

"LET the army of children between the ages of ten and eighteen years grow garden produce for immediate use, and can the surplus for future consumption, and much will be done towards solving the food problem in this country," said Dean Edward C. Johnson. "Under proper direction additional foodstuffs valued at more than 400 million dollars could be produced.

"Many children have nothing special to do. Even on the farm there are many of them whose efforts, if well directed, could be made more effective and worth while from an economic standpoint, and all this without the so-called 'child labor' where children are employed in heavy work from early morning until late at night.

"These children can be of great use in the farm home, on the farm, in the village home and in the village garden. If only a portion of this army were put to work producing table products, the results would be astonishing. In the Glenwood community in Leavenworth County, Kansas — a typical farm community — there is a canning club which has as one of its principal objects the growing of garden produce and the canning of the surplus for home use during the winter months. This club consists of thirty mother-daughter teams. During the season of 1916 the club grew and canned more than 11,000 quarts of garden and orchard products in addition to the products used on the table during the gardening season. This was at the rate of 366⅔ quarts for each team.

"If only one-half of the 10,755,790 rural families in the United States — families living in the open country and in incorporated towns of less than 2,500 at the time of the 1910 census—did as well, they would produce and put up for winter use 1,971,561,500 quarts, which if valued at 15 cents per quart—a low estimate—would be worth $295,714,225. This would supply every rural family in the United States with one pint of food products per day for every day in the year, and thus would release an equally large quantity of other products more easily transportable, for use in the army or in the laboring families in the city.

"If one-fourth of the 9,499,765 urban families—families living in cities of more than 2,500 population, census of 1910—did equally well by gardening in back yards and on vacant lots, 872,560,916 quarts of products valued at $130,894,137 would be produced. Combining the products of the rural and city population, the value of the food produced would be $426,608,362.

"A beginning towards the mobilization of this potential army of workers has already been made in the gardening and canning clubs throughout the country conducted through the extension service of the various agricultural colleges and through the school systems. This army needs to be adequately organized into club groups with leaders for every club. Every club of six or more boys and girls should have some older person to direct its activities. This leader may be a mother, a father, a school teacher, or any public spirited citizen. The boys and girls themselves organize by electing officers and selecting the type of work which they wish to follow. They then get in touch with the agricultural college and the necessary instructions are sent them.

"That the children are glad to do this work has been demonstrated already in the history of clubs. No member of last season's corn clubs, pig clubs, poultry or sorghum clubs in Kansas made as high profits as did the members of the garden clubs of the state. A little fourteen-year-old girl made a net profit of $20 from one square rod of garden. Add to this normal interest the stimulus of a patriotic interest, and the army will be far more effective than it is in a normal year."

* * *

"IF OUR armies are to succeed we must back up the patriotism of the soldier by the patriotism of increased production," said W. M. Jardine in addressing the conference. "As yet no scheme has been put into operation comprehensive enough to conserve all our commodities from the period of surplus to that of shortage. We must immediately enter upon a plan to utilize to the best advantage our total staple grain, beef, pork, dairy, poultry, garden, and orchard products.

"We must get ready now for the planting of a large wheat acreage next fall. Kansas seeded eight and one-half million acres of wheat last fall. The fall and winter conditions have already made nearly three million acres worthless. This land must be planted to corn and grain sorghums in such a way as to leave it in the best shape for wheat this coming fall. If the corn is planted in rows seven feet apart instead of three and one-half feet, according to experiments carried on at the Fort Hays branch experiment station, the ground will produce a maximum yield and will still be left in the best possible shape for the production of wheat.

"There is yet plenty of time to increase this season's corn yield. This can be done by the selection of good seed and by the proper preparation of the ground for planting.

"We have been negligent in the conservation of our meat supply. Last year we lost 200,000 hogs or $3,000,000 worth of pork in Kansas from cholera alone—a disease that can be absolutely controlled by proper co-operation.

"By giving the dairy cows better care and feed it is possible to increase the total dairy product from 10 to 25 per cent. Better feed for dairy cattle might be secured by the proper co-operation of the owners of mills, elevators and feed stores in the preparation of properly balanced grain rations. Such co-operation would have an immediate effect in increased dairy products. Kansas has increased its beef animals 33 per cent within three years. We cannot support more beef animals without raising more feed. We can easily support many more beef animals if more feed is produced.

"If poultry raisers would eat their roosters as soon as the breeding season is over, and feed their hens properly, they could easily double the eatable eggs this present year. The price of eggs is higher this year than last because of the increased price of feed.

"Because of the high cost of seed potatoes, a one-third less acreage in potatoes is the present prospect for Kansas this year. There are plenty of seed potatoes in the country. The only way to get this seed and arrange for an immediate planting is to provide some means whereby farmers may be advanced the money to secure the seed. Immediate action on this point is absolutely necessary if the potato product of the country is to be up to standard.

"If we send no men to the front we would still have a labor shortage. We must call on the children and even upon the men and women in our cities to work back yard gardens. We are not worried with the problem of feeding the farmer, but we need to worry over the problem of feeding our cities. Thousands of acres of vacant city lots can be utilized and thousands of hours of idle time may be thus profitably employed. The people in cities must learn to can fruits and vegetables, and have their vegetable supplies in the cellars the same as do the people in the country.

"We can produce enough food products if we can arrange the machinery for proper distribution. I believe we can have a proper distribution and control of our food output only under the supervision of a federal advisory committee, and probably under the immediate direction of our army. We are organized for production. We must organize at once for distribution and marketing."

* * *

In emergencies, it may be necessary for some patriots to unyoke the oxen and leave the plow standing in the furrow, but the lasting support of a nation requires efficient patriots to keep the plows going. The soil supports the corn; corn supports animals; corn and animals support an army; and "armies fight on their bellies." Let us properly care for the goose that lays the golden egg.

* * *

The forehanded farmer is planning right now for next winter's feeding and these plans should include silage. Indications are that more silos will be built the coming summer than in any previous year. Silo manufacturers are already receiving heavy orders. The farmer who intends to buy should order at once, while he who would build should be planning for labor or materials. Every silo filled last fall in Kansas paid for itself in one season, and the chances are that similar results may be obtained by those who build silos this year.

* * *

An abundance of hot water and only clean cloths used in caring for the milk pails, strainer, separator and cream cans, will help to make the cream first grade quality. Careless handling of the milk utensils will soon pass the cream on to second and third grade, especially during warm weather.

SUDAN PROVES WORTH

New Forage Crop Has High Feed Value and Fits Kansas Conditions

SUDAN GRASS has steadily grown in favor since its introduction in Kansas some four or five years ago. It will probably be grown on many farms this year for the first time. For this reason full information as to how to grow and handle the crop will be valuable to many of our readers.

The introduction of a forage crop having the adaptability and high feeding value of Sudan grass, will help greatly in promoting live stock farming. This is one of the great needs of the agriculture of our state. Finding and introducing so useful a plant as Sudan grass will bring the best returns by associating its production with a system of stock farming in which the animals are kept to market all that is grown as fully as possible.

At the meeting of the Kansas Crop Improvement Association which was held in Manhattan February 6, during Farm and Home Week, H. N. Vinall, of the Federal Department of Agriculture, gave a most instructive address concerning this new forage crop. Mr. Vinall has had wide experience in the introduction and development of new crops of this character and his statements are authoritative. In what follows we have drawn liberally from this address.

PLACE IN CROPPING SYSTEM

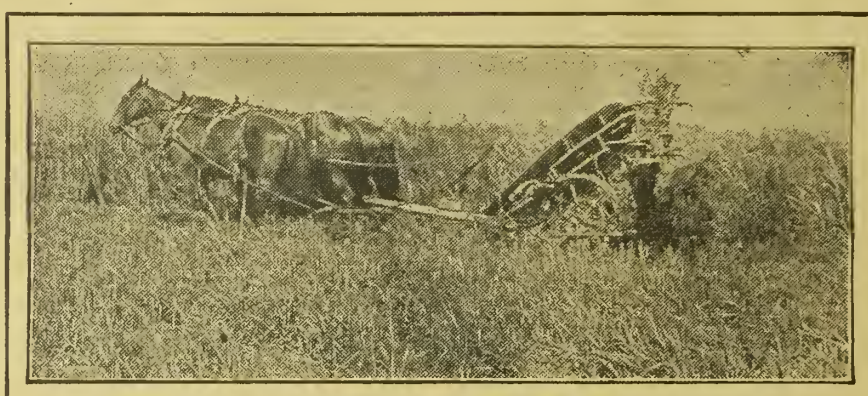
Mr. Vinall pointed out that Sudan grass is not a money crop in the ordinary meaning of that term, nor is it a soil improver. It must be used, therefore, to supply roughage or hay for farm stock. There may come a time when large acreages of it will be grown for the Kansas City and Fort Worth markets, but there seems no immediate prospect of this. Although such a practice might be found profitable. It can be used often as a catch crop, if the corn crop has been ruined by continued wet weather during the planting season or the wheat crop has been destroyed by the army worm or the green bug, there would yet remain time to plant and grow a crop of Sudan grass hay. No market rating has been established for Sudan grass hay, but there is little doubt that it could be sold at a fair price on any of the western hay markets if it were properly cured and baled.

The farmers in eastern Kansas will use it most often as a catch crop, seeding it in preference to millet when they feel the need of an emergency hay crop. In the western part of the state where alfalfa and other tame hays cannot be grown successfully Sudan grass should be quite generally grown. Properly handled it is quite as dependable a crop as sorghum or millet and the quality of the hay is better than that of either of these crops. These statements are based on actual experiments at the Hays and Tribune experiment stations.

HISTORY OF INTRODUCTION

It is now eight years since the United States department of agriculture obtained from the agricultural inspector at Khartoum, Egypt, eight ounces of the seed of a grass which the natives there called "garawi". This garawi was grown under cultivation in the lower valley of the Nile, but its real home is farther up this great river in the semiarid Sudan, where it has been found growing wild by travelers. The natives seem not to value this grass very highly either in Egypt or in Sudan, and the inspector at Khartoum was greatly surprised at the enthusiasm it awakened in the United States. The grass belongs to the same botanical group as the cultivated sorghums, and is closely related to the ordinary sorghum or cane, as it is commonly called.

Practically all the Sudan grass in the United States at the present time has come from this one-half pound sample obtained in 1909. No other introduction of the department ever sprang into such immediate popularity. Three years after the first seed was brought into this country a limited distribution was made mostly to state experiment stations, and by 1913 farmers were clamoring for seed of it. Those who were fortunate enough to possess small acreages of the grass were selling their surplus seed at prices ranging from 50 cents to $2.25 a pound. Visions of easy and sure wealth floated before the eyes of the Sudan grass farmer, as the grass produced from 500 to 1,200 pounds of seed to the acre. A Sudan grass seed association was formed in western Texas, and nearly three million pounds of seed were produced by this organization in 1914 and stored in a warehouse. Remembering only the prices obtained the previous year when the demand was much greater than the supply, "they hitched their wagon to the stars" and set their price at $1 per pound, overlooking the fact that continued and rather extensive distributions by the United States Department of Agriculture had scattered the seed over the entire United States, and that local centers of distribution existed in nearly every state where less avaricious growers were offering seed for 25 cents a pound or less. The result was inevitable. Men had been willing and anxious to pay a dollar a pound the year before in order to grow an acre for seed to sell to their neighbors, but the number who were willing to pay such a price for seed to plant fields to cut for hay was very limited. So, in spite of a $40,000 advertising campaign, two-thirds of the seed remained in their warehouse unsold the following year. In 1915 the seed was fairly abundant and could be obtained at a reasonable price. Under these conditions the acreage of Sudan grass increased enormously and in 1916 there were 31,000 acres in Kansas alone. Texas no doubt leads in Sudan grass production, with Oklahoma and Kansas close seconds.



SUDAN GRASS IN M'PHERSON COUNTY BEING HARVESTED WITH BINDER

An unfavorable season in the southern great plains the past year has caused another shortage of seed and prices are again high, but this condition is not apt to continue long.

In the western third of Kansas it has been found more profitable to plant Sudan grass in rows 36 to 44 inches apart and cultivate as one would corn or sorghum. East of this portion, which would be set off by a line running north and south somewhere near Ellis, Kansas, Sudan grass will yield fully as much if sown broadcast or with an ordinary grain drill as when planted in rows and cultivated. Besides avoiding the expense of cultivation by this method of planting, the hay is finer and cleaner and the harvesting can be done with the ordinary haying implements, a mower and rake, so that, unless the price of seed is prohibitive, drilled or broadcast seedings are recommended for Central and Eastern Kansas. When seeding in rows it is possible to plant with a lister on wheat stubble and little seed bed preparation is necessary. It will be found advisable, however, to open up the stubble the preceding summer after wheat harvest in order to stop the growth of weeds. The lister furrows should run east and west and can be left open during the winter so as to catch the snow. Late the following spring the ridges can be split with the lister when the Sudan grass is planted, leaving the ground in good condition for cultivation. In using a lister or corn planter care must be observed to avoid covering the seed too deeply. One inch or less is enough unless the soil is very sandy or dry.

Better stands are usually obtained from surface planting than from listing because the furrows are often filled up by dashing rains or by windstorms and the seed buried so deeply that the seedling cannot come through. When planting on the surface the ground must be plowed previously and put in good condition with a drag harrow, after which the seed can be planted with an ordinary corn planter or with a grain drill by stopping up the required number of feeds so that the distance between drills will be sufficient for the implements of cultivation. It is easier to regulate the amount of seed sown in a drill than it is in a corn planter, and the drill is most often used on the experiment station farms for this work.

When seeding broadcast or in close drills the ground is prepared for seeding in the same way that it is for surface planting in rows. Sudan grass seed, when well cleaned, can be seeded in an ordinary grain drill without inconvenience, and this method usually insures a better stand than where the seed is broadcasted and covered with a disk or drag harrow.

DATE OF SEEDING

The period of seeding Sudan grass is not very limited. From seedings made any time between May 1 and June 15 maximum yields may be expected. Earlier seedings give poor stands because of the cold soil and those made later than June 15 rarely encounter favorable conditions during the growing season except in wet years like 1915.

At Hays, Kansas, experimental seedings of Sudan grass have been made from April 15 to July 15 at two-weeks intervals. The average yields of four years' trials show the highest production from May 15 sowing, May 1, June 1, and June 15 seedings producing only a small fraction of a ton less to the acre.

Good advice then would be to seed whenever conditions are favorable between May 1 and June 15, regulating the time of seeding so that the hay will be ready to cut at a period when weather conditions are most likely to be favorable and other farm work will not be pressing.

RATE OF SEEDING

The amount of seed necessary varies with the rainfall. Broadcast or close-drilled seedings in the western third of the state should be made at the rate of ten to fifteen pounds; in the central third, fifteen to twenty pounds; in the eastern third, twenty to twenty-five pounds of good germinable seed to the acre. For planting in rows thirty-six to forty-four inches apart, two to three pounds in the western part; three to four pounds in the central section, and four to six pounds in the eastern portion of the state are the proper amounts of seed either for seed or hay purposes. A thick stand of plants in the row is conducive to a more uniform maturity. These statements are based on average yields secured at Hays as a result of three years' trials, the seed on the different plots being sown at the rates of ten pounds, fifteen, twenty, twenty-five, and thirty-five pounds to the acre.

These tests show that little difference in yield is to be expected from different rates of seeding where good seed bed conditions prevail. It is best, however, on the farms, to recommend somewhat heavier rates, because the busy farmer often fails to provide the best of conditions for seed germination, and the stand obtained is not so good as that on the experiment station plots. The thinner stands are apt to be troubled by weeds and the presence of weeds in the hay often accounts for the high yields of the lower rates of seeding. It is on this basis that the higher rates are recommended for the eastern part of the state. A wheat drill set to sow two pecks of wheat to the acre will ordinarily sow about twenty-five to thirty pounds of Sudan grass seed.

SUDAN GRASS FOR SEED

Much more seed should be produced in Kansas than is being grown at the present time. Most of the state is free from Johnson grass and seed from such regions is in constant demand. The locality about Lubbock, Texas, seems especially favorable for seed production, and authenticated yields of 1,600 and 1,800 pounds of seed to the acre were harvested there in 1914. The yields in Kansas have very rarely exceeded 500 pounds to the acre, and for the state averaged about 300 pounds. Careful attention to the details of planting and cultivation should enable the grower to produce 500 pounds of seed per acre.

Fields intended for seed production should always be planted in rows and cultivated as described previously. Planted thus they can be harvested with a corn binder or an ordinary grain binder if the growth is not too heavy. Sudan grass seed can be threshed with an ordinary grain separator if care is used to regulate the air-blast so that the lighter seed will not be blown into the straw pile.

Good seed weighs forty pounds to the bushel when well cleaned, and it keeps well in storage, showing less tendency to heat than the ordinary sorghums. Johnson grass is the worst seed pest of Sudan grass and the seed of these two grasses are very much alike, but they can be distinguished by seed analysts. Johnson grass need not be greatly feared in Kansas, as it is easily eradicated here, but the presence of the seed in that of Sudan grass injures the sale of the latter and should be avoided by planting the Sudan grass on fields free from Johnson grass.

Threshed Sudan grass is a good roughage and can be used as a hay, thus adding considerable to the value of the seed crop. Farmers in the grass-seed producing sections of Northeastern Kansas should enter into the production of Sudan grass seed. Those who plant fields of Sudan grass for the production of seed should remember that Sudan grass crosses very readily with the sorghums. It is necessary, therefore, to see that the field is located at considerable distance—at least one-fourth mile—from any sorghums. Continued crossing with sorghum causes deterioration in the quality of the Sudan grass hay by making it coarser. The field should be "rogued" for the first year or two until a pure and uniform strain of seed is obtained. Present indications are that good germinable seed of Sudan grass will continue to sell at six or seven cents a pound retail, and should net the grower at least five cents a pound.

YIELDS OF SUDAN GRASS HAY

Most of the yields reported are of field-cured hay, which contains a rather high percentage of water. The yields for Texas in 1914 and 1915 averaged 3.8 tons to the acre. In Oklahoma for 1915, 3.6 tons, and in Kansas for the same year, four tons an acre. Of course, such yields cannot be obtained every year, but two cuttings can ordinarily be expected and the yields will average nearly as much as that from drilled sorghum and at least a third more than millet. Besides yielding well, Sudan grass is more easily cured as hay than sorghum, and is of better quality, so that there is less waste in feeding.

Sudan grass is exceedingly palatable, cattle, horses and sheep eat the hay greedily, and hogs apparently relish the pasture. There is also very little waste in feeding the hay when it has been well cured.

Practical tests in feeding Sudan grass hay have been carried out by the Kansas Experiment Station. These tests were designed to furnish a direct comparison between the Sudan grass, alfalfa hay, and kafir stover in wintering horses, maintaining growth in stock cattle during the winter, and in the matter of milk production. In all these tests the Sudan grass hay was consumed with evident relish by the stock and the results were quite satisfactory.

PASTURING SUDAN GRASS

More and more farmers are finding Sudan grass valuable as a summer pasture. The plant is known to contain prussic acid, which is a deadly poison, and in the coarser sorghum this acid has

(Continued on Page Nine)

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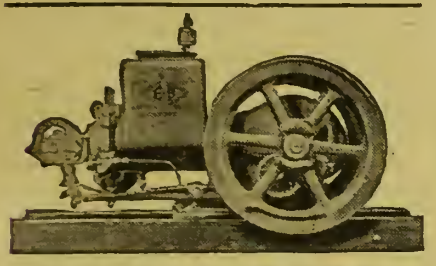

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Now is the time to begin the plans for fall and winter dairying. Pick the cows to be used and plan to provide feed for them. The winter milk checks help materially in the upkeep of living expenses—and many times do much more than this.

Feed Heifers Well

IT PAYS to give plenty of feed to beef heifers being developed for the breeding herd, but large use can be made of material having little or no commercial value. This was one of the important points brought out at the fourth annual round-up held at the Hays Experiment Station, April 5.

That beef breeding cows can be wintered in Western Kansas on feeds best adapted to soil and climatic conditions of that section was conclusively shown. Prof. W. A. Cochel stated that the farmer is justified in feeding well the females which he expects to develop into breeding cows. It was shown in the experimental work that where fed well the cows attain greater size, are more rugged, and are better mothers.

In one experiment eighty heifers were divided into two groups. This experiment started in December, 1915. Half of the cattle were fed in the winters of 1915 and 1916 four and one-half pounds of corn cob meal and one pound of linseed meal daily with alfalfa hay, silage, and straw. The second group was given no grain but the cattle were handled the same otherwise.

Each group is subdivided in the spring. Twenty head were taken out of each lot and placed in pastures by themselves. They were bred as yearlings. The other lots were grazed on similar pastures but not bred. The cattle were reassembled December 2, 1916, in the same manner as in the previous winter.

Lot 1 was fed three pounds of corn and one pound of cottonseed cake, with alfalfa hay, silage, and straw. The second lot was wintered without grain.

The bred heifers are thirty-five pounds heavier than those that were not bred. Those that have been well fed in the winter seasons weigh on the average 980 pounds, while those without grain average but 818 pounds.

Calves are now arriving in each lot. Those that were well fed are producing stronger and more vigorous calves, and have given less trouble at the time of calving. They have cost $15 more per head to grow and handle than have the cattle in Lot 2. The general estimate of those present was that the cattle in Lot 1 are now worth $25 a head more than those not given the extra feed. This indicates that it pays in dollars and cents to feed breeding heifers well. This experiment will be continued until all heifers are mature, at which time final conclusions will be made.

Five lots of three-year-old breeding cows—twenty to a lot—were used in another experiment. The object was to compare the value of feeding various combinations of alfalfa hay, cane hay, cottonseed cake, and silage. Lot No. 1 was fed sorghum hay and two pounds of cottonseed cake; No. 2, cane hay, one pound of cottonseed cake, and cane silage; No. 3, alfalfa hay and cane silage; No. 4, alfalfa hay and corn silage; No. 5, alfalfa hay and cane silage.

The most satisfactory gains were made in Lots 2 and 4. Lot 4 was the most economical of the five lots.

The results showed that where only cane hay is available two pounds of cottonseed cake or 10.9 pounds of alfalfa hay will furnish sufficient protein for the proper development of the dry cow.

It was shown that cane silage is not quite so efficient as corn silage when fed with alfalfa hay. It was found that eleven pounds of alfalfa, fifteen pounds of silage, and nine pounds of straw was the most efficient ration for winter feeding dry cows.

The third test was between cows that dropped calves in the fall and nursed them in the winter as compared with dry cows expected to calve in the spring. It cost $7 more to winter a cow with calf at side than a dry cow on the same kind of feeds. Even then the dry cows made more rapid gains in live weight.

Range bulls, averaging 1,500 pounds, consumed an average of fifteen pounds of alfalfa, twenty-two pounds of silage, four and one-half pounds of straw, six and one-third pounds of sorghum hay, and one and six-tenths pounds of cottonseed cake per head daily and gained an average of 1.68 pounds per head per day. It was shown that it cost twice as much to winter a bull as a cow.

The meeting was well attended by stockmen from all sections of the western portion of the state. As many as 175 automobiles were counted at one time, and it is estimated that at least 200 machines were used in conveying the cattlemen to the meeting. Between 1,000 and 1,500 persons were present.

Get all the weeds while they are small. It is easy then.



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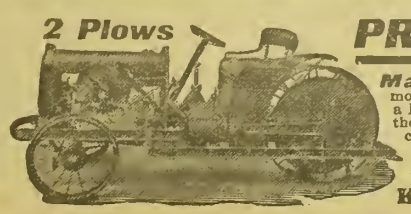

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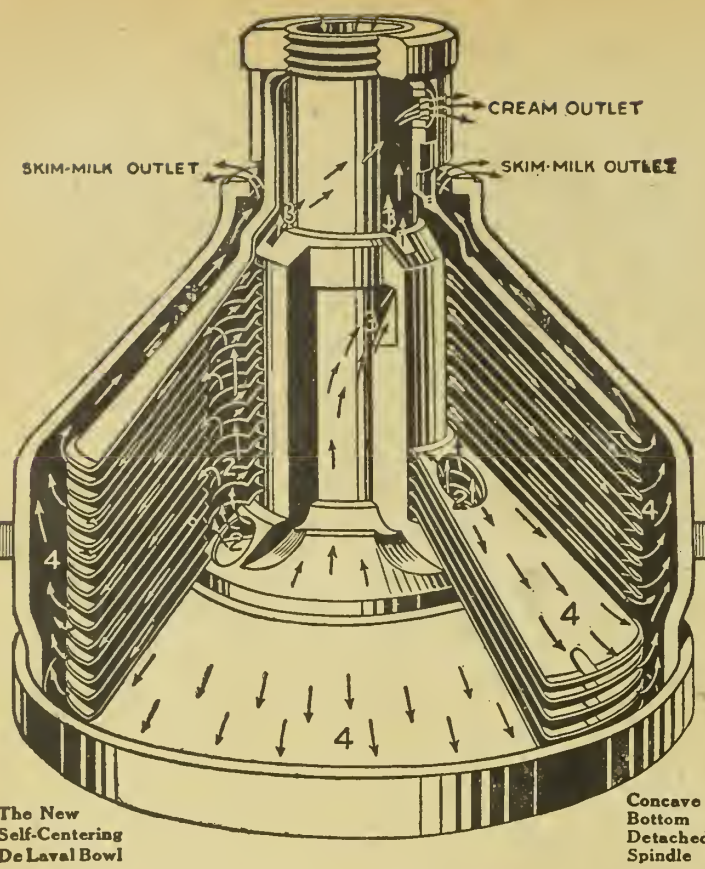

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THERE may be some question as to who makes the best wagon or the best plow or the best watch, but when it comes to cream separators the supremacy of the De Laval is acknowledged at once by every fair minded and impartial man who is familiar with the cream separator situation.

Thousands and thousands of tests, the world over, have proven that the De Laval skims the cleanest.

The construction of the New De Laval keeps it in a class by itself.

It outlasts and outwears all other makes by far, and can be run with much less cost for repairs.

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Order your De Laval now and let it begin saving cream for you right away. Remember that a De Laval may be bought for cash or on such liberal terms as to save its own cost. See the local De Laval agent, or if you don't know him, write to the nearest De Laval office as below.

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Western Canada Farmers Require 50,000 American Farm Laborers AT ONCE!

Urgent demand sent out for farm help by the Government of Canada. Good wages. Steady employment. Low railway fares. Pleasant surroundings. Comfortable homes. No Compulsory Military Service. Farm hands from the United States are absolutely guaranteed against Conscription. This advertisement is to secure farm help to replace Canadian farmers who have enlisted for the war.

A splendid opportunity for the young man to investigate Western Canada's agricultural offerings, and to do so at no expense. Only those accustomed to farming need apply.

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READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

Kansas Farmer Dairy Club

What Profit From Dollar's Worth of Feed?

IT IS the cow that gives back more than a dollar for a dollar's worth of feed that is the profitable one to keep, and the more she returns for the dollar the more profitable she is. The cow that does not pay for her feed is a loss to her keeper. He may not know it, but she is a loss to him just the same. The man who keeps a poor cow is working for that cow instead of making her work for him as she should do.

Our Dairy Club members all know what their cows have been doing, and we are glad to be able to say that so far all of your cows have been working for you—they have all been returning more than a dollar for a dollar's worth of feed.

One of the best things about the Dairy Club is your experience in keeping this individual record on your cow, and the more carefully you have kept track of the feed given her and the return she has made you for that feed, the more valuable will be your experience.

The keeping of cow records is not an unimportant task to be done carelessly or neglected when other things seem more important. This is work that every man who milks a cow can well afford to do. Indeed, many men have found fortunes by doing this very work—the records have shown them they had cows worth many, many times more than they would have believed had they not kept these records. It is in this way that the world champion milkers are discovered and it is in this way that certain cow families and herds become well known and famous. Through the keeping of records others have found that cows which they thought were good ones were not paying for their feed.

Think of this, boys and girls, if you feel like neglecting the careful weighing of the feed and milk, and remember that many men are doing this same work for the same purpose for which you are doing it, namely, in order that they may know where their cows stand among the producers of the dairy world.

Have You Paid for Your Cow?

Nine of our Dairy Club members have paid for their cows. And there may be others who have not written us about it. If you have paid for your cow and have not told us, we would be glad to hear from you about it. Even if you have not paid for your cow, we would be glad to know how much profit you have made from the sale of milk.

So far as the club awards are concerned, the boys and girls who have their cows paid for must work just as hard as ever or some other boy or girl will be ahead at the end of the year.

Has Paid His Note

Well my cow has paid for herself. I paid her off the first of March, and I was very glad. I paid the $300 in eight months. She has averaged about thirty-eight pounds of milk a day for the first two weeks in March.

I had forgotten I hadn't told you about how I sell my milk. Well I retail it. You see Papa sells milk in Oakley. He delivers it mostly in quart bottles. I sell it to him for five cents a quart and he sells it for six and one-fourth cents a quart. In this way I get a little more than I would if I sold cream or butter.

No, I haven't my heifer calf. I sold it to papa the first of November. I got $150 for it at three months old. I wish now I hadn't sold it as everybody says I should have kept it, but this way I have my cow paid for and perhaps next time I can keep the calf.

Well, I can't talk to you like I can to the banker. I try to talk with the banker as much as I can when I am in the bank. He thinks I have done very well in paying for her so soon.

I am trapping what little time I have. I have a trap set under the barn now. I have caught three so far—one under the barn and the others in the chicken house, but we have put up a new hen house now so they don't bother so much. The money I received for the hides I used in helping to pay for my cow.

Yes, I am trying to go to school this term but it keeps a fellow pretty busy to do everything.—LESTER KINCAID, Logan County.

Another Good Record

Received your last letter and in reply will say that I would like to send milk to Manhattan to have it tested for quality but my cow is dry now. She will be fresh April 16. Will I have another chance later to send milk to Manhattan?

In nine months my cow gave 11,158.9 pounds of milk. I have paid $148.34 on her. Was glad to read in KANSAS FARMER that so many of the Dairy Club members have paid for their cows.

Hope there will be some more boys and girls this year who can get cows to join the club. Wishing all the Dairy Club members success. — ELISE REGIER, Butler County.

Those whose cows were dry April 3 will have another opportunity to send a sample to Manhattan to be tested for quality.

Had to Sell His Cow

Enclosed please find feed records for February and the first few days in March. I sold my cow to the butcher for $69. She weighed 1,150 pounds. I sold her because she was not going to have a calf.—KENNETH E. RECTOR, Scott County.

While we regret Kenneth's misfortune, we feel sure he is not sorry that he joined the Dairy Club. He sold his cow for $9 more than he paid for her, and in addition to this had shown a nice little profit every month over and above the cost of feed given her.

His Banker Interested

My cow is a grade Holstein, but she is red because she has some Shorthorn blood.

Being unable to get bran for a few days I have been feeding corn chop only and my cow has dropped off in her milk.

I have paid $88 on my cow since May 11, 1916, by selling milk to people in town. When I had my cow on pasture



LUCILLE AND CLARENCE RADCLIFFE, OSAGE COUNTY, AND THEIR GRADE HOLSTEIN COWS.—THESE ARE THE FIRST TWO MEMBERS IN THE 1917 KANSAS FARMER DAIRY CLUB.—THEIR RECORDS BEGAN APRIL 1

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Wasteful extravagance goes hand in hand with inefficient farm power apparatus. Soil scratched with light plowing that reduces production, crops lost with poor threshing that wastes the yield, soon eat up the saving made in the purchase of a cheap and light farm engine. The farm engine should be a good one, capable of doing work that will bring returns in proportion to its cost. No better engines can be found than those that bear the Nichols & Shepard name as members of the

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Your own neighbor probably owns a steam or a gas engine of our make. Let him tell you what it can do, and then you might write for a little farm paper that will give you the opinion of others that you know at home. A catalog that is worth reading carefully will be sent you with the paper. A postal request to the nearest branch house will bring you both.

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It cannot swell, or shrink, so it never leaks.
Can be wheeled out of way when not in use
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she gave fifty pounds a day and I milked three times a day.

As I did not have any calf, I raised a pig and applied it on the note.

My cow milks very easily and is gentle. She weighs about 1,200 pounds.

The banker has been very much interested in the club work and has helped me with my cow. He is also my Sunday School teacher.—WILLIAM W. CLAWSON, Neosho County.

Another Cow Paid For

It has been nearly twelve months since my cow freshened and she is still doing pretty well.

I paid for my cow in eight months—$152—and this includes interest and insurance. I traded her calf for feed.

My year will be up May 1, 1917.

I read KANSAS FARMER every week and think it very interesting.—FERMER HIDDLESTON, Johnson County.

Bad Luck But Not Discouraged

I am glad to say I have paid all but $27 on my cow. Her left front quarter is spoiled but she has done pretty well anyway.

She is about dry now and I expect to see her go dry almost any time this month. She gives from four to six pounds of milk a day. I feed her two pounds of corn chop and two pounds of bran a day, besides about ten pounds of alfalfa and a pound of cottonseed meal. —GUS AARON, Leavenworth County.

Has Balance in Bank

I received a letter from the Bank of Topeka March 7 saying that my last check paid my note in full, interest and all, and left me a balance of $3.85.

Well, Bonnie Bell did not do so bad by paying for herself and feed in ten months. Feed was so high, but they must eat. This shows that the good cows are the only cows for dairymen.—GLEN ROMIG, Shawnee County.

If you have passed the half-way point or are nearing the end of your year's record in the Dairy Club, don't let your interest lag, for every month's record will be passed upon before making the grade, and every pound of butter fat will be counted.

Give your cow the very best treatment possible clear through the year and coax her to give you every pound of butter fat she can, for it may be these few extra pounds that will give you the place next higher than you would otherwise have had.

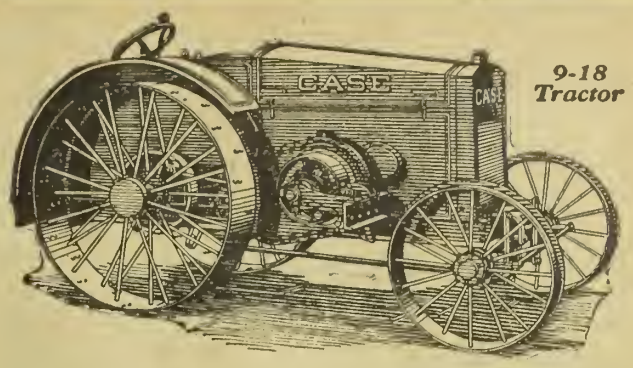
Weigh your feed and your milk just as carefully as you did at first and keep up your records regularly—every time you feed and every time you milk. This is the only way you can do your best, and it is the boy or girl who does his or her best always, who is successful.

Planning Dairy Show

Already the plans are being formed for making the Southwestern Dairy Show for 1917 an even greater and better exhibition than the one held in 1916. The date has not been definitely announced, but it will be some time in September. Some of the most prominent men in the dairy industry are on its executive board. An all-day meeting of the board will be held soon. W. E. Skinner of Chicago, manager of the National Dairy Show and member of the National Dairy Council, will be present. The Southwestern Jersey Cattle Breeders' Association is strongly back of the Kansas City show. Its directors recently held a meeting on the dairy farm of J. E. Jones in Jackson County, Missouri, and following this meeting the plans for the coming dairy show constituted the principal topic for discussion.

If the Southwestern Dairy Show is as successful this year as it was a year ago, it puts Kansas City in line for the National Dairy Show in 1918. The southwestern territory is developing rapidly in dairying and it would be a big boost for the industry to have the national show held in Kansas City in 1918. All the dairy interests should unite to bring about the locating of this next show at the home of the Southwestern Dairy Show.

If the cows are doing well in milk production and the feed is low or entirely gone, don't make them "rough" it until grass comes. They will pay for some feed and their milk flow will be saved. It is easier to keep up the milk flow than to build it up after it has once decreased.



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If you are figuring on buying an outfit—buy Case. Better be safe than sorry. If you have a Case outfit you'll be money ahead. A size Thresher and a size Tractor suitable for every farm.



Write today for the 1917 Case album. Describes Case Kerosene and Gas Tractors, Case Steam Engines, Case Threshing Machines, and every Case product. No farmer should be without one. Write today for *your* copy. It is free.

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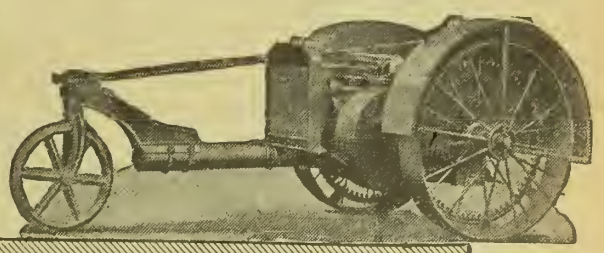

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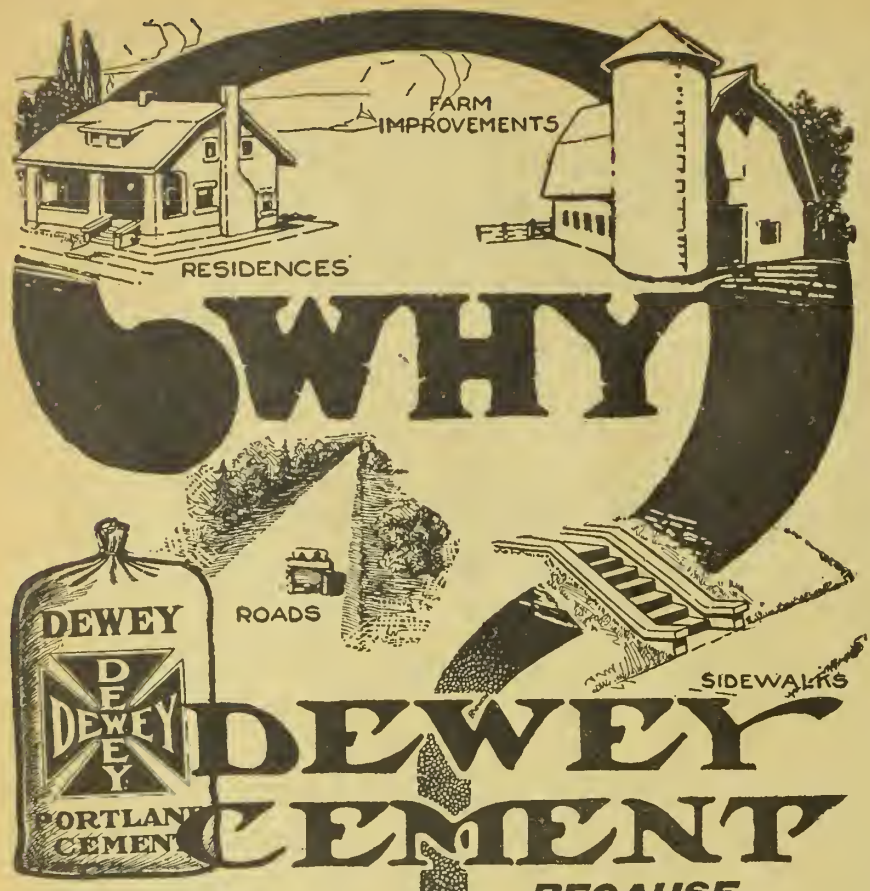

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Wheel Base—As long as some cars selling up to $2,000 and more—115 in.
Motor—4-cylinder; long stroke; high speed; 34.7 h. p. at 1,800 r. p. m.
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Brakes—Internal and external, two inches wide on 12-inch drum.

Three New Models at $845

Five-Passenger Touring Car
Four-Passenger Touring-Roadster
Two-Passenger Roadster

Each model is large and roomy—some would say room to spare, but you want a car that will seat its full load comfortably. Fine in appearance, fine driving and remarkably easy riding qualities, power in excess, economical in upkeep and fuel consumption, a car to give you satisfactory service for years to come—a car that we believe to be as high in quality and as nearly mechanically perfect as any car ever offered at anywhere near as low a price.

Our Illustrated Catalog

will show you views of all the ELCAR models and the more important mechanical parts, and is descriptive even to the minute details of construction. We will gladly mail it to you upon request.

5-Passenger Touring Car $845.

Elkhart Carriage & Motor Car Co.
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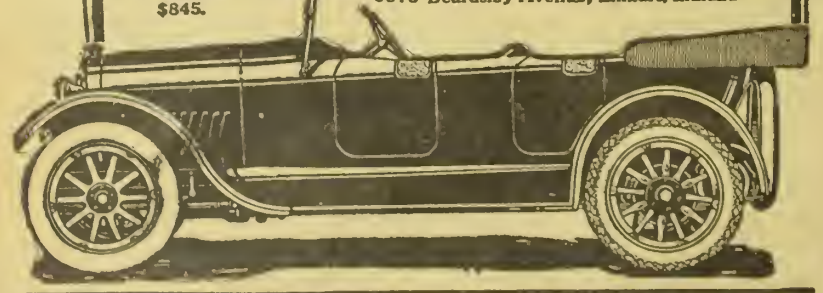

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[illegible] SEED CO., 420 McKinley St., Jefferson, Iowa



Hog-Tight Division Fence

ONE of our Marshall County readers wishes to make a hog-tight fence between his land and that of a neighbor. Each has maintained half of this division fence, although he states his neighbor has not maintained much of a fence. On our correspondent's portion of the fence no additional posts will be required in making it hog-tight by putting on woven wire hog fence. The point raised is whether the neighbor should maintain a fence with enough posts to make it possible to put on the woven wire so that it will be hog-tight.

We do not make a practice of trying to settle disputes between neighbors involving legal points. The law prescribes a legal fence. What constitutes a legal barbed wire fence in law does not have the posts as close together as they should be to make a satisfactory hog fence. The law permits one to put hog wire on that part of a partition fence maintained by a neighbor, but makes no requirement that he join in any portion of the expense of making the fence hog-tight other than the requirement that covers what is called a legal fence.

It is our advice that neighbors try to settle such points as are raised in this inquiry by going over the ground carefully and trying to figure out the advantages to each from the proposed improvement, each paying in proportion to the benefit he receives. It might be of no advantage whatever to one party to have the fence hog-tight, although it has always been our belief that the ideal condition on every farm is to have all the fields fenced so that hogs can be turned in at any time desired.

If it is necessary to consult a lawyer in a matter of this kind, go to one who would rather help settle a dispute out of court than through a lawsuit. There are lawyers of this kind and they will nearly always be able to clear up the points of law involved and settle the dispute in a manner that will leave the neighbors good friends.

Sub-Irrigation

C. T. W., Gove County, asks about sub-irrigation, referring to some articles on this subject which appeared in KANSAS FARMER several years ago. He wants to try this system this year. There may also be others interested in sub-irrigation, and we give below full information on this subject supplied by H. B. Walker, drainage and irrigation engineer at the agricultural college:

"As a general proposition, it has been my policy to discourage sub-irrigation. I do not mean by this that sub-irrigation is not sometimes successful, since there are a number of instances all over the States where farmers have secured excellent results by this method of water distribution. As a general proposition, however, I think that it is undoubtedly true that money spent for a sub-irrigation system would be a much better investment if placed in the construction of a storage tank for water, to be used by the usual methods of surface distribution.

"A large number of different systems of pipe lines have been used in sub-irrigation. Some of these have been patented devices, while others have been pipe lines made of galvanized iron with open seams, or pipe lines made with cypress lath, or just ordinary three-inch farm drain tile. So far as the conducting material is concerned, it matters little of what it is made so long as it will permit the water to flow along the pipe line, and they must have open joints at intervals to permit the water to escape into the adjacent soil. Probably the cheapest material for pipe lines is the ordinary building lath. However, this material is not of a permanent construction, and perhaps the second cheapest and most desirable material is the farm drain tile. Three-inch drain tile will cost from one and one-half to two and one-half cents per foot, depending upon the quantity which is purchased.

"These pipe lines must be carefully placed in the ground if satisfactory results are obtained. It is evident that sub-irrigation will be most successful in a field where the surface soil is open and porous, and where the sub-soil is relatively compact and impervious to water. Under such conditions the water will spread laterally from the pipe lines to a great distance, and there will be little loss of water by seepage into the subsoil. On the other hand, it is evident that a soil which is underlaid with a gravelly or open subsoil will not be very well adapted to sub-irrigation since under these conditions the loss by seepage down into the subsoil will be so rapid and excessive in comparison with the spreading of the water laterally from the pipe lines. It must be recognized that the soil condition is an important factor in the success of a sub-irrigation system. Where unfavorable soil conditions exist this method of water distribution should be discouraged, and if it is used it will be found that the losses of water will be as great if not greater than if the usual surface methods of distribution had been used.

"The spacing of the pipe lines must be close enough to permit the water to seep entirely across the spaces with a fair degree of uniformity.

"It has been found that under the usual Kansas conditions a spacing of the pipe lines of from four and one-half to six feet is essential for the most satisfactory results. These pipe lines are ordinarily placed at depths varying eight to fourteen inches. The grades of the pipe lines should be relatively flat and should not exceed one and one-half inches in a hundred feet. Under some conditions very good results have been obtained by placing the pipe lines shallower or deeper than the depths indicated above, but it is believed that under ordinary conditions the depths given will prove more satisfactory if the soil is naturally adapted to this method of water distribution.

"If we assume that a farmer proposes to sub-irrigate one acre of land, and further assuming that the soil requires a spacing of pipe lines six feet apart, it will require 7,000 feet of pipe line to sub-irrigate an acre. If farm drain tile are used, the cost of the material alone if purchased at a local lumber yard will be in the neighborhood of $150 to $175. In addition to this the laying of the pipe line will cost another $100, thereby making a total cost of a sub-irrigation system for one acre approximately $250. I am confident that one-half of this amount of money invested in a good concrete reservoir in connection with a farm windmill pumping plant will prove a much more satisfactory investment for the average farmer. Under any circumstances no farmer should construct a large sub-irrigation system until he has first experimented with his soil to find out the proper depth and spacing of his pipe lines to get the most satisfactory results."

Bankers Buy Calves

We have just received a letter from C. G. Elling, district agricultural agent in Southeast Kansas, telling of the purchase of fifty head of Holstein and Guernsey heifer calves in Wisconsin. Mr. Elling and J. W. Marley, of the Oswego State Bank, made the trip to Wisconsin to buy these calves, acting for the two banks of Oswego.

The bankers of Labette County are financing a movement to improve the dairy stock of that county. These calves which have just been purchased are to be placed in the hands of boys and girls who will give notes at six per cent in payment for them. Other shipments will be made to different communities in the county, in each case the banks furnishing the money to buy the calves and paying the expense of shipment. Mr. Elling states that the plan is to put the calves up and sell them at the end of the year, appropriate prizes to be awarded to the boys and girls making the best records.

It is generally being recognized that more and better live stock is needed on the farms in this section of the state. Bringing in these calves will be a distinct advantage to the county in that it will probably result in there being more dairying in the near future.

Anything that will make the housewife's work easier should be considered necessary.

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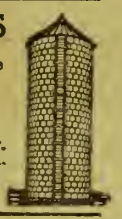

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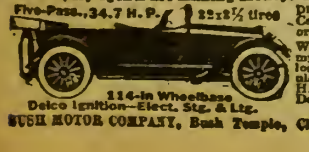

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BUSH MOTOR COMPANY, Bush Temple, Chicago, Illinois

Sudan Proves Worth

(Continued from Page Four)

caused the death of cattle many times. Only three fatalities arising from the use of Sudan grass as a pasture have been reported, and it, therefore, would seem to be fairly safe. Care should be used when cattle are first turned into Sudan grass pasture, as the poison acts very quickly when it is present in any quantity.

Sudan grass is essentially a summer pasture and it will support a larger number of cattle or hogs during the hot weather of summer than any other grass unless it is Bermuda. At Dodge City, Kansas, the substation carried out a pasture test with milk cows. Three acres kept an average of twenty cows in good condition for thirty-two days during the drouth. In a more exact manner it may be put this way, with an actual rainfall of 4.6 inches three acres of Sudan grass furnished pasture equal to 375 days' grazing for one animal. The cows when changed from native prairie pastures to Sudan grass showed a gain of 3.2 pounds of milk per day.

A less exact test than that at Dodge City was conducted at the Chillicothe, Texas, field station in 1915. Three strips



SUDAN SEEDED IN NORTHWEST KANSAS JUNE 20 AND CUT SEPTEMBER 20.—AXE HANDLE IN FOREGROUND SHOW HEIGHT

of ground of equal width were planted to Amber sorgo, German millet, and Sudan grass, respectively. When the crops had all reached a height of eight to ten inches a gate directly opposite the strip of millet was opened and the live stock, consisting of four mules, one horse, and one cow, were allowed free access to the field. From the first day they all showed a preference for the Sudan grass and kept it grazed closely to the ground all summer, while the millet grew up, headed out, and was cut for hay. The sorghum was eaten very sparingly until after it headed out, after which the animals seemed to like it better.

The Arizona Experiment Station found under dry-farm conditions near Prescott, Arizona, that Sudan grass would maintain twenty sheep per acre continuously for a hundred days. Compared with Amber sorgo, it was noted that sheep pastured on Sudan grass fattened while those on the sorgo made only ordinary growth. The report goes on to state that the grass is a better summer pasture crop than alfalfa and that it prevents bloat to a large extent when seeded in mixture with alfalfa.

A farmer in Southwestern Kansas kept a hundred head of shoats growing rapidly on a half grain ration, by allowing them to pasture on three acres of Sudan grass during the summer.

B. L. Morris, of Lubbock, Texas, pastured thirty-two hogs and an equal number of pigs and two milk cows on five acres of Sudan grass from May 1 until fall in 1915, and the grass grew so rapidly he was compelled to turn in eight head of cattle every few days to eat it down. He claims that in four days after placing his milk cows on the Sudan grass they nearly doubled their output of milk. He expected to pasture 250 hogs on twenty acres of Sudan grass in 1916.

These experiences of farmers and the results obtained at experiment stations indicate that Sudan grass can be utilized very effectively as a pasture for hogs, sheep, cattle, and horses. Care and judgment in pasturing will do much to prevent injuries from poisoning. Sudan grass which has been injured by a drouth, or has been subjected to any other sudden stoppage of growth, such as a hard freeze, should not be pastured except with hogs. A normal continuous growth will usually be safe for any kind of animal.



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We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

"Just to be out of doors! So still, so green!
With unbreathed air, illimitable, clean,
With soft, sweet scent of happy growing things,
The leaves' soft flutter, sound of sudden wings,
The far faint hills, waters wide between.
Breast of the great Earth-Mother! Here we lean
With no conventions hard to intervene,
Content with the contentment Nature brings—
Just to be out of doors!"

In these days of anxiety over the international turmoil and unrest, the value of the simple blessings which are the object of the above lines, is enhanced. Nature alone seems unmoved and restful.

Much Food Is Wasted

This waste is brought about in two ways—first, by preparing more food for the meal than is eaten, and second, by eating more food than is needed for physical and mental efficiency.

The first named waste is more prevalent in farm homes, we believe, than in city homes, due to the hospitality of farmers generally and the greater supply stocks in their cellars and smokehouses. Many of us can recall dinner tables loaded to their utmost capacity with good things intended to be eaten at one "sitting" and which would easily have provided several abundant meals for the same number of people. If the guests did what was expected of them they felt much the worse for it, and if they could not do this well, much of the food was necessarily wasted.

A study of foods and their energy-giving properties would make it possible to eliminate this waste and still feed the family well. This study is an important part of the domestic science courses offered and for this reason alone, if for no other, the college training for housekeeping is well worth while—indeed essential. Those who have not had this training have within their reach many helpful bulletins on the subjects taught in these courses. A study of these bulletins will result in making it possible to simplify the work of housekeeping and yet do it more efficiently. A postal card addressed to the Division of Publications, Federal Department of Agriculture, Washington, D. C., asking for a list of the bulletins of interest to housewives, will bring the names of many free bulletins worthy of study. One of the latest of these bulletins and one which has before been mentioned in these columns, deals with the selection of food and tells the body's needs.

Another effective way of eliminating waste is by saving the surplus garden and orchard products for winter use. The canning of these products should be more diligently practiced. Most vegetables and fruits can now be put up without risk and none need be without instructions for doing this work properly as the experience of successful canners is free for the asking. The canning work has taken wonderful strides in our own state and this year the number of these clubs will be far greater than in any previous year.

This question of food and its cost is one that is ever with us, and it will be solved only through individual thought and care in its production and use.

Value of Salads

We often hear salads spoken of lightly, especially by men, and yet they supply the body with properties very necessary for doing its work properly. Without salads—fruits and vegetables—meals are likely to lack certain mineral substances which are used by the body for building material and are found in all its parts. Therefore, the body should be supplied some of this building material each day else its work will be impaired.

It will not be long now until it will be an easy matter to supply salads, as the early garden will soon be ready for use. One very simple and very good salad is fresh, tender lettuce leaves cut fine and seasoned with French dressing. This dressing, the basis of which is olive oil, is also very healthful. It is made of three tablespoonfuls of good olive oil, one tablespoonful of vinegar, one level teaspoonful salt, a pinch of paprika, and a pinch of mustard if desired. This mixture should be beaten thoroughly before being put over the lettuce. It may be added to the lettuce at the table according to the taste of the individual.

Cold cooked spinach or greens served with this dressing will also make a very appetizing salad.

House-Cleaning Helps

In house cleaning, as in any other work, system will aid greatly in accomplishing results.

The part of the house used as a storage—cellar, attic, or unused room—should be cleaned first so that the surplus articles to be stored may be cleaned and put away, leaving that much less to handle in the cleaning. Pantries and closets should also be cleaned before the rooms to which they belong.

The best way to clean carpets and rugs is to lay them flat in the sunshine and beat with a broad wire beater. When the carpets and rugs have been cleaned they should be rolled and laid away out of the dirt. It is very hard on the threads of carpets to shake or hang over a line.

Any curtains that are not used during the summer should be washed and laid away without starching. Draperies should be thoroughly cleaned before being put away.

The ideal way to clean house—at least the way that causes the least discomfort to the family—is to clean one room at a time. This leaves a retreat in some other part of the house where the family may gather at the close of the day. Nor should the cleaning be begun at daybreak and continued until dark. This is too great a strain on the strength and nerves of the housewife and the other members of the family suffer as well because of it. The work will be accomplished as quickly and far more satisfactorily if done by degrees, allowing for some change of work during the day and a few minutes of rest. If the cleaning of one room is finished toward the close of the afternoon, the work of the following day will not seem so burdensome if the rest of the afternoon is spent out about the chickens, in the garden, or in resting, instead of starting on another room.

We know many housekeepers will look upon this as the idea of a shiftless woman, but they would be able to enjoy the newly cleaned house much sooner by following this rule.

The screens should be put in place as soon as the windows are washed on the outside and this should be done before the flies begin to come, as this is an important "Safety First" gauge.

Meat Pie

Cut into small bits cold roast beef or other meat, add to this a pint or more of cold water and let simmer for an hour. Thicken with a tablespoonful of flour. Put a layer of this in pudding dish, then add layer of sliced hard-boiled eggs, and few slices of cold boiled potatoes, adding balance of meat, sliced eggs and potatoes. Season with salt, pepper, and bits of butter. Cover with crust, leaving an opening in center, and bake forty minutes.

CRUST

2 cupfuls flour
½ teaspoonful salt
2 teaspoonfuls baking powder
2 tablespoonfuls butter
1 egg
Enough milk to make soft batter

Sift flour, baking powder and salt together. Rub in shortening, then add the egg and the milk.

A paring knife with a good steel blade that can be kept sharp, will be of great help to the housewife in practicing economy. Poor knives are responsible for much waste.



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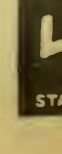



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Causes of Chick Diarrhea

NINETY-FIVE per cent of the diarrhea which results in such mortality to little chicks is not due to the white diarrhea germ, but to other causes that may be prevented by careful handling.

A little chick is apt to become chilled, which will cause it to have diarrhea. This chilling may result from indiscreet use of the nursery tray of the incubator. For instance, a correspondent recently wrote to the Missouri College of Agriculture that the nursery tray on his machine was registering 80 degrees, or 23 degrees below the egg tray. If newly hatched chicks were put in a temperature of 80 degrees, they would become chilled and diarrhea probably would follow.

Again, many are careless in transferring chicks from incubator to brooder in a cool room and they fail to warm the container which the chicks are to occupy. The hands should be warm and the cloths with which the chicks are covered should also be warm. After they are placed in the brooder, every precaution should also be taken to keep them warm. The brooder should be kept at a temperature of 95 to 100 degrees the first week and reduced about one degree a day until the right temperature is reached. They should be kept warm enough so that they do not crowd at night and they should always be afforded a cool place to which they may go if they desire. Chicks raised with the hen should not be let out until the grass has become dry, because a wet chick is apt to become chilled.

Another cause of diarrhea is the overheated incubator or brooder which may interfere with the natural absorption of the yolk and cause trouble after the chicks are about a week old.

Then, too, diarrhea may be caused by feeding chicks musty or sour food. Corn meal which has become heated in the sack or bin and which has a musty odor should never be used for chick feeding.

Diarrhea may also be caused by allowing the chicks to scratch in musty chaff. If this occurs, spores will become imbedded in the lungs of the chick and a white diarrhea with a high mortality will result.

In some cases, diarrhea may be caused by the white diarrhea germ, which is said to be present in the ovary of the mother hen and, if this is the case, extreme sanitary precautions should be observed. Care should be taken to use only the most vigorous breeding stock available. The incubator should be cleaned and disinfected between every hatch and the brooder should be disinfected every time a chick dies. The incubator door should be darkened at hatching so that healthy chicks will not pick up the droppings of diseased chicks. The drinking water should be colored a claret red by the use of potassium permanganate and the chicks should be fed sour skim milk as soon as they begin to drink.

Keep Hens Busy

A laying hen is always a working hen. The best layers are always active, and if their feed is given to them so that they can eat it without exercise, they will get exercise in some way and pull each other's feathers, get frightened and fly across the pen at every little noise, or try to fly out.

Feed should be given so that the hens will have to work five to eight hours every day to get their fill. Grain may be scattered thinly in a deep litter. It may be fed unthreshed, compelling the hens to scratch it off. Heads of kafir or milo may be hung up, so that the hens will have to work hard to pick it off. Roots and cabbage may be treated the same way. Give ample feed and see that every hen has plenty, but see that she works hard for it.

Selecting the Good Layers

The poultrymen of the Missouri Experiment Station have a very simple method of picking out good layers. The feet of the hen tell the story. It looks almost too simple to be true, but it is founded upon fact, nevertheless. The egg record of every hen at the station is carefully kept, and when the hen dies or is killed her feet and shanks are preserved for reference. It has been found that the length of the toenails is in direct proportion to the egg record. The long nails belong to the poor layers and the short nails to the best layers.

The reason for this is plain. The laying hen is always busy, and scratching wears away the nails and keeps them short. The poor layer is lazy and does but little scratching, consequently her toenails grow long. The poorest layer among the exhibits laid about forty eggs during her whole life, while the best one laid 214 eggs in one year. The nails on the toes of the former are almost an inch long while those of the heavy layer are worn almost entirely away. The records of others correspond proportionately. Therefore, for all practical purposes it may be said that the longer the toenails the poorer the layer, and the shorter the nails the better the layer.

Kafir for Chickens

Kafir and milo are splendidly adapted, both in size and composition, for feeding to all classes of poultry. In many parts of the country, far outside of the grain-sorghum belt, small patches of kafir, durra, or other "chicken corn" are commonly grown on the farm, simply to furnish chicken feed. There were in 1908 more than a hundred firms engaged in the manufacture of over two hundred brands of poultry feed. Figures furnished by thirty-three of these firms show an annual output at that time of about 30,000 tons of these products. Approximately 10,000 tons, or one-third of this total, consisted of the seed of blackhull kafir. This was mostly used in mixture with other grains, such as corn, wheat, screenings, etc.

It is probably a conservative estimate that kafir or milo seed forms fully 25 per cent of the prepared poultry food sold in this country. So strong is the demand for these grains by the manufacturers of poultry food that similar varieties have been imported from as far away as India when the crop in this country was short. Considerable quantities were so imported in the winter of 1909-10, following the short crop of 1909. —Farmers' Bulletin No. 448.

Don't Mix Breeds

Keep one breed. Select a breed that you like and one adapted to your purpose. Then get a business strain of this breed and do not keep a single bird a week after it ceases to be profitable.

There has been an endless mixing of breeds on many farms. Every year or two cockerels of a different breed are purchased and introduced into the already mixed flocks. Each breed needs somewhat different care and feeding and in the general mixture few, if any, of the fowls can be given just the treatment that will secure the most profit. Neither the farmer, his wife, nor his children can feel the pride in the speckled, streaked, spotted, odd sized, mixed colored flock that they would in a choice, uniformly marked flock of one breed, and the mixed flock will receive care that further reduces the profits.

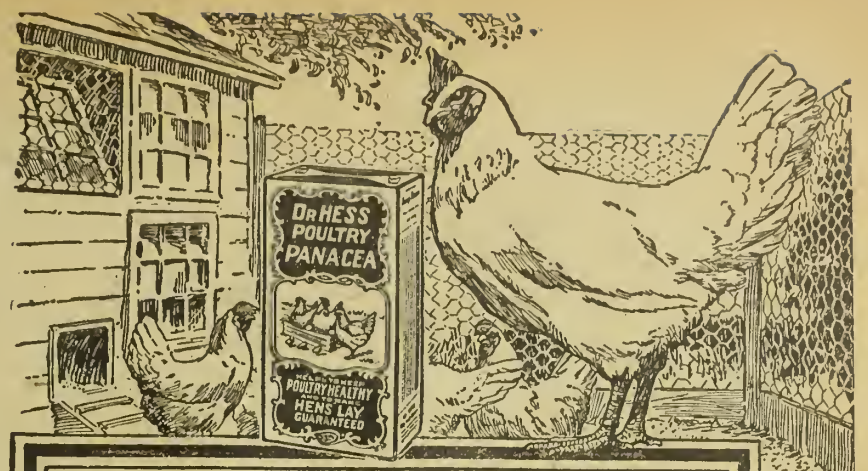
Free range is the ideal condition for the production of eggs that will hatch chicks which are full of vitality. Most of the baby chicks produced from eggs laid by hens under free range conditions are free from common chick troubles.

Tells Why Chicks Die

E. J. Reefer, poultry expert, of 463 Reefer Bldg., Kansas City, Mo., is giving away free a new book which tells of a simple home solution that raises 98 per cent of all chicks hatched and cures white diarrhea over night. All poultry raisers should write for this valuable free book.—[Adv.]

Save Your Chicks—Free

Send two names to the Wight Co., 18 Main, Lamoni, Iowa, and they will send you enough Iowite Remedy, absolutely free, to save forty chicks from White Diarrhea.—[Adv.]



Save Your Chicks

That's your greatest problem. Little chicks die by thousands from *indigestion, diarrhoea, gapes, leg weakness, etc.* They need help—three-fourths of the loss can be avoided. Begin with the bowels—make the digestion right by using

Dr. Hess Poultry PAN-A-CE-A

Cures Gapes, Indigestion, Leg Weakness, etc.

Here are a few of the valuable ingredients in Pan-a-ce-a to meet the requirements of your poultry which I have just stated: *Nux Vomica*, a nerve tonic; *Carbonate of Lime*, a shell former; *Hyposulphite of Soda*, an internal antiseptic; *Quassia*, an appetizer; *Iron*, to enrich the blood, and other valuable ingredients, all well known and recommended by the highest medical and veterinary authorities.

Costs 1 Cent a Day for 30 Fowls

1½ lbs. 25c
5 lbs. 60c
12 lbs. $1.25
25-lb. pail $2.50
(except in Canada and the far West)

My Guarantee

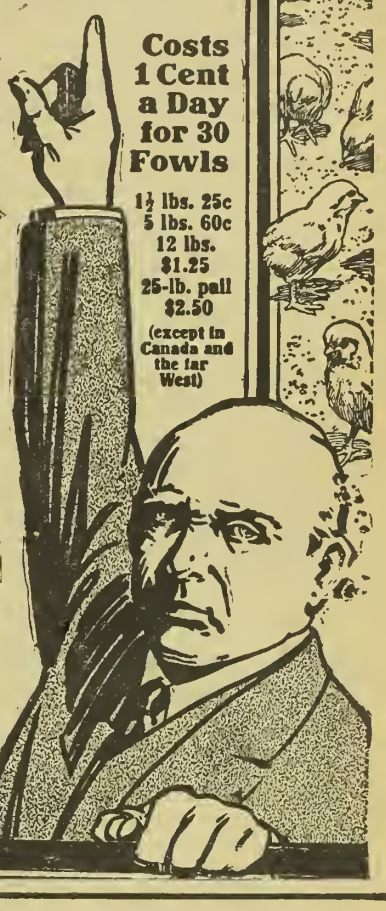
So sure am I that Dr. Hess Poultry Pan-a-ce-a will prevent and cure gapes, indigestion, leg weakness and the like, reduce your loss to mere nothing and help your chicks grow and mature rapidly, that I have told my dealer in your town to supply you with enough for your flock, and if it doesn't do as I say, return empty packages and get your money back.

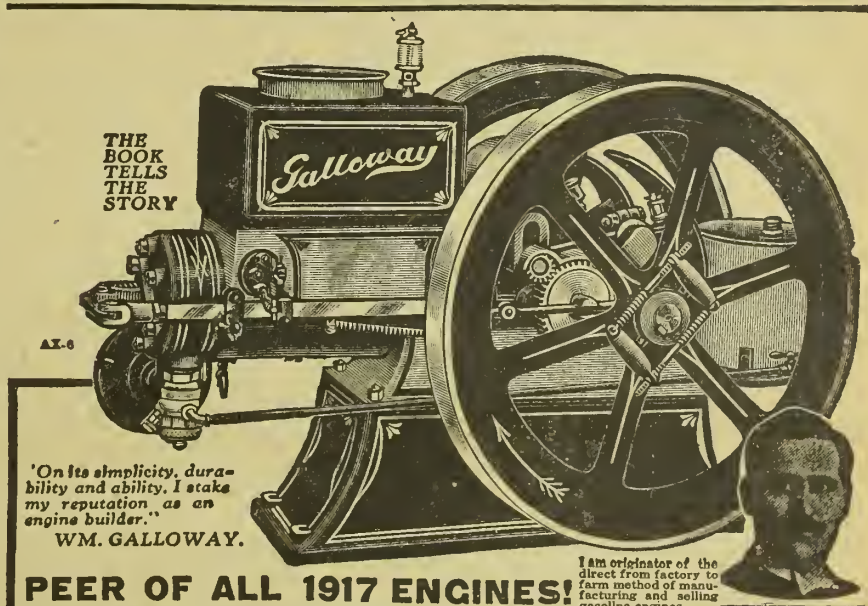
Write for free book on Poultry Culture.

Dr. Hess & Clark
Ashland, Ohio

Dr. Hess Stock Tonic
Positively expels worms. A valuable tonic and conditioner for cattle, horses, hogs and sheep. Improves appetite, tones system, helps digestion. 25-lb. pail, $2.00; 100-lb. drum, $6.50; smaller packages as low as 50c (except in Canada and the far West and the South).

Dr. Hess Instant Louse Killer
Kills lice on poultry and farm stock. Destroys bugs on cucumber vines, slugs on roses, etc. Use by dusting or sprinkling. Comes in handy sifting-top cans. 1 lb. 25c; 3 lbs. 60c (except in Canada).





PEER OF ALL 1917 ENGINES!

I am originator of the direct from factory to farm method of manufacturing and selling gasoline engines.

KNOW THIS ENGINE and you will buy it—you will at least try it. Its design, the material from which it is built and the workmanship and finish and its low wholesale price demand that you compare the Galloway engine with any other engine on the market. That is what my customers have done and why our annual sales have run into the thousands upon thousands. If you pay more than Galloway's price it would only be paying too much. If you pay less you could not possibly be getting as good an engine. One could not be built for less.

1917 IMPROVEMENTS include—adjustable bearings. Economy carburetor, worth $15 more on any engine, costs nothing extra on the Galloway—cuts down fuel bills. Valves in head exactly like high-class automobile motors. Double Ball governor, never sticks, regulates speed perfectly. Large, heavy, over-size flywheels. Large bore, long stroke, heavy-weight, perfect balance. Blue-hot spark magneto. Make and break Galloway igniter—easy to start—no cranking—needs no batteries. Cylinder and water pot frost proof.

GET THIS FREE BOOK NOW! Tells how to pick out, size up and judge an engine. Gives you engine secrets and facts. Tells why to insist on heavy weight, large bore, long stroke and low speed. Tell why we can sell at such low prices direct from our factory to farm or shop at wholesale. How to install an engine and hook up machinery. How Galloway engines are built. How to lay out and build a cheap, efficient power house. Saves you $250 in fitting up a farm power house. Ask today



FIVE SELLING PLANS—BACKED BY A BOND! I make it easy for you to buy a good engine on either cash or time payments. Cash, bank deposit, half cash half note, all note and installment. You can try a Galloway engine on your own farm—in your own shop—for an actual power test without expense to yourself, and buy on any one of these plans. A Galloway engine must prove to you—you to be the sole judge—whether or not it actually does everything we claim for it and satisfy you in every way. Ask for my book today. Engines shipped from our transfer houses at Council Bluffs, St. Paul, Kansas City, Chicago and from Waterloo factories. We are engine manufacturing specialists.

Wm. Galloway, Pres., Wm. Galloway Co., 215 Galloway Sta., Waterloo, Iowa

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement here reaches over 60,000 farmers for 5 cents a word per week. No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms, always cash with order.

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

HELP WANTED.

BE A GOVERNMENT FARMER. GOOD pay; steady, interesting job. Write Central Institute, 44-F, St. Louis.

WANTED — SINGLE MAN OF GOOD habits to work on a farm. Please state your experience and wages expected in first letter. H. T. Farrar, Axtell, Kansas.

WANTED, AT ONCE — SINGLE FARM hand, one who understands farm work. Steady employment. Earl R. Myers, Hardy, Neb.

MAN OR WOMAN TO TRAVEL FOR old established firm. No canvassing; $1,170 first year, payable weekly, pursuant to contract. Expenses advanced. G. G. Nichols, Philadelphia, Pa., Pepper Bldg.

THOUSANDS U. S. GOVERNMENT JOBS now open to farmers—men and women. $65 to $150 month. Common education sufficient. Write for list positions easily obtained. Franklin Institute, Dept. B82, Rochester, New York.

DAIRYMAN WANTED TO TAKE charge of small herd. Single, competent, reliable and sober. Must milk and take care of all utensils. State salary wanted. Give references and experience. Blue Valley Farms, Roff, Okla.

REAL ESTATE.

YOUR CHANCE IS IN CANADA.—RICH lands and business opportunities offer you independence. Farm lands, $11 to $30 acre; irrigated lands, $35 to $50; twenty years to pay; $2,000 loan on improvements, or ready made farms. Loan of live stock; taxes average under 20 cents an acre; no taxes on improvements, personal property, or live stock. Good markets, churches, schools, roads, telephones; excellent climate — crops and live stock prove it. Special homeseekers' fare certificates. Write for free booklets. Allan Cameron, General Superintendent Land Branch, Canadian Pacific Ry., 234 Ninth Ave., Calgary, Alberta.

NEW FARM OPPORTUNITY IN ONE OF the greatest states in the Union. A new line of the Santa Fe is tapping a rich and fertile prairie section of Northwest Texas, where already many farmers have made good in a big way with wheat, hogs and live stock. Here, if you act now, you can get first choice—get in on the ground floor of a great opportunity. You can get in ahead of the railway—ahead of the people whom the railway will bring—ahead of those who act more slowly than you do. This is the chance of a lifetime for a man of moderate means. A certain number of thrifty, far-seeing farmers can acquire good land at an astonishingly low figure and on long, easy terms. If you have confidence that a great railroad, like the Santa Fe, would only recommend what it considers a good thing, and because it wants to see new territory developed and wants newcomers to prosper and produce—then write me today for particulars about this district. Mild climate, social advantages, schools, churches, telephones, good roads. Everything there but enough men with their families. Will you be one of the fortunate first comers to reap the advantages of a section that has been minutely inspected by a Santa Fe agricultural agent and pronounced right? Write me now and let me send you a copy of the special illustrated circular we are getting out. C. L. Seagraves, Industrial Commissioner, A. T. & S. F. Ry., 931 Railway Exchange, Chicago.

HORSES AND MULES.

SHETLAND PONIES, FIFTY HEAD, moderate prices. Charles Clemmons, Coffeyville, Kansas.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

SHETLAND PONIES—FOUR-YEAR-OLD mare (almost pure white) and yearling colt (black and white), a beauty. Harness and saddle. Chauncey Storms, Spickard, Mo.

REGISTERED PERCHERON STUD COLT at a bargain. Two years old, black, farm raised. Splendid individual. Will make 2,200-pound horse when matured. Cash price, $275, if sold soon. P. A. Wempe, Seneca, Kansas.

MISCELLANEOUS.

FOR SALE — 16-HORSEPOWER GASOline engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost $480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

LUMBER.

LUMBER, MILLWORK, FENCE POSTS, wholesale mill prices. Send carpenter's list for freight prepaid estimate. Keystone Lumber Company, Tacoma, Washington.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431-28 W. Jackson Boulevard, Chicago.

TREES, SEEDS AND PLANTS.

SEED CORN — LAPTAD STOCK FARM, Lawrence, Kansas.

SEED CORN—BOONE COUNTY WHITE, carefully selected, $2.50 per bushel shelled. J. W. Taylor, Edwardsville, Kansas.

ALFALFA SEED — NEW, RECLEANED, $8 per bushel. Bags, 25 cents. Sample on request. W. M. Hixon, Berryton, Kansas.

BLACK HULLED WHITE KAFIR SEED, recleaned, tested and sacked, $2 per bushel. Grover Lee, Pratt, Kansas.

SEED SWEET POTATOES, PUMPKIN yams, 3c pound, $1.50 shipped in bushel boxes. J. Medford, Wheatland, Okla.

ALFALFA SEED FROM NORTHWEST Kansas, 95 per cent pure. Good germination. $5.50 per bushel. Geo. Bowman, Logan, Kansas.

SUDAN SEED, $30 PER HUNDRED; Red-Top Cane, $5 per hundred; Swartz White Maize, $5 per hundred, f. o. b. Lubbock, Texas. Robinson Bros., Lubbock, Texas.

SEED CORN — DIAMOND JOE WHITE, excellent drouth resister, and Reid's Yellow Dent. Graded, $2.50 bushel. D. D. Denver, Milford, Kansas.

COMMERCIAL WHITE SEED CORN, $2.50 bushel. "Meadow fesque," 7c pound. White clover, 35c pound. Alfalfa, $8. E. D. King, Burlington, Kansas.

REID'S YELLOW DENT, BOONE COUNTY White seed corn. Genuine Red Texas seed oats, clover, timothy and alfalfa seed. S. G. Trent, Hiawatha, Kansas.

FIFTEEN DOLLARS IN GOLD FOR THE best two ears of corn from our Golden Beauty pop corn seed in 1917. A liberal packet of seed and particulars for a dime. Ambrose Seed Co., Urbana, Ohio.

BEAUTIFUL FLOWERS — BIG STOCK, canna, gladiola, woolflower, salvia, tomato, cabbage, pepper, sage, and other flowering and vegetable plants. Seeds and bulbs. Write for descriptive price list. Henry S. Jefferies, Ottawa, Kansas.

BERMUDA GRASS — HARDY, RANK-growing variety. Stands drouths, floods, hot winds and severe freezing. Best and hardiest pasture grass. Great milk producer. Write for leaflet today telling how to get started. Henry Jefferies, Ottawa, Kansas.

EVERBLOOMING STRAWBERRY plants—Americus, 100 strong healthy plants true to name, only 90 cents; 500, $4. Have tried Americus, Progressive and Superb. Americus proved the best bearer. Big stock flowering and vegetable plants. Write for descriptive price list. Henry Jefferies, Ottawa, Kansas.

ALFALFA AND KAFIR SEED — RE-cleaned, home-grown, non-irrigated. Alfalfa seed, $5, $6, $7, $8 and $9. White Flower sweet clover, hulled, $12; unhulled, $7.50. Pure white kafir, $2; good growing kafir, 1% cane seed, $1.75 per bushel, our track. Seamless bags, 30c each. Samples on request. The L. C. Adam Mercantile Co., Cedar Vale, Kansas.

FROST-PROOF CABBAGE PLANTS — Offer our thousands of customers in the Southwest same high class plants as in the past. Jersey, Charleston, Wakefield, Succession, Flat Dutch. One hundred, postpaid, 40c; 200, postpaid, 75c; 500, postpaid, $1.25; 1,000, postpaid, $1.75; over 5,000, cheaper. You know us. Largest plant shippers in the Southwest. Ozark Seed & Plant Co., Nashville, Ark.

DOGS.

REGISTERED SCOTCH COLLIES AND fox terriers. Western Home Kennels, St. John, Kansas.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

CATTLE.

HIGH GRADE HOLSTEIN HEIFER calves, $17 each, crated. Edw. Yohn, Watertown, Wisconsin.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FOR SALE — A RED POLLED BULL calved November 19, 1914. Will make a show bull. Geo. Haas, Lyons, Kansas.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $23 apiece. Frank M. Hawes, Whitewater, Wis.

AYRSHIRES — TWO HIGH GRADES, grandsons of third highest producing junior two year old. From extra good dams. $25 and $30. Taylor Maid Ayrshire Farm, Troy, Missouri.

HOLSTEIN CALVES — TEN HEIFERS and two bulls 15-16ths pure, 4 to 6 weeks old, $18 each, crated for shipment. Also one pure-bred heifer, three months old, $75. These calves are nicely marked. Four Way Farm, Whitewater, Wis.

HOGS.

BIG-TYPE POLAND BOARS. U. A. Gore, Seward, Kansas.

Poultry Profitable Side Line

"FULLY sixty-five per cent of the poultry and eggs produced come from the farms," said F. E. Fox, assistant in poultry at the agricultural college, in opening his talk on the Santa Fe Dairy and Poultry Special, which recently completed a four weeks' tour in Eastern Kansas. Farms devoted exclusively to poultry have a very small part in meeting the growing demand for poultry and eggs. In the Middle West, where the great bulk of poultry is produced, a specialty poultry farm is almost unknown. It is practically an open field for the general farm. Poultry is thus a side line to general farming but it is a most profitable part of the farm business.

It has been estimated that the value of the poultry and eggs produced in Kansas in 1916 was approximately 30 million dollars. This includes eggs and poultry sold and consumed on the farm as well. In spite of the apparent shortage and present strong demand for eggs and poultry, speakers on the train stated that our total production in 1916 was 10 to 15 per cent greater than in 1915. The Wells Fargo Express Company alone shipped sixty-five full carloads out of Kansas during the month of January. In addition to these full carload shipments there were of course many smaller shipments.

These statements serve to direct the attention to the importance of poultry as a source of revenue. Eggs are now going into storage at unheard of prices and this in itself is evidence enough that we need not look for cheap eggs next season. The point of the whole matter is that there never has been a time when special efforts in growing and handling poultry seemed more sure to receive ample reward than at present. This was the foundation of the talks on better poultry given at over a hundred towns in Eastern Kansas visited by this special train. One of the speakers made the statement that the average Kansas hen lays but sixty eggs a year. This production can be greatly increased by a little thought and effort. High egg production can be bred into a flock just as high milk production can be bred into a dairy herd. There are entirely too many hens maintained on our farms that are not paying for the feed they eat.

In reproducing our flocks we all make the mistake of permitting our least profitable hens to lay the eggs used for hatching. In every flock there are a few hens that lay persistently. They even lay through the winter months if given a half chance. Along toward spring these persistent layers having laid out a clutch, become broody. About this time every hen on the place is getting ready to lay. They have all had a nice rest while consuming high-priced feeds at our expense, and we carefully save their eggs and set them under the very hens that should be reproducing themselves for the laying flock next year. In other words, we are breeding from the "loafers"—the poorest layers in the flock—because it happens that these are the hens laying most of the large, smooth eggs during the hatching season. If we would improve we must breed from the hens that have the habit of large egg production. To correct this common mistake, the suggestion was made that these hens that lay through the winter should be marked and placed in breeding pens in the spring, mating them with cockerels known to have the same kind of hens as mothers. Of course, these hens that have laid eggs through the winter are likely to become broody, but it will pay to break them up and keep them laying, depending on incubators to do the hatching.

This method of improvement suggested by Mr. Fox is not a fine-spun experiment station theory. It has been worked out successfully on the ordinary farm. We spent a day on this train during the early part of the trip, and heard George Beuoy, who has built up an egg-laying flock on his farm in Chautauqua County, tell the same story. Mr. Beuoy stated he had always been too busy to bother with trap nests, but he kept his eyes open as he went about his work in the barns and sheds, and every time he saw a hen on a nest he caught her and put some sort of mark on her leg—a leg band, a hog ring, or even a piece of binding twine. He soon found that a few of the hens were doing all the winter laying. By following this up for several years and raising chickens from these persistent layers only, he has developed a flock that will lay two or three times as many eggs in a year as will the average Kansas hen.

Another important point in securing eggs during the time of the year when they are highest in price, is to have the chicks hatched early enough. The pullets from late hatched chickens seldom get started to laying the first winter. If they are not sufficiently matured to begin laying in October or November, the chances are they will not lay until spring. The small breeds, of course, can be hatched later than the larger breeds, but there cannot be any heavy winter laying unless a flock of well matured pullets of the proper age go into winter quarters. It has been definitely settled that early hatched, well developed pullets will lay more eggs the first year than they will the second. In fact in some breeds it seldom pays to carry over a one- or two-year-old hen unless it is known to be of the kind that should be used as breeders.

In order to keep the egg production of a flock up to standard it is quite important to know the ages of the hens. To be able to do this it is necessary to have some system of marking. All the chicks hatched this spring might be marked in the same way. A toe punch can be used, or the web between the two toes split with a sharp knife. By marking differently all the chicks hatched next year, the stock can be sorted each year according to age, and the old hens sold.

The speakers on this train discouraged the idea of mixing different breeds of poultry. There are plenty of breeds so there is no need for anyone to waste time in crossing and experimenting. An exhibit containing twenty-nine or thirty varieties of poultry was carried on this train, and after the lectures visitors passed through this car and studied and admired the exhibit.

While in Dickinson County we had our attention directed to the fact that the poultry and egg production of this county in 1915 was twice that of Morris County, two and a half times that of Ottawa County, and twice that of Saline and Cloud. These counties have about the same population and there seemed to be no reason for the greater use made in Dickinson County of poultry as a source of farm income. It would seem to suggest that in these other counties people on the farms have not made the effort they should to improve their poultry and have failed to give this most profitable side line of farming sufficient consideration. There are many communities in the state that could easily realize more from poultry. We know from our experience and observation that there are localities here and there all over the state that in some way seem to have put poultry production on a little higher plant than it is found over the state as a whole.

The fence that needs repair should not be neglected. In such instances "a stitch in time saves nine" and many times saves veterinary bills and damage to crops.

HEDGE POSTS.

FOR SALE—FIFTY THOUSAND OSAGE hedge posts. H. W. Porth, Winfield, Kan.

THE STRAY LIST.

TAKEN UP — BY C. E. ELLWOOD, OF Marquette, Harper Township, McPherson County, Kansas, on January 17, 1917, one sow, color red, weight about 200 pounds. No marks. W. E. Rostine, County Clerk.

TAKEN UP—BY W. M. EDDINGTON, Moscow, Grant County, Kansas, on February 1, 1917, one bay mare, two years old, 14½ hands high, star in forehead; left hind foot white, no brands; appraised at $60. J. E. Corley, County Clerk.

Real Estate For Sale

EXCHANGES.
I have good farms to trade for smaller farms and city property. Write me.
W. M. GARRISON - SALINA, KANSAS

NESS COUNTY LAND

We have some good farm land in Ness and Trego counties, Kansas, from $15 to $40 per acre. Write us for list.
FOUQUET BROTHERS LAND CO.
Ransom - - - - - Kansas

170 ACRES SMOOTH PRAIRIE LAND—Eight miles McAlester, city 15,000. All tillable. 100 acres cultivation, balance meadow. Fair improvements. $34 per a. Terms.
SOUTHERN REALTY CO., McAlester, Okla.

RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

BARRED PLYMOUTH ROCKS — FARMbred beauties. Eggs for hatching, 5c each. Mrs. W. C. Bocker, Solomon, Kan.

HIGH QUALITY BARRED "RINGLETS." 100 chicks, $15. Eggs, $5. Edward Hall, Junction City, Kansas.

BARRED PLYMOUTH ROCK EGGS, $4 hundred. Valley View Poultry Farm, Concordia, Kansas.

WHITE ROCK EGGS, HALBACH strain, $1.25 per fifteen; $6 per hundred. Mrs. E. E. Merten, Clay Center, Kansas.

FINE BARRED ROCK EGGS FROM farm raised flock, $1.50 per fifteen. Mrs. J. A. Grimes, Milo, Kansas.

WHITE PLYMOUTH ROCKS ARE PRIZE winners. Send for catalog. W. K. Trumbo, Box 65-C, Roseland, Kansas.

BARRED ROCK EGGS, FANCY STOCK, heavy laying strain, $4.25 per hundred. Earl Summa, Dept. G, Gentry, Missouri.

WHITE ROCKS, SIZE AND QUALITY, good egg strain. Eggs—fifteen, $1; fifty, $3; hundred, $5. G. M. Kretz, Clifton, Kansas.

BUFF ROCK EGGS FOR HATCHING—Thirty eggs, $2; fifty eggs, $3; hundred, $5. Joe Carson, Bliss, Oklahoma.

BUFF AND WHITE ROCK EGGS. $2.50 per fifty, $5 per hundred. Excellent show record. W. H. Beaver, St. John, Kansas.

HIGH QUALITY PURE-BRED WHITE Rock eggs, $3, fifty; $5.50 hundred, prepaid. Mrs. John Ramsey, Route 5, Ft. Scott, Kan.

WHITE ROCKS — PURE-BRED FARM range choice stock. Eggs, fifteen, 75c; 100, $4. H. F. Richter, Hillsboro, Kansas.

WHITE ROCKS, FARM RAISED, PRIZE winners. Eggs, $1.25 setting; $3, fifty; $5, hundred. Mrs. Ben Miller, Newton, Kansas.

WEIGHER-LAYER BARRED ROCKS — Pens, $3 to $5 setting; flock, $5 hundred. C. F. Fickel, Earlton, Kansas.

EGGS—FANCY BARRED ROCKS, WINter layers, $1.25 and $2.50 setting. Clyde Karel, Clarkson, Nebraska.

BUFF ROCK EGGS, ONE DOLLAR PER setting; choice stock. Mrs. E. C. Hicks, Columbus, Kansas.

BABY CHICKS—PURE-BRED BARRED Rocks, White Leghorns, Buff Orpingtons. Heinschel, Smith Center, Kansas.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." $35 cockerel heading Pen No. 1. Eggs, $4 per fifteen. Mrs. Iver Christenson, Jamestown, Kansas.

PURE-BRED BARRED ROCKS EXCLUsively. Choice stock. 100 eggs, $5; 50, $3. Safe delivery and satisfaction guaranteed. Adam A. Weir, Clay Center, Neb.

FOR SALE — BARRED AND WHITE Rocks. Best blood lines in America. Forty premiums 1916-1917. Write for mating list. H. F. Hicks, Cambridge, Kansas.

BIG BONED IVORY WHITE ROCKS—Gold medal and silver cup winners at Hutchinson shows. Eggs from farm flock, $5 per hundred. Minnie Clark, Haven, Kan.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, $3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

PRIZE WINNING BARRED ROCKS — Four entries, five prizes, State Show 1917. Eggs, special mating, $3 to $5; farm flock, $1. C. D. Swaim, Geuda Springs, Kansas.

PURE-BRED WHITE ROCK EGGS FOR hatching, $1 for fifteen; $2.50 per fifty. Headed by high scoring cockerels. Arthur Alpers, Route 5, St. John, Kansas.

BARRED ROCKS, EXCELLENT IN SIZE and quality. Eggs, first pen, $3 per fifteen; range flock, $6 per hundred. Mrs. Myrtle Henry, Route 1, Lecompton, Kansas.

BARRED ROCKS, HENS AVERAGED 175 eggs, 1916. Trap-nest males and their pullets mated with fine cockerels. Eggs, 10c; fifty, $4. Farnsworth, 224 Tyler St., Topeka.

PURE BARRED ROCK EGGS FROM large well-marked range birds, $1.25 setting, $6 hundred. Choice Thompson strain pen eggs, $3 setting. S. R. Blackwelder, Isabel, Kansas.

LINDAMOOD'S BARRED ROCKS, BOTH dark and light matings. Prices for eggs from special matings, $5 per fifteen. Utility eggs, $5 per hundred. Send for circular. C. C. Lindamood, Walton, Kansas.

WHITE PLYMOUTH ROCKS, BEST ALLpurpose fowl. Bred them twenty-four years. No better anywhere. Eggs, $2 per fifteen, $5 per forty-five delivered. Thomas Owen, Poultry Editor, Topeka, Kansas.

EGGS FOR HATCHING — FROM BEST laying strains of Barred Plymouth Rocks. Bradley Bros. and Parks 200-egg strains. $3, fifteen; $5, thirty. Catalog. Gem Poultry Farm, Haven, Kansas.

BARRED PLYMOUTH ROCK, RINGLET and Bradley strain. Have good show record. Stock for sale. Cockerels, hens and pullets. Eggs, $2 per setting. Jas. W. Anders, Unionville, Missouri.

WHITE ROCKS—GOOD LAYING EXHIbition strain. Eggs, $1 per fifteen, $5 per hundred. Selected pens, $4 and $2 per fifteen. Send for mating list. I. L. Heaton, Route 1, Harper, Kan.

BARRED ROCK SPECIALIST — PRIZE winnings: Hobart, 1st, 2d, 3d, 4th cockerel; 1st, 3d pullet; 1st pen, 2d, 3d cock, silver cup. Gold special, Oklahoma City, 1st pullet, bred pen, first cock. Eggs, fifteen, $2-$3; hundred, $6. Fred Hall, Lone Wolf, Okla.

PLYMOUTH ROCKS.

EGGS — CHOICE BARRED ROCKS, thirty, $1.50; hundred, $4.50. Catharine Beightel, Holton, Kansas.

GUARANTEED EGGS FROM PUREbred Barred Rocks and Rhode Island Reds, $1.50 to $3 for fifteen. Send for booklet. Tom Leftwich, Winfield, Kansas.

BARRED ROCK EGGS FROM PRIZE winners at State Fair, 1917. Pens, $3 per fifteen; range, $6 per hundred. S. H. Vincent, Sterling, Kansas.

BARRED ROCKS—73 PREMIUMS, Topeka, Manhattan, Clay Center, Denver. Eggs—Fifteen, $5; thirty, $9; fifteen, $3; thirty, $5. Chicks, 50c and $1. Italian bees. Mattie A. Gillespie, Clay Center, Kansas.

RINGLET BARRED ROCKS—GOOD LAYers. Eggs from pens prize stock, Pittsburg and Oklahoma City, both matings $5 setting. Range headed by pen males $5 hundred. Chicks 12c and 50c each. Circular free. Mrs. W. E. Schmitendorf, Vassar, Kansas.

RHODE ISLAND REDS.

SINGLE COMB RED EGGS—GOOD FARM range, $4 per hundred, $1.50 per thirty. Mrs. Rosa Janzen, Box 242, Geneseo, Kan.

PURE-BRED ROSE COMB RED EGGS, $1 per fifteen, $5 per hundred. Fine laying strain. Oliver Spencer, Hesston, Kansas.

ROSE COMB RHODE ISLAND REDS—Utility stock. Winter layers. Eggs, $2, 15; $5, 45; $9, 100. Louise Krigbaum, Route 1, Topeka. Phone 2427 K-4.

ROSE COMB RED EGGS FROM BLUE ribbon winners, $3, $5, $7.50 per fifteen. Best of guarantee. Fred Kelm, Seneca, Kan.

HIGH SCORING R. C. R. I. REDS—EGGS, $1.50 per setting. Fertility guaranteed. Chas. Wodke, Council Grove, Kansas.

S. C. R. I. REDS—EGGS FOR HATCHing, $1 for fifteen, $5 per hundred. M. M. Long, Maitland, Mo.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Baby chicks. Mating list. L. E. Castle, Wichita, Kansas.

NEEF'S FAMOUS BRED-TO-LAY S. C. R. I. Reds, prize winners, $1.25 per setting, $5 per hundred. Jno. H. Neef, Boonville, Missouri.

ROSE COMB REDS — EGGS FROM large, even colored hens, fifteen for $1.50; fifty for $4; 100 for $7. Mrs. Ross Trudell, Mullen, Neb.

SINGLE COMB REDS — CLEAR, BRILliant color, heavy laying, big boned. Eggs, $1 and $2; $7 per hundred. G. E. Gregory, Reading, Kansas.

DARK R. C. REDS, PURE-BRED, EXTRA fine. Eggs, $3 and $2 per fifteen; $5 per hundred. W. J. Honeyman & Sons, Hillside farm, Madison, Kansas.

PURE-BRED ROSE COMB RHODE Island Reds. Eggs for hatching, $1 per fifteen, $5 per hundred. Mrs. L. F. Hinson, Stockdale, Kan.

R. C. REDS — EGGS FOR HATCHING. Laying strain headed by prize winning cockerel. Fifteen, $3. Mrs. Mira Lambert, Anderson, Missouri.

ROSE COMB REDS — PRIZE WINNERS and special on color at State Fair, 1917. Pens, $3 per fifteen; range, $6 per hundred. S. H. Vincent, Sterling, Kansas.

SINGLE COMB RHODE ISLAND RED eggs, 100, $4; winter layers, large. Range and fertility. Mrs. Frank B. Smith, Route 2, Lawrence, Kansas.

LARGE, DARK, RICH EVEN RED R. C. Reds—Eggs, fifteen, $1; fifty, $3. Dark colored range flock, $5 hundred. Nora Luthye, Route 5, North Topeka, Kansas.

EGGS FOR SALE—S. C. R. I. REDS.—Breeder for twelve years. $1.50 per setting of fifteen; $5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

WYANDOTTES.

R. C. BUFF WYANDOTTE EGGS, $1.50 for fifteen. G. G. Wright, Langdon, Kan.

WHITE WYANDOTTES — EGGS FROM choice stock, $1.80, thirty; $5, hundred. Mrs. Will Beightel, Holton, Kansas.

WHITE WYANDOTTE EGGS, $1 PER 15. Martin Fishel strains. Fred Watts, Havensville, Kansas.

ROSE COMB WHITE WYANDOTTE eggs, per fifteen, $1; one hundred, $4. H. A. Ritter, Route 2, Kiowa, Kansas.

WHITE WYANDOTTE EGGS—FIFTEEN, $1; hundred, $5. Careful selection and packing. John Smoley, Marengo, Iowa.

ROSE COMB WHITE WYANDOTTES — Eggs from pen, setting, $2; from flock, setting, $1; hundred, $4.75. Mrs. Effie Acheson, Palco, Kansas.

EGGS—SILVER LACED WYANDOTTES, fifteen, $1.25; fifty, $3.50. Rouen and Buff Orpington duck eggs, twelve, $1.50. Fred Kucera, Clarkson, Neb.

SILVER WYANDOTTES. YES, I AM still selling Silvers. Have some good cockerels left. Eggs in season. Prices reasonable. Write me. M. B. Caldwell, Broughton, Kansas.

WYANDOTTES.

WHITE WYANDOTTE EGGS FROM farm range stock, $4 per hundred. Vida Hume, Tecumseh, Kansas.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuis, Fredonia, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $5. Baby chicks. Mrs. Edwin Shuff, Plevna, Kansas.

COLUMBIAN WYANDOTTE EGGS, $1.50 setting. Special mating of blue ribbon winners, $3. J. J. Pauls, Hillsboro, Kansas.

WHITE WYANDOTTES — EGGS, SETting, $1; 100, $4. Mrs. J. W. Johnson, Cedarvale, Kansas.

ROSE COMB BUFF WYANDOTTE EGGS, fifteen, $1; hundred, $4. Mrs. Ida Alexander, Hilltop, Kansas.

GOLDEN WYANDOTTE EGGS FOR sale, $1.25 for fifteen. Pens headed by high scoring cockerels. Della B. Bilson, Route 3, Eureka, Kansas.

PURE-BRED WHITE WYANDOTTE AND Single Comb White Leghorn eggs, $1 per fifteen, $5 per hundred. A. F. Hutley, Maple Hill, Kansas.

SILVER WYANDOTTES—BEST ALL round breed, vigorous grand laced flock. Eggs, fifteen, $1; hundred, $5. Mrs. Ed Bergman, Paola, Kansas.

WHITE WYANDOTTE EGGS — REGAL strain, prize winners. Farm range, $5 hundred. Pen 1, Martin male direct, fifteen, $5. Pen 2, high scoring male, fifteen, $3. Prepaid. Frances Fleury, Concordia, Kansas.

PARTRIDGE WYANDOTTE EGGS, MAhogany strain, $1.50 per fifteen. Good cockerels, $3 to $5 each. Canaries, fine singers. Baby chicks. Mrs. Edith B. Taylor, Marion, Kansas.

EGGS — WHITE WYANDOTTES FOR quality. Good layers. Utility, $1.25 fifteen, $3 fifty, $5 hundred. Pen headed by $10 cockerel direct from Fishel, $2 fifteen. M. M. Weaver, Newton, Kansas.

LEGHORNS.

TIP TOP ROSE COMB BROWN LEGhorn eggs. J. E. Wright, Wilmore, Kan.

S. C. W. LEGHORN EGGS. STATE WINner. Mrs. W. R. Hildreth, Oswego, Kansas.

PURE-BRED SINGLE COMB BROWN Leghorns. Choice farm flock. Eggs, 100, $4. Mrs. D. A. Wohler, Hillsboro, Kansas.

"BARRON'S 268-EGG LEGHORNS" — Eggs, $5 hundred. Sunlight Poultry Farm, Mt. Moriah, Mo.

PRIZE SINGLE COMB BUFF LEGhorns—Eggs, $5 hundred; $13, 300. White turkeys. Mrs. S. F. Crites, Florence, Kan.

BEAUTIFUL S. C. BUFF LEGHORNS—Eggs, fifty, $3; hundred, $5. F. L. Baldwin, Cascade, Iowa.

ROSE COMB WHITE LEGHORN EGGS, $1 per fifteen, $4 per hundred. Ed Goin, Route 3, Stafford, Kansas.

SINGLE COMB WHITE LEGHORN EGGS from heavy laying strain, $1 per setting, $5 per hundred. F. E. Fisher, Wilson, Kansas.

EGGS, EGGS FROM KEEP-LAYING strain Single Comb White Leghorns. Thos. R. Wolfe, Conway Springs, Kansas.

PURE-BRED BUFF LEGHORN EGGS, $1 per setting, $5 per hundred. P. A. Wempe, Seneca, Kansas.

BUFF LEGHORNS, CHOICELY BRED. Eggs, $5 per hundred. J. A. Reed, Route 2, Lyons, Kansas.

SINGLE COMB BUFF LEGHORN EGGS, $5 hundred. Satisfaction guaranteed. Alf Johnson, Leonardville, Kansas.

R. C. B. LEGHORNS, WINTER LAYERS, vigorous stock. Eggs, $5 per hundred. The Blue Grass Stock Farm, Oneida, Kansas.

GOLDEN BUFF LEGHORNS — GREAT layers, silver cup winners. 100 eggs, $5. Agnes Smiley, Braddyville, Iowa.

SINGLE COMB BROWN LEGHORNS — Fifteen eggs, 75c; 100, $4. Postpaid. W. A. White, Sarcoxie, Missouri.

EUREKA FARM SINGLE COMB WHITE Leghorns, bred to lay. Farm range eggs, $4 per hundred. Henry Richter, Hillsboro, Kansas.

BROWN LEGHORNS — ROSE, SINGLE comb. Egg production scoring 200 to 280 eggs, $2 fifteen, $5 hundred, prepaid. Plainview Poultry Farm, Lebo, Kansas.

SINGLE COMB BROWN LEGHORNS — Thirty-one prizes at Kansas State Show, 1917, including eight firsts. W. J. Roof, Maize, Kansas.

R. C. BROWN LEGHORN EGGS FROM pen of selected stock, mated for cockerel breeding. Fifteen, $2; forty-five, $5. Mrs. Griswold, Tecumseh, Kansas.

FOR SALE — THIRTY SINGLE COMB White Leghorn hens and pullets, extra good laying strain, $1 each. Blue Grass Stock Farm, Oneida, Kansas.

PURE-BRED ROSE COMB WHITE LEGhorns. Eggs for hatching; forty-five, $2; one hundred, $4. Prepaid in Kansas. G. Schmidt, Route 1, Goessel, Kansas.

S. C. WHITE LEGHORNS EXCLUSIVEly. Decka's laying strain. Many winners. Eggs for hatching, $5 per hundred. Write for 1917 price list. Yours for quality (Nuf sed), Deckas White Poultry Farm, Route 1, Des Moines, Iowa.

S. C. BROWN LEGHORNS — WINTER layers and beauty strain. Booking orders for chicks to be delivered April 1, any quantity, at $12.50 per hundred. Eggs at $5.00 per hundred, trap-nested stock. Pullets in laying contest. Paradise Poultry Farm, Carona, Kansas.

LEGHORNS.

ROSE COMB BROWN LEGHORNS—WON five prizes. Eggs, fifteen, 90c; fifty, $2.20; hundred, $4.25. Rufus Standiferd, Reading, Kansas.

S. C. BROWN LEGHORNS — OH! YES, we have been raising them 21 years; the 222 to 256 trap nest egg record kind. Eggs, 15, $1.25; 100, $5.00. Gorsuch, Stilwell, Kansas.

PURE YESTERLAY 200 EGG LAYING strain Leghorns mated to 240 egg Barron stock. If you want winter layers write Shady Pine Leghorn Farm, Rossville, Kan.

PRIZE WINNING S. C. WHITE LEGhorns at two state shows. Eggs, $2, $3 and $5 per fifteen. Eggs from flock, $5 per hundred. Chicks. Send for free mating list. C. G. Cook, Box F, Lyons, Kansas.

EGGS FOR SALE FROM PURE-BRED heavy winter laying Single Comb White Leghorns, $2 fifteen, $10 hundred; 100% fertility guaranteed on seventh day of incubation. H. M. Blaine, Sylvia, Kansas.

WHITE LEGHORNS

EGG-BRED S. C. WHITE LEGHORNS—100 eggs, $4. Will Tonn, Haven, Kansas.

WHITE LEGHORN EGGS (YOUNG'S $20 stock). Elsie Thompson, Mankato, Kansas.

HEAVY LAYING STRAIN S. C. WHITE Leghorns. 100 eggs, $4; 15 eggs, $1.50 prepaid. Mrs. W. E. McElvain, Denver, Mo.

ONE HUNDRED FERTILE SINGLE Comb White Leghorn eggs, $4.50 and $5. Quality guaranteed. Dave Baker, Conway Springs, Kansas.

EGGS FOR HATCHING FROM HOGAN'S laying strain of Single Comb White Leghorns, $5 per hundred. Roy Rhodes, Maize, Kansas.

SINGLE COMB WHITE LEGHORN EGGS from extra good layers and prize winners. Fifteen, $1; hundred, $5. I. H. Gnagy, Hutchinson, Kansas.

FRANTZ-BRADSHAW SINGLE COMB White Leghorns. Cooks Owens Buff Orpington eggs, fifteen, $1; 110, $4.50. S. A. Warren, Reger, Missouri.

SINGLE COMB WHITE LEGHORN EGGS extra heavy winter layers. Pure-breds, $4 hundred. Mrs. Wm. Dugan, Appleton City, Missouri.

ENGLISH WHITE LEGHORNS, BRED for laying. Free booklet of practical experience, tells how I cleared $2,400 last year. Write for it. Eggs and baby chicks. Sunny Slope Farm, Morrison, Okla.

SINGLE COMB WHITE LEGHORNS—Farm range. Heavy laying strain. Hens, $1.50 each. Eggs, $1, fifteen; $5 per hundred. Mrs. Lloyd Klfer, Route 2, Bolivar, Missouri.

SINGLE COMB WHITE LEGHORN EGGS —Heavy winter layers. Won all blues at two exhibitions. Fine pen, fifteen, $2; farm range, 100, $5 prepaid. George Schroeder, Frederic, Kansas.

ROSE COMB WHITE LEGHORN EGGS for hatching from full blooded birds. Satisfaction guaranteed. $4 per hundred, $7 per two hundred. Mrs. Joe Streeter, Route 5, Hamilton, Missouri.

CLIFF HOUSE PEN, HOME OF THE Rose Comb Rhode Island White. I have no other breeds. "Better every year." Eggs, $2.50 for fifteen. Hold Clift, New Albany, Kansas.

BRED TO LAY S. C. W. LEGHORN eggs—fifteen, $1; hundred, $6. Exhibition pens, $2 and $3, fifteen. First prize winners fifteen shows in strong competition. Thirty silver cups and specials. Hyperion White Leghorn Farm, Route 1, Des Moines, Iowa.

UTILITY S. C. WHITE LEGHORNS—Ferris, Young, Frantz and Yesterlaid strains. Eggs, $1 per fifteen; $4 per hundred. Sold 8,000 eggs for hatching last season, no complaint. L. O. Wiemeyer, Route 1, Anthony, Kansas.

BRAHMAS.

HIGH SCORING LIGHT BRAHMA EGGS $1.00 per fifteen, parcel post prepaid. Geo. Pratt, Route 2, Topeka, Kansas.

EGGS FROM FELTON'S STRAIN OF mammoth Light Brahmas, $1.50 per fifteen, postage paid. Mrs. Mark Johnson, Waldron, Kansas.

LIGHT BRAHMA EGGS FROM PRIZE winners at Wichita, Kansas, January, 1917. Geo. W. Craig, 2031 N. Water St., Wichita, Kansas.

BABY CHICKS.

REDS, ROCKS, LEGHORNS; 12c. Request folder. McCune Hatchery, Ottawa, Kansas.

CHICKS FROM FRANTZ-YESTERLAID strains S. C. White Leghorns, 12½c each. Box F, C. G. Cook, Lyons, Kansas.

PHEASANTS.

PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $5 to $8 pair. Booking orders. Eggs of these, $4 dozen; Golden, $5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

RHODE ISLAND WHITES.

100 ROSE COMB RHODE ISLAND WHITE eggs, $5. Will Tonn, Haven, Kansas.

RHODE ISLAND WHITES—EGGS FROM these grand layers, $2 for fifteen. Shetland Pony Farm, Coffeyville, Kansas.

GUARANTEED EGGS FROM EXCELsior Rose Comb Rhode Island Whites, $2 per fifteen, $3.50 per thirty prepaid. V. O. Jones, Bancroft, Kansas.

(Continued on Next Page.)

PURE BRED POULTRY

ORPINGTONS.

BUFF ORPINGTONS — FIFTEEN EGGS, $1. Chicks. M. Spooner, Wakefield, Kan.

S. C. BUFF ORPINGTON EGGS, $4 PER hundred. J. W. Falkner, Belvue, Kansas.

PURE-BRED WHITE ORPINGTONS — Eggs for hatching, $1 per fifteen, $5 per hundred. Frank Hinson, Stockdale, Kansas.

BUFF ORPINGTONS EXCLUSIVELY.— Even buff, large type, prize winners. Eggs, $3 and $2 setting. John Shaffer, Alma, Neb.

EGGS FROM PRIZE WINNING BUFF Orpingtons, $2 per 15; fine Barred Rock, $1 per 15, $5 100. Mrs. M. Ditto, Newton, Kan.

FINE GOLDDUST BUFF ORPINGTONS— Eggs, $1.50 setting; $8 hundred. Prepaid. Mary E. Price, Route 7, Manhattan, Kansas.

BUFF ORPINGTONS, BRED TO LAY. Eggs—fifteen, $1.50, prepaid. Chicks, 15c. John Oiler, Adrian, Missouri.

BUFF ORPINGTON EGGS FROM MY Des Moines, Kansas City, Topeka, St. Joseph and Omaha winners. H. T. Farrar, Axtell, Kansas.

EGGS — BUFF ORPINGTONS, PARTridge Rocks, Bourbon turkeys, Toulouse geese and Buff ducks. Mrs. Frank Neel, Beverly, Kansas.

"PAYWELL" BUFF ORPINGTON EGGS from heavy winter layers and blue ribbon stock, $2 per fifteen. L. S. Weller, Salina, Kansas.

WHITE ORPINGTON COCKERELS. A few pullets. Eggs reasonable. Also Indian Runner duck eggs. James Kennicott, Bunker Hill, Kansas.

STONE'S FAMOUS BUFF ORPINGTONS win at large shows. Eggs from well selected birds, $1.50 per fifteen, $4.50 per fifty, $8 per hundred. J. M. Stone, Palmyra, Missouri.

EGGS FROM CRYSTAL WHITE PRIZE winning stock, White Orpingtons. Great winter layers. Fifty-five eggs January 20 from sixty-five hens, at live and let live prices. Send for list. John Vanamburg, Marysville, Kansas.

SEVERAL BREEDS.

EGGS—BARRED ROCKS, BRONZE TURkeys and Pekin ducks. Grace Aspedon, Farragut, Iowa.

EGGS—S. C. BLUE ANDALUSIANS, BLUE Orpingtons, Buff Leghorns, Buff Orpington ducks, Bourbon Red turkeys. Circular. John A. Huber, La Crosse, Kansas.

EGGS FROM EXTRA GOOD BOURBON Reds, $3 for eleven. Silver Laced Wyandotte eggs, $1 for fifteen. Julia Haynes, McDonald, Kansas.

ALL VARIETIES LAND AND WATER fowls, imported stock. Winners of thousands of prizes. List free. Rose Lawn Poultry Farm, Beaver Crossing, Nebraska.

BARRED AND BUFF ROCKS — SINGLE Comb White Leghorns. Fawn and Pencilled Runner Ducks. Eggs—Fifteen, $1; hundred, $5, from range flocks. J. T. Rickman, Kiowa, Kansas.

PURE-BRED BOURBON RED TURKEY eggs, $3 per eleven. Pure-bred Rhode Island Red eggs from open range herd, $1 per fifteen, $4.75 per hundred. J. W. Harshbarger, Milo, Kansas.

EGGS — M. B. TURKEY, NEW YORK prize winning blood in flock, $3 per eleven; geese eggs, African, Embden, Toulouse, $1.75 per seven; White Muscova ducks, $1.75 per eleven; White African guinea, $1.50 per seventeen; White Rock, Fishel strain, $5 per hundred. W. L. Bell, Funk, Neb. Dry Creek Poultry Farm.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

FOR SALE, EGGS—EGGS FROM PUREbreds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

DUCKS AND GEESE.

PURE TOULOUSE GEESE, EGGS, $1.50 per six. Ada McCandless, Sterling, Kansas.

FAWN RUNNER DUCKS—WHITE EGGS, prize winners. Eggs, $1 setting, $5 hundred. Mrs. Ben Miller, Newton, Kansas.

TOULOUSE GEESE AND EGGS FOR sale or trade for Runner ducks. All breeds. Emma Ahlstedt, Roxbury, Kansas.

FAWN WHITE INDIAN RUNNER DUCKS from best laying strains in the country. Fifteen eggs, $1; fifty, $2. Nort Luthye, Route 6, North Topeka, Kansas.

MINORCAS.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

S. C. BLACK MINORCA EGGS FOR hatching. Pen No. 1, $2; pen No. 2, $1.50 for fifteen eggs, $6 per hundred. W. F. Fulton, Waterville, Kansas.

"The food of the child determines the future of the citizen and the physical strength of the potential fathers and mothers of the state."

PURE BRED POULTRY

LANGSHANS.

BLACK LANGSHAN EGGS FOR HATCHing. C. E. Dralle, Seward, Kansas.

GET MY FREE MATING LIST OF MADison Square and Chicago prize winning Langshans. John Lovette, Mullinville, Kan.

GOOD BLACK LANGSHANS—EGGS, 7c; over 100, 6c. Baby chicks, 15c. Mrs. Geo. W. King, Solomon, Kansas.

BLACK LANGSHANS — STOCK FOR sale. Cocks, cockerels, hens and pullets. My birds have great show record. Eggs, $2 per setting. Jas. W. Anders, Unionville, Mo.

BLACK LANGSHAN EGGS, $3 FOR 15, from my San Francisco and Kansas State Show winners, 1917. H. M. Palmer, Florence, Kansas.

BLACK LANGSHANS—EGGS, FIFTEEN, $1.25, $1.50 mailed; 100 $5, $6 mailed. Baby chicks, 15 cents. Mrs. J. B. Stein, Smith Center, Kansas.

EGGS — PURE-BRED BLACK LANGshans exclusively from free range fowls, $1 for 15, $5 for 100. Mrs. John A. Roberts, Route 5, Stanberry, Mo.

PURE-BRED BLACK LANGSHANS—EXcellent stock, farm range. $1 for fifteen eggs, $2 for fifty eggs. Mrs. Ell Williams, Route 3, Riverton, Neb.

BUCKNELL'S BIG BLACK LANGSHANS —Bigger and better than ever. Eggs at the same old price, $1 for fifteen, $5 for 100. Postage or express prepaid. R. E. Bucknell, Hardy, Nebraska.

ANCONAS.

S. C. ANCONA EGGS, $5. HUNDRED. Fine layers. Mrs. Will Torgeson, White City, Kansas.

SINGLE COMB ANCONAS EXCLUSIVEly. Eggs—Fifteen, $1; 100, $5. W. T. Likes, Williamsburg, Kansas.

SINGLE COMB ANCONAS—EGGS, FIFteen for $1.25 or $6 per hundred delivered. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

SINGLE COMB ANCONA AND SILVER Laced Wyandotte eggs, $1.25 per sixteen by post prepaid. Mrs. Cecile McGuire, Pratt, Kansas.

ANCONAS — BLUE RIBBON WINNERS. Eggs, $1.50 per fifteen, $6 per hundred. Pens two and three, $1.25 per fifteen, $5 per hundred. Frank Glenn, Newton, Kansas.

SEND FOR MY "ANCONA DOPE" AT once. Tells why I quit all other breeds. It's free and worth reading. Fill orders for eggs promptly. Page's Ancona Farm, Salina, Kansas.

TURKEYS.

PURE-BRED WHITE HOLLAND TURkey eggs. Winnie Litton, Peabody, Kansas.

MAMMOTH WHITE HOLLAND TURKEY eggs from the large boned kind, $3 per ten. Box F, C. G. Cook, Lyons, Kansas.

WHITE HOLLAND TURKEYS, SINGLE Comb White Leghorns, Single Comb Buff Orpington eggs. Baby chicks. Mrs. S. A. Warren, Reger, Mo.

MAMMOTH BRONZE TURKEYS OF high quality. Good copper bronze and white edging. Have show record. Eggs—$6-$10 per dozen. Jas. W. Anders, Unionville, Mo.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

BOURBON RED TURKEYS, WORLD'S best strain. Great big, vigorous, farm-raised, deep-breasted birds. Also white-egg Indian Runner ducks, all from prize winning stock. Elenora Poultry Ranch, Brighton, Colorado.

Kearney, Neb., March 17, 1917.
KANSAS FARMER, Topeka, Kan.
Enclosed find copy for classified poultry ad, which you will please run in your publication. This will make the fifth time I have used your paper as an advertising medium, and it has never failed to bring me a goodly amount of business, and new customers every time. Sincerely,
H. H. McLELLAN.

FARM AND HERD.

The annual meeting and banquet of the Central Shorthorn Breeders' Association was held at the Cates House in Kansas City, Missouri, April 4. About 300 members were present. The report of the secretary and treasurer showed the affairs of the association in a flourishing condition. The officers elected for the ensuing year are as follows: President, H. M. Hill, LaFountain, Kansas; vice-president, L. Ogden, Maryville, Missouri; secretary and treasurer, John A. Forsythe, Pleasant Hill, Missouri; sales manager, W. A. Forsythe, Greenwood, Missouri.

The jack and jennet sale held by W. J. Finley, of Higginsville, Missouri, March 28, was one of the best sales of the season. The top of the sale was $2,625. This was paid by L. M. Monsees & Sons, of Smithton, Missouri, for Limestone Big Boy by the champion Orphan Boy. The next high price was $1,300 for Dr. McChord 3d, purchased by F. A. Barney, Silver Lake, Kansas. The twenty-seven jacks averaged $530.20 per head; six jennets, $184 per head. The general average for the thirty-three head catalogued was $467.25.

The fourth annual sale of the Central Shorthorn Breeders' Association held at Kansas City, April 4 and 5, under the management of W. A. Forsythe, of Greenwood, Missouri, was one of the very successful sales of the season. The 159 head catalogued sold for $45,455, or an average of $222 per head. The 103 head of bulls averaged $243 per head. The fifty-six females sold for $363 per head. A September two-year-old heifer topped the sale at $1,500. The record high price was $1,005, paid for a January yearling heifer.

The combination Polled Durham and Shorthorn cattle sales held at Omaha, Neb., March 29 and 30, under the management of H. C. McKelvie, were among the most successful sales held this season. On March 29 sixty-one Polled Durhams sold for $15,885 or an average of $260.40 per head. On March 30, seventy-two head of Shorthorns sold for $18,860, or an average of the two days' sale was $261.20. Buyers from nine states were present and the entire offering was high class. Most of the cattle sold were in fine condition.

The offering of bulls that will go into the series of Aberdeen-Angus Association annual spring bull shows and sales to be held April 24 to May 4 has been very carefully selected and a more useful lot of bulls has never been offered by the association. The sales will be under the management of Charles Gray, secretary of the association. Four hundred head of bulls have been catalogued for the various sales. The opening sale of the circuit will be held at St. Joseph, Missouri, April 24.

Catalogs are out for the sale of registered Duroc and Poland China hogs to be held by Fred G. Laptad, of the famous Laptad Stock Farm, Lawrence, Kansas, April 25. Mr. Laptad has catalogued forty head of carefully selected Durocs and Polands from his great herds for this sale. The offering will include twenty choice boars and all females will be sold with the privilege of breeding to any of the great boars in the Laptad herds. The entire offering is cholera immune.

One of the good Percheron horse and jack sales of the season was held at Oakland Stock Farm, Chillicothe, Mo., March 20. While all the jacks sold were youngsters, they sold for an average of $301 per head. Buyers were present from a number of states and one jack went to a breeder at Niles, Mich. The Percheron offering was made up of young stock and sold for a good average with a top of $805. The entire offering was first class and was of the type and breeding that has made Oakland Farm famous for good Percherons and jacks.

The best farm in any county is the farm that has a properly protected water supply, a fly-proof toilet, an outside sleeping porch, screened doors and windows, a vegetable garden, a flower garden, and shade trees. — Kansas State Board of Health.

HORSES AND MULES.



30 JACKS AND JENNETS

A few good jacks suitable for herd jacks and good mule jacks from fifteen to sixteen hands standard. Prompt workers and sure breeders. Guaranteed absolutely right in every way. Priced to sell. We mean business. Come and see us.

LOUIS MILLS & SON - - - ALDEN, RICE COUNTY, KANSAS



JACKS AND JENNETS

15 Large Mammoth Black Jacks for sale, ages from 2 to 6 years; large, heavy-boned. Special prices for fall and winter sales. Fifteen good jennets for sale. Come and see me.

PHIL WALKER,
Moline, Elk County, Kansas



Imported and Home-Bred
PERCHERONS AND BELGIANS

A gilt edge guarantee of 60 per cent, good for two years, given with each horse sold.

W. H. RICHARDS
Emporia - - Kansas
Barns four blocks from A. T. & S. F. depot.



PERCHERONS—BELGIANS

Imported and home-grown 4 and 5 yr. old stallions, ton and heavier, 3 yr. olds, 2 yr. olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. Fred Chandler, R. 7, Charlton, Iowa. (Above Kansas City.)

Home-Bred Draft Stallions, your choice $500 with the exception of two. Also mares for sale. **A. Latimer Wilson, Creston, Iowa**

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. **AL. E. SMITH, Lawrence, Kansas.**

REGISTERED PERCHERONS
Yearling and two-year-olds, both sexes. Good breeding and individuals grown in a way to make useful animals. Would trade filley for Shorthorn bull good enough to head herd of registered cows.
GEO. S. APP, Route 2, ARCHIE, MISSOURI

HAMPSHIRE HOGS

SMITH'S HAMPSHIRE HOGS
Extra good October boars and gilts. Best breeding, well belted. Also herd boar, proven breeder. Priced right.
S. E. SMITH - - LYONS, KANSAS

Whitewater, Wis., March 17, 1917.
KANSAS FARMER, Topeka, Kan.
Enclosed find check to cover advertising, also run our ad until you hear from us to stop it. We had splendid success and are well pleased with it. Yours respectfully,
FINDLAY BROS.

HORSES AND MULES.

POLAND CHINAS

FOR SALE
Good Stretchy Poland China Fall Boars.
Ed Beavers, Junction City, Kansas.

TOWNVIEW FARM
Big-Type Poland Chinas.
For Sale—25 summer and fall gilts, sired by Miller's Sioux Chief and out of Lady Longfellow. Bred for late spring litters. Also 25 summer boars. Come and see my herd.
C. E. GREENE - PEABODY, KANSAS

OLD ORIGINAL SPOTTED POLANDS
Have only a few of last fall's litters left. Write your wants to
THE CEDAR ROW STOCK FARM
A. S. Alexander, Prop. R. 2. Burlington, Kan.

PROFITABLE TYPE POLANDS
Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.
L. C. WALBRIDGE - RUSSELL, KANSAS

LANGFORD'S SPOTTED POLANDS
Boars — Serviceable age, guaranteed to please. Breeding stock, both sexes.
T. T. LANGFORD & SONS, Jamesport, Mo.

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

BIG-TYPE POLANDS
Have 100 head of February and March pigs that we are booking orders for to be shipped at weaning time. Boars, $25, and sow pigs at $30 each, $50 a pair. Book your order now and get the pick. Guaranteed to please.
O. G LEASE & SON, CENTRALIA, KANSAS

GALLOWAY CATTLE.

GALLOWAY BULLS
SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
B. E. FRIZELL, Frizell, Pawnee Co., Kansas

ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE
Twenty-five young bulls, also some good cows and heifers for sale. All registered.
D. J. WHITE, CLEMENTS, KANSAS
Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

SHORTHORN CATTLE.

Sycamore Springs Shorthorns
Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

STUNKEL SHORTHORNS
Herd Headed by Cumberland Diamond.
For Sale—Twenty bulls from yearlings to eighteen months old, Scotch and Scotch-topped. Also a few bred cows and heifers. Come and see me. Prices reasonable.
E. L. STUNKEL - PECK, KANSAS

Sunflower Herd of Shorthorns
A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

RED POLLED CATTLE.

Red Polled Cattle
A few 1916 fall bull calves for sale. Also a few cows and heifers.
AULD BROS. - FRANKFORT, KANSAS

Parker, Kansas.
KANSAS FARMER, Topeka, Kan.
A number of the breeders that bought hogs at my bred sow sale on March 15, 1917, said to me, "You want to give KANSAS FARMER credit for this sale," and that is the way I look at it. I want to thank you for the way you handled my sale and the number of breeders that you had here. Yours very truly,
W. T. McBRIDE.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

AMERICAN

Aberdeen-Angus Breeders' Association

SPRING BULL SHOWS AND SALES

400 - BULLS - 400

TO BE SOLD IN A SERIES OF TWO WEEKS SALES.—THERE WILL BE MATURED BULLS, TWO-YEAR-OLDS AND YEARLINGS—ALL READY FOR HEAVY SERVICE. SHOW BULLS, FARMERS' BULLS AND RANGE BULLS.

75 Bulls and 18 Cows and Heifers at St. Joseph, Mo., Stock Yards, Tuesday, April 24
86 Bulls at Omaha, Nebraska, Stock Yards, Wednesday, April 25
68 Bulls at Sioux City, Iowa, Stock Yards, Thursday, April 26
67 Bulls and 11 Heifers at East St. Louis, Ill., Stock Yards, Tuesday, May 1
81 Bulls at Chicago, Ill., Union Stock Yards, Wednesday, May 2
50 Cows and Heifers at Chicago, Ill., Union Stock Yards, Thursday, May 3
50 Bulls, Cows and Heifers, at Rochelle, Ill., Friday, May 4

CLASSIFICATION AND CASH PRIZES TO BE OFFERED AT EACH BULL SALE

	1st	2d	3d	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th
Bull over 18 months of age....	7	6	6	5	4	4	3	3	3	2	2	2	1	1	1
Bull under 18 months of age..	7	6	6	5	4	4	3	3	3	2	2	2	1	1	1



The Association during the past three months has made a complete inventory of all the bulls of the breed of serviceable age in the country and has listed same for these sales. This will be the last opportunity this season to secure bulls of serviceable age, because all the bulls that are not listed are too young for heavy service.



Don't forget, cattlemen, breeders and rangemen, the Aberdeen-Angus is the greatest beef breed in the world. This has been demonstrated at all the leading shows and stock yard markets of the country.

At Chicago, out of a possible fifteen prizes for single steers, Aberdeen-Angus have won ten grand championships and nine reserves. In the fat carloads they have won twelve out of a possible fifteen, and out of fifteen grand championships for carcass they won fourteen times.

Aberdeen-Angus have also proved their superiority in Feeder Competition at all the leading shows and stock yards of the country by winning grand championships and selling at record prices. At Denver in 1917 a load of Aberdeen-Angus feeders sold for $14.50 per cwt., which is the record up to date.

SUMMARY OF 1916 FAT CARLOAD LOT PRICES AT CHICAGO INTERNATIONAL EXPOSITION

Ten loads of Aberdeen-Angus steers averaged.....$18.58
Ten loads of Hereford steers averaged 15.75
Ten loads of Shorthorn steers averaged 15.93

These figures show that the Aberdeen-Angus sold for an average of $2.65 per hundred pounds more than the Shorthorns and $2.83 more than the Herefords. These figures are practical because they were obtained where the same number of loads of the best of each breed were assembled. They further show very clearly the degree in which the Aberdeen-Angus breed leads all other beef breeds in establishing top market prices.

If you are in need of a bull, or bulls, or some females, and cannot attend sale, or sales, send your order to your commission man.

AUCTIONEERS: IGO, COOPER, TELLIER AND KEPNER
For further information and catalogs address

CHARLES GRAY, Secretary and Sales Manager
817 EXCHANGE AVENUE CHICAGO

PARK PLACE SHORTHORNS

Four Great Herd Bulls

IMPORTED BAPTON CORPORAL
Bred by J. Dean Willis. Sire, Hoar Frost, winner at Royal Shows of England.

IMPORTED NEWTON FRIAR
Dam, A Marr Flora. Sire, Violet's Victory. Bred by Wm. Duthie and a great show bull.

ROSEWOOD DALE
Dam, Imported Rosewood 92d. Sire, Avondale.

ROYAL MAJOR is bred from the greatest family of milking Shorthorns in America. Dam with a great record. Two full sisters making 13,000-pound record now.

BREEDING STOCK FOR SALE AT ALL TIMES

Scotch, Scotch Topped, and Milking Families. Two Hundred Head in Herd.

FOR IMMEDIATE SALE—One carload of bulls, one carload of heifers, one carload of cows that will drop calves soon or calf at foot.

Come and bring your neighbors with you and save freight. I pay the freight and send a competent man in charge and deliver free to you carload lots. Will meet buyers at Wichita by appointment.

PARK E. SALTER, Wichita, Kansas
PHONE MARKET 3705 OR 2087 302 BITTING BUILDING

JERSEY CATTLE.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

LINSCOTT JERSEYS

BJH Dispersal Sale, May 31
R. J. LINSCOTT - HOLTON, KAN.

Sweet Spring Stock Ranch and Jersey Cream Dairy

The homes of
High Class Registered Jersey Cattle
Stock for sale at all times of very best blood lines.
D. S. MAYHEW, Prop. - MONETT, MO.

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
BEDMAN & SON - TIPTON, MISSOURI

JERSEY CATTLE.

DORNWOOD FARM JERSEYS

Some richly bred young Jersey bulls. Pedigrees and prices on request.
DORNWOOD FARM - TOPEKA, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2. Topeka, Kan.

Breeders' Directory

ANGUS CATTLE.
Geo. M. McAdam, Holton, Kan.
Geo. A. Deitrich, Carbondale, Kan.
D. J. White, Clements, Kan.
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

MULEFOOT HOGS.

Bargain in BIG TYPE fall boars for the next forty days.
Sinn's Mulefoot Ranch, Alexandria, Neb.

HOG SALE

Laptad Stock Farm

LAWRENCE, KANSAS

Cholera Immune



Cholera Immune

Wednesday, April 25, 1917

40 Head - Polands and Durocs - 40 Head

Send For Illustrated Catalog

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN-FRIESIAN FARM, TOWANDA, KANSAS

Breeders of pure-bred Holsteins. Special attractions in choice young bulls ready for service, with fashionable breeding. Write for pedigrees and prices. We maintain a breeding herd of pure-bred females and offer a grand lot of young springing heifers and cows, a number with A. R. O. records at prices within reason.

IT WILL PAY YOU TO SEE OUR OFFERING

Of choice extra high grade young cows and heifers, all springers in calf to pure-bred sires; large developed females, good udders, well marked and the right dairy type at prices that will challenge comparison for Holsteins of their breeding and quality. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone.

GIROD & ROBISON

MAURER'S HOLSTEIN FARM

Is offering a number of choice young pure-bred cows with good A. R. O. records; also yearlings and heifer calves and a select lot of young bull calves with world's record backing. Write for pedigrees and bargain prices. Also grade cows, heifers and heifer calves.
T. R. MAURER & CO. - - - - - - - - EMPORIA, KANSAS



Purebred Registered
HOLSTEIN CATTLE

A Cornell University test proves the value of a pure-bred Holstein bull in grading up a herd of ordinary cows. A cow three quarters Holstein, in 45 weeks, produced 11,693 pounds of milk containing 413 pounds of butterfat, and another three quarter blood Holstein cow, in 48 weeks, produced 13,574 pounds of milk containing 430 pounds of butterfat. A pure-bred Holstein bull is one of the most businesslike investments a farmer or dairyman can make. There's big money in the big "Black and White" Holsteins.

Send for FREE Illustrated Descriptive Booklets.

The Holstein-Friesian Association of America
F. L. Houghton, Sec'y. Box 114, Brattleboro, Vt.

Pure-Bred Holstein Calves

Ten heifer calves from one to four months old. Also a few bull calves for sale. All these are nicely marked, good individuals, and from a 31-pound sire. Write for prices.
E. J. STEARNS, Route 1, ELKHORN, WIS.

CORYDALE FARM HERD

Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.
L. F. CORY & SON, BELLEVILLE, KAN.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

CEDAR LANE HOLSTEIN HERD

We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.
T. M. EWING, INDEPENDENCE, KANSAS

NEMAHA VALLEY HOLSTEIN FARM

Choice yearling bulls and bull calves. World's record blood lines. Price reasonable. We invite inspection of our herd.
H. D. BURGER, Route 2, SENECA, KANSAS

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $23 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

CEDAR LAWN FARMS
C. A. Schroeder & Sons, Props.

Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.
W. C. SCHROEDER - WEST BEND, WIS.

Shady Brook Holsteins

A few choice young springers, also some high class young bulls. If you want record breeding, we will be pleased to have you inspect our offering.
M. E. MOORE & CO. - CAMERON, MO.

HOLSTEIN COWS

TWENTY-THREE HEAD CHOICE HOLSTEIN COWS FOR SALE

Will freshen soon and are guaranteed right in every way. Come and see them.

C. E. BEAN, Garnett, Kansas

Braeburn Holsteins

A. R. O. BULL CALVES
With De Kol-Netherland-Korndyke main blood lines, and Johanna, Walker, King Segis out-crosses. H. B. Cowles, Topeka, Kan.

HIGH GRADE HOLSTEIN CALVES

Five to six weeks old, nearly pure, well marked, $20, express paid.
COLD SPRINGS FARM, Whitewater, Wis.

Look to the future.
Tredico Bulls
(Holsteins)
Kingman, Kansas

AUCTIONEERS.

Live Stock and Farm Auctioneer

Write or wire for date. I can please you.
LAFE BURGER, WELLINGTON, KANSAS

Jas. T. McCulloch — Live Stock Auctionssr. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

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Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.



P. M. GROSS

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Pure Bred Sales a Specialty
MACON, MISSOURI
"Twelve Years on the Block"
Sales Made Anywhere

DUROC JERSEYS.

DUROC JERSEY GILTS

We have fifteen well bred Duroc gilts, priced for immediate sale.
C. D. WOOD & SONS, ELMDALE, KANSAS

Duroc Boars

For Sale—Ten fall boars ready for service. Sired by C. H. S. Col. first and out of my best herd sows. Priced to sell at $35. First check gets choice. Write at once.
J. R. SMITH - NEWTON, KANSAS

$1150 F. o. b. Racine
Mitchell Junior—a 40-h. p. Six
120-inch Wheelbase

Mitchell SIXES

$1460 F. o. b. Racine
7-Passenger—48 Horsepower
127-inch Wheelbase

John W. Bate's Extras

Which Make Mitchell Cars Distinct

Here are some facts which you should prove before you buy a fine car. Surely nothing else in Motordom is any more important.

John W. Bate has for 30 years been a famous efficiency expert. He has given 14 years to the Mitchell car.

This factory is his creation, designed for this single type. Our present cars were evolved by him, through hundreds of studied changes.

He spent one year in Europe, to combine in Mitchells all the best of European standards.

So the latest Mitchells, in every detail, typify the ultimate efficiency.

These Two Objects

Mr. Bate's first object was factory efficiency. To build a great car, in the finest way, at the lowest factory cost.

He spent millions of dollars to that end. This whole mammoth plant was built and equipped for the purpose. Nearly every part—including our bodies—is built under Bate methods here. And those methods save us, on this year's output, at least $4,000,000.

Next he applied efficiency to the car. He made over 700 improvements. He aimed to make the Mitchell the finest of fine cars. And to make it a lifetime car.

31 Extra Features

His factory savings pay for extras, which most like cars omit. There are 31 distinct features—all costly features—which are rarely found in cars. Things like a power tire pump, a dashboard engine primer, a ball-bearing steering gear, a light in the tonneau, a locked compartment, etc.

100% Over-Strength

In the past three years, part by part, he has doubled our margins of safety. Now all important parts are twice as strong as needed. That is proved by tests.

Over 440 parts are built of toughened steel. All safety parts are oversize. All major strains are met with Chrome-Vanadium.

Gears are tested for 50,000 pounds per tooth. Bate cantilever springs—used for two years—never yet have broken. Not a single one.

24% Added Luxury

Our new body plant this year gives another big saving. That enables us to add 24 per cent to the cost of finish, upholstery and trimming. This makes the Mitchell the luxury car of its class. And all our bodies are exclusive, built and designed by our experts.

Go See the Results

Go see these extras—extra features, extra beauty, extra strength. Under other methods, such things are impossible at Mitchell prices.

See also Mitchell Junior, which is nearly like the Mitchell, but a little smaller size. You will agree that no such values are elsewhere shown in fine cars.

Do this now. In May and June we are always oversold.

MITCHELL MOTORS COMPANY, Inc.
Racine, Wis., U. S. A.

TWO SIZES

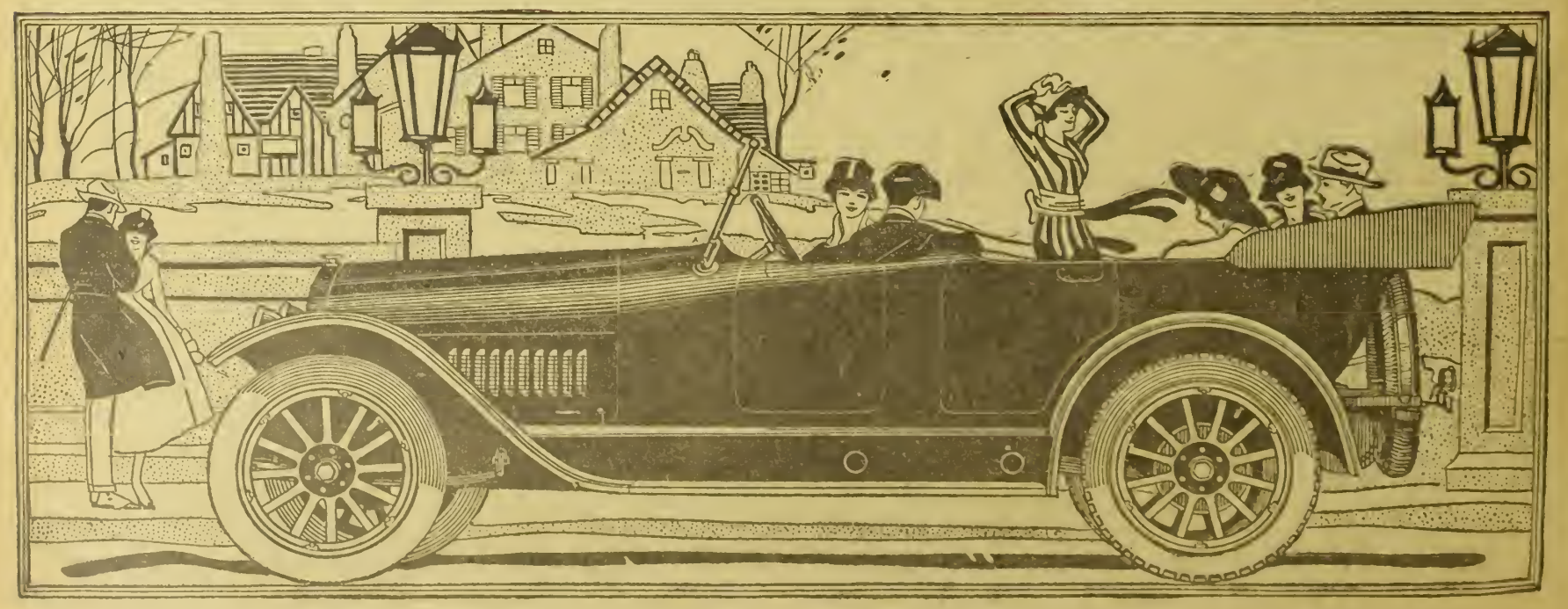
Mitchell —a roomy, 7-passenger Six, with 127-inch wheelbase and a highly developed 48-horsepower motor.

Price $1460, f. o. b. Racine

Mitchell Junior —a 5-passenger Six on similar lines, with 120-inch wheelbase and a 40-horsepower motor—¼-inch smaller bore.

Price $1150, f. o. b. Racine

Also six styles of enclosed and convertible bodies. Also new Club Roadster.



KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 16. TOPEKA, KANSAS, APRIL 21, 1917. Established 1863. $1 a Year

EARTH ROAD MAINTENANCE

Secret of Good Dirt Roads is to Use Every Scheme Possible to Keep Them Dry

From Address by B. H. Piepmeier, Maintenance Engineer, Farm and Home Week, Manhattan

ABOUT 90 per cent of the roads in Kansas are earth roads and will likely remain as earth roads for a great many years. The greatest problem, particularly that of the township or road district, is to properly construct and maintain the existing earth roads.

Earth road construction and maintenance is comparatively simple, and perhaps this is the reason for its neglect. In view of the tremendous amount of earth road work that is to be done and of money to be spent for such work, it is quite important that every effort be directed along the lines that will accomplish the best results and that will be a part of further improvement.

It must be kept in mind that the larger per cent of work done in constructing earth roads is permanent. If the grade is properly established, with proper cross section, drainage, etc., it will not have to be done over or altered for future improvements. This being true, it can readily be seen that earth road construction is just as important as brick or concrete road construction and just as much engineering skill is required to insure the best results.

A great many earth roads are constructed in a haphazard way and with very little regard for any future improvement. The time and money thus spent is practically wasted. Improperly worked earth roads result in a greater loss than the time and money that is wasted. Many roads are worse after working than before, and the loss to the public in the use of same cannot be measured in dollars. Improper construction often puts the earth road in such shape that a very large per cent of the best soil is washed away by heavy rains and this is a serious loss to the road.

The greatest fault that could be found with the bulk of township road construction today is that the road and bridge money is spread out over all the roads in the township each year and there are but very few roads that receive the proper amount of time and money to put them into first class condition. The bulk of the road and bridge money is really spent in maintenance work on the existing earth roads, when a large per cent of such roads need constructing before any money is spent in maintenance.

A majority of the townships have sufficient income to maintain the earth roads if they were once put into proper condition for effective maintenance. The most economic work that could be undertaken by a great many townships would be to finance some scheme that would permit all the earth roads in the township to be properly graded and drained and the necessary culverts and bridges constructed of a permanent material. After the majority of roads were once put into first class condition, many of them could easily he maintained under good management by dragging and oiling, with the money that is available.

Earth roads properly maintained by use of the road drag and oil will materially improve and will serve the needs of the bulk of the local traffic for a number of years. The improving and maintaining of good earth roads in a community will serve all the tax payers alike, and will be a means of getting their support in improving, with some hard surfacing material, some of the heaviest traveled or through connecting roads.

The main principles, making for efficiency in earth roads, are proper drainage and maintenance. There is no material so easily affected by improper drainage as earth. When dry, it will readily support the heaviest concentrated loads of traffic that will be imposed upon it. The same material, when thoroughly saturated with water, will not support the slightest load. The secret, therefore, in constructing and maintaining such roads, is to utilize all possible schemes for keeping them dry.

A prominent farmer in Illinois made the remark that if he just had a roof over his earth road from the farm to the market, he would not ask for anything better. This farmer knew what the earth roads needed, but his experience was limited as to how such results could be accomplished.

The skilled road builder can, with the most modern methods of construction and maintenance, drain earth roads by removing the underground seep water and treating the earth surface so that the road is practically dry the large part of the year and in such condition that it will serve moderate traffic economically.

The first step in the construction of an earth road is to have it surveyed and a permanent grade line and cross section established. The grade line should be established so that it will provide for the necessary drainage to the natural water courses. It should also provide for cutting down the grades and filling the hollows so there will be a permanent road bed that will not have to be disturbed for further improvement. The cross section for the road will depend somewhat upon the drainage and whether it is a first, second or third class road. Special attention should be given to side ditches to insure that they will carry all surface water and remove it rapidly. Many wide ditches on long steep grades should be paved with concrete, rip-rap or similar material to prevent serious washing.

All culverts and bridges should be constructed of as permanent material as can be conveniently secured. They should be of such size that they will readily provide for all surface water.

Drain tile should be laid at points that have underground seepage and on flat swampy roads where the water has no chance to flow readily into the side ditches. Drain tile should be used only when absolutely necessary. The open side ditches, properly constructed and kept clean, will give better satisfaction where there is sufficient fall for the water to flow.

Earth roads can usually be constructed at a very low cost, but they require constant maintenance which on many very heavily traveled roads becomes expensive. The earth roads require maintenance and should not be neglected. A low first cost road with high maintenance expense is often just as economical as a high first cost road with practically no maintenance. The main purpose of a road is to satisfy the requirements of traffic. The earth road in some sections may do this as well as brick pavements in other sections. If this is kept in mind, more attention will be given to the earth roads and the money spent on them will not be thought of as lost.

After earth roads are once constructed, maintenance should begin at once. It is neglect that makes earth roads bad and causes two dollars to be spent where one should have done the work. On account of the necessity of giving earth roads constant attention, it is important that every township arrange for a patrol system of maintenance, where someone can give his entire time to a section of roads and be held responsible for their condition.

Earth roads should be maintained by keeping a good crown in the road, keeping side ditches opened and the surface smooth so the water will readily drain to the side ditches and so traffic will be distributed over the entire surface. The distribution of traffic will keep the road uniformly compacted and free from ruts.

The systematic use of the road drag on a road that has been properly graded will show better results for the amount of money spent than anything else that can be done to the road. It has been shown that systematic dragging can be done for a cost of not to exceed $15 a year per mile of road, after the road has once been properly graded and the drainage adequately cared for.

There has been a great deal of discussion as to how a road should be leveled or dragged. Many claim that it can be done very effieiently and effectively with a tractor and a large leveler, others claim that the light two-horse drag is more economical. There is no question but that both have proved satisfactory in different places. The most economie scheme depends a great deal upon the local conditions. It is not so much the method as the results that count. The main thing is to keep the surface of the road perfectly smooth, well erowned, and the ditches clean.



WELL KEPT ROAD.—IT IS WELL CROWNED, THE SURFACE IS PERFECTLY SMOOTH AND THE DITCHES CLEAN

Clearing Stumpy Land

J. W., Neosho County, asks if it would be advisable to clear up a patch of stumpy land and put it to some crop this year. He does not know exactly how to go about this job.

We believe this is a year in which it will pay to clear up such patches and get them to producing. They are nearly always the richest land on the farm. Such patches are usually virgin soil. There are stump pullers now on the market that will very successfully pull stumps of considerable size. Dynamite is also very successfully and economically used in blowing out stumps. In using it, it is of course necessary to understand the proper methods to employ. This information can be secured from the firms furnishing the material.

Occasionally old hedge rows have long been allowed to keep a valuable strip of land from producing. The soil along these hedge rows is always fertile because of the decay of vegetable matter and the drifting in of soil from the fields. These hedge rows might well be brought into full production in a year in which crops of all kinds are likely to be high in price.

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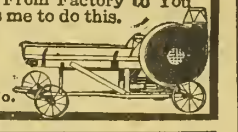

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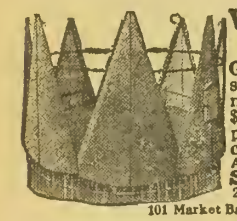

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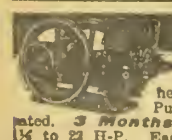

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

THIRTY-NINE per cent of the tractor owners investigated by the Federal Department of Agriculture in Illinois used four-plow tractors. The next size in popularity was the three-plow outfit. Judging from the figures available last year, more three-plow tractors were sold in Kansas and Illinois in 1915 than any other size.

It is pointed out in the report on this Illinois tractor investigation that where modern self-lifting gang plows are used, one man ordinarily handles the entire outfit in plowing, no matter what size gang is used.

The four-plow size seems to meet best the tractor requirements of the average farm in Illinois; it enables plowing to be performed at a much faster rate than is usual when horses are employed. The man labor is also reduced when using this size tractor, as one man attends to four plows at one time, instead of only two, as is ordinarily the case where horses are used. Furthermore, this size of tractor is generally powerful enough to operate practically all of the machines which are commonly found on the average farm, including the silage cutter and medium-sized grain separator. At the same time it is not too expensive in operation to prohibit its use for many odd jobs which do not demand a great deal of power. These facts probably account, to a great extent, for its popularity.

There are, of course, factors other than the size of farm which must be considered in order to determine the best size of tractor to buy. In cases where these factors to not exist or are of no effect, however, it would seem advisable to procure the sizes of outfits recommended by men who have had experience with tractors on farms of practically the same size, provided, of course, that the conditions were similar in each case.

In deciding as to the size of outfit to purchase, careful consideration should be given to the various jobs for which the tractor will be used, and care exercised to obtain one with ample power for the heaviest work which will be required of it. This may be either field or belt work; probably it will be the latter more often than the former. Quite frequently the work of a tractor in driving a grain separator or silage cutter requires more power than the plowing, and in such cases the tractor bought should be powerful enough to handle the belt work properly.

On the other hand, if the belt work which will be required of the tractor will not demand a great deal of power, while there may be a considerable amount of plowing which it will be desired to complete within a limited season, the tractor should be capable of pulling enough plows to enable the work to be performed within the time available.

Then, too, there are cases where only a small amount of belt work is required and most of the field work will be done with horses, the tractor being wanted merely to make extra power available in rush seasons, or to relieve the horses during hot spells. In such cases the small two-plow outfits frequently have proven most satisfactory. Such an outfit has the additional advantage of not necessitating a large investment and on this account is frequently recommended by experienced men as a good size to buy in order to learn how to operate a tractor without going to too great expense in the beginning.

Cost of Grinding Limestone

Farmers are becoming more and more interested in the use of lime for agricultural purposes. Along with this interest has come a demand for cheap lime. Experiments have shown that lime is profitable only where it can be placed on the ground for a moderate price per ton. In many places the price of commercially ground limestone is prohibitive owing to long freight and team hauls. In some places where native limestone is abundant, farmers have expressed a desire to grind their own supply. It is obviously not profitable to invest in equipment unless a saving can be effected by home grinding.

The Missouri College of Agriculture has made an investigation of the cost of home-ground limestone. The figures which follow were obtained from men using portable crushers in Missouri. While the estimates which were obtained vary widely, a fair statement of the cost of the separate items under what might be termed favorable conditions would be as follows:

Engineer and 18 h. p. engine per day	$ 7.50
Fuel, about one ton coal	3.00
Labor, three men at $1.75	5.25
Depreciation and repairs	3.00
Cost of grinding 25 tons	$18.75
Cost of grinding per ton	.75
Cost of quarrying per ton	.50
Total cost per ton	$ 1.25

Whether it is cheaper to grind limestone in the neighborhood or buy it and ship it in will depend upon the delivered price at the station, the length of the haul, the quality and accessibility of the limestone in the community, and the cost of grinding.

Care of Starter Batteries

The storage battery is a necessary part of all electric starting and lighting systems. Though greatly improved in recent years the storage battery very often fails because of lack of care. A neglected battery does well to last a year while if cared for it should last for years.

Keep the battery filled to the proper level with distilled water. The same can be secured at drug stores. Well water will not do. Take a bottle of distilled water with you on long trips.

Have a garage test the battery frequently with hydrometer or purchase a hydrometer syringe and test your own battery. A charged battery should test about 1.28 and the same, discharged, 0.12 lower or 1.16. A battery is in danger of damage whenever it stands for any length of time not fully charged. Much city driving, particularly at night, is liable to cause an under-charged battery.

Watch your battery if you wish to keep it for any length of time.—E. W. HAMILTON.

The profits of the year are still in the ground, and we win or lose depending upon the kind of a campaign we begin. When we start on the great spring drive, we must have decided in which fields we are going to put the different crops. We must have our seed ready, of a quality we know will grow. We must feel sure that we have our plows, disk harrows, drills, and planters in shape for ready use, and what is most important of all, we must be sure that we have the power to put in our crops at the time they should be, in the time we are liable to have for the job, and in the way that they will return the biggest yields.

One man with a tractor capable of pulling a tandem disk harrow with a drag or smoothing harrow behind will cover practically twenty acres in ten hours, doing all the work required in getting the ground in shape by a single operation. This same operation would require twelve head of horses and three men working twelve hours to do the same amount of work, and at the end of the day the horses would be fagged while the tractor would not know it was time to unhitch for rest and feed.

After the cropping season has passed, we have all been guilty of the statement, at one time or another, that we would have plowed deeper, disked the ground again, or given it another dose of the smoothing harrow, had we not been forced to favor our horses, and it is this fact that horses have a limit of endurance that has cost the farmers of this country many real dollars in crop returns.

With a light tractor of eight or ten drawbar horsepower pulling three plows, we can turn over eight and one-half acres in ten hours at a depth that would put our soft horses out of commission in short order. The tractor is not soft to begin with and does not tire, our ground is plowed faster and deeper, and can therefore be made into a better seed bed.



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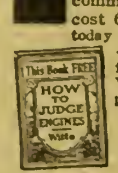

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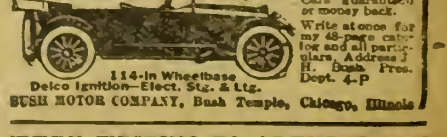

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Food Production and Conservation Program

AN EMERGENCY appropriation of $25,000,000 to be made available immediately for the use of the Secretary of Agriculture to meet the extraordinary needs of agriculture; an urgent call to all farmers to increase production and to housewives to avoid all food waste; the mobilization of over two million unemployed boys between the ages of fifteen and nineteen years for service on the farms and in the production of food supplies and munitions; the enlistment of men unfitted for military service as an officially recognized force for the production of necessities; a complete survey of the food supply; national systematic publicity of food prices; effective control of agencies for the manufacture and handling of foods, and price fixing, if necessary—these are among the leading recommendations of sixty-two officials representing state agricultural colleges and commissions of thirty-two states, from New York to the Rocky Mountains, who met at the request of the Secretary of Agriculture to confer with representatives of the United States Department of Agriculture in St. Louis, April 10 and 11. The conference, after dealing with the general problems of financing agriculture and organizing the federal and state agencies for effective co-operation, made a special appeal to the patriotism of farmers and recommended a definite program particularly looking to the increase of cereal and leguminous food and meat and animal products. Home owners and their children were urged to produce as much food as possible in back yards and vacant lots and to can or preserve all surplus. Extracts from the recommendations and conclusions of the conference follow.

PRICE PUBLICITY AND PRICE CONTROL

A thoroughgoing survey of the food, labor, and other resources of the country and of the needs of local communities is recommended. The conference advises that the Secretary of Agriculture, in co-operation with the Federal Trade Commission, be given power, as far as practicable, to secure full information regarding the food supply of the nation and all business enterprises related thereto.

The Secretary of Agriculture should be authorized by law to license warehouses, packing plants, mills, cold storages, produce exchanges, co-operative and other shipping associations, commission merchants, auctioneers, brokers, jobbers, wholesale distributors, and other individuals, partnerships, associations, and corporations engaged in the business of marketing and distributing farm and food products. When directed by the President, the Secretary should have power, after advising with the Council of National Defense as to the necessity of such a step, to take over and operate such of these businesses as may be warranted, in a manner similar to receivership.

Government agencies should do everything in their power to bring about an adequate supply of cars for moving food and other necessities.

Communities, counties, and cities should be urged to take steps that will lead toward a larger degree of local and district self-support, especially in perishable products.

To bring about a greater equality of distribution with reference to the consumptive demands of population centers, the Department of Agriculture and the several state departments should extend and make as effective as possible their facilities for disseminating market information. This extension should include the publishing as widely as possible of average prices of foods, feeds, and live stock, particularly the prices paid by the War Department where its purchases are made in the open market.

Effort should be made to expand local production to care for the needs of all training camps. Steps should be taken to facilitate the delivery of agricultural implements and machinery, particularly for seeding and harvesting, and, if necessary, to require that preference in filling orders be given to urgently needed equipment of this character. Steps should be taken at once to secure preferred movements of freight shipments of farm machinery, seeds, fertilizers and spraying materials.

The very low food reserves of the world, due to last year's short crops, the increased demands due to the consumption and waste of war and the disappointing condition of the winter grain crop give ample assurance of profitable prices to producers this year. Therefore, the fixing of maximum or minimum prices need not be undertaken at this time, but the fact that such a course may become necessary in the future makes advisable the creation of agencies which will facilitate government action when the necessity may arise. To this end, it would be well for the Congress of the United States to authorize the Council of National Defense, if deemed necessary, to purchase, store and subsequently distribute food products, or to fix prices in any national emergency caused by a temporary or local overproduction, or by a sudden ending of the war, or by restraint of trade, manipulations or uneconomic speculation, in order that producers may not be required to suffer loss on account of the extraordinary efforts they are now asked to make, and in order that consumers may not be required to pay oppressive prices in case of disorganized or inadequate transportation.

MOBILIZING FARM LABOR

One of the principal limiting elements of food production is the labor supply on the farm. Indiscriminate enlistment from the farms with no plan for labor replacement will reduce food production below its present low level.

The plan for public defense should include as definite a provision for enlistment for food supply as for service at the front.

The plan for military enlistment should be broadened to include in the national service those who, by reason of their age or physical condition, are permanently or temporarily incapacitated for active military duty but who are able to render the government equally indispensable service in the production of food, supplies and munitions.

This enlistment should include three classes of men—men beyond military age, men of military age but not accepted for active military duty, and boys under age for enlistment.

The government should make plans at once for the mobilization of this important resource for the production of food and other necessities. This proposed enlistment in the national service should be regarded as part of the public patriotic service in the present war and be given proper official recognition.

* * *

PRESIDENT APPEALS TO NATION

In an appeal addressed to every American citizen, President Wilson says:

"The supreme need is an abundance of supplies and especially of foodstuffs. The importance of an adequate food supply, especially for the present year, is superlative. Without abundant food the whole great enterprise upon which we have embarked will break down and fall. The world's food reserves are low. Not only during the present emergency but for some time after peace shall have come both our own people and a large proportion of the people of Europe must rely upon the harvests in America. Upon the farmers of this country, therefore, in large measures, rests the fate of war and the fate of the nation. The time is short. It is of the most imperative importance that everything possible be done to make sure of large harvests. I call upon young men and old alike and upon able-bodied boys to accept and act upon this duty and make certain that no pains and no labor is lacking in this great matter.

"The federal government and the governments of the several states stand ready to co-operate. They will do everything possible to assist farmers in securing an adequate supply of seed, an adequate force of laborers when they are most needed at harvest time, and the means of expediting shipments of fertilizers and farm machinery as well as of the crops themselves when harvested. The course of trade shall be as unhampered as it is possible to make it, and there shall be no unwarranted monopolization of the nation's food supply by those who handle it on its way to the consumer. This is our opportunity to demonstrate the efficiency of a great democracy and we shall not fall short of it."

Price Fixing to Protect Farmer

LAST week a momentous conference was held in St. Louis to consider the part agriculture is to take in prosecuting the war which the United States has at last been compelled to enter in order to defend the world-wide cause of democracy. Secretary of Agriculture Houston, who called the conference, is a member of the National Council of Defense, which is charged with the duty of mobilizing to the fullest extent possible the resources of the nation. Thirty-two states were represented.

Kansas may well be proud of the constructive work done at this conference by President H. J. Waters and Dean W. M. Jardine of the Kansas Agricultural College. These men know and appreciate the high motives that actuate the farmers of Kansas, and were able to assure Secretary Houston that the farmers of our state would cheerfully "do their bit" in this national crisis that is now upon us. It was also made clear to the secretary, however, that the farmers upon whom in large measure rests the responsibility of winning the war, will expect the government to give them a square deal. Willing and anxious as they are to do their part, they will not go the limit to increase production without the assurance that the government will so handle the transportation, storage and distribution of food products as to absolutely eliminate the corrupt and disgraceful practices of the past few months. The producers of this country do not ask more than a fair profit, but they are not eager to make any great sacrifices to increase production as long as the leeches who produce nothing can so manipulate the handling and distribution of food products as to take heavy toll from the consumer who is absolutely unable to protect himself.

Price fixing was one of the most important subjects discussed. Secretary Houston knows he has the farmers solidly back of him, but he also realizes that he must have the power and authority to give them absolute protection from the price fixer who produces nothing. We were present in the meeting of farm paper editors which Secretary Houston called, and were much impressed with his earnestness of purpose along this line. As a result of the suggestions offered at the conference, he will demand emergency legislation and already dispatches under Washington date line are being sent out announcing that such demands have been made.

There should be no misunderstanding as to what is meant by price fixing. The men who counseled with Secretary Houston did not believe that the time had yet come for official price fixing, but recommended that sufficient authority be given the secretary to act wisely in any emergency that might arise. In a crisis like this it is important that food production be stimulated to the fullest extent possible, but while the farmer is just as patriotic as any other class, he is just as liable to hold back if he is in danger of meeting serious loss. The purpose of price fixing is to assure the producer that he will not be left with a big crop on his hands that he would have to sell at a ruinously low price.

The European warring nations have reached the price-fixing point and are guaranteeing the farmers even for two or three years to come a minimum price. If the price should go higher as a result of the law of supply and demand, the government guarantee would not be operative, but if the price should tend to naturally go lower, the government guarantee would hold it at a fixed point.

The government in this crisis must guard against a food shortage and taking measures to protect the producer against loss is essential to the stimulation of increased production. Of course, if the time comes when the government must fix minimum prices, it must also protect the ultimate consumer from the unscrupulous food speculator and maximum price for food products would also have to be fixed. This would mean fixing a fair margain between the price the farmer receives and that the consumer would have to pay. The result would be to squeeze out the speculator by absolutely preventing him from increasing the price out of proportion to a fair return for the service rendered.

These are drastic measures and we hope they may not be necessary, but the government should be in a position to act wisely if the emergency arises. In the fixing of minimum prices the government would of necessity have to take into consideration the cost of production, allowing a fair profit to the producer, just as in regulating railroad rates the cost of transportation must be considered and a fair percentage allowed on the capital invested.

From our meeting with Secretary Houston last week and as a result of a careful study of the suggestions which he took back to Washington with him, we feel that a most serious attempt is being made to enable the farmer to produce to the fullest extent of his ability without facing the possibility of a serious loss.

EXPERIMENTS BRING RESULTS

Facts Learned Through Experiments of Great Value When Used on the Farm

IN HUNDREDS of ways the Kansas Experiment Station is rendering valuable service to the people of the state. A blackleg serum which will cure calves in the early stages of blackleg and a germ-free fluid vaccine which will give healthy calves permanent immunity from this dreaded disease, can be obtained by anyone in Kansas at a nominal cost. The size of the dose needed depends upon the weight of the calf, but the average dose of either form of treatment costs 50 cents per head. Directions for its use are sent with the vaccine and anyone can administer it by following the instructions.

Approximately 100,000 doses of these blackleg vaccines have been sent out by the Kansas Agricultural Experiment Station in less than two years with unusually effective results. The deaths of calves treated amount to only a fraction of one per cent. A circular giving the method of manufacture and directions for the use of these vaccines may be had for the asking.

Effective methods for controlling other diseases of farm animals have also been worked out, but this is only one phase of the valuable investigational work which is being done at the station. The feeding and breeding of farm animals for better types and higher production receive considerable attention.

Canary Bell, an Ayrshire cow owned by the station, produced 17,406.4 pounds of milk and 786 pounds of average butter in the past year. This is six times as much as the ordinary dairy cow in Kansas produces.

An experiment is now being carried on to determine what feeds are best for the development of young heifers. Three years ago twenty-four calves were divided into three lots and all fed skim milk until six months of age. Since then one lot has received alfalfa hay alone; another alfalfa hay and silage; and the other alfalfa hay, silage, and grain. Accurate records of the costs of the different feeds are kept in order to determine which feed is most efficient for the money. The animals are weighed and measured each month and records kept of their development. This experiment will be continued until the animals are six or eight years of age.

The problem of economically feeding cattle for the market has been studied from many different angles. Every kind of feed used for cattle has been tried in different combinations with other feeds to determine its efficiency. Many of these experiments and their results have been published.

In producing baby beef for the market, it was found that grinding corn for young animals does not pay. The calves in this experiment that were fed a ration of ground corn and cottonseed meal, with alfalfa and silage for roughage, matured earlier, showed more finish and bloom, and dressed out a higher per cent, but cost the most per hundredweight of gain. Those fed on corn and cob meal made good but cheap gains; and those fed kafir heads were not finished at the end of the feeding period. More investigations are being carried on to substantiate these results and reach more definite conclusions.

That corn alone cannot develop growing pigs was shown by a nutrition experiment carried on for several years. The results of this investigation have been published. Corn must be supplemented by tankage, growing alfalfa, milk, dried blood, or other food containing protein and ash.

To find which type of beef cow will produce the best beef calf is the object of an experiment begun in 1915. Twenty Shorthorn cows, which have shown their ability to produce beef calves of exceptional merit and show no deficiency of mammary development, were chosen to be bred to bulls of exceptional merit from good milking cows.

Interesting results have been obtained in an effort to increase the production of the offspring of mongrel flocks of hens by mating them with pure-bred males from high-producing strains. In the case where the pure-bred single comb Leghorn was crossed on the hens of mixed breeding, the increase in egg production of the first generation of offspring was more than 100 per cent; with the pure-bred White Orpington male, 47 per cent; and with the Barred Plymouth Rock male, 32 per cent. The marketing of poultry and eggs is also being studied and a revised edition of the circular on caponizing was issued recently.

Drouth resistant strains of all the common field crops are being developed by the station. By selection of the most promising plants of different varieties and crosses of wheat for ten years, a new wheat has been produced which in a six-year average yielded 4.6 bushels more per acre than Turkey wheat and 5.2 bushels more per acre than Kharkof during the same period. This new wheat has been named Kanred—"Kan" to signify that it was originated in Kansas, and "red" to denote that it is a red variety. The milling and baking qualities of Kanred, as well as those of other varieties in the state, are determined each year.

A strain of corn has been bred which in different experiments required from 122 to 184 pounds less of water to produce one pound of dry matter than did Pride of Saline or Iowa Silvermine. Several years of careful selection and crossing are necessary to produce the desired kind of a plant and a few more years are required to produce a sufficient number of seeds to distribute to farmers of the state. An effort is also being made to determine why the sorghums are better able to withstand severe climatic conditions than the corn plant. The plant diseases of the state are being studied in order to find methods of controlling them; and an effort is being made to develop disease resistant strains of cereal and forage crops.

This is only one phase of the crop improvement work being done. Another has as its aim the conservation of the soil by rotating crops and applying fertilizers. Several rotation or cropping systems produced remarkable results in 1915. Corn after corn preceded by alfalfa yielded 70.3 bushels per acre; corn after wheat preceded by corn, 63.9 bushels; corn after wheat preceded by cowpeas, 66.2 bushels; and corn grown continuously, 53.7 bushels per acre. Soil samples taken from fields treated in different ways are analyzed to determine the effects of different crops and methods of cultivation upon the elements in the soil. The rotations are then planned so that one crop puts back into the soil what the preceding one removed.

Different methods of seed bed preparation have also been found to influence the yield. The highest returns have been obtained when the field was double disked in July and plowed early in August, in other words the earliest methods of preparation have given the best results.

The application of two and one-half tons of manure per acre annually, in the years 1911-1915 inclusive, increased the average yield of wheat 35.2 per cent and the average yield of alfalfa 80.2 per cent. Complete commercial fertilizer — that containing nitrogen, potassium, and potash—has never given returns sufficient to pay for its use; but two and one-half tons of manure per acre in combination with 380 pounds of raw rock phosphate increased the average yield of alfalfa 97.4 per cent. The enforcement of the fertilizer inspection laws, as well as the feeding stuffs and live stock remedies laws, is being done by the station.

Alfalfa hay cut at different stages of its growth — the bud, one-tenth bloom, full bloom, and seed — has been fed to work horses to determine the physiological effect upon the horses; and also to observe the results of these different treatments upon the alfalfa plants. At the last cutting the alfalfa cut in the bud stage was 80 per cent foxtail and crab grass seedlings and there were a few patches of grass in that cut in the one-tenth bloom; but there were no weeds in that cut in the later stages of growth. It has been found that alfalfa cured in the sun is much more nutritious than that cured in the shade and that the leaves contain two and one-half times as much digestible protein as the stems.

A study of silage made from different kinds of feed with reference to keeping qualities and feeding value are being continued. It has been found that the primary condition in keeping silage is the rigid exclusion of air.

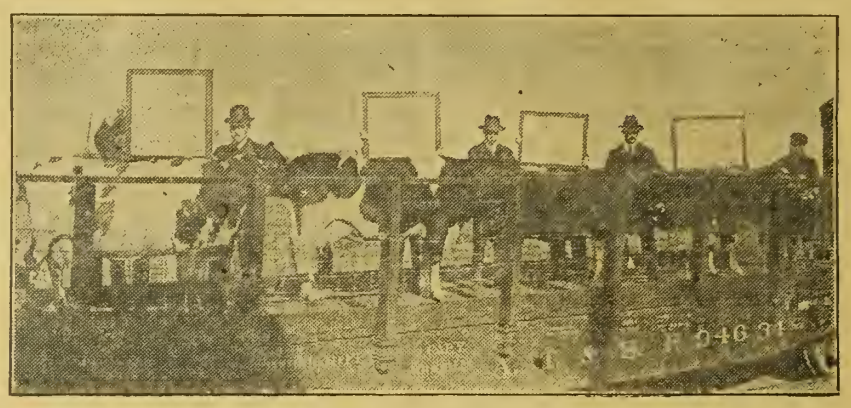
The problems of pasture management are studied in order to determine how the desirable grasses may be increased. Investigations of farm management and the business of farming are being conducted. Data on labor incomes, percentage distribution of farms by tenure, and methods of leasing have been obtained from many farms in Kansas. Investigations have shown that the majority of farms are in need of more and better paying live stock. Better methods for marketing crops are also being worked out. In connection with this work, co-operative organizations are being encouraged. A bulletin is now being written containing valuable information on marketing.

Orchard management with an aim to producing the highest yields is being studied under two heads: soil treatment and training of plants. Variety trials with garden vegetables and fruits are also carried on, while the problems of pruning, spraying, and cold storage receive no small amount of attention. Tests of commercial fertilizers in potato growing are being carried on in co-operation with potato growers in the Kaw Valley. Closely connected with this work is that of experimental tree planting. That maple and pecan trees can be profitably grown in some parts of the state has been proved by experiment. It is probable that pecan growing and maple sugar production may some time be profitable in parts of Kansas. Literature on trees for Kansas may be had for the asking.

Methods of controlling pests that infest plants in Kansas are being perfected by the station. Much work has been done in the field to help orchardists and other agriculturists to get rid of these pests. The Hessian fly and chinch bug investigations have produced a method of procedure by which a community, by co-operating, may control these pests. Efforts are being made also to perfect methods of controlling rodents such as prairie dogs and gophers, as well as other injurious mammals.

That many thousands of the citizens of Kansas take advantage of the opportunities offered by the experiment station is shown by the fact that more than 45,000 copies of station bulletins and circulars were mailed out during the past year in response to miscellaneous requests. This does not include the publications sent to 21,000 persons whose names appear on the regular mailing lists. In addition to this, 70,000 letters were written by the station staff, giving advice and information on every conceivable phase of agriculture. Between 700 and 800 days were spent by the members of the staff in the field helping agriculturists of Kansas to solve their problems.

The station stands ready to co-operate with the citizens of the state and solicits their patronage. Printed lists of publications that are ready for distribution may be obtained by asking for them. When one of these lists is obtained, it is easy to look over it carefully and then address a communication to the Experiment Station, Manhattan, Kansas, and give the numbers of the bulletins or circulars desired. A post card will answer the purpose. It is a simple matter, also, to ask to be put on the mailing list to receive literature as it is ready for distribution.



FOUR dairy cows from the agricultural college herd were carried on the Santa Fe Dairy and Poultry Special. The Ayrshire, Canary Bell, standing at the left, has a year's record of 17,406.4 pounds of milk containing 668.16 pounds of butter fat. The next cow, College Daisy, is a grade Holstein. Her year's record is 13,463 pounds of milk and 501 pounds of butter fat. A pure-bred Jersey stands next. She is a 14-year-old cow and her best year's record is 10,148 pounds of milk and 592 pounds of butter fat. Her yearly average for the past three years has been 9,473 pounds of milk and 543 pounds of butter fat. The Guernsey is a cow imported from the Island of Guernsey. She has a record of 8,950 pounds of milk in one year, containing 429 pounds of butter fat.

Feed for Live Stock

The live stock farmer finds it necessary to plan farther ahead than the man having but little stock. An abundant supply of feed is essential to success with live stock. Nothing is more detrimental to the profitable handling of stock than to have the feed supply run short. Since the seasons are variable, enough feed crops must be planted to provide an ample margin of safety. It is better to have a lot of feed left over than to be compelled to put stock on short rations before the winter season is over.

In the western part of the state it is necessary to plan for a reserve supply of feed. The farmer who always has plenty of feed in reserve will never be under the necessity of rushing stock to market at sacrifice prices when an unfavorable season cuts the feed supply short. We have known of many instances where men with such reserves of feed have been able to buy up stock cattle at bargain prices in short years and thus realize good profits on the feed they have saved.

The sorghums, properly handled, will make some feed every year and there are years in which they produce unusual yields. In such years much feed goes to waste because there is not enough stock on the farm to consume it. If properly stored and fed to cattle later, the unusual crop could be turned into profit.

No method of storage is equal to that of making silage of these feed crops. By using silos to store feed, there never need be a shortage. The time to plan such reserves is when the feed crops are being planted. Be sure and plant enough so that even if the season is an unfavorable one there will be sufficient to carry the stock through, and, having made the planting plans, try and arrange to store the feed grown in silos. In Western Kansas pit silos can be made at a very low cash outlay.

When a ewe will not allow her lamb to suck she should be held and the lamb permitted to get milk as often as it needs it, or the mother may be tied up to prevent her from butting her lamb. An examination of the udder should be made because inflammation of that part sometimes causes a ewe to fight her lamb.



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Starting Plants from Seeds

There are many flowering plants ordinarily purchased that we can grow ourselves from seeds if we do not have access to the greenhouses or prefer to save the expense. Most of the plants used for bedding and sold by the florists are grown from cuttings, even of such plants as verbenas, salvias, sweet alyssum, mignonette, ageratum, and petunias. Others are grown from divisions and rooted runners, as Shasta daisies, pansies, violets, dahlias, cannas, and a few others that cannot be grown from seeds outside a greenhouse. Some of those I have mentioned are rather difficult to grow from seeds, but most of them will grow readily, and some of them are grown mostly from seeds by the florists.

Pansies are the first to be sown, for they grow so slowly that they need a very early start. Seeds sown in February will make the best plants, but seeds sown in March will bloom nicely if kept growing right along. A small box will hold seedlings enough to set quite a bed, but the little plants should be lifted when they have two or three leaves and set further apart in new boxes of rich soil, or in small pots. Florists usually plant their pansy seeds in the fall and winter the little plants in a cold frame, and such plants will bloom somewhat earlier than the spring plants unless started in February in the house.

Verbenas, ageratums, and such plants should be sown five or six weeks before the ground will be warm enough to plant them outside. Mignonette cannot be transplanted if the roots are disturbed, so they must be grown entirely in pots or the seeds must be sown outside. They grow rapidly so there is no reason why they should be sown inside.

Shasta daisies, picotee pinks, plumarius or grass pinks, sweet williams, columbines, and many other perennials that are beautiful garden flowers are very easily grown from seeds, but these will not bloom the first season. It is not necessary to sow these seeds in the house, for they make a good growth if sown in beds in the garden in May. Sometimes they are sown in the early fall and the plants will bloom the following season, but they will be much better if given the full season's growth.

Dahlias and cannas both bloom the first season from seeds, and dahlias are very easily grown. The seeds start readily and quickly, and the plants grow rapidly, and are large thrifty plants from the start. Canna seeds must be filed until the white shows through, and it is best to soak them in warm water for twenty-four hours in addition. The seed shells are very hard and they will lie dormant unless this precaution is taken. I sow the seeds in a bed of warm sand, just burying them, keeping the sand wet, and then when the seed starts I take it out and plant in the box of soil. The little plants are so hardy that you can handle them without much danger of damaging them if you are reasonably careful. While the cannas and dahlias grown from seeds will not make as large clumps the first season, the dahlias will make bushes plenty large enough, and will bloom well in the fall if started early. They should not be started more than a month before they can be planted outside, for they grow rapidly.—L. H. Cobb.

Germination of Garden Seed

The average time required for garden seeds to germinate is given in the following table:

Bean	5 to 10 days
Beet	7 to 10 days
Cabbage	5 to 10 days
Carrot	12 to 18 days
Cauliflower	5 to 10 days
Celery	10 to 20 days
Corn	5 to 8 days
Cucumber	6 to 10 days
Endive	5 to 10 days
Lettuce	5 to 8 days
Onion	7 to 10 days
Pea	6 to 10 days
Parsnip	10 to 20 days
Pepper	8 to 12 days
Radish	3 to 6 days
Salsify	7 to 12 days
Tomato	6 to 10 days
Turnip	4 to 8 days

Ayrshire Records

The summary of the Ayrshire Advanced Registry records for the quarter ending March 15, 1917, have just been announced.

For the quarter, 102 animals of all classes qualified, as against 114 in the previous quarter. The results show a gratifying increase both in milk and butter fat production. The 102 total entries averaged 10,587 pounds of milk, 420.87 pounds butter fat, test 3.98 per cent, an average increase of 742 pounds milk and 20.44 pounds butter fat over the average of the previous quarter.

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See how the calves play, how the colts frolic, how the little chicks chatter among themselves,—and down the road are the kiddies romping home from school.

See all the big outdoors from your windows. Who would choose to live in darkness—blindness?

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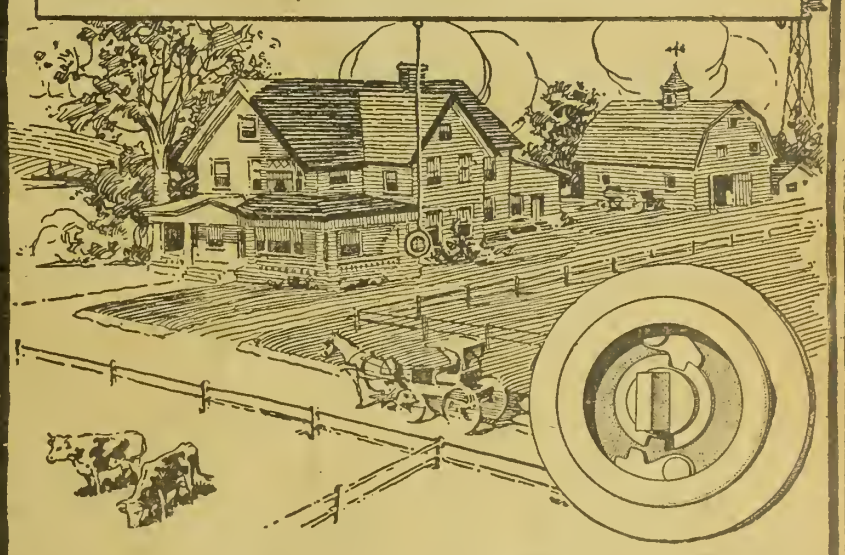

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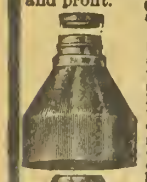

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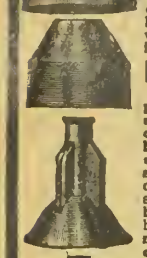

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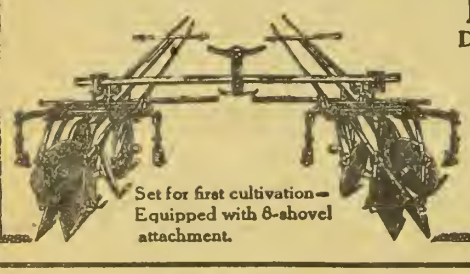

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Kansas Farmer Dairy Club

Advanced Class For Our First Dairy Club Members

SEVERAL members of the Dairy Club will close their year's record in the next few weeks and all will end on on before Septemher 1. We are sure you have heen surprised to find out how quickly a good dairy cow can pay for herself. Perhaps some of the hankers who loaned the money have had their eyes opened to the possihilities of dairying as a profitable husiness. We know of one banker who expressed some surprise when a girl who borrowed money and hought a eow for the eluh work, paid her note in eight months instead of requiring the two years which the hanker gave her. He assured her that whenever she wanted money to buy another cow he was ready to loan it.

We are enrolling members for a new Kansas Farmer Dairy Club, hut we have hecome so much attached to the members of the present eluh that we hate to think of their dropping out. We feel tbat a bond of sympathy and interest has developed between the editors and every member of the eluh, and we do not want it to be severed. We trust you feel the same as a result of our year's work together.

Will you not enroll for a second year's work? Of course, the members of the new club would not want you to compete with them hecause with your experience of the past year you would be ahle to do hetter work than a heginner could he expected to do. We would like to see all the memhers of the present club continue the work, forming an advanced class. Some of you bave been disappointed in your cows. You will know better how to select good cows as a result of your experience. We want you to have the best cows possible for the second year's work. Perhaps the banker did not care to loan enough money last year so you could buy a really good dairy cow. You should be able to convince him now that there is much more profit in milking good cows and that it will pay to invest a little more money and thereby greatly increasc the possibilities for profit.

If you ean horrow enough money to buy a better cow when you have completed this year's record, sell your present Dairy Club cow at the end of the year's work and make a new loan for enough to huy the hetter cow. Some of you have pure-hred cows that have proven their worth and you will not care to part with them. If all of you who had to milk eows that were not entirely satisfactory, could plan to get better ones for a second year's work, we could have a race royal in this advanced class of the Dairy Club.

If you would like to enroll for a second year's work with the cow you now have or a hetter one purchased later, send us your names for memhership in the advanced class of the Kansas Farmer Dairy Club. The profit you will make and tbe training you will get will make it well worth while to continue the work. In addition, we can assure you that sufficiently valuahle prizes will be offered to make the second year's work decidedly interesting.

Visited the Special

I sent another bottle of milk to Manhattan April 3.

I went to see the hen and cow train and found it very interesting. I saw all of the cows and all of the poultry.

I found tbe mistake in my record for last month.

I have been looking over my records that I have to finish the year's work and find I have no more feed records to finish my year's work, but I have enough milk records. I wish you would tell me what to do ahout this.—ERNEST WENDEL, Leavenworth County.

We are glad to know Ernest visited tbe Santa Fe Dairy and Poultry Special and hope all of the club members living near the stations at which this train stopped made an effort to visit it. We know those who did were interested in what the speakers on the train had to say, and also in seeing the four good dairy cows and the car of poultry of the different breeds.

Shall He Buy Hay?

My cow is doing pretty well considering the feed she has. I have run out of alfalfa hay but the meadow pastures are up and I let my cow run on them. I also let her out at night after I milk.

Do you think I had better get more bay? It is bigh and scarce around here.

I bought some shorts tbe other day in Leavenworth for $2.30 a bundred pounds. I think my cow will increase in her milk flow now as she will get plenty of green grass in the meadow.

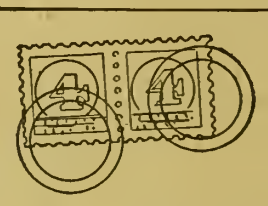
I will try to come to see you before Septemher.

Enclosed you will find my records for March. Hoping you had a bappy Easter. —ERNEST ASBURY, Leavenworth County.

We have advised Ernest not to buy more bay since it is so very high in price and his cow is almost dry. In addition to the pasture he should feed three pounds of shorts each day and should put witb tbe sborts at least one pound of bran, or enough so that the shorts will not stick to the cow's mouth as sbe eats it. The bran will probahly cost no more than the shorts and the mixture will be more palatable to the cow and therefore will hring better results.

His Was First Note Paid

Rudolpb Enns, of Harvey County, was the first one of our Dairy Club memhers to pay his note at the bank. Anyone could well be proud of bis seven and a balf montbs' record. Rudolph's cow is a pure-bred Holstein and she has certainly proven a fine investment for him. The hanker who loaned Rudolpb the money to huy his cow is so well pleased with this record that he has asked the county agricultural agent to furnish him the names of all boys and girls who are deserving of assistanee in buying cows to join the second Kansas Farmer Dairy Club. Rudolph's letter, dated January 15, 1917, follows:



JUN 12 1916 Paid $20.19
JUL 11 1916 " 29.27
AUG 15 1916 " 23.76
SEP 11 1916 " 20.94
94.36
OCT 14 1916 " 21.01
115.37
NOV 28 1916 " 20.30
DEC 26 1916 " 15.95
151.62
JAN 5 1917 " 150.00
301.62
10.38
312.00

Bal on Note 16.38
6.00
10.38
Int Rob Paid

BACK OF RUDOLPH ENNS' NOTE, SHOWING PAYMENTS

"Please allow me to tell you that I have today taken up my note with Mr. Snderman, my cow is paid for and I have some money out on interest.

"With December 31 I have milked Daisy exactly seven months and twenty days. In this time she has given me 11,932.2 pounds of milk, 1,387.5 gallons, which I sold here in the city of Newton for $269.90. The calf I sold to Mr. Loyd, of Loyd, Kansas, for $150, making me a total income of $419.90. My expenses have been $300 for the cow, $12 interest, $68.93 for Daisy's feed, and $23.38 for calf feed; total $404.31, leaving me still $15.59 for which I now get interest. Enclosed please find the condensed statement, note, and chattel mortgage.

"I find that Daisy's milk—1,387 gallons—containing 430.2 pounds butter fat or 516.2 pounds butter, has cost me only $68.93, or about five cents per gallon."

GENERAL FARM NOTES

THE extravagance of using large quantities of grain in feeding live stock is being pressed home in these days of high prices for foodstuffs of all kinds. Grain is necessary in the feeding of live stock but we have formed the habit of feeding a great deal more than is absolutely necessary—to some classes of animals, at least. The world-wide demand for grain for human consumption is such that we can hardly afford to use more than is absolutely necessary in growing meat animals and finishing them for market. Animals are an indispensable source of human food, but their chief function is to convert into human food, rough, coarse feed that cannot be so used directly.

Under old methods of finishing steers for market, it was nothing uncommon to use from 900 to 1,000 pounds of corn to every 100 pounds of increase made during the fattening period. No one would think of arguing that a pound of beef has as much value for human food as nine or ten pounds of corn, and when it is remembered that the increase during the fattening period is largely fat which is a source of waste when the meat is brought to the table, the extravagance seems even greater.

From all over the world comes the insistant demand for greater supplies of human food. Conservation of that which is produced requires that the full value of the forage part of our crops be converted to human use. This can be done most completely and effectively by putting up silos and preserving the corn, kafir and cane as silage. By this method the maximum value of the crop will be saved and grain will be released for direct human consumption. The use of the forage crops as silage will greatly increase the possibilities for meat and milk from an acre of average Kansas land.

The silo is one of the greatest conservation agencies and it not only means increasing the amount of human food produced but increases the farmer's profit as well, through this utilization of the crop.

Last winter John Cottrell, a Marshall County farmer, fed 1,200 tons of silage which he grew on 120 acres of ground. He estimates that through the use of this silage he was able to save $10,000 worth of hay and grain. His cost for putting up this silage was $900, which left him more than $9,000 net for the corn as it stood on the 120 acres, unhusked, or an acre profit of more than $75. Mr. Cottrell's experience of three years has convinced him that it is more profitable for him to feed his corn crop through the silo than in any other way, and he is planning to put up two more silos having a capacity of 300 tons each, this summer.

Live stock production can be greatly increased on our Kansas farms through the use of the silo, and in addition to producing more meat and milk there will be more grain available for human consumption.

In the present crisis conservation and full utilization of that which is produced is of even greater importance than increasing production. The silo must be recognized as a most important food conservation agency.

Grow More Strawberries

Strawberries should be grown in more of our gardens. There are many localities in Kansas where the soil is adapted to the growing of strawberries.

Strawberries demand a moderately rich loamy soil for the best success, but they are being grown in a wide range of soils and conditions. Almost any soil can be put into condition for them.

It is preferable to set the strawberries in the spring in most instances. The plants which produce the fruit are the ones which form the previous season, and the work of the grower is directed to securing a sufficient number of good plants each year.

New varieties are grown from seed but all are propagated from runners. Plants are best grown in new beds, and if they are taken for setting from old beds, special care should be used to get the young thrifty plants. Where space is abundant they are grown in rows four feet apart in what is known as the matted row system.

The ground should be thoroughly and carefully prepared. Usually it is best to set in the early spring, but conditions may change. If the ground is dry and the weather is bad, it is best to wait until later. The only plant worth anything is the one that grew the year before.

In setting plants, care must be taken that the roots are well spread, and that the crown is high enough so that the earth will not be washed over the buds. The plants are usually set twelve to eighteen inches apart, according to variety. Leaves and roots are usually clipped when the plants are set. After the plants have been set they should be given frequent and thorough cultivation.

Runners should be cut off until the plant is well established. Usually this will be by the last of June, unless the weather is especially favorable. Blossom buds should be removed as soon as they appear for the first season, as the bearing of fruit is almost certain to exhaust the plant. It is well to prevent the plants setting too thickly during late summer and fall. Unless the soil is especially rich, plants should be six inches apart. Thin out when the plants are too close.

As soon as the ground is well frozen the bed should be well mulched with straw or hay. Stable manure may be used on thin poor soils. Whatever the material, it should be well shaken out and spread evenly to a depth of three to four inches. Care should be taken to see that it is free from weed seed. The object in the mulch is to prevent sudden changes in the soil temperature. Frequent freezing and thawing is an unfavorable condition for a strawberry bed, causing heaving.

In the spring, as soon as danger of freezing is past, the mulching should be raked off the row to the middle, leaving sufficient straw to protect the fruit from being soiled by the earth. Weeds should be kept pulled. Care must be taken in pulling them not to scatter soil on the fruit.

After the crop is picked the preparations for the renewal of the bed should be made. If the stand is poor they may be hoed out, cleanly cultivated, and mulched in the fall as before. Where a good stand has been secured, the best plan is that of cutting down the row. In a small bed, a garden line is stretched in setting the row over. The ground should be cultivated thoroughly. If plants are at all affected with fungus or insects, it is well to mow and remove tops from patch. Thorough cultivation and thinning must then be given as for a new bed. This renewal may be kept up indefinitely, but when berries are grown in a commercial way it is not usually profitable to let the bed stand more than three years.

The blossoms of many varieties are imperfect, lacking the stamens, and it is necessary to plant near these some variety which produces an abundance of pollen and which will blossom at the same time. Good varieties to plant, in this locality, are Senator Dunlap, Klondike, Gandy, and Grand Marie. The strawberry is one of the most profitable and certain of fruits.—M. F. AHEARN, Associate Professor of Horticulture, Kansas Agricultural College.

Sudan Grass for Seed

Sudan grass seed seems to be wanted by many farmers, but it is hard to find. The price is so high that few people will plant for pasture this year in the way they would like to plant it—twenty pounds per acre put in with a grain drill. Since it has proved its value, the practical thing to do now is to work to produce plenty of seed for use in 1918.

In 1914, Charles Harmon, of Manitou, Okla., grew 300 pounds of good seed from fourteen ounces of seed which he planted in rows three feet apart and cultivated just enough to keep the weeds down. One pound of seed will plant an acre, if planted in three-foot rows. Why not buy just one pound and grow your own seed for next year?—J. E. PAYNE, Oklahoma.

The brood mare should have plenty of exercise prior to foaling time. She should also be closely watched. The normal gestation perior is of eleven months duration, but mares often give birth to colts a week or ten days before such time elapses. A clean, well-bedded box stall should be provided. As soon after birth as the colt is found, the navel cord should be dipped in iodine to prevent infection. Following foaling, the mare should be fed lightly, a small amount of water from which the chill has been removed being allowed. A bran mash may be fed following foaling, to cool the mare's system.



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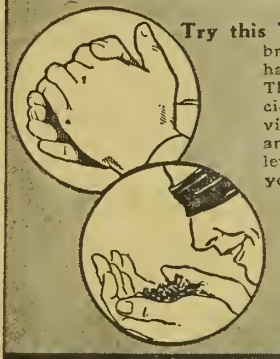

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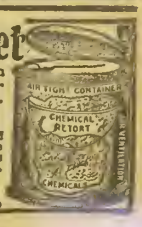



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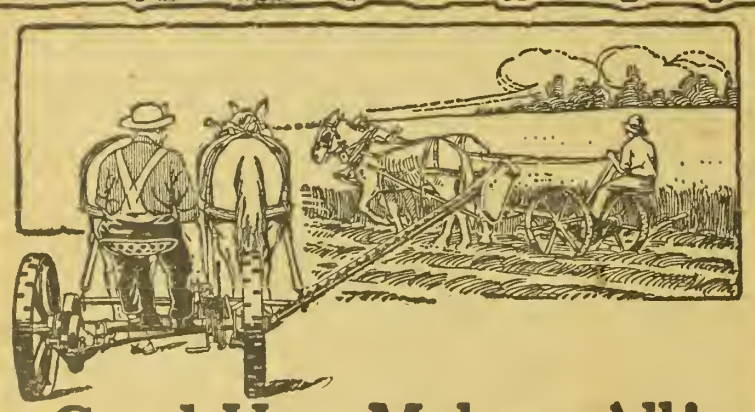

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Champion Deering McCormick Milwaukee Osborne Plano



Replacing Winter-Killed Wheat

THERE are few localities having so many chances for paying crops as does the wheat belt of Kansas. There is still time to plant a crop of corn or kafir or some other feed crop after giving up the wheat as hopeless. Of course, a farm organized and planned for exclusive wheat production cannot always make abrupt changes of crops, but we are learning that it is safer to plan the farming operations along a more diversified line.

H. M. Bainer, Santa Fe agricultural agent, recently made the statement that poor wheat years are frequently first class corn years. Wheat failure has unquestionably left a large acreage for corn and other cultivated crops, in fact, too large on many farms. Kansas is not much of a spring wheat country and oats is not a paying crop ordinarily. The larger part of the surplus acreage must be planted to corn and kafir. This wheat land will need but very little additional preparation before planting it to another crop. A large acreage of corn or kafir can be handled by one man and teams, provided two-row implements are used in its planting and cultivation. The employment of some extra help during the cultivation season, but no more than the extra help used in harvesting a crop of wheat, will care for almost as many acres of corn or kafir as wheat.

Corn is far from a sure crop over much of Kansas. While wheat has failed this year to a large extent, we believe Kansas farmers should not place too much confidence in corn alone, to take its place. Corn is a good crop if weather conditions are favorable, but we should remember last year's corn failure, which may repeat itself this year. Corn must have rain at certain seasons or fail, while kafir, milo and feterita will wait for rain and finally mature, if the season is long enough.

Plant part of the acreage available to dwarf white kafir, dwarf red milo and feterita. These grain sorghum crops, especially the dwarf varieties, mature in shorter season than the larger or standard varieties. Dwarf kafir will mature three weeks ahead of the kafir commonly used in Kansas. Half of the corn acreage of the state should be given to these grain sorghums. The farmer who plants some of each of these, in addition to corn, cannot fail to produce some fodder as well as some grain, no matter how unseasonable the year.

Seed for these crops is scarce and we would urge every man having any surplus of good seed of any of the varieties of kafir or other grain sorghums, to make a serious effort to place this seed where it will be used for production this year. There are many agencies, such as local granges and farmers' unions, agricultural agents, bankers, and business men, that can be used to spread information concerning seed available for spring planting.

It can well be considered a duty we owe our country to see that any surplus seed gets into the hands of farmers needing it and who will be hampered in their ability to produce by lack of good seed.

Prices of Kansas crops and live stock have never been so high as at present. The living expenses of farmers are also the highest ever known. War prices are met, coming and going. If wheat fails, something else must take its place. Every acre of tillable land should be made to produce something. The crying demand of the world today for food supplies must be partly supplied by Kansas farmers. There has never been a condition more urgently tending to stimulate increased production than exists at the present.

Leave Half Stands of Wheat

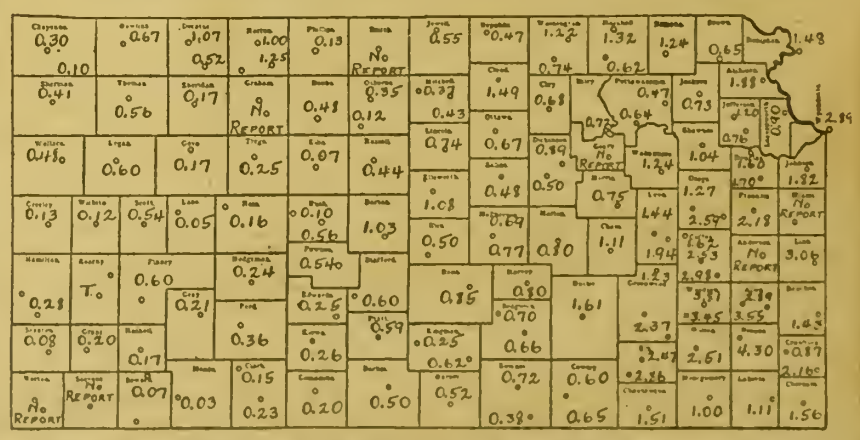
Ordinarily it is not profitable to leave a half or a third stand of wheat. The expense of harvesting is too great in proportion to the value of the crop. The situation this year is such, however, that even a third of a stand may yield a good return. There is sure to be a shortage of wheat and this means continued high prices. A crop that would be unprofitable to harvest with low prices could easily be profitable with the prices that are likely to prevail.

These poor fields can be left as late as May 1 and if by that time they show that they will be absolute failures there will still be time to plant corn, kafir, or some other feed crop. Wheat has great recuperative powers and some very poor stands may be worth saving in view of the shortage that is likely to exist.

The most common test for determining if soil is acid or sour is by means of blue litmus paper, which can be obtained at a very small cost from nearly every druggist. A small quantity of moist soil from the field is compacted into a ball, the ball broken into halves, a strip of litmus paper laid across one part and the parts pressed firmly together again. After an hour or so the ball of soil should be again broken apart and the paper removed. If the paper shows a decided pink color, the sample of soil is acid. If a deep-rooted crop such as alfalfa is to be grown, it will be well to test samples taken from both the surface soil and the subsoil.

Rainfall Over Kansas, for March

Reports Furnished by S. D. Flora, Observer, U. S. Weather Bureau.



THE precipitation of March, 1917, was deficient in almost every county in Kansas and the dryness of the month was accentuated by the fact that in most of the central and western counties the precipitation has been below normal for nine months in succession and the four months just closed are, with one exception, the driest period of that length in the meteorological history of the state. Wheat was in a critical condition when the month began and deteriorated steadily as the weather became warmer and drier until a large per cent of it was killed when the month ended and arrangements were being made to plow up or disk a great deal of it for other crops.



GRAIN SORGHUMS FOR FEED

IN THE development of the live stock industry greater use could profitably be made of the grain sorghums. With the increasing demand for meat products the farmer of the western part of our state might well give serious consideration to growing more sorghums and the handling of greater numbers of cattle. More than the usual amount of wheat has probably been winter-killed this year. This makes it possible to handle greater acreages of spring crops than ordinarily.

The question of finding a market for the grain sorghums seems serious to some. As the merits of these crops become better known and the acreage increased, there has been a growing surplus to dispose of commercially. There has always been some difficulty in marketing this surplus promptly at profitable prices.

The value of this grain for feeding in beef, milk, pork, and egg production is not yet fully recognized. In some seasons it has been almost a drug on the market until the following spring, when the growing scarcity and increasing price of feeding corn turned attention toward it. If it is to be in any sense the money crop of certain districts it must be readily and profitably convertible into cash. This means that the surplus must be able to move freely, at good prices, soon after being threshed.

Since it is a feeding grain, it is reasonable to believe that it can be fed as profitably where it is grown as elsewhere, other things being equal. Freight charges on the crop shipments are thereby avoided, as is also the wagon haul from farm to railroad. It is much more readily and cheaply transported to market in the form of beef or pork.

It seems especially unfortunate that these crops should be grown in the midst of the greatest stock-producing section of the country and it is in the development of the live stock business that the grower of the sorghums has the surest outlet for his crop. The feeding of grain sorghums is already being carried on quite extensively in some sections of the Southwest, but the financing of extensive stock-feeding operations is a slow and somewhat difficult matter. The start has been made, however, and progress should be aided and encouraged by every commercial agency concerned.

At the present time a large part of the cattle grown in the grain sorghum producing districts are fed in corn belt states farther north and east. They are fed likewise on corn. As conditions now exist, the cattle proceed to market on a feeding-in-transit rate. If sorghum grain is to be used largely in feeding these cattle, it must follow them by rail to the feeding districts. There is no feeding-in-transit rate for grain sorghums. They must not only compete with corn in feeding favor, but must bear heavier transportation rates because of the longer distances from which they come. This can be remedied only by encouraging local feeding.

The recent rapid increase in the number of silos in the Southwest will be a direct aid to cattle feeding operations. The combination of home-grown silage and feeding grain, with readily accessible cottonseed meal, ought to aid in making feeding profitable in the grain sorghum belt.

Beef Consumption Increasing

Since the outbreak of the European War there has been a surprising increase in immigration into the United States from the several European countries. It was generally assumed that the warring nations would restrict emigration and it was also assumed that there would be many thousands returning from the United States to take part in the conflict. But it appears from records that after the first rush, following the outbreak of the war, the number returning from the United States to Europe was very limited, but that the emigration from Europe to the United States has shown a positive increase. This leads to the conclusion that when the war is over there will be a strenuous increase in emigration from Europe.

The population of the United States already considerably exceeds 102,000,000 and the prospects are that the next decade will witness a very large increase caused primarily by the drift from Europe to our shores. This will mean a growing home market for American beef. There seems to be no difference of opinion among those who have studied the meat production of the world that there is not only a shortage the world over, but that the United States will find a market within its own borders for all of the beef it will be able to produce. This forecast cannot fail to encourage the man whose investment is in a breeding herd of beef cattle.

The unprecedented call for Shorthorn breeding stock in all sections of the country is evidence of the desire on the part of farmers to engage in diversified farming with beef raising or combined milk and beef production as the basis. The call for breeding stock increases. In a recent period of two weeks in Central Illinois and within a limited territory, 500 Shorthorn bulls were disposed of and these largely taken by Illinois farmers.

For years the corn belt farmers have been leaning toward grain farming and beef production has declined. Finally the situation became acute and generally recognized, with the result that there is now a tendency to restock the farms with cattle. A rapidly depleting soil and a decreasing beef supply have combined to emphasize the importance of engaging in the growing of cattle. And now with increased consumption the situation is doubly important and the returns the more remunerative.—FRANK D. TOMSON.

When lambs have lost their mother they can be raised satisfactorily by hand by feeding fresh warm milk from a bottle with a nipple attached. The milk should be fed often and in small quantities. When troubled with scours, the milk should be boiled or a little lime water added.

It may be of interest to the hog raisers of Shawnee County to know that there has been established in Topeka a station where hog serum will be kept on hand at all times. Several years ago the agricultural college became interested in the hogs of this section, and treated all cases of cholera which were reported to them. For the convenience of the users a station has been established in Topeka and the college has placed this in the charge of Dr. L. A. Howell, who is located west of town and can be reached through the Silver Lake telephone exchange.

It is best to locate the fuel tank for a gasoline or oil engine outside the building, preferably underground.



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In 1910 Pinnow Bros. of Farmington, Michigan, bought Rumely OilPull tractor No. 11—one of the very first OilPulls made.

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"We have booked between two and three thousand dollars worth of business each season. Our OilPull has paid for itself many times over.

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The OilPull is built in two sizes—15-30 and 30-60 h. p. Ask our nearest branch for special catalog of this famous *guaranteed* kerosene tractor.

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Don't take chances with your hogs. Order a dozen or more Carey-ized Stock Tonic Bricks from your dealer. Give them a fair trial for 30 days and if not entirely satisfied with the result, return what is left and get all your money back. You are to be the judge. If your dealer does not handle Carey-ized Stock Tonic Brick write us his name and we will see that you are supplied.

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Those who located in Central Kansas 20 years ago are the big farmers today. Their land has made them independent.

Your chance *now* is in the five Southwestern Kansas counties adjacent to the Santa Fe's new line, where good land is still cheap.

With railroad facilities this country is developing fast. Farmers are making good profits on small investments. It is the place today for the man of moderate means.

Wheat, oats, barley, speltz, kaffir and broom corn, milo and feterita grow abundantly in the Southwest counties referred to. Chickens, hogs, dairy cows and beef cattle increase your profits.

You can get 160 acres for $200 to $300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6 per cent—price $10 to $15 an acre.

Write for our book of letters from farmers who are making good there now, also illustrated folder with particulars of our easy-purchase contract. Address

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Santa Fe Land Improvement Co.,
1892 Santa Fe Bldg., Topeka, Kansas.

Canada Offers 160 Acres Land Free to Farm Hands

Bonus of Western Canada Land to Men Who Assist in Maintaining Needed Grain Production.

The demand for farm labor in Canada is so great that as an inducement to secure at once the necessary help required, Canada will give one hundred and sixty acres of land free as a homestead and allow the farm laborer, who files on land, to apply the time he is working for other farmers as residence duties the same as if he had lived on the land he had applied for. This offer made only to men working on Canadian farms for at least six months during 1917, thus reducing the necessity of actual residence to two years instead of three years, as under usual conditions. This appeal for farm help is in no way connected with enlistment for military service but solely to secure farm laborers to increase agricultural output. A wonderful opportunity to earn good wages while securing a farm. Canadian Government will pay all fare over one cent per mile from St. Paul and Duluth to Canadian destination. Information as to low railway rates, etc., may be had on application to

GEO. A. COOK
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2012 Main St., Kansas City, Mo.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

To plow a straight furrow on Monday, or dust a room well on Tuesday, or kiss a bumped head on Wednesday, is worth more than the most ecstatic thrill under Sunday eloquence.—MALTBIE D. BABCOCK.

Reading aloud is of great value to the child. Let him read something that is interesting to him and ask him to tell the story when he has finished reading it. This will teach him to pay close attention and get the meaning of the words as he reads. This much individual attention cannot be given at school, but the school work supplemented by the home interest may develop a dull, monotonous reader into one it is a pleasure to hear.

If the son or daughter finished the work offered at the district school this last term, now is the time to decide upon the school to which this boy or girl shall go this fall. If there is a high school near it will not be so hard to make this decision, but the fact that there is not such high school should not mean that the boy's or girl's schooling should stop at this time. Of course, if the child is very young and would have to be wholly among strangers, it would not be wise to send him away to school and a year or two out of school will not have a bad effect upon him. Even under these conditions home study should be encouraged. It is the home the members of which know the value of educational advantages and make these possible, that sends out into the world the most useful citizens.

The Toothbrush Brigade

Do you know the proper way to brush your teeth? Toothbrush drill is a regular part of the hygiene calisthenics of New York schools. The boys line up in rows with their toothbrushes, dentifrice and paper cups of water, and are taught to brush their teeth thoroughly with a motion up and down—from the lower to the upper gum and back again—instead of brushing across the teeth. On the lower teeth, brush from the gums upward. This causes the bristles of the brush to cleanse the spaces between the teeth, the place where most dental decay commences. The pupils are also taught the necessity of visiting the dentist twice a year for a general inspection of the teeth and cleaning. By arresting the decay and filling the tooth before the decay has made much headway, a great deal of trouble later on can be avoided.—The American Boy.

To Remove Blood Stains

The substances in blood are largely of an albuminous nature, and their removal from fabrics that are difficult to launder may be effected by methods which make use of the properties of albumins. One method is to soak the fabric in lukewarm water until the stained part is softened, then place a little pepsin on the stain. The albuminous part of the blood is by this means digested so that it can be readily washed out or mopped up.—C. E. VAIL, Colorado Agricultural College.

Our Homes

These should be more than walls and furniture, more than places to eat and sleep. Unless they are more than this they are not fulfilling the mission for which they were instituted. The home should be a retreat for the tired laborer, a place of quiet and rest, of fun-making, of family companionships, and a place of thought and study in preparation for the problems and work of the coming day.

Home should be the storehouse of good influences which will be thought-provoking concerning those questions our attitude toward which have an important bearing on the usefulness of our lives. These influences should be impressed upon us to the extent that the thought of home will never cease to be dear to us.

The requisites for establishing a home of this kind are consecrated lives with an earnestness of purpose and early training that help us to rightly value the essentials and non-essentials.

How the Children Can Help

Our nation is entering into a crisis and our attention is constantly being called to the necessity for practicing economy in every line of our living. Those who have long been studying economic questions and who are in a position to know—as well as any human can know—tell us that only by individual and united effort will we be able to feed our nation in the days ahead.

In the last issue of the Kansas Industrialist, Edward C. Johnson, dean of the extension division of the Kansas Agricultural College, showed how additional food products valued at 400 million dollars, could be produced through united family effort. These figures were based on results accomplished last year by the Glenwood Mother-Daughter Canning Club of Leavenworth County in our own state. The mother-daughter teams of that club last year averaged 366⅔ quarts of canned products each. These results stand for a systematic effort in one community to allow no waste of garden or orchard products, and give a hint as to what might be expected from the same effort in all communities.

In a campaign for maximum production and conservation of food, we can rightly expect much help from the children for they have proven their ability in this direction. For several years the state garden clubs have attracted many children and the yields obtained by them from small patches of ground have been more than gratifying to the young workers and to those who have directed the work. The nation now needs badly the products which the children can contribute and by utilizing the spare time of the children in this way they will be taught good gardening methods and the value of thrift.

As our editor has said, we are entering this world war with heavy hearts, but since it is inevitable let us fan our patriotism to the point of doing what we can to lighten the burden, and let us instill in the minds and hearts of our children that they, too, have a duty to perform in making possible the nation's strictest economy.

The Perfect Girl

The following are the attributes of the perfect girl as seen through Harvard eyes, some fifty bachelor graduates having recently, and after considerable discussion, agreed on them for the "girl that's worth while":

She is attractive, graceful and healthy, but not necessarily pretty.

She can dress tastefully and entertain anyone and make him feel at ease.

She can make bread as well as fudge, and cake as well as a "rare-bit."

Her dancing is not necessarily latest, her tennis is not necessarily up to the standard, but she is appreciative of the dance and of the sports.

She is broad minded, sympathetic, tactful, unselfish, optimistic, thrifty, of good disposition, and moderate in all things.

She can stand reverses without worry.

She is gentle to children and kind to older people, especially to her parents.

She has a broad education, but not necessarily a college one.

She is modest and true and home loving.

She has good social standing, is of a religious nature, and not "too proud to pray."—Baltimore Sun.

Colors in Cloth

So far as color is concerned, there are three different grades of cloth—fiber-dyed, thread-dyed, and piece-dyed. Only the best fiber can be handled in the dyeing process and therefore only the best materials are dyed in the fiber. By this

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Fifteen Dollars in Gold for the best two ears of corn from our Golden Beauty Pop Corn Seed in 1917. A liberal packet of seed and particulars for a dime. Ambrose Seed Co., Urbana, Ohio.

SEED CORN For the best that's raised send at once to the Lawndale Seed Farm, for pure bred seed, also garden and field seeds.—John D. Ziller, Hiawatha, Kan. Prices right, $2.00 per bushel.

SCHOOLS and COLLEGES

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51st YEAR. Over 28,000 former Students. Our modern Building has 15 elegant Rooms, including FREE GYMNASIUM and Auditorium. 21 experienced Teachers and Lecturers. Day and Night Schools all Year. Free Employment Bureau. Shorthand, Typewriting, Book-keeping and English Branches. Catalogue "K" Free. J. F. Spalding, A. M., Prest.

If a hard crust forms over the seeds in the garden before they come up, loosen it lightly with a hoe.

means the most lasting colors are produced because the dye penetrates the fiber evenly. The best serges, high class silks, and Zephyr ginghams are fiber-dyed. By untwisting the threads of these textiles the evenness of the color will be noted.

Linens, pongee and rajah silks are thread-dyed. Untwisted threads of these will show undyed or partially dyed fibers and torn or cut edges will show a gray effect.

Piece-dyed cloth when unraveled will show a cross-bar effect on the threads where the dye did not penetrate and the surface will show light and shaded or spots. Calicoes, the cheaper linens, pongee and rajah silks are piece-dyed.

These interesting facts were brought to the attention of the women visitors at the agricultural college during Farm and Home Week by Miss Fecht, instructor in domestic art.

At this time when we hear so much about the poor colors in materials, by applying the tests given we can at least know more about the lasting qualities of colors than if we buy them without giving this matter thought.

The unpainted building decays much faster than the one protected by good paint.

Apple-Pimento Salad

Add a few strips of canned pimentos, chopped fine, to sliced apples and mix with mayonnaise salad dressing. This combination is delicious—and different. Canned pimentos can be bought in small quantities.

One-Egg Cake

¼ cupful butter
½ cupful sugar
1 egg
½ cupful milk
1½ cupfuls flour
2½ teaspoonfuls baking powder

Cream butter, add sugar gradually, and egg well beaten. Mix and sift flour and baking powder, add alternately with milk to first mixture. Bake thirty minutes in shallow pan. Spread with chocolate frosting.

The parent who has a kindly interest in the school and manifests it by regular visits during school hours, is one of the strong influences for good in a community. He cannot keep in touch with the school to this extent without working for it, because its needs will be forced upon him and he will not want to overlook them. And the children of such parents will get more out of the school than will those whose parents are indifferent to their educational advantages.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8112—Children's Dress: Cut in sizes 4, 6, 8 and 10 years. As pretty a little dress as you ever saw for a small girl is shown in this picture. Just adding a tab to the top of a box plait made in each half of the front and back gores, makes the two-gore skirt one of beauty. An embroidered belt passed under the tabs proves its worth where the waist is joined. **No. 8116—Ladies' Waist:** Cut in sizes 36 to 42 inches bust measure. If you like style and comfort in a blouse for wear with a nice skirt, you will not look long at this model before you decide to have one just like it. It is of the kimono cut and has almost surplice style front closing. A unique little pocket in the lower part of each front shines out as a smart novelty. **No. 8133—Boys' Russian Suit:** Cut in sizes 2, 4 and 6 years. The Russian style continues to be the favorite with mothers and with Fashion, for the small boy's suit. It is decidedly a boy's style, and when the blouse is made like that in the picture, with a smart closing outline, fitted with a pocket, belted at a lowered waistline and trimmed with contrasting goods, any little fellow will feel proud. **No. 8118—Ladies' House Dress:** Cut in sizes 36 to 42 inches bust measure. Simple in cut, smart in detail touches, neat and becoming, is what you want your house dress to be. Here it is exactly. The garment is cut in one piece, has the new collar, flare cuffs, triangle pockets, full-length front closing, and with the fullness belted where it ought to be. **No. 8131—Ladies' Skirt:** Cut in sizes 24 to 30 inches waist measure. The clever blending of style features makes for the success of this attractive walking skirt. It is cut in four gores and has the front and back gores gathered to yokes introduced at center front and back. A plait at each seam is a good point and the button and loop decoration to almost hip length is an up-to-date trimming feature. **No. 7565—Ladies' Apron:** Cut in one size. This one-piece garment is remarkable in taking very little material. It is cut in one piece, but may be seamed at the shoulders. Body and sleeves are in one and the fullness is gathered on a tape or an elastic at the waistline. The opning of the neck allows of slipping on the waist over the head.



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Know Curtis Woodwork by its trademark, stamped on every piece. When applied to woodwork this name carries a meaning of character as definite as that implied by the name Ben Franklin among men.

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SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks,** for bona fide seekers of employment on farms.

HELP WANTED.

BE A GOVERNMENT FARMER. GOOD pay; steady, interesting job. Write Central Institute, 44-F, St. Louis.

MAN OR WOMAN TO TRAVEL FOR old established firm. No canvassing; $1,170 first year, payable weekly, pursuant to contract. Expenses advanced. G. G. Nichols, Philadelphia, Pa., Pepper Bldg.

THOUSANDS U. S. GOVERNMENT JOBS now open to farmers—men and women. $65 to $150 month. Common education sufficient. Write for list positions easily obtained. Franklin Institute, Dept. B82, Rochester, New York.

DAIRYMAN WANTED TO TAKE charge of small herd. Single, competent, reliable and sober. Must milk and take care of all utensils. State salary wanted. Give references and experience. Blue Valley Farms, Roff, Okla.

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WANTED—TO HEAR FROM OWNER OF good farm for sale. State cash price and description. D. F. Bush, Minneapolis, Minn.

YOUR CHANCE IS IN CANADA.—RICH lands and business opportunities offer you independence. Farm lands, $11 to $30 acre; irrigated lands, $35 to $50; twenty years to pay; $2,000 loan on improvements, or ready made farms. Loan of live stock; taxes average under 20 cents an acre; no taxes on improvements, personal property, or live stock. Good markets, churches, schools, roads, telephones; excellent climate — crops and live stock prove it. Special homeseekers' fare certificates. Write for free booklets. Allan Cameron, General Superintendent Land Branch, Canadian Pacific Ry., 234 Ninth Ave., Calgary, Alberta.

NEW FARM OPPORTUNITY IN ONE OF the greatest states in the Union. A new line of the Santa Fe is tapping a rich and fertile prairie section of Northwest Texas, where already many farmers have made good in a big way with wheat, hogs and live stock. Here, if you act now, you can get first choice—get in on the ground floor of a great opportunity. You can get in ahead of the railway—ahead of the people whom the railway will bring—ahead of those who act more slowly than you do. This is the chance of a lifetime for a man of moderate means. A certain number of thrifty, far-seeing farmers can acquire good land at an astonishingly low figure and on long, easy terms. If you have confidence that a great railroad, like the Santa Fe, would only recommend what it considers a good thing, and because it wants to see new territory developed and wants newcomers to prosper and produce—then write me today for particulars about this district. Mild climate, social advantages, schools, churches, telephones, good roads. Everything there but enough men with their families. Will you be one of the fortunate first comers to reap the advantages of a section that has been minutely inspected by a Santa Fe agricultural agent and pronounced right? Write me now and let me send you a copy of the special illustrated circular we are getting out. C. L. Seagraves, Industrial Commissioner, A. T. & S. F. Ry., 931 Railway Exchange, Chicago.

HORSES AND MULES.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

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BLACKSMITH SHOP AND GARAGE with good tools, up to date, for sale right. R. C. Watson, Altoona, Kansas.

FOR SALE — 16-HORSEPOWER GASOline engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost $480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

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FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

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PAINT YOUR OWN FARM SIGNS. EASY with our patterns and instructions. Send for copyrighted booklet entitled "Naming the Farm" containing 200 suitable names and sample pattern and introductory offer. C-N Sign Co., Box 15, Jackson, Minnesota.

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FOR SALE—FIFTY THOUSAND OSAGE hedge posts. H. W. Porth, Winfield, Kan.

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REGISTERED SCOTCH COLLIES AND fox terriers. Western Home Kennels, St. John, Kansas.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

TREES, SEEDS AND PLANTS.

SEED CORN — LAPTAD STOCK FARM, Lawrence, Kansas.

SEED CORN—BOONE COUNTY WHITE, carefully selected, $2.50 per bushel shelled. J. W. Taylor, Edwardsville, Kansas.

EVERBEARING STRAWBERRIES—PEDigreed, Progressive Superb varieties. $1 per hundred. J. A. Dowden, North Bend, Neb.

SEED SWEET POTATOES, PUMPKIN yams, 3c pound, $1.50 shipped in bushel boxes. J. Medford, Wheatland, Okla.

SEED CORN — DIAMOND JOE WHITE, excellent drouth resister, and Reid's Yellow Dent. Graded, $2.50 bushel. D. D. Denver, Milford, Kansas.

SUDAN SEED, RECLEANED, FREE from Johnson. Delivered. Above fifty pounds, 30 cents; under, 35 cents. J. K. Burke, Idalow, Texas.

COMMERCIAL WHITE SEED CORN, $2.50 bushel. "Meadow fesque," 7c pound. White clover, 35c pound. Alfalfa, $8. E. D. King, Burlington, Kansas.

REID'S YELLOW DENT, BOONE COUNTY White seed corn. Genuine Red Texas seed oats, clover, timothy and alfalfa seed. S. G. Trent, Hiawatha, Kansas.

BEAUTIFUL FLOWERS — BIG STOCK, canna, gladiola, woolflower, salvia, tomato, cabbage, pepper, sage, and other flowering and vegetable plants. Seeds and bulbs. Write for descriptive price list. Henry S. Jefferies, Ottawa, Kansas.

BERMUDA GRASS — HARDY, RANK-growing variety. Stands drouths, floods, hot winds and severe freezing. Best and hardiest pasture grass. Great milk producer. Write for leaflet today telling how to get started. Henry Jefferies, Ottawa, Kansas.

EVERBLOOMING STRAWBERRY plants—Americus, 100 strong healthy plants true to name, only 90 cents; 500, $4. Have tried Americus, Progressive and Superb. Americus proved the best bearer. Big stock flowering and vegetable plants. Write for descriptive price list. Henry Jefferies, Ottawa, Kansas.

ALFALFA AND KAFIR SEED — RE-cleaned, home-grown, non-irrigated. Alfalfa seed, $5, $6, $7, $8 and $9. White Flower sweet clover, hulled, $12; unhulled, $7.50. Pure white kafir, $2; good growing kafir, 1% cane seed, $1.75 per bushel, our track. Seamless bags, 30c each. Samples on request. The L. C. Adam Mercantile Co., Cedar Vale, Kansas.

FOR $1 WE WILL SEND YOU TEN APple, pear or peach trees, two-year four to six feet, or eight Compass Cherry or twelve Keifer pear or twenty-five gooseberry or twenty-five assorted or Concord grapes or 100 blackberry or raspberry or 200 spring or fifty everbearing strawberry plants or ten extra fine field grown roses. Manhattan Nursery, Manhattan, Kansas.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $23 apiece. Frank M. Hawes, Whitewater, Wis.

HOLSTEIN CALVES — TEN HEIFERS and two bulls 15-16ths pure, 4 to 6 weeks old, $18 each, crated for shipment. Also one pure-bred heifer, three months old, $75. These calves are nicely marked. Four Way Farm, Whitewater, Wis.

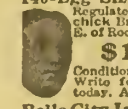
THE STRAY LIST.

TAKEN UP — BY C. E. ELLWOOD, OF Marquette, Harper Township, McPherson County, Kansas, on January 17, 1917, one sow, color red, weight about 200 pounds. No marks. W. E. Rostine, County Clerk.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

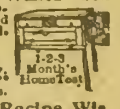
$8.55 Buys World's Champion Belle City Incubator

140-Egg Size—Hot Water—Double Walled—Self Regulated, with $4.85 Hot-water 140-chick Brooder—both $12.50. Frt. Paid E. of Rockies. Satisfaction Guaranteed.



$1000 In Prizes

Conditions easy—Save time—Order Now. Write for Free Book, Hatching Facts" today. A postal will do. Jim Rohan ,Pres.



Belle City Incubator Co., Box 18 Racine, Wis.

WHITE HOLLAND TURKEY EGGS FOR HATCHING

From Madison Square Garden, New York, winners. 40c each, $4 per twelve.

FRANK J. HICKS, Route 8, Onarga, Illinois

Bowel trouble among young chicks is often caused by too much wet and sloppy food. Most of the feed should be fed in the dry state. In case the little chicks become afflicted with the trouble, the feed should be changed from meal or mushy food to boiled rice for a few days. Once each day put a little charcoal in the boiled rice. If the trouble continues, add a tablespoonful of clover tea to each pint of drinking water.



Proper Feeding of Chicks

PROPER feeding of young chickens is a most important step to success in making poultry profitable. N. L. Harris, superintendent of the agricultural college poultry farm, is unusually successful in feeding baby chicks. He states that it is impossible to give any special ration that is best under all conditions. Several combinations have been used with much success. The one essential is to furnish all the elements necessary to build up the body of the chick. It may be easily seen that no one grain will supply all the elements necessary for the different parts of the body.

A ration should contain a sufficient amount of fat producing food which will give heat and energy. Feed should be given that will produce feathers. Corn, kafir, and feterita are the most important fat producing feeds in this state and should furnish the basis for a growing ration.

Feeds to give the growing elements are bran, shorts, alfalfa leaves, and something to take the place of bugs and worms which nature ordinarily furnished. There is nothing that so thoroughly takes the place of bugs and worms as sour milk. If possible a supply of this should be before the chicks at all times. It is preferable to feed the milk sour as the acid aids in the digestion of other feeds.

When no sour milk can be procured it will be found profitable to purchase commercial beef scrap. This is a by-product of the packing house and is high in the elements that go to make up muscle and tissue.

One ration which has given satisfaction at the college poultry farm is composed of 21 pounds of wheat bran, 18 pounds of corn meal, four pounds of bone meal and two pounds of commercial beef scrap increased to four pounds at the end of the second week. With this ration is given a scratch feed of equal parts of cracked wheat and cracked corn or kafir.

As the body of a baby chick is composed of 75 per cent water, a sufficient supply of good clean water should be kept before it at all times. One of the first requirements of a chick is grit. Common sand is preferable to commercial grit, as it is not quite so sharp and is not inclined to irritate the delicate digestive tract.

Nature has provided within the chick sufficient food for the first 36 to 48 hours in the form of the yolk of the egg. This is absorbed just before the hatching. For this reason no feed should be given for the first few hours or until the chick shows indications of being hungry.

At no time during the first two weeks should the chick be given all the feed it will eat. In order to get the best results in raising baby chicks, it is necessary to make the artificial conditions under which they are raised correspond as nearly as possible to those which would have prevailed in the wild state.

Hopper Feeding Best Method

Using self-feeders or hoppers has much more to commend it than the mere matter of convenience and labor economy. The use of hoppers for feeding both grain and dry mash after the chicks are six weeks old is a good practice. By this time they are usually on free range in coops or colony houses provided for that purpose.

In discussing the hopper method of feeding, T. E. Quisenberry makes the statement that if you continue to feed the chicks by hand when you open the house each morning to let them out, they will wait and follow you and beg you to feed them. They will fill up on grain or feed which you give them. They will then sit around and wait until the noon feed and repeat the performance in the afternoon. The result is that they follow around after you every time you come in sight, and they are never satisfied or contented and do not hustle and get the exercise or develop as they should.

In hopper-feeding you place the feed in hoppers and when you turn them out of the coops and hovers each morning, they pay no more attention to you than if you were not there. They rush by you and on by the hoppers containing the feed and out into the clover or cornfield or orchard in search of worms, bugs, etc. They soon learn than the feed is always there when they want it. They also learn that the "early bird catches the worm," and they go in search of them first. They then come back to the hoppers and fill up on grain and dry mash. If you hand-feed, unless you are an expert, the chicks fill up on your feed and then sit in the shade of a tree until they see you coming in sight again. The chicks know much more about their wants than does the average person who attempts to raise poultry. By actual test they do not eat any more where they are hopper-fed than where they are hand-fed.

Avoid Crowding Chickens

In raising chickens by artificial methods there is always danger from keeping too many together in small brooders or coops. A brooder big enough for the first week or two is entirely too small later. Overcrowding is one of the chief causes of death in young chicks. Chickens cannot sweat, as they have no sweat glands in the skin, therefore the impurities and moisture must be crowded out through the breath. If the chickens are overly-crowded and there is not sufficient ventilation in their roosting quarters, the air becomes filled with impurities and ladened with moisture, which places an unusual strain on the system of the bird in many ways, especially upon the kidneys, which results in a weakened system. The chickens come from the coop in the morning weak and tottering, and with no appetite. This accounts for much of the lack of vitality in many flocks.

A common cause for high mortality in the early period of a chick's life is the shock it receives when taken from a highly heated incubator and placed in a brooder where the temperature is from ten to twenty degrees lower. The atmosphere of an incubator at hatching time is saturated to some extent with moisture, which resembles the steam bath. The delicate system of the chick receives a serious shock when it is moved from the incubator to an ordinary brooder. The result is a weakened vitality and digestive troubles.

It has been conservatively estimated that the cost of feed and labor to care for a good laying farm hen should not exceed one dollar per year. A good well-bred hen that is well cared for will produce 120 eggs or ten dozen a year. Ten dozen eggs at 20 cents a dozen, a low average price, will bring a gross return of $2 a hen or $1 net. A net return of $1 from each hen, and all feed and labor paid for at good prices, furnishes an excellent investment. If the hen is valued at the high price of $1, then a return of $1 net is equal to 100 per cent interest on the investment.

Before being removed from the incubator, chicks should be accustomed to the outside atmospheric conditions by gradually opening the incubator door. This operation will perhaps require twelve hours. A brooder, if properly built, can be made to maintain a temperature of 100 degrees in the warmest part and 75 degrees in the coolest compartment.

Tells Why Chicks Die

E. J. Reefer, poultry expert, of 463 Reefer Bldg., Kansas City, Mo., is giving away free a new book which tells of a simple home solution that raises 98 per cent of all chicks hatched and cures white diarrhea over night. All poultry raisers should write for this valuable free book.—[Adv.]

Save Your Chicks—Free

Send two names to the Wight Co., 18 Main, Lamoni, Iowa, and they will send you enough Iowite Remedy, absolutely free, to save forty chicks from White Diarrhea.—[Adv.]

RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

EGGS — CHOICE BARRED ROCKS, thirty, $1.50; hundred, $4.50. Catharine Beightel, Holton, Kansas.

BARRED PLYMOUTH ROCKS — FARM-bred beauties. Eggs for hatching, 5c each. Mrs. W. C. Bocker, Solomon, Kan.

HIGH QUALITY BARRED "RINGLETS." 100 chicks, $15. Eggs, $5. Edward Hall, Junction City, Kansas.

WHITE ROCK EGGS, HALBACH strain, $1.25 per fifteen; $6 per hundred. Mrs. E. E. Merten, Clay Center, Kansas.

FINE BARRED ROCK EGGS FROM farm raised flock, $1.50 per fifteen. Mrs. J. A. Grimes, Milo, Kansas.

BARRED ROCK EGGS, FANCY STOCK, heavy laying strain, $4.25 per hundred. Earl Summa, Dept. G, Gentry, Missouri.

WHITE ROCKS, SIZE AND QUALITY, good egg strain. Eggs—fifteen, $1; fifty, $3; hundred, $5. G. M. Kretz, Clifton, Kansas.

BUFF ROCK EGGS FOR HATCHING—Thirty eggs, $2; fifty eggs, $3; hundred, $5. Joe Carson, Bliss, Oklahoma.

BUFF AND WHITE ROCK EGGS, $2.50 per fifty, $5 per hundred. Excellent show record. W. H. Beaver, St. John, Kansas.

HIGH QUALITY PURE-BRED WHITE Rock eggs, $3, fifty; $5.50 hundred, prepaid. Mrs. John Ramsey, Route 5, Ft. Scott, Kan.

WHITE ROCKS — PURE-BRED FARM range choice stock. Eggs, fifteen, 75c; 100, $4. H. F. Richter, Hillsboro, Kansas.

WHITE ROCKS, FARM RAISED, PRIZE winners. Eggs, $1.25 setting; $3, fifty; $5, hundred. Mrs. Ben Miller, Newton, Kansas.

PURE BARRED ROCK EGGS — FARM range, $1 per fifteen, $5 per hundred. Mrs. H. Buchenan, Abilene, Kansas.

WEIGHER-LAYER BARRED ROCKS — Pens, $3 to $5 setting; flock, $5 hundred. C. F. Fickel, Earlton, Kansas.

BUFF ROCK EGGS, ONE DOLLAR PER setting; choice stock. Mrs. E. C. Hicks, Columbus, Kansas.

BABY CHICKS—PURE-BRED BARRED Rocks, White Leghorns, Buff Orpingtons. Heinschel, Smith Center, Kansas.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

WHITE ROCKS, EXTRA GOOD. EGGS prepaid, $1.50 fifteen, $6 hundred. Pleasant Vale Poultry Farm, Effingham, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." $35 cockerel heading Pen No. 1. Eggs, $4 per fifteen. Mrs. Iver Christenson, Jamestown, Kansas.

FOR SALE — BARRED AND WHITE Rocks. Best blood lines in America. Forty premiums 1916-1917. Write for mating list. H. F. Hicks, Cambridge, Kansas.

BIG BONED IVORY WHITE ROCKS—Gold medal and silver cup winners at Hutchinson shows. Eggs from farm flock, $5 per hundred. Minnie Clark, Haven, Kan.

GUARANTEED EGGS FROM PURE-bred Barred Rocks and Rhode Island Reds, $1.50 to $3 for fifteen. Send for booklet. Tom Leftwich, Winfield, Kansas.

BARRED ROCK EGGS FROM PRIZE winners at State Fair, 1917. Pens, $3 per fifteen; range, $6 per hundred. S. H. Vincent, Sterling, Kansas.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, $3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

PRIZE WINNING BARRED ROCKS — Four entries, five prizes, State Show 1917. Eggs, special mating, $3 to $5; farm flock, $1. C. D. Swaim, Geuda Springs, Kansas.

BARRED ROCKS, EXCELLENT IN SIZE and quality. Eggs, first pen, $3 per fifteen; range flock, $6 per hundred. Mrs. Myrtle Henry, Route 1, Lecompton, Kansas.

PURE BARRED ROCK EGGS FROM large well-marked range birds, $1.25 setting, $6 hundred. Choice Thompson strain pen eggs, $3 setting. S. R. Blackweider, Isabel, Kansas.

BARRED ROCKS—73 PREMIUMS, TOpeka, Manhattan, Clay Center, Denver. Eggs—Fifteen, $5; thirty, $9; fifteen, $3; thirty, $5. Chicks, 50c and $1. Italian bees. Mattie A. Gillespie, Clay Center, Kansas.

LINDAMOOD'S BARRED ROCKS, BOTH dark and light matings. Prices for eggs from special matings, $5 per fifteen. Utility eggs, $5 per hundred. Send for circular. C. C. Lindamood, Walton, Kansas.

EGGS FOR HATCHING — FROM BEST laying strains of Barred Plymouth Rocks. Bradley Bros. and Parks 200-egg strains. $3, fifteen; $5, thirty. Catalog. Gem Poultry Farm, Haven, Kansas.

BARRED PLYMOUTH ROCK, RINGLET and Bradley strain. Have good show record. Stock for sale. Cockerels, hens and pullets. Eggs, $2 per setting. Jas. W. Anders, Unionville, Missouri.

WHITE ROCKS—GOOD LAYING EXHIbition strain. Eggs, $1 per fifteen, $5 per hundred. Selected pens, $4 and $2 per fifteen. Send for mating list. I. L. Heaton, Route 1, Harper, Kan.

BARRED ROCK SPECIALIST — PRIZE winnings: Hobart, 1st, 2d, 3d, 4th cockerel; 1st, 3d pullet; 1st pen, 2d, 3d cock, silver cup. Gold special, Oklahoma City, 1st pullet, bred pen, first cock. Eggs, fifteen, $2-$3; hundred, $6. Fred Hall, Lone Wolf, Okla.

RINGLET BARRED ROCKS—GOOD LAYers. Eggs from pens prize stock Pittsburg and Oklahoma City, both matings $5 setting. Range headed by pen males $5 hundred. Chicks 12c and 50c each. Circular free. Mrs. W. E. Schmittendorf, Vassar, Kansas

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

RHODE ISLAND REDS.

FINE ROSE COMB REDS—EGGS, $4.00 hundred. Adda Walker, White City, Kan.

SINGLE COMB RED EGGS—GOOD FARM range, $4 per hundred, $1.50 per thirty. Mrs. Rosa Janzen, Box 242, Geneseo, Kan.

ROSE COMB RHODE ISLAND REDS—Utility stock. Winter layers. Eggs, $2, 15; $5, 45; $9, 100. Louise Krigbaum, Route 1, Topeka. Phone 2427 K-4.

ROSE COMB RED EGGS FROM BLUE ribbon winners, $3, $5, $7.50 per fifteen. Best of guarantee. Fred Keim, Seneca, Kan.

PURE SINGLE COMB RHODE ISLAND Red eggs, 5c apiece. Prepaid. C. A. Madden, Abilene, Kansas.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Baby chicks. Mating list. L. E. Castle, Wichita, Kansas.

NEEF'S FAMOUS BRED-TO-LAY S. C. R. I. Reds, prize winners, $1.25 per setting, $5 per hundred. Jno. H. Neef, Boonville, Missouri.

SINGLE COMB REDS — CLEAR, BRILliant color, heavy laying, big boned. Eggs, $1 and $2; $7 per hundred. G. E. Gregory, Reading, Kansas.

DARK R. C. REDS, PURE-BRED, EXTRA fine. Eggs, $3 and $2 per fifteen; $5 per hundred. W. J. Honeyman & Sons, Hillside farm, Madison, Kansas.

PURE-BRED ROSE COMB RHODE Island Reds. Eggs for hatching, $1 per fifteen, $5 per hundred. Mrs. L. F. Hinson, Stockdale, Kan.

R. C. REDS — EGGS FOR HATCHING. Laying strain headed by prize winning cockerel. Fifteen, $3. Mrs. Mira Lambert, Anderson, Missouri.

ROSE COMB REDS — PRIZE WINNERS and special on color at State Fair, 1917. Pens, $3 per fifteen; range, $6 per hundred. S. H. Vincent, Sterling, Kansas.

EGGS FOR SALE—S. C. R. I. REDS.—Breeder for twelve years. $1.50 per setting of fifteen; $5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

WYANDOTTES.

R. C. BUFF WYANDOTTE EGGS, $1.50 for fifteen. G. G. Wright, Langdon, Kan.

WHITE WYANDOTTES — EGGS FROM choice stock, $1.80, thirty; $5, hundred. Mrs. Will Beightel, Holton, Kansas.

EXTRA CHOICE ROSE COMB SILVER Wyandotte cockerels, $2 each, six for $10. Mrs. Phillip Schuppert, Arrington, Kansas.

ROSE COMB WHITE WYANDOTTE eggs, per fifteen, $1; one hundred, $4. H. A. Ritter, Route 2, Kiowa, Kansas.

WHITE WYANDOTTE EGGS—FIFTEEN, $1; hundred, $5. Careful selection and packing. John Smoley, Marengo, Iowa.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuls, Fredonia, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $6. Baby chicks. Mrs. Edwin Shuff, Plevna, Kansas.

COLUMBIAN WYANDOTTE EGGS, $1.50 setting. Special mating of blue ribbon winners, $3. J. J. Pauls, Hillsboro, Kansas.

WHITE WYANDOTTES — EGGS, SETting, $1; 100, $4. Mrs. J. W. Johnson, Cedarvale, Kansas.

GOLDEN WYANDOTTE EGGS FOR sale, $1.25 for fifteen. Pens headed by high scoring cockerels. Delia B. Bilson, Route 3, Eureka, Kansas.

PURE-BRED WHITE WYANDOTTE AND Single Comb White Leghorn eggs, $1 per fifteen, $5 per hundred. A. F. Hutley, Maple Hill, Kansas.

SILVER WYANDOTTES—BEST ALL round breed, vigorous grand laced flock. Eggs, fifteen, $1; hundred, $5. Mrs. Ed Bergman, Paola, Kansas.

SILVER WYANDOTTES. YES, I AM still selling Silvers. Have some good cockerels left. Eggs in season. Prices reasonable. Write me. M. B. Caldwell, Broughton, Kansas.

WHITE WYANDOTTE EGGS — REGAL strain, prize winners. Farm range, $5 hundred. Pen 1, Martin male direct, fifteen, $5. Pen 2, high scoring male, fifteen, $3. Prepaid. Frances Fleury, Concordia, Kansas.

PARTRIDGE WYANDOTTE EGGS, MAhogany strain, $1.50 per fifteen. Good cockerels, $3 to $5 each. Canaries, fine singers. Baby chicks. Mrs. Edith B. Taylor, Marion, Kansas.

PHEASANTS.

PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Booking orders. Eggs of these, $4 dozen; Golden, $5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

LEGHORNS.

TIP TOP ROSE COMB BROWN LEGhorn eggs. J. E. Wright, Wilmore, Kan.

S. C. W. LEGHORN EGGS. STATE WINner. Mrs. W. R. Hildreth, Oswego, Kansas.

PURE-BRED SINGLE COMB BROWN Leghorns. Choice farm flock. Eggs, 100, $4. Mrs. D. A. Wohler, Hillsboro, Kansas.

SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

"BARRON'S 268-EGG LEGHORNS" — Eggs, $5 hundred. Sunlight Poultry Farm, Mt. Moriah, Mo.

PRIZE SINGLE COMB BUFF LEGhorns—Eggs, $5 hundred; $13, 300. White turkeys. Mrs. S. F. Crites, Florence, Kan.

BEAUTIFUL S. C. BUFF LEGHORNS—Eggs, fifty, $3; hundred, $5. F. L. Baldwin, Cascade, Iowa.

S. C. B. LEGHORN EGGS—GOOD STOCK. Fifty, $2.75; 100, $5. Carriage prepaid. Cornelius Phillips, Route 9, Emporia, Kan.

PURE SINGLE COMB BROWN LEGhorn eggs, $4 hundred. Baby chicks, 10c each. Mrs. Will Brooks, Beattie, Kansas.

SINGLE COMB WHITE LEGHORN EGGS from heavy laying strain, $1 per setting, $5 per hundred. F. E. Fisher, Wilson, Kansas.

EGGS, EGGS FROM KEEP-LAYING strain Single Comb White Leghorns. Thol. R. Wolfe, Conway Springs, Kansas.

BUFF LEGHORNS, CHOICELY BRED. Eggs, $5 per hundred. J. A. Reed, Route 2, Lyons, Kansas.

R. C. B. LEGHORNS, WINTER LAYERS, vigorous stock. Eggs, $5 per hundred. The Blue Grass Stock Farm, Oneida, Kansas.

GOLDEN BUFF LEGHORNS — GREAT layers, silver cup winners. 100 eggs, $6. Agnes Smiley, Braddyville, Iowa.

SINGLE COMB BROWN LEGHORNS — Fifteen eggs, 75c; 100, $4. Postpaid. W. A. White, Sarcoxie, Missouri.

EUREKA FARM SINGLE COMB WHITE Leghorns, bred to lay. Farm range eggs, $4 per hundred. Henry Richter, Hillsboro, Kansas.

SINGLE COMB BROWN LEGHORNS — Thirty-one prizes at Kansas State Show, 1917, including eight firsts. W. J. Roof, Maize, Kansas.

FOR SALE — THIRTY SINGLE COMB White Leghorn hens and pullets, extra good laying strain, $1 each. Blue Grass Stock Farm, Oneida, Kansas.

PURE-BRED ROSE COMB WHITE LEGhorns. Eggs for hatching; forty-five, $2; one hundred, $4. Prepaid in Kansas. G. Schmidt, Route 1, Goessel, Kansas.

PURE YESTERLAY 200 EGG LAYING strain Leghorns mated to 240 egg Barron stock. If you want winter layers write Shady Pine Leghorn Farm, Rossville, Kan.

ROSE COMB BROWN LEGHORNS WON five prizes, two state. Eggs, fifty, $1.90; hundred, $3.75. Rufus Standiferd, Reading, Kansas.

S. C. BROWN LEGHORNS—HAVE BEEN raising them 21 years, the 222 to 266 egg record kind. Under hens the fertility runs 95%. Eggs—Fifteen, $1.25; 100, $5. Safe arrival guaranteed. Gorsuch, Stilwell, Kan.

EGGS FOR SALE FROM PURE-BRED heavy winter laying Single Comb White Leghorns, $2 fifteen, $10 hundred; 100% fertility guaranteed on seventh day of incubation. H. M. Blaine, Sylvia, Kansas.

S. C. WHITE LEGHORNS EXCLUSIVEly. Decka's laying strain. Many winners. Eggs for hatching, $6 per hundred. Write for 1917 price list. Yours for quality (Nuf sed), Deckas White Poultry Farm, Route 1, Des Moines, Iowa.

S. C. BROWN LEGHORNS — WINTER layers and beauty strain. Booking orders for chicks to be delivered April 1, any quantity, at $12.50 per hundred. Eggs at $5.00 per hundred, trap-nested stock. Pullets in laying contest. Paradise Poultry Farm, Carona, Kansas.

RHODE ISLAND WHITES.

100 ROSE COMB RHODE ISLAND WHITE eggs, $5. Will Tonn, Haven, Kansas.

RHODE ISLAND WHITES—EGGS FROM these grand layers, $2 for fifteen. Shetland Pony Farm, Coffeyville, Kansas.

GUARANTEED EGGS FROM EXCELsior Rose Comb Rhode Island Whites, $2 per fifteen, $3.50 per thirty prepaid. V. O. Jones, Bancroft, Kansas.

MINORCAS.

SINGLE COMB BLACK MINORCA EGGS, 100, $4.50, postpaid. Sarah Peters, Nashville, Kansas.

S. C. BLACK MINORCA EGGS FOR hatching. Pen No. 1, $2; pen No. 2, $1.50 for fifteen eggs, $6 per hundred. W. F. Fulton, Waterville, Kansas.

DUCKS AND GEESE.

PURE BUFF ORPINGTON DUCKS—EXcellent layers. Eggs prepaid. Pleasant Vale Poultry Farm, Effingham, Kansas.

FAWN RUNNER DUCKS—WHITE EGGS, prize winners. Eggs, $1 setting, $5 hundred. Mrs. Ben Miller, Newton, Kansas.

TOULOUSE GEESE AND EGGS FOR sale or trade for Runner ducks. All breeds. Emma Ahlstedt, Roxbury, Kansas.

BABY CHICKS.

REDS, ROCKS, LEGHORNS; 12c. REquest folder. McCune Hatchery, Ottawa, Kansas.

WHITE LEGHORNS

EGG-BRED S. C. WHITE LEGHORNS—100 eggs, $4. Will Tonn, Haven, Kansas.

WHITE LEGHORN EGGS (YOUNG'S $20 stock). Elsie Thompson, Mankato, Kansas.

HEAVY LAYING STRAIN S. C. WHITE Leghorns. 100 eggs, $4; 15 eggs, $1.50 prepaid. Mrs. W. E. McElvain, Denver, Mo.

EGGS FOR HATCHING FROM HOGAN'S laying strain of Single Comb White Leghorns, $5 per hundred. Roy Rhodes, Maize, Kansas.

FRANTZ-BRADSHAW SINGLE COMB White Leghorns. Cooks Owens Buff Orpington eggs, fifteen, $1; 110, $4.50. S. A. Warren, Reger, Missouri.

OUR SINGLE COMB WHITE LEGHORNS are real layers. Bred exclusively 15 years. Eggs, 100, $4. Ed N. Regnier, Wamego, Kansas.

SINGLE COMB WHITE LEGHORN EGGS extra heavy winter layers. Pure-breds, $4 hundred. Mrs. Wm. Dugan, Appleton City, Missouri.

SINGLE COMB WHITE LEGHORNS—Farm range, Heavy laying strain. Hens, $1.50 each. Eggs, $1, fifteen; $5 per hundred. Mrs. Lloyd Kifer, Route 2, Bolivar, Missouri.

SINGLE COMB WHITE LEGHORN EGGS —Heavy winter layers. Won all blues at two exhibitions. Fine pen, fifteen, $2; farm range, 100, $5 prepaid. George Schroeder, Frederic, Kansas.

ROSE COMB WHITE LEGHORN EGGS for hatching from full blooded birds. Satisfaction guaranteed. $4 per hundred, $7 per two hundred. Mrs. Joe Streeter, Route 5, Hamilton, Missouri.

BRAHMAS.

HIGH SCORING LIGHT BRAHMA EGGS $1.00 per fifteen, parcel post prepaid. Geo. Pratt, Route 2, Topeka, Kansas.

EGGS FROM FELTON'S STRAIN OF mammoth Light Brahmas, $1.50 per fifteen, postage paid. Mrs. Mark Johnson, Waldron, Kansas.

ORPINGTONS.

BUFF ORPINGTONS — FIFTEEN EGGS, $1. Chicks. M. Spooner, Wakefield, Kan.

S. C. BUFF ORPINGTON EGGS, $4 PER hundred. J. W. Falkner, Belvue, Kansas.

PURE-BRED WHITE ORPINGTONS — Eggs for hatching, $1 per fifteen, $5 per hundred. Frank Hinson, Stockdale, Kansas.

BUFF ORPINGTONS EXCLUSIVELY.—Even buff, large type, prize winners. Eggs, $3 and $2 setting. John Shaffer, Alma, Neb.

EGGS FROM PRIZE WINNING BUFF Orpingtons, $2 per 15; fine Barred Rock, $1 per 15, $5 100. Mrs. M. Ditto, Newton, Kan.

FINE GOLDDUST BUFF ORPINGTONS—Eggs, $1.50 setting; $8 hundred. Prepaid. Mary E. Price, Route 7, Manhattan, Kansas.

BUFF ORPINGTONS, BRED TO LAY. Eggs—fifteen, $1.50, prepaid. Chicks, 15c. John Oiler, Adrian, Missouri.

BUFF ORPINGTON EGGS FROM MY Des Moines, Kansas City, Topeka, St. Joseph and Omaha winners. H. T. Farrar, Axtell, Kansas.

"PAYWELL" BUFF ORPINGTON EGGS from heavy winter layers and blue ribbon stock, $2 per fifteen. L. S. Weller, Salina, Kansas.

STONE'S FAMOUS BUFF ORPINGTONS win at large shows. Eggs from well selected birds, $1.50 per fifteen, $4.50 per fifty, $8 per hundred. J. M. Stone, Palmyra, Missouri.

EGGS FROM CRYSTAL WHITE PRIZE winning stock, White Orpingtons. Great winter layers. Fifty-five eggs January 20 from sixty-five hens, at live and let live prices. Send for list. John Vanamburg, Marysville, Kansas.

SEVERAL BREEDS.

EGGS FROM EXTRA GOOD BOURBON Reds, $3 for eleven. Silver Laced Wyandotte eggs, $1 for fifteen. Julia Haynes, McDonald, Kansas.

BARRED AND BUFF ROCKS — SINGLE Comb White Leghorns. Fawn and Pencilled Runner Ducks. Eggs—Fifteen, $1; hundred, $5, from range flocks. J. T. Rickman, Kiowa, Kansas.

EGGS — M. B. TURKEY, NEW YORK prize winning blood in flock, $3 per eleven; geese eggs, African, Embden, Toulouse, $1.75 per seven; White Muscova ducks, $1.75 per eleven; White African guinea, $1.50 per seventeen; White Rock, Fishel strain, $5 per hundred. W. L. Bell, Funk, Neb. Dry Creek Poultry Farm.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

FOR SALE, EGGS—EGGS FROM PURE-breds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

(Continued on Next Page.)

PURE BRED POULTRY

LANGSHANS.

GET MY FREE MATING LIST OF MADison Square and Chicago prize winning Langshans. John Lovette, Mullinville, Kan.

GOOD BLACK LANGSHANS—EGGS, 7c; over 100, 6c. Baby chicks, 15c. Mrs. Geo. W. King, Solomon, Kansas.

BLACK LANGSHANS — STOCK FOR sale. Cocks, cockerels, hens and pullets. My birds have great show record. Eggs, $2 per setting. Jas. W. Anders, Unionville, Mo.

BLACK LANGSHAN EGGS, $3 FOR 15, from my San Francisco and Kansas State Show winners, 1917. H. M. Palmer, Florence, Kansas.

EGGS — PURE-BRED BLACK LANGshans exclusively from free range fowls, $1 for 15, $5 for 100. Mrs. John A. Roberts, Route 5, Stanberry, Mo.

BUCKNELL'S BIG BLACK LANGSHANS —Bigger and better than ever. Eggs at the same old price, $1 for fifteen, $5 for 100. Postage or express prepaid. R. E. Bucknell, Hardy, Nebraska.

ANCONAS.

S. C. ANCONA EGGS, $5 HUNDRED. Fine layers. Mrs. Will Torgeson, White City, Kansas.

SINGLE COMB ANCONAS EXCLUSIVEly. Eggs—Fifteen, $1; 100, $5. W. T. Likes, Williamsburg, Kansas.

SINGLE COMB ANCONAS—EGGS, FIFteen for $1.25 or $6 per hundred delivered. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

SINGLE COMB ANCONA AND SILVER Laced Wyandotte eggs, $1.25 per sixteen by post prepaid. Mrs. Cecile McGuire, Pratt, Kansas.

ANCONAS — BLUE RIBBON WINNERS. Eggs, $1.50 per fifteen, $6 per hundred. Pens two and three, $1.25 per fifteen, $5 per hundred. Frank Glenn, Newton, Kansas.

TURKEYS.

BOURBON RED TURKEY EGGS FROM best selected stock. Mrs. D. A. Rodgers, Concordia, Kansas.

WHITE HOLLAND TURKEYS, SINGLE Comb White Leghorns, Single Comb Buff Orpington eggs. Baby chicks. Mrs. S. A. Warren, Reger, Mo.

MAMMOTH BRONZE TURKEYS OF high quality. Good copper bronze and white edging. Have show record. Eggs—$6-$10 per dozen. Jas. W. Anders, Unionville, Mo.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April I. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

BOURBON RED TURKEYS, WORLD'S best strain. Great big, vigorous, farm-raised, deep-breasted birds. Also white-egg Indian Runner ducks, all from prize winning stock. Eleonora Poultry Ranch, Brighton, Colorado.

Real Estate For Sale

EXCHANGES.
I have good farms to trade for smaller farms and city property. Write me.
W. M. GARRISON - SALINA, KANSAS

170 ACRES SMOOTH PRAIRIE LAND—Eight miles McAlester, city 15,000. All tillable. 100 acres cultivation, balance meadow. Fair improvements. $34 per a. Terms.
SOUTHERN REALTY CO., McAlester, Okla.

360 ACRES CREEK BOTTOM FARM
160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; $5,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only $45 per acre.
M. T. SPONG - - FREDONIA, KAN.

F'ARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

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CLAIM SALE DATES.

Aberdeen-Angus Cattle.
April 24—Aberdeen-Angus Association, St. Joseph, Mo.
April 25 — Aberdeen-Angus Association, Omaha, Neb.
April 26—Aberdeen-Angus Association, Sioux City, Iowa.
May 1—Aberdeen-Angus Association, East St. Louis, Ill.
May 2 — Aberdeen-Angus Association, Chicago, Ill.

Jerseys.
May 31—R. J. Linscott, Holton, Kansas.

Double Standard Polled Durhams.
June 8—Ed Stegelin, Straight Creek, Kan.

Durocs and Polands.
April 25—Fred G. Laptad, Lawrence, Kan.

Inquiries for catalogs indicate unusual interest in the Aberdeen-Angus bull sale and show to be held at St. Joseph, Missouri, April 24, by the American Aberdeen-Angus Association, under the management of Charles Gray, secretary of the association. Seventy-five bulls and eighteen cows and heifers have been catalogued for this sale and the offering represents the reliable and popular families of the breed.

Interest in advance of the sale manifested by Jersey breeders all over the country indicates that the Jersey dispersion sale to be held by R. J. Linscott, of Holton, Kansas, May 31, 1917, will be the big event in Jersey circles this season. The Linscott Jersey herd was established in 1878 and is the first Register of Merit herd in Kansas. This herd was established with the best foundation stock to be obtained at that time and from its foundation to the present time the bulls used in the herd were of record breeding and the result is that the butter records of this herd for several generations place it among the greatest producing herds now assembled in this country. One hundred and twenty-five head of Jerseys will be catalogued for this sale and the offering will include more world's champion breeding than has ever been offered in a western sale and it is to be hoped that at least a large per cent of it will remain in Kansas.

The consignment sale of Holstein cattle held at Newton, Kansas, April 7, under the management of W. H. Mott, of Herington, Kansas, was one of the successful sales of the season. The fifty-five head consigned averaged $240 per head with a top of $400. A one-day-old calf sold for $165.

J. F. Converse & Co., of Woodville, N. Y., owners of one of the choice herds of Ayrshire cattle in that state, report their herd making a fine record this year. A feature of their herd at this time is the choice lot of young stock, both sexes, all of record breeding.

Charles E. Greene, of Peabody, Kansas, owner of Townview Farm and one of the outstanding herds of big-type Poland Chinas in Kansas, reports his herd doing well. He also reports a very heavy demand for Poland China breeding stock. A feature of his herd at this time is the choice lot of young stock, including a number of choice young boars.

C. E. Hill, of Toronto, Kansas, owner of one of the good herds of Scotch Shorthorns in this state, reports his herd doing well. Mr. Hill has succeeded in building up a herd of richly-bred profitable-type Shorthorns. A feature of his herd at this time is the choice lot of bulls and heifers from 7 to 18 months of age.

R. C. Watson, of Altoona, Kansas, is one of this state's good boosters for pure-bred live stock, and his herds of Shorthorn cattle and Duroc hogs are among the best in Kansas. His herd of Scotch and Scotch-topped Shorthorns is made up of choice individuals of the best blood lines of the breed. His Duroc herd includes representatives of the most popular families, and his herds are drawn upon heavily for herd material.

The dispersion sale of Holstein cattle held by F. J. Searle, of Oskaloosa, Kansas, April 10 and 11, was largely attended. Buyers were present from a number of states. The sale totaled $29,115 and the average was around $200 per head. Lady May Hilton, a cow consigned by Segrist & Stephenson, sold for $1,000. C. H. Seifert, of Leavenworth, was the purchaser. The females, including a number of old cows and a lot of baby calves, averaged $207.23 per head. The bulls, including a number of calves, sold for an average of $161.65 per head.

W. B. Wallace, of Bunceton, Missouri, sold thirty-six Poland China spring gilts, most of them March and April yearlings, bred to King Joe, for an average of $127.50. Several brood sows were sold at the close of the sale, with King Joe litters at side, ranging in price from $100 to $250. Several King Joe fall boar pigs were sold at prices ranging from $50 to $215. Lewis Denniston, of Oxford, Kansas, bought the second highest price King Joe boar pig at $100, No. 45 in the catalog. No. 43 was the top of the boar sale, going to Hibbard & Brown, of Malta Bend, Missouri. The sale was a great success and the prices received were very satisfactory to Mr. Wallace.

W. T. McBride, of Parker, Kansas, owner of choice herds of Red Polled cattle and Duroc hogs, reports his herds doing fine. Mr. McBride has been very successful with both the Red Polled cattle and Durocs and his herds are among the best in the state. Choice breeding and individuality are his standards. A feature of his herds at this time is the fine lot of young stock, including an outstanding young bull that is a herd header prospect.

Arrington, Kan., Feb. 17, 1917.
KANSAS FARMER, Topeka, Kan.
Enclosed find check for the cockerel ad. I only wish you could have left the last one out, for I am getting inquiries and money from all over the country that I will have to send back, but KANSAS FARMER does the business anyway. Respectfully,
MRS. PHILIP SCHUPPERT.

Pop Corn Profitable Crop

Last year we suggested the growing of pop corn in parts of Kansas as a commercial crop. Iowa firms are furnishing seed and making contracts this year with Kansas farmers. There is no reason why certain sections of Iowa should have a monopoly of the pop corn business and we are glad to learn that it is to be tried more generally on Kansas farms.

The current issue of the Kansas Industrialist gives some suggestions on growing this crop. It is stated that any soil adapted to field corn will grow pop corn. A warm, well drained location, free from marshy places, should be selected. If available, a loam soil is best. The ground should be plowed to a depth of eight inches or more and the surface of the plot thoroughly pulverized before planting.

Pop corn is planted much more thickly than field corn. When planting the common rice pop corn with an ordinary corn planter, the holes in the plates should be three-eighths of an inch in diameter, countersunk on one side. Care should be taken not to drill pop corn too close to field or sweet corn as these grains easily mix with it and thus affect its popping value.

The yield of pop corn per acre is not so large as that of field corn, but the difference is usually made up by a higher price per bushel. The profit obtained in growing pop corn depends largely upon the skill used in marketing the crop.

There are two well defined types of pop corn—the rice type, with sharp kernels, and the pearl type with smooth or rounded kernels. Each of these types may be subdivided into a number of different classes according to color, size, and time required to mature.

There is little demand for the colored varieties except as a means of decoration. Some of these have excellent popping quality and good flavor, but as the popped kernels do not completely hide the colored hull they do not make so attractive an appearance as the white varieties. The white kinds are most in favor for commercial purposes.

Cows and Chickens on Farm

J. E. Payne, of Oklahoma, is authority for the following statement of income from cows and chickens, which was given to him by a woman living on a farm where cows and poultry are made a side issue in the business of farming:

Butter sold in one year...	$718.75
Butter milk sold	23.70
Cream sold	12.75
Chickens sold	200.00
Eggs sold	50.00
Calves from dairy cows...	220.00
Total for year 1916...	$1,225.20

Besides this, they supplied a family of five with dairy and poultry products.

It was stated that it would have been impossible to get these results if they had not used silage.

Cultivate the soil of the garden as soon as it becomes dry enough after each rain, using the horse as much as possible and then working out with a hoe.

HORSES AND MULES.



30 JACKS AND JENNETS

A few good jacks suitable for herd jacks and good mule jacks from fifteen to sixteen hands standard. Prompt workers and sure breeders. Guaranteed absolutely right in every way. Priced to sell. We mean business. Come and see us.
LOUIS MILLS & SON - - - ALDEN, RICE COUNTY, KANSAS



Imported and Home-Bred PERCHERONS AND BELGIANS
A gilt edge guarantee of 60 per cent, good for two years, given with each horse sold.
W. H. RICHARDS
Emporia - - Kansas
Barns four blocks from A. T. & S. F. depot.



PERCHERONS—BELGIANS
Imported and home-grown 4 and 5 yr. old stallions, ton and heavier, 3 yr. olds, 2 yr. olds, yearlings. Produce of 62 imported mares and noted prize winning imported sires. Farmers' prices. Fred Chandler, R. 7, Charlton, Iowa. (Above Kansas City.)

Home-Bred Draft Stallions, your choice $500 with the exception of two. Also mares for sale. A. Latimer Wilson, Creston, Iowa

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

REGISTERED PERCHERONS
Yearling and two-year-olds, both sexes. Good breeding and individuals grown in a way to make useful animals. Would trade filley for Shorthorn bull good enough to head herd of registered cows.
GEO. S. APP, Route 2, ARCHIE, MISSOURI

JERSEY CATTLE.

120 Jersey Cows and Heifers
Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

LINSCOTT JERSEYS
Dispersal Sale, May 31
R. J. LINSCOTT - HOLTON, KAN.

REDHURST JERSEYS
Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

HORSES AND MULES.

POLAND CHINAS

FOR SALE
Good Stretchy Poland China Fall Boars.
Ed Beavers, Junction City, Kansas.

OLD ORIGINAL SPOTTED POLANDS
Have only a few of last fall's litters left. Write your wants to
THE CEDAR ROW STOCK FARM
A. S. Alexander, Prop. R. 2. Burlington, Kan.

PROFITABLE TYPE POLANDS
Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.
L. C. WALBRIDGE - RUSSELL, KANSAS

LANGFORD'S SPOTTED POLANDS
Boars — Serviceable age, guaranteed to please. Breeding stock, both sexes.
T. T. LANGFORD & SONS, Jamesport, Mo.

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

TOWNVIEW HERD BOARS
Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

BIG-TYPE POLANDS
Have 100 head of February and March pigs that we are booking orders for to be shipped at weaning time. Boars, $25, and sow pigs at $30 each, $50 a pair. Book your order now and get the pick. Guaranteed to please.
O. G LEASE & SON, CENTRALIA, KANSAS

GALLOWAY CATTLE.

GALLOWAY BULLS
SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE
Twenty-five young bulls, also some good cows and heifers for sale. All registered.
D. J. WHITE, CLEMENTS, KANSAS
Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

SHORTHORN CATTLE.

Sycamore Springs Shorthorns
Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

STUNKEL SHORTHORNS
Herd Headed by Cumberland Diamond.
For Sale—Twenty bulls from yearlings to eighteen months old, Scotch and Scotch-topped. Also a few bred cows and heifers. Come and see me. Prices reasonable.
E. L. STUNKEL - PECK, KANSAS

TWO SHORTHORN BULLS. One herd boar. Fall gilts, bred or open. February and March pigs, pair or trio, no relation. S. C. White Leghorn eggs.
R. C. WATSON - ALTOONA, KANSAS

Sunflower Herd of Shorthorns
A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

PURE SCOTCH SHORTHORNS
Bulls and heifers by Albion, bulls 7 to 18 months of age. Reds, roans and whites.
C. E. HILL - - TORONTO, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

RED POLLED CATTLE.

Red Polled Cattle
A few 1916 fall bull calves for sale. Also a few cows and heifers.
AULD BROS. - FRANKFORT, KANSAS

FOR SALE—One pure-bred registered bull, sire Kansas City Lad No. 123058, weight 700 pounds; ten months old.
W. T. McBRIDE - PARKER, KANSAS

In transplanting from box or bed to garden, set all plants deep, and press the soil firmly into place around the roots with the hands.

DISPERSAL SALE OF LINSCOTT JERSEYS

KODAK PICTURE TAKEN APRIL 5, 1917

125 - Head - 125
May 31, 1917
Holton, Kansas



More Worlds Champion Butter Blood Than Ever In a Western Sale

SULTAN'S GOLDEN STELLA 265961

This Official Butter Test Cow and her daughter and son sired by a son of Jacoba Irene, 1,126 pounds butter in one year, 2,755 pounds butter and three living calves in thirty-seven consecutive months, world's records, are in this dispersal sale.

Absolute Dispersal Sale, May 31, 1917. LINSCOTT JERSEYS

PARK PLACE SHORTHORNS

Four Great Herd Bulls

IMPORTED BAPTON CORPORAL
Bred by J. Dean Willis. Sire, Hoar Frost, winner at Royal Shows of England.

IMPORTED NEWTON FRIAR
Dam, A Marr Flora. Sire, Violet's Victory. Bred by Wm. Duthie and a great show bull.

ROSEWOOD DALE
Dam, Imported Rosewood 92d. Sire, Avondale.

ROYAL MAJOR is bred from the greatest family of milking Shorthorns in America. Dam with a great record. Two full sisters making 13,000-pound record now.

BREEDING STOCK FOR SALE AT ALL TIMES

Scotch, Scotch Topped, and Milking Families. Two Hundred Head in Herd.

FOR IMMEDIATE SALE—One carload of bulls, one carload of heifers, one carload of cows that will drop calves soon or calf at foot.

Come and bring your neighbors with you and save freight. I pay the freight and send a competent man in charge and deliver free to you carload lots. Will meet buyers at Wichita by appointment.

PARK E. SALTER, Wichita, Kansas
PHONE MARKET 3705 OR 2087 302 BITTING BUILDING

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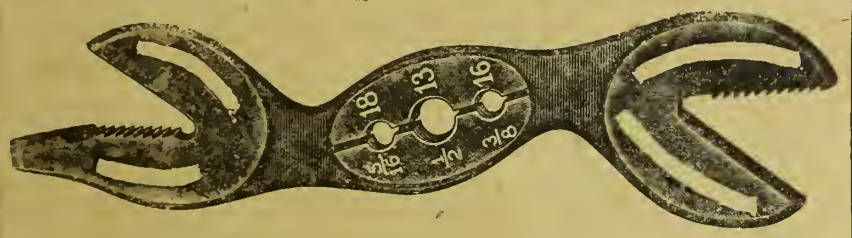

The Alligator Wrench requires no adjustment; simple; always ready for use; never slips. Works in closer quarters than any other wrench. It is light, strong, compact. Easily carried in the pocket.

THREE DIES FOR CUTTING or cleaning threads in bolts used on farm machinery. It is drop-forged from the best steel, scientifically tempered, nothing to get out of order.

OUR SPECIAL FREE OFFER We will send the handy Alligator Wrench free and postpaid to all who send $1.00 for a one-year subscription to Kansas Farmer, and 15 cents extra to pay packing and postage—$1.15 in all. Address

KANSAS FARMER -:- -:- TOPEKA, KANSAS

SUBSCRIPTION BLANK

Kansas Farmer, Topeka, Kansas.

Gentlemen: Please find enclosed $.....for which send me

KANSAS FARMER.....year.....
One year for $1.00; two years for $1.50; three years for $2.00.

Name .....

Post Office .....

State..... R. F. D. No.....

Are you already taking KANSAS FARMER? .....

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN-FRIESIAN FARM, TOWANDA, KANSAS

Breeders of pure-bred Holsteins. Special attractions in choice young bulls ready for service, with fashionable breeding. Write for pedigrees and prices. We maintain a breeding herd of pure-bred females and offer a grand lot of young springing heifers and cows, a number with A. R. O. records at prices within reason.

IT WILL PAY YOU TO SEE OUR OFFERING

Of choice extra high grade young cows and heifers, all springers in calf to pure-bred sires; large developed females, good udders, well marked and the right dairy type at prices that will challenge comparison for Holsteins of their breeding and quality. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone.

GIROD & ROBISON

MAURER'S HOLSTEIN FARM

Is offering a number of choice young pure-bred cows with good A. R. O. records; also yearlings and heifer calves and a select lot of young bull calves with world's record backing. Write for pedigrees and bargain prices. Also grade cows, heifers and heifer calves.
T. R. MAURER & CO. - - - - - - - - EMPORIA, KANSAS

CORYDALE FARM HERD

Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.
L. F. CORY & SON, BELLEVILLE, KAN.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

CEDAR LANE HOLSTEIN HERD

We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.
T. M. EWING, INDEPENDENCE, KANSAS

NEMAHA VALLEY HOLSTEIN FARM

Choice yearling bulls and bull calves. World's record blood lines. Price reasonable. We invite inspection of our herd.
H. D. BURGER, Route 2, SENECA, KANSAS

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $23 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

CEDAR LAWN FARMS
C. A. Schroeder & Sons, Props.

Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.
W. C. SCHROEDER - WEST BEND, WIS.

Shady Brook Holsteins

A few choice young springers, also some high class young bulls. If you want record breeding, we will be pleased to have you inspect our offering.
M. E. MOORE & CO. - CAMERON, MO.

Look to the future.
Tredico Bulls
(Holsteins)
Kingman, Kansas

HIGH GRADE HOLSTEIN CALVES

Five to six weeks old, nearly pure, well marked, $20, express paid.
COLD SPRINGS FARM, Whitewater, Wis.

Braeburn Holsteins A. R. O. BULL CALVES

With De Kol-Netherland-Korndyke main blood lines, and Johanna, Walker, King Segis out-crosses. H. B. Cowles, Topeka, Kan.

HOLSTEIN CATTLE

We offer for sale--200 choice, high grade Holstein cows, heifers and service bulls of various ages; well marked and in good condition. Also can furnish a few choice, beautifully marked, 15/16ths pure-bred heifer or male calves, 1 to 2 weeks old, out of heavy milk-producing dams, at $15 each, crated f. o. b. cars. First draft takes them. Write
W. C. KENYON & SONS, ELGIN, ILLINOIS

AUCTIONEERS.

Live Stock and Farm Auctioneer
Write or wire for date. I can please you.
LAFE BURGER, WELLINGTON, KANSAS

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

DUROC JERSEYS.

We have fifteen well bred Duroc gilts, priced for immediate sale.
C. D. WOOD & SONS, ELMDALE, KANSAS

Duroc Boars

For Sale—Ten fall boars ready for service. Sired by C. H. S. Col. first and out of my best herd sows. Priced to sell at $35. First check gets choice. Write at once.
J. R. SMITH - NEWTON, KANSAS

JERSEY CATTLE.

DORNWOOD FARM JERSEYS

Some richly bred young Jersey bulls. Pedigrees and prices on request.
DORNWOOD FARM - TOPEKA, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2. Topeka, Kan.

Breeders' Directory

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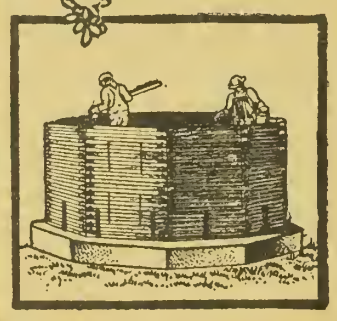

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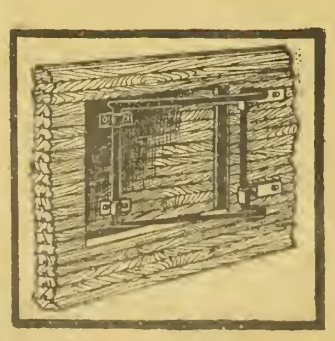

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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 17. TOPEKA, KANSAS, APRIL 28, 1917. Established 1863. $1 a Year

LANDLORD AND TENANT

Rented Farms Usually Run Down and Become Depleted in Fertility

From Address by Dr. H. J. Waters, Farm and Home Week, Manhattan

THE tenancy problem in America demands serious consideration, and the United States has few plans of any sort for dealing with the situation.

It is a mistake to assume we are the first people to have to meet this sort of problem. The fact is that tenancy dates back to the beginning of the established order of agriculture, before man used typewriters for writing farm leases or fountain pens for signing them.

The earliest leases of which there is record were written in clay and sun-dried, and the signature made by thumb nail impressions, but the terms of the leases were exactly the same as those of today—one-half the crop when the oxen and seed were furnished by the landlord and one-fourth to one-third when the tenant furnished the seed and the work animals.

HEBREW LAND TENURE SYSTEM

Moses established the best system of land ownership that has been known, intended definitely to prevent land monopoly and to keep farms the size that would be best for everybody. One important provision was that the land belonged to the Lord and the one who tilled it held it for a rental of two tithes to support the priesthood, which had no land, and one tithe for the public welfare. The tenant could hold this land only fifty years at most, or until the year of jubilee, when all contracts ceased and all debts were cancelled. If we redistributed the land now once every fifty years, we should bear little complaint of oppressive landlordism.

Long experience has shown that the system of land tenure which best saves the land from excessive wear and waste is for it to be tilled by the owner. Even greater protection was afforded to the soil under the old Jewish system whereby the land was considered to belong to God and it was sacrilege to despoil it.

DEALING WITH TENANT PROBLEM

Moses was a believer in small farms tilled by the owner. Gradually this system broke down, estates became larger than the owner could cultivate to advantage, and a system of landlord and tenancy again came in.

There have been four ways of dealing with the tenant problem in the past. Germany stepped over from the feudal system to the system of small farms without the intervention of landlord and tenant and as a result it may be truthfully said that Germany never had a real tenant problem. This is the only conspicuous example of preventing tenancy.

France broke down the system of land monopoly and tenancy by means of the French revolution and the long years of readjustment following, and as a result France today practically has no tenancy problem, but instead one of the most prosperous and successful land owning systems of agriculture in the world. Denmark accomplished the same result more recently without bloodshed.

NEW ZEALAND PREVENTS TENANCY

New Zealand is an example of a nation that thus far has prevented tenancy. The motto of her nation is, "The land for the people," and a system of graduated taxes makes it unprofitable to hold land not tilled. In other words, New Zealand has taken all speculative values out of land.

Great Britain stepped from feudalism to tenancy and instead of trying to break it up, accepted and regulated it. As a result, Great Britain has the best regulated system known in the world.

The United States has done nothing to prevent and almost nothing to regulate tenancy. In Great Britain nine out of ten of the farms are tilled by tenants—in the United States about four out of ten, in France one out of ten. In New Zealand the number is negligible. The problem of readjusting a system of land-holding in which three-fourths of the farms are tilled by the owners is a difficult one, and in a democracy, such as ours, is perhaps a good ways ahead of us.

TENANT IS A CROP FARMER

In general the tenant has been a soil robber and waster because he has less interest in the land than if he owned it and because he is as a rule a crop farmer and not a live stock man.

In America the tenant has wasted the soil more rapidly than in any other country because he has been provided through American invention and genius with tools and machinery by which he can till more land than any other tenant and because under our system of short leases we encourage the most destructive system of farming known in this country or in any other country.

English farms are tilled almost wholly by tenants and yet English soil has steadily increased in fertility during the last hundred years. Live stock farming has reached its highest development in England on farms tilled by tenants.

"RENTED" MEANS "RUN DOWN"

A rented farm in this country means a run down farm. It is a farm with poor buildings, few fences, and no conveniences. The tenant could not, if he would, keep live stock. He couldn't afford to rotate crops and intersperse alfalfa, clover, and cow peas with corn, wheat and oats, even if he wanted to do so. He will not be there next year. What difference does it make to him how much the fields are washed or worn through carelessness and neglect?

Generally, successful men who have been able to accumulate a competency move to town. They know the soil of their farms as no one else knows it. They usually take an active interest in the management of the farm by the tenant, encourage him to get good seed, help him plan his cropping system and his work so that the land is well prepared and the seeding done on time.

But in the course of time this experienced farmer and landlord passes away and the farm is divided among the heirs, one of whom is likely to be the local banker, another the superintendent of schools in a city a hundred miles away, and the third, the wife of the pastor of the church in another county or of a local merchant, lawyer, or physician.

These new proprietors know little about farming except what they remember of their earlier farm experiences, and they are absorbed with their own problems and duties. Under our system of leasing the tenants who received such careful and valuable instruction from the older farmer have long since moved away and a new man, who is wholly unacquainted with the land and perhaps of limited farm and business experience, is on the land directed by these inexperienced and otherwise busy landowners. The result is bound to be a relatively low income.

NEED NEW KIND OF LEASE

Tenancy is in many respects an evil, but if evil, it is not all evil, for there are good tenants as well as poor ones. Then, under our present system of land tenure, tenancy is necessary and inevitable.

Live stock farming does not favor the development of the tenant system and where live stock is generally grown in this country few tenants are to be found. Where the tenant comes into live stock regions, the herds are soon dispersed, the pastures are plowed and planted to grain, and the barns and fences fall into decay.

In England under a system of tenancy, live stock farming has reached a higher degree of development than in any other country. But the system of leasing in England is very different from that prevailing in this country.

AMERICAN SOIL WASTED

In every country of Europe land has been improved in fertility within the last half century. In this period we have wasted the American soil at a rate far beyond that of any other people or any people in any other age.

This has been due partly to the fact that we have had lavor-saving, efficient machinery with which to till our soil and in part to the fact that the American farm had to be cleared, paid for, and improved out of the soil and for the most part within this period. The quickest and surest way to raise money with which to meet the interest and principal of a mortgage or with which to build a home, barn, fences, silos, and windmills, is to plow the life out of the land.

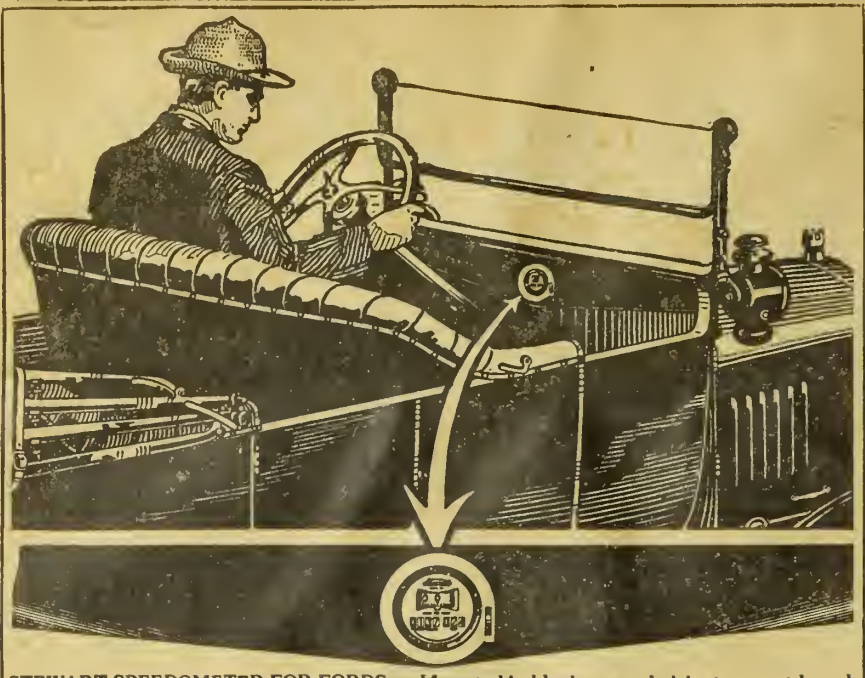
Nation Depends On Farmer

UPON the farmer rests in large measure the final responsibility of winning the war in which we are now involved. The importance to the nation of an adequate food supply, especially for the present year, cannot be over-emphasized. The world's food reserve is very low. Not only our own consumers, but much of the world at large, must rely more completely than ever before upon the American farmer. Therefore, the man who tills the soil and supports the soldier in the field, and the family at home, is rendering as noble and patriotic a service as is the man who bears the brunt of battle.

The American farmer has long shown his ability to produce more food per man and at lower cost per unit than any other farmer in the world, but he has never had to do his best. He needs to do his best now. This is not the time in which to experiment with new and untried crops and processes. It is very important that the farmer devote his principal efforts to the production of such crops and the employment of such methods as are well established in his community and as are likely to yield the maximum return in food and clothing material.

Within the next sixty days the final measure of crop acreage and food production for this year will have been established. We urge the importance of the immediate mobilization of all available service of the federal and state departments of agriculture and the colleges of agriculture in co-operation with the press, the banks, the commercial organizations, the religious and the social societies, that all may heartily join with the farmer in performing the patriotic duty of providing and conserving food.

Because of the world shortage of food, it is scarcely possible that the production of staple crops by the farmer of the United States can be too great this year. There is every reason to believe that a generous price will be paid for the harvest of their fields.—From St. Louis Food Conference Report.



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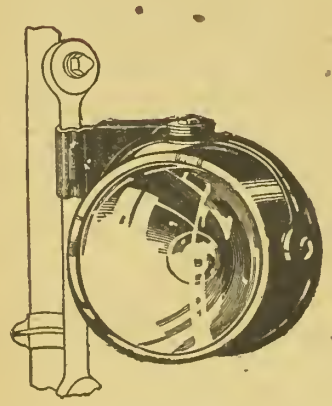

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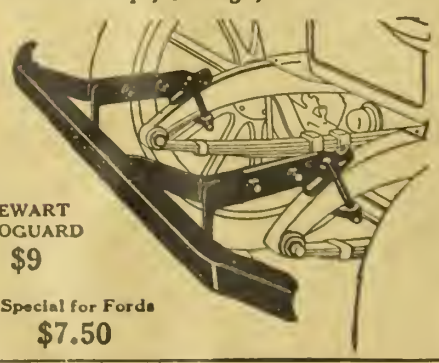

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

WHO has not wished a hundred times for the Magic Lamp of Aladdin? Who doesn't know the marvelous old tale almost by heart, and who isn't half ready to believe it even now?

Some months ago a poster contest was opened to all American artists. They were each asked to paint a poster which should illustrate strikingly the ease, the comfort and the convenience of the electric service of today. Eight hundred artists entered the competition, among them many who are well known from one end of the country to the other.

The poster that received first place shows the same Aladdin and the same genie. But instead of the magic lamp we see the modern electric push button. And that's as it should be, because electricity, the modern genie, stands ready at the turn of a button to perform for us wonders greater than were ever dreamed of by Aladdin.

The use of electricity for light and power has become so nearly universal that widespread public recognition was given to this greatest of all modern servants through the observance of America's Electrical Week last winter. Every possible effort was to be made at that time to show the people of this country how cheaply, how well and in how many ways electricity is ready to serve them.

A few years ago an undertaking of this kind would have meant little, if anything, to the average farmer, because it was not then known that electricity could be made to serve him as well as the city man. But the last few years have seen a remarkable change, and the farmer is rapidly awakening to the fact that he can now have the same safe, convenient electric light and power service as is enjoyed by his neighbor in the city. And this service will mean more to him than it does to his city friend. To the latter electric light is merely a pleasant convenience in his home. On the farm, however, it will not only brighten every room in the house, but the barnyard, the barn and other places where the farmer's work must frequently be done after dark. To the city man electric power in his home means electric fans, a vacuum sweeper and perhaps a washing machine. To the farmer it means not only all these things but, in addition, power to do his pumping—running water any time anywhere on the farm—milking, separating, churning, grinding, and a hundred other daily tasks. All of this work, much of it nonproductive, has required much of his own, his wife's and his children's time in the past, and in many cases it has meant the most tiresome kind of drudgery.

Now, however, he can free himself and his family of this drudgery. There are on the market complete electric light and power plants, ready to be installed right on the farm, costing no more than a team of good horses, capable of supplying plenty of electric light and power at a very reasonable cost, and of doing so day after day and week after week with no more attention than is required by the simplest piece of farm machinery.

The wide-awake, progressive farmer of today is thinking of these things, and he is making this discovery—that he rather than the city man is the modern Aladdin, and that the genie of electricity bows before him.

Government Tractor Census

Power Farming, of St. Joseph, Michigan, questions the reliability of the tractor census made by the Federal Department of Agriculture. We gave some of the statements from this census in our issue of March 31. A total of 34,371 tractors for the United States was reported. The editor of Power Farming is of the opinion that if this were doubled it would be more nearly correct. He states that in his home county in Michigan only one tractor was reported in the government census. Upon inquiry he secured the names of eighteen men who owned gas tractors and were actually using them in farm work. He felt sure there were several more in this one county.

The Kansas State Board of Agriculture makes an actual count of the tractors in Kansas. This is done through the assessors who secure the information as they make their house-to-house canvass. The count for last spring resulted in a total of 3,932, including the steam tractors. These, however, are comparatively few in numbers. The federal census gave Kansas only 2,287 gas tractors actually in use. It was stated in the federal report that "the figures are offered not as an actual count of all tractors, but as indicating the relative employment of tractors in farming in the different sections."

Tractor Displaces Horses

A tractor was never intended to displace all the horses on any farm, but it certainly will displace all the extra ones, as Clarence Wilcox, of Bancroft, Kansas, has proved conclusively.

"We bought a 15-30 tractor last July," says Mr. Wilcox. "We started ont the season by pulling seven 24-inch disk plows, cutting six feet, and a two-section harrow. We plowed more wheat stubble in a given time than any fourteen head of horses could plow.

"Many days the two of us alone have plowed fifteen acres. Our net cost, including coal oil, engine oil and grease, is about 21 cents to the acre.

"I use my tractor for road grading a good deal and naturally I am pleased to know that it has plenty of power. We have cut ditch for six miles at a stretch, some places going up steep hills, and my tractor has never once hesitated to walk right along.

"We prepared our wheat ground with the tractor pulling three 8-inch disk harrows, a float and a four-section smoothing harrow cutting twenty inches on plowed ground, and had power to spare."

There is no more monotonous work than pumping water for live stock. With an engine and pump jack there is no working of the pump handle or waiting for the wind to fill the tanks. Put an engine having some extra power on the job and other work can be done at the same time.

Before buying implements, machines or supplies, it is always advisable to read the advertisements in KANSAS FARMER, as they are of reliable firms.



TRACTOR PULLING THREE DISKS AND FIVE-SECTION SMOOTHING HARROW ON FARM OF P. O. WILCOX, NEMAHA COUNTY, KANSAS

Editorial, Advertising and Business Offices, Topeka, Kansas

Entered at Topeka Post Office as Second Class Matter

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KANSAS FARMER

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WICHITA FEEDING TEST

On May 3 the Wichita Stock Yards Company will give a demonstration of the results of some cattle and hog feeding tests that have been going on for the past three months in co-operation with the Kansas Agricultural College. On that date the cattle and hogs in the tests will be sold and stockmen of the Southwest are invited to spend the day at the yards and make a detailed study of the results.

There are 135 head of steers in the lots, equally divided into three different groups of three lots each, varying in quality from high grade Herefords to "dogies." On May 3 they will have been fed ninety days on different rations. The cattle will be weighed and every item of expense charged against them, and the result will conclusively show which lot is most profitable. Besides the steers, there are five pens of hogs fed different rations in different ways, and the hog feeder will learn by comparison just what is the best way to feed hogs.

Prof. W. A. Cochel, head of the animal husbandry department of the agricultural college, will lead the discussion at the close of the demonstration, and he will do all in his power to help the feeder who comes there that day. He will discuss the relative profits and comparative costs of feeding the different classes of steers and the results from the different rations.

An early increase in the meat supply of the country was urged by the committee on production at the St. Louis food conference. It was pointed out that any immediate increase must come through more efficient methods of feeding, and through a more complete control of contagious diseases. At this time when every loyal citizen is anxious to do his part in backing up the country in the war, it will be most appropriate for the live stock men to take advantage of such opportunities as the one presented in connection with the closing of these feeding tests at the Wichita stock yards.

STATE COUNCIL OF DEFENSE

In order that all the resources of Kansas may be utilized in helping the nation to successfully prosecute the war and bring it to a close as soon as possible, Governor Capper appointed last week a state council of defense consisting of thirty members. This council was organized by electing Dr. H. J. Waters of the agricultural college as permanent chairman; J. C. Mohler of the state board of agriculture, secretary, and State Treasurer Walter L. Payne, treasurer. Vice presidents were named by President Waters for each of the eight congressional districts, as follows: Mrs. Cora Wellhouse Bullard, Tonganoxie; Charles F. Scott, Iola; E. B. Lanyon, Pittsburg; William Allen White, Emporia; M. McAuliffe, Salina; Dr. W. A. Lewis, Hays; Emerson Carey, Hutchinson, and Henry Lassen, Wichita.

An emergency committee at once took up the task of making a canvas of the resources and the needs of every county, especially with reference to food, seed and labor. Telegrams were sent to persons in every part of Kansas outlining plans for county organization and work in the interest of food production. Active township committees are also contemplated.

Because of the large number of people that have been appointed, some may get the idea that many of the appointments are honorary and that the appointees will not be expected to do much. This is no time to pass around mere honorary appointments, and it is to be hoped that every person named will seriously assume the obligation to get busy at once in performing the duty assigned.

It is highly important that the council have at the earliest possible date a report of the visible supply of seed, the names of persons having seed to sell, and if possible the amount of seed needed in the various counties. Corn and the grain sorghums are the crops upon which to place dependence for increasing our food production the coming year. There is probably enough seed if it can be located. In many sections seed of the sorghums did not mature last year. Anyone having kafir seed or seed of any of the sorghums might well consider it a patriotic duty to make sure that his surplus goes to those who need it. This can be accomplished by co-operating fully with the state council for defense and reporting at once on the seed available.

Seed of cane and the grain sorghums should under no consideration be planted without germination tests. High school students can render a most useful service in doing the seed testing work for their respective communities. If they are not already doing this most necessary work, they should take it up at once.

The following list of questions were sent out last week by the emergency committee, with the request that they be answered at once:

How much idle land will you have after planting all you can handle with your present force? Is there enough labor to plant available land? What aid do you need to plant maximum acreage? Have you horse and tractor power? How many tractors in your county are idle or not working full capacity? Can any be released for other sections? What crops are suitable for abandoned wheat land? How much land do you consider feasible to plant to spring crops? How is your county fixed for seeds? Have you any seed to sell, what kinds and how much?

The council urges that those having information on any of these questions communicate at once with Secretary J. C. Mohler, Topeka, Kansas.

WIDE ROW PLANTING

In the western part of Kansas, corn planted seven and one-half feet wide will yield more than when planted in the usual way except in wet years. We had our attention directed to this seven or eight years ago while attending a farmers' institute meeting in Clark County. A farmer was referred to in the meeting as always having corn, even when his neighbors failed completely, and the secret of his success seemed to be that he left every other row blank when planting. It has been tested out experimentally and our experiment station men are advocating this method of planting corn or kafir in regions of light rainfall.

This method of planting should appeal to the wheat farmer. The kafir yields in wide row planting are not quite so large as when planted in the usual way, but the land is left in good condition for wheat. If the crop is well cultivated it really amounts to a summer fallow. The two-row cultivator can be used and the ground can be gone over very rapidly. Wheat can be sown on wide spaced corn or kafir ground and often give better results than on summer fallow. The stalks help to hold the winter snow and lessen the danger from soil blowing. Wide row planting is also a saving in seed. Few planters or listers will plant kafir or milo thin enough, and planting the seed only in alternate rows makes it possible to more nearly secure a proper stand.

The wide row method of planting will not be satisfactory, however, unless the crop is given good cultivation. If weeds are allowed to take the space between the rows the crop will be poor, and there will be no gain to the wheat crop following.

We would urge wheat growers to adopt this method of growing the grain sorghums and corn this season. It is sure to result in the production of some grain and at the same time the land is being prepared for next year's wheat crop.

CROP REPORT FROM MOHLER

Of the 8,887,000 acres of wheat sown in Kansas last fall, approximately 55 per cent is reported by correspondents of the State Board of Agriculture as "worthless or so unpromising that it will probably be abandoned or devoted to other crops." This is the first crop report of the season and is based on a canvas made among 2,000 correspondents. The abandoned wheat acreage is largely in the wheat belt of the state. The worst condition is found in the northern portion of this belt, where the loss reported ranges from 70 to 98 per cent. The failure is attributed mainly to the dry weather which prevailed last fall and throughout the winter and the blowing of the soil. Very little insect damage is reported. Soil conditions in that portion of the state south of a line drawn diagonally from the southwest corner to the northeast corner of the state are uniformly reported as favorable for a vigorous growth of wheat. Only nine counties of the state have 100,000 or more acres of wheat remaining.

There has been an increase of over 21 per cent in the acreage of oats planted. In the western and northern parts of the state the oats are not up. In the southeastern part of the state, where they are up, the condition is reported as uniformly good.

The reporters are of the opinion that there will be from eight and a half to nine million acres of corn planted this year as compared with an acreage slightly under seven million in 1916.

In the Kaw Valley there is a decrease in the acreage of potatoes planted, but the reports of the state as a whole indicate an increase of 3.27 per cent over that of last year.

Of last year's wheat crop 5.5 per cent is still in the hands of the farmer; of last year's corn crop, 7.67 per cent is still in the hands of the farmer, and 3.4 per cent of last year's kafir crop is still held on the farm.

Most of the correspondents report that the present needs for farm help are being fairly well met in practically every county in the state.

GROW GRAIN SORGHUMS

KANSAS cannot expect to produce an average crop of wheat this year, but poor wheat years are often our best corn and kafir years. The soil has been in exceptionally good condition for preparing the seed bed for spring-planted crops. Getting these crops started early with the right kind of seed bed conditions is half the battle. Nature has its compensations and tillers of the soil have always had faith in her bounty. The earth will surely bring forth its increase if we do our part.

In the language of the battle field, it is now time to execute the spring drive on the seeding of these staple crops that experience has taught are most certain to give good returns under Kansas conditions. It is not a time to experiment with new crops. All through the wheat belt of the state kafir and others of the sorghums are the surest crops to grow. The grain sorghums are seldom given a fair chance, but in spite of this fact they have proven their worth. At the Hays Experiment Station kafir has made an average yield of fifteen bushels an acre for a period of years.

This year with a greatly reduced wheat acreage it would seem that the grain sorghums could easily be so handled as to give far better than ordinary returns. Grain of all kinds will be in demand and kafir and milo have in the past year outsold corn.

Wheat growers who plant kafir cannot ordinarily expect to follow the crop with wheat next fall. This is one reason why kafir has not found more favor in wheat growing sections. The ground is left dry and depleted in plant food and the wheat does not make a good fall growth. This is especially true when the larger late maturing varieties of the sorghums are grown.

In the eastern part of the wheat belt the best varieties to plant are the black-hulled and the pink kafir. Farther west the dwarf black-hulled kafir, dwarf milo and feterita are more sure to mature grain. These crops have such great possibilities in the way of grain and feed production that it is well worth while to make definite plans to introduce them into the cropping system. This year on many wheat farms the growing of grain sorghums can be given more than the usual attention. There need be no fear that there will not be a market for the grain produced.

In view of the strong demand which is likely to exist for grain, more than the usual amount of work can be profitably done in preparing a seed bed for these crops. After the seed is planted as much time as possible should be spent in cultivating during the early growth of the crop. Weeds can be most easily killed just as they are germinating. It is also of the greatest importance to plant good seed of adapted varieties and to be sure before it is planted that it will grow.

GET DOWN TO EARTH

Since the United States has entered the world war, many ordinarily level-headed people seem to have lost their power of clear thinking. All sorts of plans are proposed. People talk of plowing up lawns to raise potatoes when hundreds of acres of land might be used that now produce nothing. Well-to-do families seem to think the earth has ceased to bring forth and are trying to buy and store large stocks of food products, thus playing into the hands of speculators who are eager to take advantage of such opportunities.

Our country is perhaps entering the most serious crisis in its history, but that is no excuse for much of the near-hysteria that seems to have taken possession of us. Perhaps we may have an army of two millions in the field, but there will be ninety-eight millions left at home to carry on the ordinary duties of life. The sane thing to do is to perform with diligence the tasks of the day and hour. Nothing will help the nation more than to have its citizens get down to business in every line and quietly but efficiently carry on the many great industries upon which our prosperity depends. Perhaps no class is being less affected by foolish ideas and inconsistent proposals than the farmer, and upon the farmer who is now going about his daily work of preparing the soil and sowing the seed depends in large measure the success with which we can do our part in the war.

Idle acres are always a drag on the productive acres, but this will be more than ever true this year. Taxes must be paid on waste land the same as on the land producing crops. Why not sow rape or sweet clover on the small corners and vacant feed lots around the barns and sheds?

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

A READER asks if it makes any difference whether a work horse is watered before or after feeding. It is best to water before feeding, and especially so if the horse is very thirsty. The reason is that the stomach of the horse is comparatively small and when he drinks a large quantity of water it passes on through the stomach into the large intestine. If he has just eaten his grain or hay or both before drinking a large quantity of water, some of the feed will be washed from the stomach into the intestine before it has been properly acted upon by the digestive juices of the stomach. Colic sometimes results from this cause.

Combating Potato Beetles

Some of our readers are already beginning to report injury to the potatoes from the Colorado potato beetle. This is the most common and destructive insect enemy of the potato grower. These beetles are voracious feeders and begin their depredations almost as soon as the potatoes are through the ground. The mature bettle, which is a striped insect about half an inch long, hibernates in the ground during the winter, coming out when the soil warms up in April and May. The female deposits her eggs on the under side of the leaves of the potato plant, the average number of eggs laid by each beetle being about five hundred. These hatch out in about a week and the larvæ begin to feed on the leaves, consuming an amount of food out of all proportion to their size. They go into the ground in two and a half to three weeks and in a week or two another generation of mature beetles comes out. In Kansas two generations always appear during a season, and in some seasons three.

"One of the most effective remedies for this pest," says Professor G. A. Dean of the agricultural college, "is Paris green." For small patches of potatoes he recommends using it dry, mixing it with fifty times its weight of flour, slaked lime, or land plaster. The mixture should be applied early in the morning while the dew is still on the leaves, using a perforated can or some sort of powder gun.

Most commercial growers of potatoes prefer to use a spray composed of from three to five pounds of lead arsenate to a barrel of water. There is no danger of this mixture burning the foliage and it sticks better than the Paris green spray. The powdered lead arsenate may also be used in the dust form, applying it just as soon as the insects are found working on the leaves.

Destroying Pocket Gophers

T. W. N., Clay County, asks if there is any way to destroy the gophers in his alfalfa field.

Gophers are rather stupid animals and are quite easily trapped or poisoned. Special gopher traps are sold on the market.

The natural food of gophers is roots and succulent vegetation, so that in poisoning, such baits as potato, sweet potato or apple give best results. A crystal of strychnine inserted into a piece of the bait by means of the tip of a pen-knife, is an effective method of poisoning gophers. A sharp stick or prod can be used in opening the tunnel. Simply drop the bait through this hole. A specially prepared poison can be secured from the zoological department of the agricultural college.

In trapping, light must be shut out from the opening by a board or piece of sod. If this is not done, the gopher is apt to push a load of dirt ahead of him to stop up the hole and will spring the trap before getting into it.

Preventing Collar Sores

E. M. G., Ottawa County, asks how to keep horses from getting collar sores.

Collars must be fitted carefully on work horses. Collars that are too tight or too loose are quite apt to make the shoulders sore. If the horses are rather fat when first put to work it is specially important to use much care in fitting the collars. As the shoulders work down some change in the fit will be necessary. It is not advisable to use sweat pads. Keep the collars clean of scurf and dirt. It is a good plan to sponge the shoulders of work horses with cold water at night after work. If they are very sweaty at noon, sponge at that time also.

The following preventive of sore shoulders is recommended by an Illinois farmer: Each night after unharnessing the horses, dust the shoulder thoroughly with common air-slaked lime. Brush this out the next morning with a soft brush. He states that the lime seems to have about the same effect as talcum powder has on a child's skin. This is a much quicker treatment than washing the shoulders in cold water.

Raising Orphan Colt

R. M. G., Saline County, asks for suggestions on raising an orphan colt.

Raising a colt that has lost its mother is a task that requires considerable patience, attention to details and cleanliness. Of course, cow's milk is the only substitute that can be used for the mother's milk. Mare's milk is more watery than cow's milk and while it contains more sugar it is considerably lower in protein, ash, and fat. It is necessary to modify the cow's milk and this is done by adding enough warm water to a tablespoonful of sugar to dissolve it and adding to this from three to five tablespoonfuls of lime water and enough milk to make a pint. Feed one-fourth of this mixture every hour for a few days, gradually lengthening the intervals between feedings as the colt gets older. Of course, it is important to have the milk as near the body temperature as possible. In feeding a young colt by hand it is generally best to use a bottle and nipple, although later the colt can be taught to drink.

Quite often the hand-raised colt will scour. When this occurs, reduce the amount of milk mixture being given and give it a dose or two to four ounces of a mixture composed of two parts castor oil and one part of sweet oil.

By the time the colt is three or four weeks old the sugar can be left out of the mixture, and when it is three months old it can be given all the sweet skim milk it will drink, feeding it three times a day. It is important to teach the colt to eat grain as early as possible, also giving it alfalfa or clover hay and grass. The best grain ration is crushed oats and bran, but cracked corn or chop and bran in equal parts by bulk, and a little linseed meal can be used in the place of the bran and oats.



PROF. J. B. FITCH OF THE AGRICULTURAL COLLEGE GIVING DEMONSTRATION LECTURE ON DAIRY COWS

Beans for Western Kansas

S. R. T., Rush County, asks about growing beans in that part of the state. He inquires especially about the variety known as the "Pinto."

We believe it is advisable for farmers in the western section of the state to endeavor to grow enough beans for home use, at least, and this year it might be well for those who have had experience in raising beans to plant a small field for marketing. The "Pinto" is the trade name for a variety of Mexican beans which sells best on the eastern markets. It has small, oblong, light brown spots which gives it a somewhat striped appearance. This is the best of the Mexican beans to grow. The tepary, a small white bean which has been grown a good many years in Arizona, is exceptionally well adapted to light rainfall conditions. It has been grown to a limited extent in Western Kansas, but at the experiment stations has not given as good results as the Mexican bean. It has a strong flavor also, and for this reason is not as marketable as the Pinto.

Closing Distilleries Urged

A Chase County reader writes as follows:

"Government officials urge farmers to put forth every effort to increase crops so we will have a sufficient food supply. Would not this appeal have more weight if the government would use its power to conserve the supply we now have rather than let it be wasted in making intoxicating liquors and thereby producing criminals, insane and feeble-minded citizens in addition to the thousands it kills each year? We went to war with Germany, and rightfully, for killing about two hundred of our citizens in two and a half years, yet intoxicating liquors kill many thousands each year.

"Efficiency is the necessity now everywhere—in the army, the navy, the factory, on railroads, and on the farm. The greatest destroyer of efficiency is intoxicating liquors. Our President and Congress can stop their manufacture.

"Other lines of defense are costly and in case we do not actively engage in war are useless—a waste. This, one of the strongest lines of defense, is just as valuable in time of peace as war, and instead of costing billions in money, saves over two billions of dollars each year as well as thousands of lives.

"Does your Senator or Congressman know what you think about this?"

This correspondent believes that a large number of the citizens of Kansas will agree with him, and if we waive the question of the justice of making war on Germany by omitting the words, "and rightfully," his statements would meet with almost unanimous approval.

President Waters, of the Kansas Agricultural College, made some bold statements regarding the closing down of liquor manufactories, at the St. Louis food conference called by Secretary Houston. He pointed out that over 600 million bushels of grain could be released for food purposes by closing the breweries and distilleries. We quoted the facts presented by President Waters in a recent issue of KANSAS FARMER. Perhaps in this crisis national prohibition of the liquor traffic may come. We certainly can make better use of the vast quantity of grain now used in the manufacture of intoxicating liquors.

Cultivation of Alfalfa

J. M. S., Douglas County, asks if it pays to cultivate alfalfa, and if so, under what conditions and how it should be done.

Cultivation or renovation of alfalfa sometimes makes success with this crop possible where conditions are not the most favorable for its growth. Usually the first crop comes on ahead of weeds and crab grass. About the time the first hay crop has been removed, however, many annual weeds and grasses are just beginning to sprout. A careful disking or cultivation at this time with an alfalfa renovator or cultivator will kill many of the weeds and give the alfalfa a better show. In the eastern part of Kansas Kentucky bluegrass tends to crowd out alfalfa and only by cultivating the crop can this be prevented or checked.

If the soil is ideal for alfalfa and takes in moisture readily without stirring, it probably will not pay to go to the expense of renovating or cultivating very frequently.

Plan of Breeding Crate

D. R., Missouri, asks us to furnish a plan for making a breeding crate for hogs.

We are unable to give a plan for a home-made crate such as we assume our correspondent wishes to make. Perhaps some of our readers can supply such plan.

There are a number of breeding crates offered for sale. We can furnish the names and addresses of firms handling such crates, on request.

Farm Loan Inquiry

M. M. D., Ellis County, asks where he can borrow money on long time to buy land. He has been renting a farm but this farm has now been sold. He dislikes giving up farming and is very anxious to own a farm of his own if possible.

The Federal Farm Loan Act was designed to furnish money to farmers on long time and at a low interest rate. It is of little help, however, to the man who owns no land or who does not already have part of the purchase price of a farm saved. Our correspondent does not state whether he has any money to invest or not. We would suggest that he and others interested in taking advantage of the farm loan act, write the Federal Land Bank at Wichita, asking for full particulars. In writing the Federal Land Bank they should state fully their circumstances as to money saved and personal property owned.

Farmers Using Land Bank

The first national farm loan association organized in Kansas was the one started in the office of the county agricultural agent, Pawnee County, last winter. A. L. Stockwell, a member of this association, who has just received his loan, claims to be the first man in the state to receive a loan from the Federal Land Bank at Wichita. Probably a good many other associations are now organized or in the process of organization. Farmers in the western part of the state are more generally taking advantage of the act than those farther east.

A member of the Prairie View National Farm Loan Association in Gove County, which is probably the second one organized, was in the Kansas Farmer office recently. This association was organized in a school house fifteen miles south of Gove. One of the meetings of the local farmers' union was given over to a discussion of the loan act, and the organization of this association was the outgrowth of this meeting. It started with eleven charter members. W. P. Harrington is the secretary-treasurer.

Sudan Grass Tests

W. A. Boys, district agricultural agent with headquarters at Hays, reports that the tests with Sudan grass as a pasture crop conducted last season showed that in an average of the trials three mature animals were pastured on each acre of Sudan grass for an average period of ten weeks. A few fields were pastured as late as November 1. Cattle, horses, hogs and sheep were pastured with very satisfactory results.

A good way to handle this crop seems to be to cut one hay crop and pasture the aftermath where conditions will permit of pasturing.

At the Hays branch experiment station Sudan grass has been seeded at different rates varying from four pounds to thirty-five pounds per acre with very little difference in the yields obtained. This information will be especially welcome when seed is high.

The work horses will stand the heavy strain of spring and summer work better if some thought is given them before starting them in the fields.

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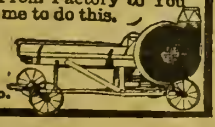

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Heifer Makes Good Record

The cut here shown is of a grade Holstein heifer owned by James W. Magee of Neosho County. She freshened December 18 and was not two years old until January 28, 1917.

Being desirous of knowing just what she would do as a producer, Mr. Magee secured the assistance of G. M. Davidson, instructor in the Chanute High School, in weighing and testing the milk, and gave the heifer a seven-day test. She was milked three times a day—at 5 A. M., 1 P. M., and 9 P. M. Her milk production for the week was 370.5 pounds, or an average of 52.9 pounds daily. A composite sample was tested for butter fat, the test being 3.6 per cent. This gives a total butter fat production for the seven days of 13.34 pounds.

This is an exceptionally good record for a heifer under two years of age, and especially so since she is not a pure-bred animal. She was fed during the test a grain ration consisting of corn chop, bran and cottonseed meal, the mixture fed costing 1.3 cents a pound. She was fed about fifteen pounds of this grain ration daily, the daily feed costing 19½ cents. Mr. Magee figured the twenty-five pounds of silage he fed her a day, at $5 a ton, which made the daily allowance of silage cost 6¼ cents. At $10 a ton, the fifteen pounds of alfalfa she consumed daily cost 7½ cents. The total daily cost of her feed was thus 33¾ cents. Mr. Magee sold her milk for 25 cents a gallon, the gross returns being $1.56 a day, and the net after deducting the cost of the feed, $1.2275 a day. Unfortunately the calf was a male.



GRADE HEIFER HAVING RECORD OF 370.5 POUNDS OF MILK IN SEVEN DAYS, UNDER TWO YEARS OF AGE

With such a record as a yearling, this heifer may easily be expected to crowd the thirty-pound record of butter fat for seven days very closely when fully developed.

Preventing Horns

Horns can be prevented from growing on a calf by rubbing caustic potash on the little nubs that develop into the horns. A good time to do this is when the calf is a week or two old. Wrap one end of the stick of caustic in paper to protect the fingers, moisten the other and rub on the nubs. Be careful that it does not run down the face and into the eyes. Removing the hair helps. Make three applications, allowing it to dry between applications. The calf should be protected from rain to keep the caustic from spreading.

The dry dairy cow can be made to produce maximum returns if properly fed and cared for from the end of one milking season to the end of the following one. She should not be forced to rustle her living during her dry period. At this time the unborn calf is developing most rapidly, causing a heavy drain upon the body of the cow. Plenty of nutritious roughage, such as silage, roots and alfalfa, and little grain, will keep her in good condition.

Leave the cow alone in a clean box stall at calving time unless help is needed. If necessary, call a veterinarian. After calving, give her plenty of warm water, and keep her out of draughts or blanket her. Feed lightly of warm bran mashes for a day or two, gradually working up to full feed in from two to four weeks. Milk several times daily the first few days. Do not milk dry until the udder is normal.

It is the man who knows the cost of the feed that has been put into his hogs or his other live stock, who is able to figure his real profits. This can be done only by keeping records of the farm operations. These need be only simple records b[illegible] rate.

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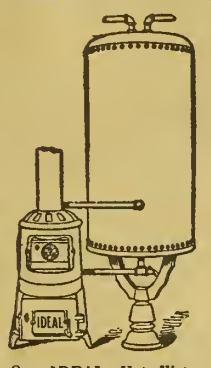
Farm success depends upon home comfort

AMERICAN RADIATORS & IDEAL BOILERS

The women folks ought to have a portion of the improvement money spent for their comfort. The success of the farm depends upon the health of your wife and the comfort and convenience of your home. You and your family must be comfortable during the long winter season and the raw, chilly Fall and Spring.

Basement or water pressure not necessary—don't wait!



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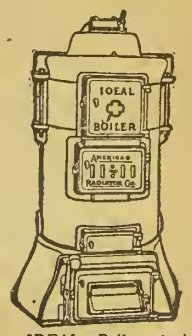

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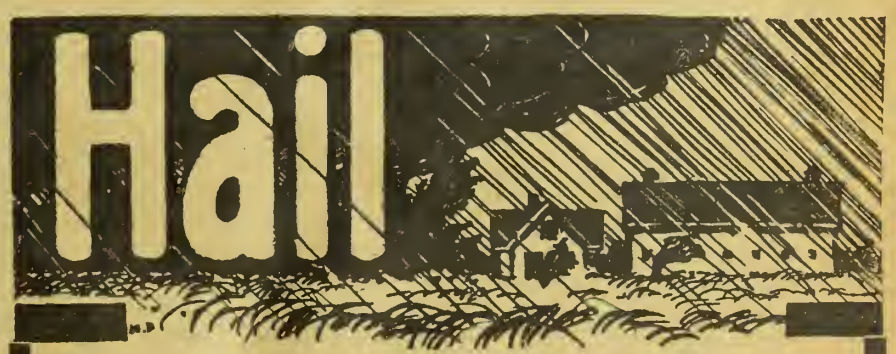

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Flies Are Dangerous

It is much easier to prevent the damage done by flies than it is to remedy it. It is easier to protect the health of the family against flies than it is to control typhoid fever, tuberculosis, and the other diseases carried by flies. Two things are necessary in fighting flies—we must be careful ourselves in reducing the number of breeding places for them, and we must provide screening protection against the carelessness of others in these matters.

We should make the destruction of flies a matter of personal concern and responsibility, as it is in this way that the most effective results will be accomplished.

Our Kansas State Board of Health has given the following directions for making sticky fly paper: "Take two pounds of rosin and one pint of castor oil and heat together until it looks like molasses. Smear while hot, with an ordinary paint brush on any kind of paper." The rosin and castor oil should be re-heated when a new batch of papers is needed.

Great care should always be exercised in using fly poisons as these are deadly to humans as well.

Destruction of their breeding places is the surest and safest plan for lessening the danger from flies, and the campaign against them should be started at once.

Try to imagine what a relief it would be to the women folks to not have to look forward to chasing the chickens out of the yard and garden all summer in order to have flowers and vegetables. Their gratitude would much more than offset the expense and labor of a chicken-tight fence.

Kansas Farmer Dairy Club

Butter Fat From Body Fat

THE good dairy cow can and does store fat on her body and later transfer it to the milk. The really efficient dairy cow never rests. We commonly think of the dry period as a resting period, and in a way it is, but during this period the good cow, if given a chance, will store all the nutrient materials above body requirements and draw on this reserve when she freshens. This characteristic of the dairy bred animals has only recently been fully appreciated. The old style dairyman turned his cows out to the straw stack when they went dry and expected them to barely exist on that as a feed until they freshened and began to produce milk again. Now that we have recognized this characteristic of dairy cows, we have ceased to figure so much on maintenance rations for dry cows. Many dairymen feed their cows almost as well when dry as when they are giving milk. One of our dairy club boys only fourteen years old has apparently grasped this point as a result of his experience and the study he has made of dairying. He just recently wrote us he was getting his cow in pretty good flesh and would expect her to make a much better record when she freshens again than during the lactation period just closed. When he bought her last spring she had just freshened and was in rather poor condition and did not give as large a flow of milk as she should.

Because of this natural trait of dairy cows, expert feeders are able to make what are sometimes called abnormal production records. Some experimental work conducted at the Missouri Experiment Station shows how these abnormal records can be made. We referred to the results of these experiments in a recent issue of KANSAS FARMER. Even though such records may be misleading to those who do not appreciate this power of the dairy animal to store up a reserve and draw on it when again in milk, the very fact that it is possible is evidence of the economy of the dairy cow as a producer.

The cow to avoid in the dairy herd is the one that piles the fat on her own back and holds on to it.

Last Call for Quality Sample

Those of our Dairy Club members whose cows were dry April 3—when we asked you to send a milk sample to the agricultural college to be tested for quality—will have another opportunity to send in this sample. In order that this sample may reach destination in the best condition possible it should be sent before the weather gets hot. It will be necessary to have all these samples sent at the same time in order that the work of scoring them may be made as light as possible.

Those of you who had dry cows April 3 should write us as soon as your cows freshen so that we may make the date for sending as soon as all can send samples.

Even though your year's work may be finished, if your cow was dry April 3, you will be given a chance to send in a sample to be tested for quality.

While you are waiting for your cows to freshen you should be getting together the equipment for sending the sample in first class shape. It should be sent in a pint milk bottle with a paraffined pasteboard cap, sealed in, and should be packed in ice. It would be well to have these things in readiness for there will be little time to hunt for them when it is time to send the samples.

This Is a Good Record

One of our Dairy Club members writes discouragingly because in nine months he has not been able to pay for his $125 cow. He says he has paid $73.35 for her, but as she has fallen off in her milk flow he does not believe it worth while to send in any more records.

This boy should go to his banker and ask him how many investments pay at the rate of six and one-half per cent a month, which is this boy's record for the nine months.

This member now has his cow on pasture and as the pasture grows more abundant she will undoubtedly do better. He should keep right on milking her and should keep his records accurately. He has nothing to be discouraged about and everything to encourage him. A cow that has made this good a record in nine months is worthy of good care and feed. Instead of being discouraged he should think how near he is to starting a bank account for himself. He should be able to do even better with his cow the second year because of his experience and the things he has learned about caring for and feeding a dairy cow.

Bad Flavors in Cream

Butter fat is susceptible to the absorption of all kinds of flavors, and great care should be taken in handling milk, cream, and butter.

The principal flavors derived from feeds are the weedy flavors. In the spring, creameries have trouble with wild onion flavors. This is a flavor that the farmer cannot prevent. It is caused by early pasturing, especially in the southern part of the state.

Another common flavor is the "half-grass" flavor, produced from the first green feed in the early spring. It can be tasted in milk, cream, and also in ice cream. It is found in practically all dairy products in the spring.

The method of preventing these flavors is to keep the cows from eating weeds. If turned into weedy pastures before the grass is good, cows are sure to eat the weeds.

Other flavors are produced through the feeding of alfalfa and silage. If silage is fed it is advisable to feed it after milking rather than before, as the odor will be absorbed by the milk. Flavors are absorbed from strong smelling feeds in the barn if the milk is allowed to stand where it is exposed to these odors. Ill smelling barns, gasoline and kerosene are likely to impart their odors to the milk. When separators are run by gas engine power, one should have a well ventilated room to prevent the gas odors from giving the milk an offensive taste.

Metallic flavors are caused by rusty cans. Cans which are not in good condition should never be used. These flavors may be partially removed by pasteurization and aeration after the cream reaches the creamery.

The separator is another source of bad odor. It should be cleaned thoroughly, and scalded after it is used. The cream should be cooled immediately so as to prevent the growth of organisms, which may produce off flavors such as cheese and yeast flavors. The warm cream should never be mixed with cold cream previously separated.

The cows should be cleaned before milking. A small top pail is preferable. Strainer cloths, if used, should be washed, and after each milking they should be scalded and hung in a clean, well ventilated place to dry. They should never be used in the evening and then be allowed to hang in the barn over night and used the next morning. Such methods will cause much bacteria to grow on the cloth. This will do more harm than if the milk was not strained at all.

More money is paid for first grade cream, so it is to the producer's advantage to sell only good cream. This cannot be done unless the precautions suggested above are followed.—N. E. OLSEN, Instructor, Dairy Department, Kansas Agricultural College.

Will Send Cow's Picture

My cow did a little better this month and I hope she will do better yet when I put her on pasture. She tested extra high this time.

The calf I sold was not a pure-bred Jersey. It was half Red Polled.

I am going to try to get my cow's picture in to you by next month.—EVERETT ZIRKLE, Shawnee County.

What Interest On Your Note?

Before we can make the final awards on the work of the Dairy Club members it will be necessary for us to know the rate of interest which you paid on your note.

Please write us what rate of interest you were charged. If you fail to do this you may be the loser, for if all the other members send us this information and you do not, we cannot make all the others wait while we ask you again for your interest rate. Therefore, you should attend to this at once.



MAINTAINING SOIL FERTILITY

THE College of Agriculture at Columbia, Missouri, has one of the oldest and most remarkable experiment fields in the United States. These experiments were begun in 1889 and have been continued without interruption since that date.

The most striking fact brought out by these experiments is that rotation including clover has been as good as manuring at the rate of seven tons per acre annually in maintaining the corn yield. This does not mean that rotation is the only essential to maintaining the fertility, since a combination of rotation and manuring has maintained the yields at a higher level than rotation alone. It does emphasize the importance of crop rotations, particularly rotations containing clover.

Another striking result is that very heavy fertilizing with commercial fertilizers has maintained the wheat yields almost as well as heavy manuring. While the fertilizer has been applied in amounts too heavy to be profitable, the interesting fact is brought out that fertilizers will maintain yields almost as well as manure, if applied in sufficient quantities. From the standpoint of economic production, however, they cannot be used alone in large quantities but must be combined in reasonable amounts with rotation and manure if best results are to be secured.

Another interesting fact shown is that timothy manured annually has been one of the most paying crops where the manure is figured at 85 cents a ton and the timothy at $9.25. These are considered fair present day prices. This does not argue for continuous timothy growing, since where farmers feed the produce on the place, timothy has little permanent value in the cropping system, unless mixed with clover. It does show, however, that one of the best uses for manure is as a top dressing on the meadow, particularly when this meadow is soon to be broken for corn.

The rotation which has brought best net returns, everything considered, is one of corn, oats, wheat and clover, manured. The annual net return per acre from this rotation after deducting the cost of production and interest on the investment was $6.43. Unfortunately this plan did not include the rotation with both manure and fertilizers.

Soy Beans as Food

Soy beans, introduced into the United States more than a hundred years ago primarily for use as a forage crop, are in reality one of the most nutritious of the legumes when used as human food, according to specialists of the United States Department of Agriculture. These beans have been used for centuries as a staple article of diet in China and Japan and are coming to be used more generally in this country as consumers learn their food value and palatability. Since they furnish protein which contains nitrogen for muscle building and valuable fat, they are especially important to turn to as an emergency addition to the usual dietary or as substitutes for other foods furnishing protein and fat. Moreover, the fact that they contain no starch makes them valuable for invalids who can not eat starchy foods. These beans may be grown easily in practically all sections of the country where corn is grown and give heavier yields than most other beans.

Soy beans have been so important for other purposes that until recently they have attracted little attention for food purposes in this country. They are now coming into their own for that purpose, however, and the acreage of soy beans has increased steadily in recent years. The dried beans may be purchased now in a number of markets in various parts of the country, often under the name of togo beans, and should, with the increased acreage of the coming season, be more generally available. Soy bean meal, a by-product of oil making, is a valuable food and no doubt will come into more general use with the increased production of soy beans.

Where dried soy beans are available, they may be baked with or without pork like navy and other beans. They should be soaked over night and should be cooked longer than other kinds of beans. The cooking may be done economically in a fireless cooker of the sort provided with heating stones or plates; or on the ledge of the firebox, inside the furnace, if the house happens to be heated with one of this type.

Dried soy beans have been canned in considerable quantities during the past season, baked with pork, and are on sale in this form in numerous markets. Canned green soy beans, which may be compared with Lima beans, also are on the market in some sections of the country. Both these canned products yield as high a proportion of energy and a higher proportion of protein than the canned beans with which they are most closely comparable, and so are more nourishing. Both are produced and handled at a lower cost than other beans and should therefore be obtainable at lower prices.

Rotation vs. Manure for Corn

In one of the experiments at the Missouri Agricultural Experiment Station corn has been grown for twenty-five years on the same plot of ground with an application of manure averaging about seven tons annually. In comparison with this, corn has been grown in various rotations without manure. A summary of the yields for the last six years on these plots shows that the average yield of corn on the rotated plots is greater than the average yield of corn which has been grown continuously with manure. In other words, rotation has been somewhat better than heavy manuring in this experiment. The last six years of the quarter century have been chosen for comparison since one of the rotations is a six-year rotation and since this number of years is sufficient to largely overcome seasonal variations.

It should not be understood from these results that rotation is sufficient to maintain the yield of corn. As a matter of fact there are other plots in this same experiment which have been both rotated and manured. The average yields of these plots is very materially above rotation alone. The important points are that rotation is more important than fairly heavy manuring in the long run, but that it is not all-sufficient; that in order to maintain land in productiveness economically, it should be both rotated and manured, while in many cases commercial fertilizing materials applied in addition to the manure will give still further return.—M. F. MILLER, Missouri College of Agriculture.

The manure is needed on the fields and the flies that will be hatched as a result of its being left on the sunny side of the barn are certainly not needed.

Friction

Is the Problem Solved in

Hudson Super-Six

This is to give you a clear understanding of what the Super-Six motor means.

This is why it holds unquestioned the leading place in Motordom. Why it won all the worth-while records. Why it stopped the trend toward Eights and Twelves. And why it gave supremacy—perhaps forever—to this new type of a Six.

What Friction Does

Motion causes friction. You know this in farm machinery. It is friction that finally destroys it.

In a high-speed motor the vibration makes friction a big problem. A large part of the power is consumed by it. The motor's endurance is limited.

So the chief problem in motor car engineering has been the reduction of friction.

Sixes Disappointed

The Six-type was adopted to lessen this vibration. The Light Six, with small bore, was made to lessen it further. But the highest attainment in a Light Six proved a disappointment. Motor friction was not reduced as engineers had hoped.

So some leading makers, including the Hudson, started tests with Eights and Twelves. It was hoped that twin motors, set at angles, would solve the friction problem.

Then Came This

That was in 1915. Many engineers thought the Six type was doomed. That the V-types would displace it, as they had in certain cars.

But in that year Hudson engineers invented the Super-Six. In December, 1915, we were granted patents on it.

Tests proved that this invention added 80 per cent to the efficiency of the Six. And it did that solely by reducing friction beyond any other type.

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Last year, in a hundred tests, the Super-Six won all the stock-car records which can prove a motor's value. It won the records for speed, for hill-climbing, for quick acceleration and endurance.

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Cabriolet, 3-passenger, 1950 — Limousine . . . . . 2925 — Town Car Landaulet . 3025
(All prices f. o. b. Detroit) — Limousine Landaulet . 3025

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Money In Raising Sheep

DURING recent years people are rapidly learning to apprcciate the fact that lamb and mutton are the most delicious, nutritious and healthful of all meats. This growing appreciation is creating an insistent demand, which, coupled with a decrease in production, has made prices very high and has opened new opportunities for profitable sheep husbandry on the average Kansas farm. Formerly sheep production was largely a range industry but since the ranges have been so materially reduced sheep production is becoming a farm proposition and in the future will become more and more a part of the activities of the general farm.

It is unfortunate that a state so well adapted to the production of mutton and wool as Kansas, has so few sheep within its borders and that the average Kansas stockman has so persistently neglected this important and profitable industry.

Many people have the idea that sheep are hard to care for and handle, and while it is very true that sheep have their peculiarities, there are no secrets nor anything difficult in the care and management of a flock of sheep. All that is needed is an exercise of patience, perseverance and good judgment.

Kansas with her dry, open winters, abundance of roughage and splendid markets, has a decided advantage in this business and the average farm would be much benefited by a flock of sheep which could turn waste products into cash, thus saving feeds of commercial value and at the same time increasing the fertility of the soil.

Sheep produce two crops annually, wool in the spring and lambs in the fall, and if the animal is properly cared for the income from the wool will almost pay for the ewes' keep. Their value as builders up of the soil should not be overlooked and a great many farms that have been cropped year after year are rapidly losing their productiveness and there is no class of live stock so well adapted to building up of the soil as sheep. Their droppings are extremely rich and are scattered over the fields in a manner which neither man or machine can duplicate.

Sheep are noted as scavengers. As weed exterminators they have no equal. In this section of the country there are nearly 600 kinds of weeds, and sheep will eat about 575, while cattle and horses will eat only about 75. Not only will sheep rid the fields of these pests but will turn them into a marketable product and return the fertility of the soil to the land in the form of manure. Most farms have feed lots and yards which annually grow up to weeds which are very unsightly. By sowing rape in these places and pasturing sheep on it, the appearance of the farm will be much improved and it will be the means of making good meat which means a larger bank account. Roadsides, lanes and fence corners may also be kept clean and tidy by the use of a flock of sheep.

The belief that sheep cannot be pastured with other live stock is a mistake; where grass is abundant they will graze together very nicely, and sheep will eat the plants that the other stock leave which tends to give the pasture a cleaner appearance.

When a man is thinking of going into the sheep business he should take an inventory of himself and find out what he knows about sheep and begin gathering all the information possible.

The next thing is to determine how many to get. This will depend entirely upon his business condition and the amount of material wasted annually that could be utilized by sheep. Whether grade or pure-bred sheep is to be raised should depend upon the knowledge the person has of the sheep business. For one who has had no experience, it is best to buy good grade western ewes and a pure-bred ram. After obtaining some experience and he finds he likes the sheep business, the pure-breds may be purchased. When planning to raise pure-breds it is well to make a study of the different breeds; their origin and environment, and select the breed best adapted to your conditions. Careful study of market conditions should be made in order to realize the greatest profit.—A. M. Paterson, K. S. A. C.

Destroying Hog Parasites

Importance of increasing profits in hog raising by eradicating the parasitic hog worm is emphasized by Dr. R. R. Dykstra, of the Kansas agricultural college.

Many inquiries are being received by the college from Kansas farmers as to the best means of combating this pest, which saps its food from the animal and thus reduces the meat production and makes the hog more susceptible to disease.

The hog should be starved for eighteen hours and then fed 2 1-2 grains of santonin, one half grain of calomel, one half dram of powdered areca nuts and one dram of bicarbonate of soda to 100 pounds of ilve hog weight. These substances should be administered in the fed or slop. In this way each hog gets an equal portion.

The animals should be kept confined in pens so that the feces and expelled worms may be collected for a period of 48 hours after the medicine has been given. If such feces are not gathered up the animals will reinfest themselves by rooting around in the filth. All excreta should be burned.

It is advisable to repeat the treatment in about ten days as it is possible that all the eggs of worms are not removed by the first treatment. In ten days they will have hatched, and the second treatment completes a cure.

Exports of Horses

The exports of horses and mules have passed the million mark. The official figures given by the Department of Foreign and Domestic Commerce, U. S. A., show that during the twenty-seven months ending December 1, 1916, 1,029,961 head of horses and mules, valued at a total of $216,941,912, were actually exported from the United States, most of these going direetly to the European war territory. Purchases are still continuing at a heavy rate.

The firm of Ellsworth and McNair has sold more than 70,000 head of horses annually for the last two years and no one is better informed on horse values than Henry McNair of that firm. In discussing the war trade recently he estimated that the average prices for the different classes of horses actually accruing to the farmers, or, in other words, the prices which the farmers realized for the horses on the farm, were substantially as follows: Cavalry horses, $115 per head; French artillery horses, $140 per head; British artillery horses, $165 per head; draft horses weighing over 1,650 pounds, about $215 to $240 per head. In other words, light weight horses ranging around 1,000 to 1,100 pounds have brought farmers $115 each, but one cross of draft horse blood on the same mare that was used to produce this light cavalry horse would have produced a horse ranging from 1,200 to 1,500 pounds in weight, depending upon the conditions under which said half-blood drafter came to maturity. Those that were not well fed out would naturally be lighter in weight at maturity, while those that received an abundance of food, permitting of full development, would range from 1,400 to 1,500 pounds, so that the first cross of draft blood raised the value from $115 to $140 or $165 per head. The selection of half-blood Percheron mares, weighing from 1,350 to 1,500 pounds, for breeding to another Percheron stallion of first class type and conformation will result, as long experience has abundantly shown, in horses of good draft type and conformation weighing from 1,600 to 1,800 pounds at maturity if they are allowed plenty of food for full development, and these horses have brought prices ranging in excess of $200 on the farms. In other words, one cross of Percheron blood increases the value of the progeny from light weight mares from $35 to $50 and a second cross on the half-blood mares will increase the value from $35 to $50 more, so that the first two crosses of Perche-



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ron sires on ordinary light weight mares will increase the value of the progeny resulting from $70 to $100 per head. This is not theory, but has been proved over and over again in the sales of horses occurring during the past two years.

The farmer who has been obliged to sell his horses at $115 per head, while his neighbors using the same kind of mares, but who bred to Percheron stallions, have sold their surplus at prices ranging from $140, $165 up to $225 per head, sees in a financial way the direct contrast in the value of light horses as compared with the value of horses carrying one-half or three-quarters of Percheron blood. This has done more to increase the demand for Percheron stallions than anything that has occurred in the past fifteen years.

Despite all contention to the contrary, the horse is a most important factor in contributing to the success of civilized nations, whether that success be sought for in peace or in war, and it should be our effort in America to produce the most efficient power unit that can possibly be produced in horseflesh, to the end that our own farm and city work may be more economically and satisfactorily accomplished and the income accruing from the sale of our surplus horses to foreign nations be materially increased.—WAYNE DINSMORE.

Associations Offer Prizes

The National Duroc-Jersey and the American Hampshire associations will each give $50 in prizes to boys ranking highest this year with Duroc-Jersey and Hampshire pigs in the pig contest conducted by the agricultural college.

These special prizes will be in addition to the prizes offered by the college and the local club organizations. It is also expected that the Poland-China and the Berkshire organizations will give $50 each to club boys who feed Poland and Berkshire pigs.

Last year 300 persons entered this contest. Otis E. Hall, leader, expects the number to be doubled this year. Entries will close May 1.

Melvin Jung, who won second prize in the contest last year, and who received several valuable awards aside from that offered by the college, sold his pig recently for $100.

Dairy Show Moves West

The next national dairy show will be held on the Ohio state fair grounds near Columbus from October 18 to 27.

The central location of Columbus in the largest dairy section of the United States insures a greater exhibit of dairy cows than has ever before been assembled, and the accessibility of Columbus for the dairy industry as a whole should bring out the largest industrial exhibit any dairy show has ever housed.

Garget, or inflammation of the ewe's udder, is a common trouble at lambing time, and it should be given immediate attention. The udders of heavy milking ewes are likely to become inflamed and as a result the ewe may have milk fever. Overfeeding of grain, colds, chills, and lying on wet floors are some of the causes of this condition. When discovered, the ewe's udder should be bathed with hot water by means of woolen cloths. After the udder has been dried, it can be rubbed with turpentine and lard, or with one-half ounce of lead acetate dissolved in one quart of water. The udder should be kept wet with acetate for half a day. It should be milked out thoroughly each time the application is made. It is also advisable to give the ewe a good dose of Epsom salts as soon as the trouble is noticed.

Little pigs will have a better chance to eat grain if means are provided for feeding them separately from the sow. A pen built close to the feeding quarters with a hole large enough to permit the pigs to pass through, will encourage the eating of grain much sooner than otherwise. The pigs may be more quickly weaned when they have been started on feed in this way.

The early grass is mostly water and does not supply much real feed value. On farms where there is sweet clover this may be pastured in the early spring before the prairie pasture is ready.

The most economical and practical way to build up a dairy herd is to start with a few good cows, using a pure-bred sire with good production backing, and saving the heifer calves and through feed and care developing them into better milkers than their mothers.



Standards of Service

In rural communities clusters of mail delivery boxes at the crossroads evidence Uncle Sam's postal service. Here the neighbors trudge from their homes—perhaps a few yards, perhaps a quarter mile or so—for their mail.

Comprehensive as is the government postal system, still the service rendered by its mail carriers is necessarily restricted, as the country dweller knows.

Long before rural delivery was established the Bell System began to link up the farmhouse with the neighboring towns and villages. One-fourth of the 10,000,000 telephones in the Bell System are rural. They reach more places than there are post offices. Along the highways and private lanes the telephone poles lead straight up to the farmer's door.

He need not stir from the cheerful hearth ablaze in winter, nor grope along dark roads at night for friendly news or aid in time of trouble. Right in the heart of his home is his telephone. It is the American farmer's key to the outside world, and in no other country is it found.

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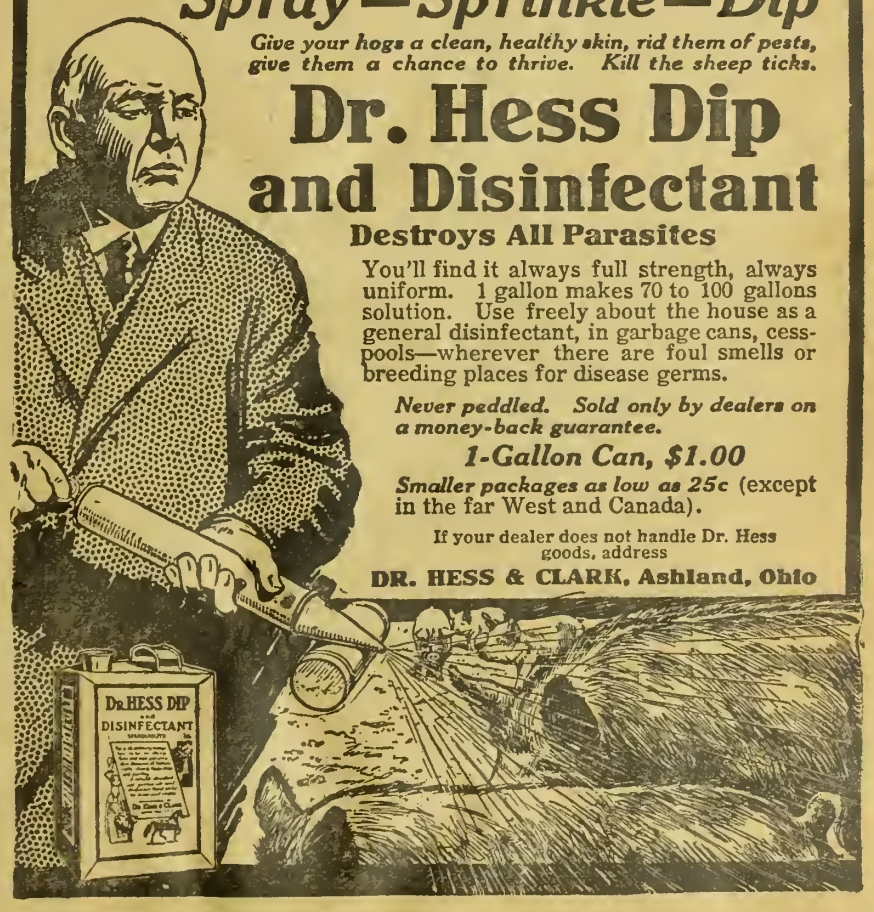

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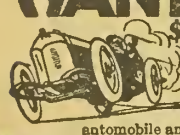

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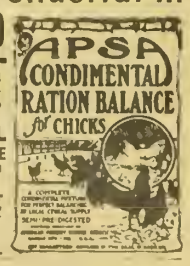

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EGG-LAYING STRAINS

THE recent agitation for more food supplies has led to much attention on the part of the poultry raisers to egg-laying strains. Many of the best poultrymen the past few years have by careful selection and mating produced flocks with the laying habit firmly established. This is true in all breeds. So much so that no breed has any claim to being the best layers. There are some strains or families in each breed that have been bred for fancy only. These seldom lay enough eggs to pay their board. Fortunately, however, most fancy breeders now pay as much attention to egg production as to feathers. All the high records in laying contests have been made by pure-bred hens, with one exception. This hen laid in spite of her cross-breeding and not because of it. No mongrel has ever made a praiseworthy showing.

The pure-bred has so many advantages over the cross-bred or mongrel that it seems foolish to try to compare them. In looks, evenness of development, market qualities and egg production, she is superior to the mongrel.

The only claim that has ever been made in favor of the cross-bred is that they are better layers than the pure-breds. The first cross often shows a tendency to lay a large number of eggs. Like all animals, however, the hen degenerates rapidly after the first cross and is only an inferior mongrel. As a rule those who make strong claims for their cross-breds have no figures to substantiate their statements.

Test Early Hatching Rule

The theory that the chicks of the hatch that get out first make the best and the largest chickens, has been investigated for a year by the Pennsylvania Experiment Station. We published an article by T. E. Quisenberry a few weeks ago, in which he gave his observations on this early hatching rule. He maintained that the chicks that hatched early were the only profitable ones in the hatch and advocated disposing of the ones coming out late, as friers.

As a result of the year's work at the Pennsylvania Station, their poultrymen are ready to endorse the idea and have gone so far as to ask farmers, poultrymen, and all others using incubators and raising chicks, to give this theory a test this season and report the results to the station next fall.

The method of making such test is very simple. Toe-mark all the chicks that hatch early and likewise mark with a different mark those that come out late in the hatch. Keep a memorandum of these toe marks and next fall and early winter observe whether it is a fact that the largest per cent of the early-hatched chicks turn out to be the largest and best chickens and include all the pullets that begin to lay early in the season, and the largest and best cockerels. Also observe if these early-hatched chickens are the only ones that are really profitable.

If this rule is proven to be universally true, it would undoubtedly be better to either destroy all the chicks that come out late in the hatch, at once, or market them young, allowing only the early-hatched ones to mature.

We believe it would be a good plan for Kansas poultry growers to make a study of this point. It might easily become a very important factor in increasing the profitableness of the farm flock.

Egg Production Profitable

J. E. Payne, of Oklahoma, writes that farmers in that state who used to be ashamed to carry eggs to town are now bragging about how well their hens are laying. He has met several farmers who are retiring from the farm by changing a part of the home farm into a poultry farm and taking charge of it, instead of moving to town.

"I met one of these retired farmers last week," says Mr. Payne," who showed me that his 200 hens were bringing him $3 a day this spring. He is keeping a few cows, and has a little garden. His son is farming the main part of the farm, and this new plan gives the son the chance to have the benefit of the father's experience, while the father has work suited to his strength."

As warm weather is coming it is time to begin fighting the lice. The best method to eradicate them is to use blue ointment. It now costs only a dollar a pound. A very little of it used spring and fall will keep the poultry comparatively free from lice.

Eggs will be higher in price next year than this. Such a statement is only a guess, but all indications point that way. There is a shortage of poultry now. Because of feed prices fewer chicks are being raised.

Don't stop hatching chicks until July first. The late-hatched chicks will not make layers but will be just as good for eating purposes.

As soon as the hatching season is over, swat the old rooster. He will make splendid canned chicken if he is shut up and fattened for two weeks.

Help the food supply by producing infertile eggs.

The duck and goose season is here. Grass is nice and green so that the young, especially goslings, will forage a large per cent of their feed. Both duck and goose eggs are high in fertility and usually hatch well. It is usually found an advantage to set the eggs under a chicken hen. The great dangers that threaten both goslings and ducklings are rats, wet backs and over-feeding. Roosting quarters should be rat-proof, as a rat will wade through a flock of young chicks that they may get a baby duck or goose. Before the feathers develop they cannot stand much rain on their backs. When quite young, acute indigestion caused by over-feeding will kill young ducks in a few minutes. After the first week they require large amounts of feed if they are to be ready for market at eight or ten weeks, when they should weigh four to six pounds. Young goslings subsist largely on grass after the second week and will consume very little grain.

Young ducks will thrive and make a profit for the grower on the following ration: Fifty per cent corn meal, 20 per cent wheat bran, 15 per cent beef scrap and 5 per cent bone meal. This should be mixed to a moist mash, preferably with sour milk. Sand may be scattered over the feed. It should always be available. Never fail to keep plenty of fresh water for drinking purposes, but not to swim in. The more green grass, the better.

While we are talking about conserving the food supply, why not pass a law prohibiting the sale of fertile eggs? Nearly one-half the summer eggs, because of the presence of the live germ, become unfit for food before they reach the consumer. Produce infertile eggs and stop this waste.

Many of the chick troubles will not cause death immediately. A few chicks will die in a day or two after they are hatched, while others will linger for perhaps two weeks. This makes is impossible for those not acquainted with the conditions to locate the cause of the trouble.

Tells Why Chicks Die

E. J. Reefer, poultry expert, of 463 Reefer Bldg., Kansas City, Mo., is giving away free a new book which tells of a simple home solution that raises 98 per cent of all chicks hatched and cures white diarrhea over night. All poultry raisers should write for this valuable free book.—[Adv.]

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Send two names to the Wight Co., 18 Main, Lamoni, Iowa, and they will send you enough Iowite Remedy, absolutely free, to save forty chicks from White Diarrhea.—[Adv.]

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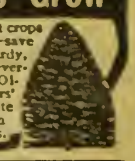

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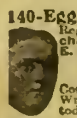

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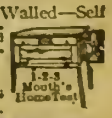

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The Farmer and the Single Tax

SOME startling facts relative to farming conditions in this country were given in a statement made by Herbert Quick, member of the Federal Loan Board.

Mr. Quick went before the Commission on Industrial Relations to urge an investigation of farm labor and tenantry as a big and neglected phase of the labor problem. His testimony was taken in executive session, and is only now available through the printing of all the testimony by order of Congress.

"There are about five million agricultural hired laborers in the United States," Mr. Quick told the commission. "When I was a boy the farm hands of the neighborhood in which I lived were recruited from the boys of the owners of farms in that neighborhood. The owner of 160 acres who had a family of three or four boys would allow these young men to hire out to the neighbors, and the farm hand of that day entered upon the business of a farm laborer for the express purpose of earning enough money so that he might buy a farm and become a farmer on his own account.

"Today the situation has changed to an enormous extent, and is changing with an accelerated rapidity. Today the farm hand of the United States is in most cases a casual laborer. He goes from farm to farm seeking such labor as he can do. He is ordinarily a man who has lost hope; he is a bit of human wreckage; he has no idea of ever owning a farm or anything else, except the clothes upon his back.

"Now, the field hands, the casual labor, the local labor—is only part of the problem.

"In the state of Illinois 53 per cent of the farms are tilled by tenants, so that only forty-seven farms out of a hundred are under the control of their owners. Of these forty-seven out of a hundred, they hire from one to three or five men upon their farms, so that the number of actual farmers, who own their own farms, is reduced to a very small percentage of the actual hands engaged upon farms. These tenant farmers are in the main under leases which terminate from year to year, so that 53 per cent of farm families in Illinois—and it is only a little bit better in the surrounding states—are homeless on the first of every March.

Some of these men who are engaged in tenant farming are prosperous, but, in the main, if you will talk with anybody who understands anything about a rational, scientific and humane system of farm tenantry, he will laugh at the idea of a man making money on a farm, or making anything except a mere existence on the farm which he holds merely from year to year.

"Considered in one way, the American system of farm tenancy is the system which tends to rob from 25 to 50 per cent of the families upon the farms of anything better than they are now engaged in; and considered from the standpoint of the conservation of our fundamental resources, the American farm leases constitute a criminal conspiracy between the owner of the farm and the tenant on it to rob the farm of everything which can make it useful to posterity. These tenant farmers are not, technically speaking, wage earners. They hire wage earners to do the work, which they can not do. And it is this class, in the main, who make less out of their farms than the farm laborers whom they hire. The lowest-paid class of laborers in the United States, all things considered, are the tenant farmers of the United States. I do not believe that the sweat shop industry of the country can show as low a scale of remuneration as is shown, in the final analysis, when you work out the actual number of men, women and children, upon the average tenant's farm in the United States.

"In the main, the change which has taken place in the last forty years in American farm labor, is the result of the pressure of population, and the consequent increase in the price of farm lands. The price of land in the Middle West has risen until there are very few portions of the agricultural world where land is so high. The condition is getting worse instead of better. No one can examine the subject carefully without coming to the conclusion that farming as an occupation is enormously prejudiced by the rapid increase in the price of farm lands.

The big problem is this: If Wisconsin land is selling for $125 an acre, we will say, and it rents for $3 a year, on a basis of a twenty-year purchase, that land is economically worth $60 an acre, but it will sell in the market for $125. What are you going to do with the difference between $60, the economic value, and $125, which is the actual selling value?

"The difference between the $60 and the $125 is an account that ought to be charged to land speculation, and it is that difference between $60 and $125 which is gradually dividing the rural population of the United States into an aristocracy on one hand owning property too valuable for the laboring man ever to acquire, and a peasantry, the most miserable peasantry in the world, engaged in the work of doing the labor.

"After all, the system of taxation is at the basis of this whole thing. These enormous land values which have accumulated do not belong in justice, in equity, in morals, in common sense, or in any other point of view, except in law, to the people who own the farms. They are the creation of community activities. They are collective products. They ought to be taken in the form of taxation before we call upon people to pay out anything which they themselves have individually produced, for the support of the government.

"I am opposed to the government entering actively into the real estate market and booming the prices of land still higher by any large scheme for purchase. I think the scheme of taxation of land values should be adopted. If a social program in the way of better schools were adopted that would absorb a sufficient amount of the ground rents of land exclusive of improvements so as to penalize monopoly of land and reward the improvement of it, then in connection with the gradual reduction of the price of farm lands that a gradual pressure of taxation in favor of improvements and against monopoly would lead to, then I think with that might go a system of establishing freehold estates large enough for the support of a family."

Mr. Quick was asked if he meant by this that he believed in a tax on land but not on improvements. He replied by telling how Frank B. Odell sent out a question on this point to several thousand farmers in Nebraska. Ten per cent of the farmers who replied were openly in favor of the single tax; enough more so as to bring the number up to 35 per cent answered in such a way as to indicate that their thoughts were running along the line of land-value taxation.

"It is perfectly easy," said Mr. Quick, "to show a farmer of open mind that unless he is the owner of a large and largely improved farm he would be greatly the gainer by it. He would lose in the selling value of his farm, but as a producer, he would be vastly better off in ordinary cases. I think while the average farmer does think that the single tax is some scheme for extracting his farm from the surface of the earth and leaving him in the bottom of the hole, that the number of farmers who see the fallacy of that is getting more and more all the time."

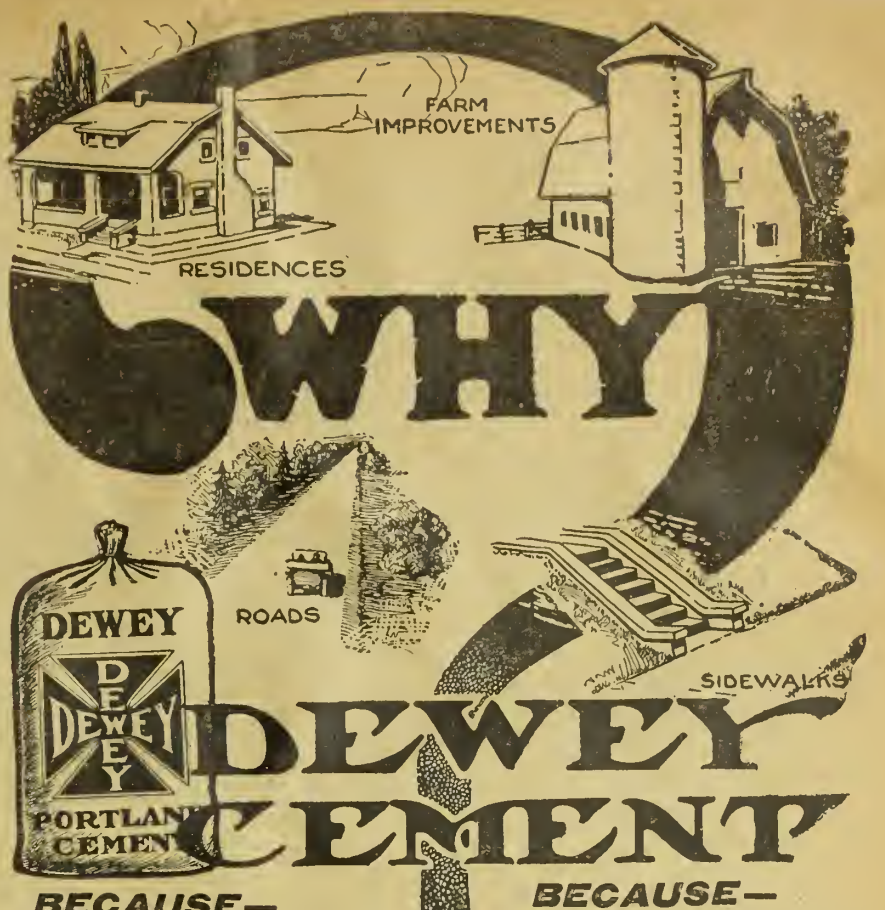
Beans for the Garden

A large amount of food can be produced by growing a liberal supply of beans in the garden. Beans are legumes and contain more actual food value than many vegetables commonly grown. A quart of beans will plant a row 100 feet long, and if carefully tended a yield of thirty or forty quarts might be expected. This would be enough to supply the average family all summer long. In view of the present high prices for food products it will pay to plant enough so as to have a supply to can for the winter. A few hundred quarts of home-canned beans would go a long way toward helping to solve the food supply of the average family the coming winter.

The best varieties to plant are the Stringless Green Pod, Black Wax, Improved Golden Wax, Red Valentine, and Early Six Weeks.

Those who do not know how to can beans and other vegetables successfully should write to the Extension Division of the Kansas Agricultural College for full directions.

The help given the women in providing shelter and accommodations for the spring chicks will have brought a profit a year from this time.



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SUDAN SEED, RECLEANED, FREE from Johnson. Delivered. Above fifty pounds, 30 cents; under, 35 cents. J. K. Burke, Idalow, Texas.

COMMERCIAL WHITE SEED CORN, $2.50 bushel. "Meadow fesque," 7c pound. White clover, 35c pound. Alfalfa, $8. E. D. King, Burlington, Kansas.

REID'S YELLOW DENT, BOONE COUNTY White seed corn. Genuine Red Texas seed oats, clover, timothy and alfalfa seed. S. G. Trent, Hiawatha, Kansas.

FROST-PROOF CABBAGE PLANTS — Offer our thousands of customers in the Southwest same high class plants as in the past. Jersey, Charleston, Wakefield, Succession, Flat Dutch. One hundred, postpaid, 40c; 200, postpaid, 75c; 500, postpaid, $1.25; 1,000, postpaid, $1.75; over 5,000, cheaper. You know us. Largest plant shippers in the Southwest. Ozark Seed & Plant Co., Nashville, Ark.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $23 apiece. Frank M. Hawes, Whitewater, Wis.

HOLSTEIN CALVES — TEN HEIFERS and two bulls 15-16ths pure, 4 to 6 weeks old, $18 each, crated for shipment. Also one pure-bred heifer, three months old, $75. These calves are nicely marked. Four Way Farm, Whitewater, Wis.

THE STRAY LIST.

TAKEN UP — BY C. E. ELLWOOD, OF Marquette, Harper Township, McPherson County, Kansas, on January 17, 1917, one sow, color red, weight about 200 pounds. No marks. W. E. Rostine, County Clerk.

DOGS.

COLLIE PUPS FROM GENUINE STOCK dogs that drive from the heel. E. L. Dolan, Route 2, Platte City, Missouri.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

LUMBER.

LUMBER, MILLWORK, FENCE POSTS, wholesale mill prices. Send carpenter's list for freight prepaid estimate. Keystone Lumber Company, Tacoma, Washington.

Real Estate For Sale

EXCHANGES.

I have good farms to trade for smaller farms and city property. Write me.
W. M. GARRISON - SALINA, KANSAS

170 ACRES SMOOTH PRAIRIE LAND—Eight miles McAlester, city 15,000. All tillable. 100 acres cultivation, balance meadow. Fair improvements. $34 per a. Terms.
SOUTHERN REALTY CO., McAlester, Okla.

360 ACRES CREEK BOTTOM FARM
160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; $5,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only $45 per acre.
M. T. SPONG - - FREDONIA, KAN.

FOR SALE

Fine proposition in rooming business. One block from main street. Two lots with drive way. Twelve rooms, strictly modern. Hot water heat. Furnishings new. Always filled. Owner leaving city.
MRS. I. O. MIDDAUGH, 818 Quincy, Topeka

CAN YOU BEAT IT?

320 Acres, Trego County, Kansas. Six miles from Osgood, 12 miles from Ransom. 240 in cultivation, east slope; 80 acres rolling, good buffalo and bluestem pasture; some mow land; 4-room house; stable; 110 acres wheat, one-fourth delivered goes to purchaser. This is a bargain at $6,000. Only $2,000 cash.
FOUQUET BROTHERS LAND COMPANY
Ransom, Kansas

Have a purpose in life, and having it, throw into your work such strength of mind and muscle as God has given you—CARLYLE.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Every man must patiently bide his time. He must wait—not in listless idleness—but in constant, steady, cheerful endeavors, always willing, and fulfilling and accomplishing his task, that, when the occasion comes, he may be equal to the occasion.—HENRY WADSWORTH LONGFELLOW.

Baby's Second Year Feeding

We are giving the first of a series of articles being sent out by the Children's Bureau of the Federal Department af Labor, on the feeding of children. As the warm weather comes on there will be much sickness and many deaths among children, attributable to improper feeding due to a lack of knowledge of the young child's requirements.

"Much of the illness and suffering among babies commonly attributed to the 'second summer' or to teething is actually due to errors in feeding. The baby's delicate digestive mechanism, accustomed to dealing only with milk, can not all at once undertake the task of adjustment to a varied diet of solid foods, but must be strengthened by the gradual addition of new foods until the organs are trained to more complicated operations. The safe rule for feeding the baby is to add but one new food at a time to his dietary, to watch carefully the effect of each one and to withdraw it and return to the simpler diet at the first sign of trouble. These rules are particularly important in summer, when a baby is more readily upset.

"The following list shows the day's meals for a baby in his second year: 7 a. m., milk, zwieback, toast, or dried bread; 9 a. m., orange juice; 10 a. m., cereal, cup of milk; 2 p. m., broth, meat, vegetable, stale bread, baked apple; 6 p. m., cereal, milk, toast or bread; 10 p. m., milk. This last feeding may be omitted.

"Milk: At this time the baby should be taking about one quart of milk in twenty-four hours; part of this may be poured over the cereal.

"Cereals: Oatmeal should be cooked three hours, with a little salt in the water. It should be served without sugar, or with very little only. The lighter cereals should be cooked at least an hour.

"Breads: Bread for young children must have been thoroughly baked and should be quite dry when used, that is at least two days old. Tender toast is made by cutting thin slices from such a loaf and allowing them to dry still more, then toasting them to a delicate brown over a quick fire. Toast thus made is crisp all the way through and may be used in many ways. Many children will like to eat it broken into bits in broth or milk. Hot breads and biscuits, griddle cakes, and muffins are not suitable for young children.

"Fruit: The child may have a small portion of baked apple or prunes once a day in addition to his morning feeding of orange juice. The apple should be baked very tender, and all the skin, seeds, and hard parts should be removed. Prunes should be very carefully washed, soaked all night, then cooked until very tender with very little sugar. A small portion of the strained pulp may be given instead of apple, and the juice may be used also.

"Meat: The child may have about a tablespoonful of scraped meat, or a soft boiled or coddled egg once a day. Beef, broiled, boiled, or roasted, the tender part of a lamb-chop, or the delicate meat of chicken or fish may be used. All meat should be scraped or minced very fine, as no child of this age can be trusted to chew it properly.

"Vegetables: A small portion of some properly cooked green vegetable like spinach or tender string beans may be given. Such vegetables should be fresh. They should be cooked, then drained and mashed or strained through a colander."

The proper care of the baby is more important than any housework and the results will be far more lasting.

Next Week Baby Week

What could be more fitting than the setting aside of one week in the year when our chief thought shall be of the babies—the men and women of tomorrow, vested with the responsibilities of the nation? So much depends upon their start in life and they are so wholly dependent in the matter, that there is need for much grave thought concerning the conditions amid which they are to be trained for their life responsibilities.

The child has physical, mental, moral, and spiritual needs and we must be awake to these if we lead him in safe paths. The last three named needs bear so close a relation to the physical needs that the neglect of these may rob the whole life of its greatest usefulness.

One week of special thought along these lines, throughout our land, will help us to more wisely direct our daily attentions. Let us during the week of May 1 to 6, ponder the nourishment and care of the baby's body, the clothing best adapted to his natural growth and development, the good and bad habits of babyhood, and all the other influences which have so large a part in shaping his life.

Many communities have planned for baby campaigns during the week and have made arrangements for headquarters where mothers may meet and discuss these vital questions under authoritative leadership. If you have not so arranged in your community, a good way to recognize the week would be to get in touch with the "better babies" movement by obtaining available literature on the subject. This can be done by addressing the Division of Child Hygiene, Kansas State Board of Health, Topeka, and by writing the Children's Bureau of the Federal Department of Labor at Washington, D. C., asking for their printed matter. Through these sources much valuable information can be obtained and it is free for the asking. These departments are made up of experienced people who are glad to serve those who will call upon them for that service.

The "Mothers' Confidential Registry" maintained by the Division of Child Hygiene, is much appreciated by those who have placed their names upon it. Through it they are taking up with the division in personal letters, some of the puzzling matters concerning childhood, and this exchange of letters is helpful.

There is no subject the study of which will bring more satisfying results, than babyhood and childhood. A community club organized for this purpose might spend many profitable hours in the exchange of ideas on this all-important subject. Every mother knows the value of concentrated thought regarding her child and the fruit of such thought is in evidence on every hand. Let us all observe Baby Week, either in thought or action, that more children may enjoy the advantages which are rightly theirs.

Very good substitutes for the coat hangers on the market can be made from wooden barrel hoops. All that is required is to cut a piece of the hoop long enough to fit the shoulders of garments, cover the hoop with strips of cloth wound around it, and fasten a stout string in the middle for hanging. These hangers will keep the shoulders and necks of dresses and coats in much better condition than if they are hung on nails.

Plain Drop Cakes

One egg broken into a cup, enough sugar to fill the cup. This should be beaten until light and creamy. To this add two tablespoonfuls of softened butter, three-fourths cupful milk, one and one-half cupfuls flour sifted with three teaspoonfuls baking powder. Flavor to taste. This recipe will make twelve cakes.

Nature's food for the baby is mother's milk and there is no perfect substitute for it.

RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

EGGS — CHOICE BARRED ROCKS, thirty, $1.50, hundred, $4.50. Catharine Beightel, Holton, Kansas.

BARRED PLYMOUTH ROCKS — FARM-bred beauties. Eggs for hatching, 5c each. Mrs. W. C. Bocker, Solomon, Kan.

HIGH QUALITY BARRED "RINGLETS." 100 chicks, $15. Eggs, $5. Edward Hall, Junction City, Kansas.

WHITE ROCK EGGS, HALBACH strain, $1.25 per fifteen; $6 per hundred. Mrs. E. E. Merten, Clay Center, Kansas.

FINE BARRED ROCK EGGS FROM farm raised flock, $1.50 per fifteen. Mrs. J. A. Grimes, Milo, Kansas.

BARRED ROCK EGGS, FANCY STOCK, heavy laying strain, $4.25 per hundred. Earl Summa, Dept. G, Gentry, Missouri.

WHITE ROCKS, SIZE AND QUALITY, good egg strain. Eggs—fifteen, $1; fifty, $3; hundred, $5. G. M. Kretz, Clifton, Kansas.

BUFF ROCK EGGS FOR HATCHING—Thirty eggs, $2; fifty eggs, $3; hundred, $5. Joe Carson, Bliss, Oklahoma.

BUFF AND WHITE ROCK EGGS, $2.50 per fifty, $5 per hundred. Excellent show record. W. H. Beaver, St. John, Kansas.

WHITE ROCKS — PURE-BRED FARM range choice stock. Eggs, fifteen, 75c; 100, $4. H. F. Richter, Hillsboro, Kansas.

WHITE ROCKS, FARM RAISED, PRIZE winners. Eggs, $1.25 setting; $3, fifty; $5, hundred. Mrs. Ben Miller, Newton, Kansas.

PURE BARRED ROCK EGGS — FARM range, $1 per fifteen, $5 per hundred. Mrs. H. Buchenan, Abilene, Kansas.

BABY CHICKS—PURE-BRED BARRED Rocks, White Leghorns, Buff Orpingtons. Heinschel, Smith Center, Kansas.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

WHITE ROCKS, EXTRA GOOD. EGGS prepaid, $1.50 fifteen, $6 hundred. Pleasant Vale Poultry Farm, Effingham, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." $35 cockerel heading Pen No. 1. Eggs, $4 per fifteen. Mrs. Iver Christenson, Jamestown, Kansas.

BARRED ROCKS, HENS AVERAGED 175 eggs, 1916. Trap-nest males and their pullets mated with fine cockerels. Eggs, 10c; fifty, $4. Farnsworth, 224 Tyler St., Topeka.

FOR SALE — BARRED AND WHITE Rocks. Best blood lines in America. Forty premiums 1916-1917. Write for mating list. H. F. Hicks, Cambridge, Kansas.

BIG BONED IVORY WHITE ROCKS—Gold medal and silver cup winners at Hutchinson shows. Eggs from farm flock, $5 per hundred. Minnie Clark, Haven, Kan.

GUARANTEED EGGS FROM PURE-bred Barred Rocks and Rhode Island Reds, $1.50 to $3 for fifteen. Send for booklet. Tom Leftwich, Winfield, Kansas.

BARRED ROCK EGGS FROM PRIZE winners at State Fair, 1917. Pens, $3 per fifteen; range, $6 per hundred. S. H. Vincent, Sterling, Kansas.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, $3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

PRIZE WINNING BARRED ROCKS — Four entries, five prizes, State Show 1917. Eggs, special mating, $3 to $5; farm flock, $1. C. D. Swaim, Geuda Springs, Kansas.

BARRED ROCKS, EXCELLENT IN SIZE and quality. Eggs, first pen, $3 per fifteen; range flock, $6 per hundred. Mrs. Myrtle Henry, Route 1, Lecompton, Kansas.

PURE BARRED ROCK EGGS FROM large well-marked range birds, $1.25 setting, $6 hundred. Choice Thompson strain pen eggs, $3 setting. S. R. Blackwelder, Isabel, Kansas.

BARRED ROCKS—73 PREMIUMS, TOpeka, Manhattan, Clay Center, Denver. Eggs—Fifteen, $5; thirty, $9; fifteen, $3; thirty, $5. Chicks, 50c and $1. Italian bees. Mattie A. Gillespie, Clay Center, Kansas.

LINDAMOOD'S BARRED ROCKS, BOTH dark and light matings. Prices for eggs from special matings, $5 per fifteen. Utility eggs, $5 per hundred. Send for circular. C. C. Lindamood, Walton, Kansas.

EGGS FOR HATCHING — FROM BEST laying strains of Barred Plymouth Rocks. Bradley Bros. and Parks 200-egg strains. $3, fifteen; $5, thirty. Catalog. Gem Poultry Farm, Haven, Kansas.

WHITE PLYMOUTH ROCKS, BEST ALL-purpose fowl. Bred them twenty-four years. No better anywhere. Eggs, $2 per fifteen, $5 per forty-five delivered. Thomas Owen, Poultry Editor, Topeka, Kansas.

BARRED PLYMOUTH ROCK, RINGLET and Bradley strain. Have good show record. Stock for sale. Cockerels, hens and pullets. Eggs, $2 per setting. Jas. W. Anders, Unionville, Missouri.

WHITE ROCKS—GOOD LAYING EXHIbition strain. Eggs, $1 per fifteen, $5 per hundred. Selected pens, $4 and $2 per fifteen. Send for mating list. I. L. Heaton, Route 1, Harper, Kan.

BARRED ROCK SPECIALIST — PRIZE winnings: Hobart, 1st, 2d, 3d, 4th cockerel; 1st, 3d pullet; 1st pen, 2d, 3d cock, silver cup. Gold special, Oklahoma City, 1st pullet, bred pen, first cock. Eggs, fifteen, $2-$3; hundred, $6. Fred Hall, Lone Wolf, Okla.

RINGLET BARRED ROCKS—GOOD LAYers. Eggs from pens prize stock, Pittsburg and Oklahoma City, both matings $5 setting. Range headed by pen males $5 hundred. Chicks 12c and 50c each. Circular free. Mrs. W. E. Schmitendorf, Vassar, Kansas.

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

EGGS—FANCY BARRED ROCKS, WINter layers, $1.25 and $2.50 setting. Clyde Karel, Clarkson, Nebraska.

WHITE PLYMOUTH ROCKS ARE PRIZE winners. Send for catalog. W. K. Trumbo, Box 66-C, Roseland, Kansas.

BARRED ROCKS FROM CHICAGO WINners. Eggs reduced, fifteen, $3; thirty, $5; hundred, $9. Excellent winter layers. Mrs. Chris Bearman, Ottawa, Kansas.

BARRED ROCK EGGS, BOTH MATINGS. Pens, $3 fifteen; range, $5 hundred delivered. Won first pen, first cock, first and second pullet, second and third cockerel, Kansas State Fair, Hutchinson. Fertility guaranteed. Ed Schmidt, Geneseo, Kansas.

RHODE ISLAND REDS.

SINGLE COMB RED EGGS—GOOD FARM range, $4 per hundred, $1.50 per thirty. Mrs. Rosa Janzen, Box 242, Geneseo, Kan.

S. C. R. I. REDS—EGGS FOR HATCHing, $1 for fifteen. $5 per hundred. M. M. Long, Maitland, Mo.

PURE SINGLE COMB RHODE ISLAND Red eggs, 5c apiece. Prepaid. C. A. Madden, Abilene, Kansas.

ROSE COMB RHODE ISLAND REDS—Utility stock. Winter layers. Eggs, $2, 15; $5, 45; $9, 100. Louise Krigbaum, Route 1, Topeka. Phone 2427 K-4.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Baby chicks. Mating list. L. E. Castle, Wichita, Kansas.

LARGE, DARK, RICH EVEN RED R. C. Reds—Eggs, fifteen, $1; fifty, $3. Dark colored range flock, $5 hundred. Nora Luthye, Route 6, North Topeka, Kansas.

DARK R. C. REDS, PURE-BRED, EXTRA fine. Eggs, $3 and $2 per fifteen; $5 per hundred. W. J. Honeyman & Sons, Hillside farm, Madison, Kansas.

PURE-BRED ROSE COMB RHODE Island Reds. Eggs for hatching, $1 per fifteen, $5 per hundred. Mrs. L. F. Hinson, Stockdale, Kan.

R. C. REDS — EGGS FOR HATCHING. Laying strain headed by prize winning cockerel. Fifteen, $3. Mrs. Mira Lambert, Anderson, Missouri.

ROSE COMB REDS — PRIZE WINNERS and special on color at State Fair, 1917. Pens, $3 per fifteen; range, $6 per hundred. S. H. Vincent, Sterling, Kansas.

EGGS FOR SALE—S. C. R. I. REDS.—Breeder for twelve years. $1.50 per setting of fifteen; $5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

WYANDOTTES.

R. C. BUFF WYANDOTTE EGGS, $1.50 for fifteen. G. G. Wright, Langdon, Kan.

WHITE WYANDOTTES — EGGS FROM choice stock, $1.80, thirty; $5, hundred. Mrs. Will Beightel, Holton, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $6. Mrs. Edwin Shuff, Plevna, Kan.

ROSE COMB WHITE WYANDOTTE eggs, per fifteen, $1; one hundred, $4. H. A. Ritter, Route 2, Kiowa, Kansas.

EGGS — SILVER LACED WYANDOTTE, Fifteen, $1; hundred, $5. Chicks, 10c each. Lawrence Blythe, White City, Kansas.

WHITE WYANDOTTE EGGS—FIFTEEN, $1; hundred, $5. Careful selection and packing, John Smoley, Marengo, Iowa.

SIXTEEN WHITE WYANDOTTE EGGS, 90c; 100, $4. Mrs. Geo. Rankin, Gardner, Kansas.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuis, Fredonia, Kansas.

WHITE WYANDOTTES — EGGS, SETting, $1; 100, $4. Mrs. J. W. Johnson, Cedarvale, Kansas.

GOLDEN WYANDOTTE EGGS FOR sale, $1.25 for fifteen. Pens headed by high scoring cockerels. Della B. Bilson, Route 3, Eureka, Kansas.

PURE-BRED WHITE WYANDOTTE AND Single Comb White Leghorn eggs, $1 per fifteen, $5 per hundred. A. F. Hutley, Maple Hill, Kansas.

ROSE COMB WHITE WYANDOTTES — Eggs from pen, setting, $2; from flock, setting, $1; hundred, $4.75. Mrs. Effie Acheson, Palco, Kansas.

SILVER WYANDOTTES—BEST ALL round breed, vigorous grand laced flock. Eggs, fifteen, $1; hundred, $5. Mrs. Ed Bergman, Paola, Kansas.

SILVER WYANDOTTES. YES, I AM still selling Silvers. Have some good cockerels left. Eggs in season. Prices reasonable. Write me. M. B. Caldwell, Broughton, Kansas.

WHITE WYANDOTTE EGGS — REGAL strain, prize winners. Farm range, $5 hundred. Pen 1, Martin male direct, fifteen, $5. Pen 2, high scoring male, fifteen, $3. Prepaid. Frances Fleury, Concordia, Kansas.

WYANDOTTES.

CHOICE ROSE COMB SILVER WYANdotte eggs, $1 for 15; $5 for 100. Mrs. Phillip Schuppert, Arrington, Kansas.

ROSE COMB BUFF WYANDOTTE EGGS, fifteen, $1; hundred, $4. Mrs. Ida Alexander, Hilltop, Kansas.

LEGHORNS.

TIP TOP ROSE COMB BROWN LEGhorn eggs, J. E. Wright, Wilmore, Kan.

S. C. W. LEGHORN EGGS. STATE WINner. Mrs. W. R. Hildreth, Oswego, Kansas.

PURE-BRED SINGLE COMB BROWN Leghorns. Choice farm flock. Eggs, 100, $4. Mrs. D. A. Wohler, Hillsboro, Kansas.

PRIZE SINGLE COMB BUFF LEGhorns—Eggs, $5 hundred; $13, 300. White turkeys. Mrs. S. F. Crites, Florence, Kan.

S. C. B. LEGHORN EGGS—GOOD STOCK. Fifty, $2.75; 100, $5. Carriage prepaid. Cornelius Phillips, Route 9, Emporia, Kan.

PURE SINGLE COMB BROWN LEGhorn eggs, $4 hundred. Baby chicks, 10c each. Mrs. Will Brooks, Beattie, Kansas.

SINGLE COMB WHITE LEGHORN EGGS from heavy laying strain, $1 per setting, $5 per hundred. F. E. Fisher, Wilson, Kansas.

EGGS, EGGS FROM KEEP-LAYING strain Single Comb White Leghorns. Thol. R. Wolfe, Conway Springs, Kansas.

BUFF LEGHORNS, CHOICELY BRED. Eggs, $5 per hundred. J. A. Reed, Route 2, Lyons, Kansas.

R. C. B. LEGHORNS, WINTER LAYERS, vigorous stock. Eggs, $5 per hundred. The Blue Grass Stock Farm, Oneida, Kansas.

SINGLE COMB BROWN LEGHORNS — Fifteen eggs, 75c; 100, $4. Postpaid. W. A. White, Sarcoxie, Missouri.

EUREKA FARM SINGLE COMB WHITE Leghorns, bred to lay. Farm range eggs, $4 per hundred. Henry Richter, Hillsboro, Kansas.

SINGLE COMB BROWN LEGHORNS — Thirty-one prizes at Kansas State Show, 1917, including eight firsts. W. J. Roof, Maize, Kansas.

PURE-BRED ROSE COMB WHITE LEGhorns. Eggs for hatching; forty-five, $2; one hundred, $4. Prepaid in Kansas. G. Schmidt, Route 1, Goessel, Kansas.

ROSE COMB BROWN LEGHORNS WON five prizes, two state. Eggs, fifty, $1.90; hundred, $3.75. Rufus Standiferd, Reading, Kansas.

S. C. BROWN LEGHORNS—HAVE BEEN raising them 21 years, the 222 to 266 egg record kind. Under hens the fertility runs 95%. Eggs—Fifteen, $1.25; 100, $5. Safe arrival guaranteed. Gorsuch, Stilwell, Kan.

EGGS FOR SALE FROM PURE-BRED heavy winter laying Single Comb White Leghorns, $2 fifteen, $10 hundred; 100% fertility guaranteed on seventh day of incubation. H. M. Blaine, Sylvia, Kansas.

RHODE ISLAND WHITES.

100 ROSE COMB RHODE ISLAND WHITE eggs, $6. Will Tonn, Haven, Kansas.

GUARANTEED EGGS FROM EXCELsior Rose Comb Rhode Island Whites, $2 per fifteen, $3.50 per thirty prepaid. V. O. Jones, Bancroft, Kansas.

MINORCAS.

S. C. BLACK MINORCA EGGS FOR hatching. Pen No. 1, $2; pen No. 2, $1.50 for fifteen eggs, $6 per hundred. W. F. Fulton, Waterville, Kansas.

DUCKS AND GEESE.

LARGE WHITE PEKIN DUCKS, $1.25 per twelve eggs. E. Bauer, Beattie, Kan.

BUFF DUCKS — WINNERS WITH EGG record. Eggs, $1.50 per thirteen. Mrs. J. H. Wood, Solomon, Kansas.

PURE BUFF ORPINGTON DUCKS—EXcellent layers. Eggs prepaid. Pleasant Vale Poultry Farm, Effingham, Kansas.

FAWN RUNNER DUCKS—WHITE EGGS, prize winners. Eggs, $1 setting, $5 hundred. Mrs. Ben Miller, Newton, Kansas.

TOULOUSE GEESE AND EGGS FOR sale or trade for Runner ducks. All breeds. Emma Ahlstedt, Roxbury, Kansas.

FAWN WHITE INDIAN RUNNER DUCKS from best laying strains in the country. Fifteen eggs, $1; fifty, $2. Nora Luthye, Route 6, North Topeka, Kansas.

BABY CHICKS.

REDS, ROCKS, LEGHORNS; 12c. REquest folder. McCune Hatchery, Ottawa, Kansas.

ORPINGTONS.

BUFF ORPINGTONS — FIFTEEN EGGS, $1. Chicks. M. Spooner, Wakefield, Kan.

PURE-BRED WHITE ORPINGTONS — Eggs for hatching, $1 per fifteen, $5 per hundred. Frank Hinson, Stockdale, Kansas.

BUFF ORPINGTONS EXCLUSIVELY.—Even buff, large type, prize winners. Eggs, $3 and $2 setting. John Shaffer, Alma, Neb.

FINE GOLDDUST BUFF ORPINGTONS—Eggs, $1.50 setting; $8 hundred. Prepaid. Mary E. Price, Route 7, Manhattan, Kansas.

EGGS FROM CRYSTAL WHITE PRIZE winning stock, White Orpingtons. Great winter layers. Fifty-five eggs January 20 from sixty-five hens, at live and let live prices. Send for list. John Vanamburg, Marysville, Kansas.

WHITE LEGHORNS

R. C. W. LEGHORN EGGS, $4 PER HUNdred. Mrs. Henry Apking, Bruning, Neb.

EGGS FOR HATCHING FROM HOGAN'S laying strain of Single Comb White Leghorns, $5 per hundred. Roy Rhodes, Maize, Kansas.

FRANTZ-BRADSHAW SINGLE COMB White Leghorns. Cooks Owens Buff Orpington eggs, fifteen, $1; 110, $4.50. S. A. Warren, Reger, Missouri.

OUR SINGLE COMB WHITE LEGHORNS are real layers. Bred exclusively 15 years. Eggs, 100, $4. Ed N. Regnier, Wamego, Kansas.

ROSE COMB WHITE LEGHORN EGGS for hatching from full blooded birds. Satisfaction guaranteed. $4 per hundred, $7 per two hundred. Mrs. Joe Streeter, Route 5, Hamilton, Missouri.

BRAHMAS.

HIGH SCORING LIGHT BRAHMA EGGS $1.00 per fifteen, parcel post prepaid. Geo. Pratt, Route 2, Topeka, Kansas.

LIGHT BRAHMAS, PRIZE WINNERS—Eggs, fifteen, $1 prepaid; 100, $5. Mrs. V. E. Rogers, Sharon, Kansas.

EGGS FROM FELTON'S STRAIN OF mammoth Light Brahmas, $1.50 per fifteen, postage paid. Mrs. Mark Johnson, Waldron, Kansas.

LIGHT BRAHMAS THAT HAVE WON IN every show. Eggs and hens for sale. Some a bargain at $3. Have too many. Any reasonable offer will be accepted or money returned for six or more. Mrs. J. R. Kenworthy, Wichita, Kansas.

SEVERAL BREEDS.

EGGS FROM EXTRA GOOD BOURBON Reds, $3 for eleven. Silver Laced Wyandotte eggs, $1 for fifteen. Julia Haynes, McDonald, Kansas.

BARRED AND BUFF ROCKS — SINGLE Comb White Leghorns. Fawn and Pencilled Runner Ducks. Eggs—Fifteen, $1; hundred, $5, from range flocks. J. T. Rickman, Kiowa, Kansas.

EGGS — M. B. TURKEY, NEW YORK prize winning blood in flock, $3 per eleven; geese eggs, African, Embden, Toulouse, $1.75 per seven; White Muscova ducks, $1.75 per eleven; White African guinea, $1.50 per seventeen; White Rock, Fishel strain, $5 per hundred. W. L. Bell, Funk, Neb. Dry Creek Poultry Farm.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

FOR SALE, EGGS—EGGS FROM PUREbreds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

ANCONAS.

S. C. ANCONA EGGS, $5 HUNDRED. Fine layers. Mrs. Will Torgeson, White City, Kansas.

SINGLE COMB ANCONAS—EGGS, FIFteen for $1.25 or $6 per hundred delivered. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

SINGLE COMB ANCONA AND SILVER Laced Wyandotte eggs, $1.25 per sixteen by post prepaid. Mrs. Cecile McGuire, Pratt, Kansas.

ANCONAS — BLUE RIBBON WINNERS. Eggs, $1.50 per fifteen, $6 per hundred. Pens two and three, $1.25 per fifteen, $5 per hundred. Frank Glenn, Newton, Kansas.

S. C. ANCONAS — PRIZE WINNING stock, farm range, $1.50 for fifteen; $5 hundred. Address Mrs. H. F. Knutzen, Bruning, Nebraska.

SEND FOR MY "ANCONA DOPE" AT once. Tells why I quit all other breeds. It's free and worth reading. Fill orders for eggs promptly. Page's Ancona Farm, Salina, Kansas.

TURKEYS.

PURE-BRED WHITE HOLLAND TURkey eggs. Winnie Litton, Peabody, Kansas.

BOURBON RED TURKEY EGGS FROM best selected stock. Mrs. D. A. Rodgers, Concordia, Kansas.

WHITE HOLLAND TURKEYS, SINGLE Comb White Leghorns, Single Comb Buff Orpington eggs. Baby chicks. Mrs. S. A. Warren, Reger, Mo.

MAMMOTH BRONZE TURKEYS OF high quality. Good copper bronze and white edging. Have show record. Eggs—$6-$10 per dozen. Jas. W. Anders, Unionville, Mo.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

BOURBON RED TURKEYS, WORLD'S best strain. Great big, vigorous, farm-raised, deep-breasted birds. Also white-egg Indian Runner ducks, all from prize winning stock. Eleonora Poultry Ranch, Brighton, Colorado.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

(Continued on Next Page.)

PURE BRED POULTRY

LANGSHANS.

GET MY FREE MATING LIST OF MADison Square and Chicago prize winning Langshans. John Lovette, Mullinville, Kan.

GOOD BLACK LANGSHANS—EGGS, 7c; over 100, 6c. Baby Chicks, 15c. Mrs. Geo. W. King, Solomon, Kansas.

BLACK LANGSHANS — STOCK FOR sale. Cocks, cockerels, hens and pullets. My birds have great show record. Eggs, $2 per setting. Jas. W. Anders, Unionville, Mo.

PHEASANTS.

PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Booking orders. Eggs of these, $4 dozen; Golden, $5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

PEAHENS WANTED—WHITE GUINEAS for sale. M. Lamborn, Route 6, Leavenworth, Kansas.

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

Address All Communications to Kansas Farmer, and Not to Individuals

Personal mail may have to be held for several days, or be delayed in forwarding, and Kansas Farmer cannot assume any responsibility for mistakes occurring thereby

CLAIM SALE DATES.

Aberdeen-Angus Cattle.
May 1—Aberdeen-Angus Association, East St. Louis, Ill.
May 2 — Aberdeen-Angus Association, Chicago, Ill.

Hereford Cattle.
May 11—Benton and S. J. Gabbert, Dearborn, Missouri. The Sothams, Lansing, Michigan, managers.

Jerseys.
May 31—R. J. Linscott, Holton, Kansas.

Double Standard Polled Durhams.
June 8—Ed Stegelin, Straight Creek, Kan.

Holsteins.
May 17—Livingston County Holstein Breeders' Sale Company, Howell, Michigan.

Coleman & Crum, of Danville, Kansas, have made a great success with Chester White hogs and Shropshire sheep. The herd boar now used in the herd is Prince of All by the noted Wildwood Prince and out of a Lenora sow. The Lenora family is one of Iowa's favorite families of the large show type of Chester White hogs. It will be remembered that Messrs. Coleman & Crum showed the champion sow, Tip Top, at the Topeka, Hutchinson and Oklahoma state fairs last year. They also exhibited the champion aged herd and first prize young herd at three state fairs in 1916. They now have on the farm sixty spring pigs that are very promising, also a few very fine Shropshire ram lambs.

T. T. Langford & Sons, of Jamesport, Mo., owners of one of the noted herds of Spotted Poland China hogs now assembled, report their herd doing well and a heavy demand for Spotted Poland herd material. They have saved seventy-five head of early spring pigs that are growing out fine. Spotted Colossus, the young herd boar in use in this herd, is a great young boar. He has the spots, size and quality, and is proving a fine breeder. A feature of the herd at this time is a choice lot of gilts bred for fall farrow.

W. W. Seeley, of Stuart, Iowa, is one of the leading boosters for pure-bred stock in that state. His specialty is Percheron horses and Polled Durham cattle and his herds of both horses and cattle are among the best in Iowa. His Polled Durham herd was established nineteen years ago with the best Scotch breeding and individuals that could be purchased. The sires used in this herd since its foundation have, without exception, been high class, and the result is an ideal herd. The herd bulls in service at this time are Victoria's Clipper, a Victoria on the dam's side and by May C. Clipper by Lavender Clipper, the great son of the famous Choice Goods. He is assisted by Jovial Sultan by Sultan of Anoka by Whitehall Sultan. He has an established reputation as a show bull, winning championships at a number of the leading state fairs. A feature of the herd at this time is the great lot of young stock, including a number of young bulls that are herd header prospects.

H. B. Walter & Son, of Ellingham, Kansas, are among the progressive breeders of high class Poland China hogs. They have announced their fall sale date for October 16 and a bred sow sale February 18. They are consistent boosters for large Poland Chinas, are constructive breeders, and have spared neither time nor expense to breed one of the great herds in Kansas today. Their aim is to breed and maintain on their farm a herd of hogs second to none. The show records at our state fairs last fall and at the Omaha Swine Show will bear out the statement that they have about all that can be produced in a large, useful Poland China.

Emil Youngberg, of Essex, Iowa, one of the successful breeders of Chester White hogs in that state, reports his herd doing fine and a good demand for high class Chester White herd material. Mr. Youngberg keeps his herd immune at all times and as a result always has a healthy, growthy lot of young stock. The blood lines of his herd are the best of the breed. A feature of his herd at this time is the outstanding lot of gilts bred for June and July farrow. Their gilts are by such boars as Kent's Combination 38805 by the grand champion Combination Boy, and Prescott Boy by White Rock, the great boar at the head of W. T. Barr's herd, and out of dams by the breed's greatest sires.

HOLSTEIN CATTLE.

MAURER'S HOLSTEIN FARM

Is offering a number of choice young pure-bred cows with good A. R. O. records; also yearlings and heifer calves and a select lot of young bull calves with world's record backing. Write for pedigrees and bargain prices. Also grade cows, heifers and heifer calves.
T. R. MAURER & CO. - - - - - - - EMPORIA, KANSAS



Purebred Registered
HOLSTEIN CATTLE

In terms of dollars and cents the Holsteins are talking most effectively for themselves. Pure-bred Holstein cattle are the choice of every public institution or organization which attempts to produce milk in a scientific manner. Just ask a man who owns Holsteins, if you want to hear a story of prosperity. Every angle of Holstein superiority is fully covered in the books and pamphlets which are sent free for the asking. There's big money in the big "Black and White" Holsteins.

Send for FREE Illustrated Descriptive Booklets.

The Holstein-Friesian Association of America
F. L. Houghton, Sec'y. Box 114, Brattleboro, Vt.

CORYDALE FARM HERD
Offers for sale four bull calves two to four months, sired by Jewel Paul Butter Boy 94245. These calves are all nicely marked and from good milkers.
L. F. CORY & SON, BELLEVILLE, KAN.

Butter Bred Holsteins
Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

CEDAR LANE HOLSTEIN HERD
We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.
T. M. EWING, INDEPENDENCE, KANSAS

NEMAHA VALLEY HOLSTEIN FARM
Choice yearling bulls and bull calves. World's record blood lines. Price reasonable. We invite inspection of our herd.
H. D. BURGER, Route 2, SENECA, KANSAS

Description, pictures and records of twelve
TREDICO BULLS
Six months old and younger. Write for them.
Geo. C. Tredick, R. 2, Kingman, Kan.

Holstein and Guernsey Calves—Both sexes, 5 weeks old, nicely marked, fawn and white and black and white, mostly 15-16ths pure. $20 each, crated for shipment anywhere. Satisfaction guaranteed.
Edgewood Farms - Whitewater, Wisconsin

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

HOLSTEIN CALVES
Very high grade heifer calves, five weeks old, nicely marked, $23 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

CEDAR LAWN FARMS
C. A. Schroeder & Sons, Props.
Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.
W. C. SCHROEDER - WEST BEND, WIS.

Shady Brook Holsteins
A few choice young springers, also some high class young bulls. If you want record breeding, we will be pleased to have you inspect our offering.
M. E. MOORE & CO. - CAMERON, MO.

HIGH GRADE HOLSTEIN CALVES
Five to six weeks old, nearly pure, well marked, $20, express paid.
COLD SPRINGS FARM, Whitewater, Wis.

Braeburn Holsteins A. R. O. BULL CALVES
With De Kol-Netherland-Korndyke main blood lines, and Johanna, Walker, King Segis out-crosses. H. B. Cowles, Topeka, Kan.

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.



P. M. GROSS
LIVE STOCK AUCTIONEER
Pure Bred Sales a Specialty
MACON, MISSOURI
"Twelve Years on the Block"
Sales Made Anywhere

George McAdam, of Holton, Kansas, owner of choice herds of Angus cattle and Berkshire hogs, reports his herds doing fine and a very heavy demand for Angus and Berkshire breeding stock. Mr. McAdam's herds are drawn upon heavily for foundation stock and at times he is unable to supply the demand. He has a nice lot of calves this year in his Angus herd by his great Blackcap bull, and has a choice lot of Berkshire pigs. A feature of his Berkshires at this time is the choice lot of September boars.

HOLSTEIN CATTLE.

DUROC JERSEYS.

Duroc Boars

For Sale—Ten fall boars ready for service. Sired by C. H. S. Col. first and out of my best herd sows. Priced to sell at $35. First check gets choice. Write at once.
J. R. SMITH - NEWTON, KANSAS

DUROC BOARS, OCTOBER FARROW
Also gilts unrelated to males, mostly $25. Gilts to farrow in July, $35. Trio spring pigs, $35 at weaning time. Choice July male, $50. Write your wants.
J. E. WELLER - FAUCETT, MISSOURI

JERSEY CATTLE.

LONG ON JERSEY BULLS. Will sell them at your price. Ages, 2 to 10 months. Carrying as much Golden Fern's Lad blood as any bulls in the state. Out of high testing dams. Come and see them. Can also fill your needs in English Berkshire hogs. Several fine young males. Best of breeding. Can furnish pigs from different mating.
H. F. ERDLEY & SON, HOLTON, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

FOR SALE—Two Pure-Bred Jersey Bulls, 9 months old, from high testing dams. Description guaranteed.
D. A. KRAMER - - Washington, Kansas

Breeders' Directory

ANGUS CATTLE.
Geo. A. Deitrich, Carbondale, Kan.
D. J. White, Clements, Kan.

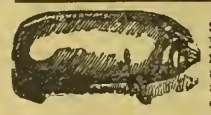
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.

DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

CHESTER WHITE HOGS

CHESTER WHITE Cholera Immune Gilts, bred to farrow in June, July and August. The good kind. For price, breeding, etc., write Emil Youngberg, Route 3, Essex, Iowa



FOR SALE
Spring Pigs in Pairs and Trios
Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

BERKSHIRE HOGS.

NIELSON'S BERKSHIRES
Fall boars from prize winning ancestry, weighing 200 to 220 pounds April 1. Sired by Rob Robinhood 2d. His sire first prize senior yearling at American Royal and weighing 720 pounds at 18 months. Will give you good value for your money, and accurate description on application.
J. M. NIELSON, MARYSVILLE, KANSAS.

POLLED DURHAM CATTLE.

SEELEY'S POLLED DURHAMS—Nineteen years a breeder, best Scotch tribes. Preparedness. Offering a lot of thick square-ended bulls, all roans and for immediate service. Herd bulls Victoria Clipper and Jovial Sultan. C. R. I. & P. R. R.
W. W. SEELEY - - STUART, IOWA

POLLED DURHAM BULLS
Big enough for service. Sired by Baron Easton. Better get busy if you need a bull this spring.
R. T. Vandeventer & Son, Mankato, Kansas

RED POLLED CATTLE.

Red Polled Cattle

A few 1916 fall bull calves for sale. Also a few cows and heifers.
AULD BROS. - FRANKFORT, KANSAS

ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE
Twenty-five young bulls, also some good cows and heifers for sale. All registered.
D. J. WHITE, CLEMENTS, KANSAS
Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
R. E. FRIZELL, Frizell, Pawnee Co., Kansas

POLAND CHINAS

OLD ORIGINAL SPOTTED POLANDS
Have only a few of last fall's litters left. Write your wants to
THE CEDAR ROW STOCK FARM
A. S. Alexander, Prop. R. 2. Burlington, Kan.

PROFITABLE TYPE POLANDS
Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.
L. C. WALBRIDGE - RUSSELL, KANSAS

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

TOWNVIEW HERD BOARS
Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

Langford's Spotted Polands. Gilts bred for fall farrow. Future herd boars. Satisfaction guaranteed. T. T. LANGFORD & SONS, Jamesport, Missouri

BIG-TYPE POLANDS
Have 100 head of February and March pigs that we are booking orders for to be shipped at weaning time. Boars, $25, and sow pigs at $30 each, $50 a pair. Book your order now and get the pick. Guaranteed to please.
O. G. LEASE & SON - CENTRALIA, MO.

HORSES AND MULES.



Imported and Home-Bred
PERCHERONS AND BELGIANS
A gilt edge guarantee of 60 per cent, good for two years, given with each horse sold.
W. H. RICHARDS
Emporia - - Kansas
Barns four blocks from A. T. & S. F. depot.



PERCHERONS, BELGIANS, SHIRES.
Ten stallions ready for heavy stand; also yearlings and twos. Young fillies, also mares with colt by side and bred again. All registered. One hundred individuals of first rank for sale.
FRED CHANDLER, R. 7, Charlton, Iowa
Just above Kansas City

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

JERSEY CATTLE.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

LINSCOTT JERSEYS
BJH Dispersal Sale, May 31
R. J. LINSCOTT - HOLTON, KAN.

REDHURST JERSEYS
Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

SHORTHORN CATTLE.

Sycamore Springs Shorthorns
Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

STUNKEL SHORTHORNS
Herd Headed by Cumberland Diamond.
For Sale—Twenty bulls from yearlings to eighteen months old, Scotch and Scotch-topped. Also a few bred cows and heifers. Come and see me. Prices reasonable.
E. L. STUNKEL - PECK, KANSAS

TWO SHORTHORN BULLS. One herd boar. Fall gilts, bred or open. February and March pigs, pair or trio, no relation. S. C. White Leghorn eggs.
R. C. WATSON - ALTOONA, KANSAS

Sunflower Herd of Shorthorns
A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

PURE SCOTCH SHORTHORNS
Bulls and heifers by Albion, bulls 7 to 18 months of age. Reds, roans and whites.
C. E. HILL - - TORONTO, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service, Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

AYRSHIRE CATTLE.

RIVERSIDE AYRSHIRES
Most profitable dairy cow. Herd headed by a son of August Lassie, the 4-year-old champion. Young animals, both sexes, for sale. J. F. Converse & Co., Woodville, N. Y.

The foundation for a gasoline engine should be as solid as possible.

Established 1882. THE OLDEST HERD WEST OF THE MISSISSIPPI RIVER. Established 1882.

We are instructed by Benton Gabbert, Dearborn, Mo. (whose infirmities compel him to retire from active business), to catalog without reserve the whole of his old-established herd. To which (in order to make the offering doubly attractive in both numbers and quality) his son, Smith J. Gabbert, has added 40 lots topped from his splendid herd. **With very few exceptions every animal is bred by Benton or S. J. Gabbert. A breeder's herd, raised outdoors, of breeding cattle in breeding condition.**





"If You Want Bone and Size" Get the Gabbert Columbus Blood

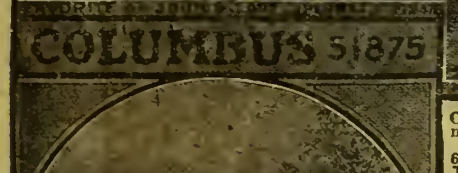


This offering comprises the largest and best lot of Columbus-bred Herefords ever listed in one sale. Columbus supplied the blood that has nicked best with the Anxiety strains to produce many of the greatest Herefords for the last two decades. Columbus sired Columbia, dam of Disturber (progenitor of such champions as Mr. Harris' Repeater and Mr. Davis' Point Comfort 14th). Columbus also sired Mr. Rockefeller's $5,000 Columbus 17th and all the other renowned Columbuses. Also of the $10,000 Dale, that sired the $9,000 Perfection, who sired the king of Hereford sires—Mr. McCray's Perfection Fairfax; Mr. Taylor's $12,400 Woodford, etc. A majority of the greater Herefords of the past score years possess this invaluable Columbus blood.













Col. Fred Reppert will conduct this auction in the commodious and comfortable Dearborn Tobacco Warehouse, near the K. C. & St. J. Electric Interurban; the C. G. W. Ry. and Rock Island System depots in the village of

DEARBORN (20 miles from Kansas City or St. Joseph), MISSOURI, FRIDAY, MAY 11, 1917.

67 COWS AND HEIFERS (half the cows have lusty calves that go free with their dams). 14 BULLS. 115 HEAD.

The Gabbert Columbus Herefords are headed by Beau Gomez 374424, 7 years old, bought at $4,000 in the celebrated Cornish Dispersion and conceded to be one of the greatest of living sires. Most of the females of breeding age are bred to this wonderful sire. Those who know Herefords best, know best how to appreciate this splendid mating. No herd in the world has more bone, size and substance. It must be seen to be appreciated. Come and see one of the oldest herds in America, the fountain-head of Columbus blood, that has avoided Incestuous breeding, that has held and increased its scale and that from its inception in 1882 has always been a big money-maker. **In addition to Columbus, his sons and Beau Gomez: Hesiod 17th,** the greatest son of Hesiod 2d; **Beau Folly,** the greatest son of Young Beau Brummel; and **Bonnie Lad 17th,** a prize-winning son of the champion Bonnie Brae 8th, have been freely used in the herd.

Here Are Combinations of Blood That, Intelligently Used, Will Uplift the Hereford Breed.

Those whose names are on our mailing list will receive their copy of this catalog as usual without asking. **For illustrated catalog address,** mentioning Kansas Farmer, **THE SOTHAMS, Baltimore Hotel, Kansas City, Mo.**





ALLIGATOR WRENCH AND HANDY TOOL FREE



The Alligator Wrench requires no adjustment; simple; always ready for use; never slips. Works in closer quarters than any other wrench. It is light, strong, compact. Easily carried in the pocket.

THREE DIES FOR CUTTING or cleaning threads in bolts used on farm machinery. It is drop-forged from the best steel, scientifically tempered, nothing to get out of order.

OUR SPECIAL FREE OFFER We will send the handy Alligator Wrench free and postpaid to all who send $1.00 for a one-year subscription to Kansas Farmer, and 15 cents extra to pay packing and postage—$1.15 in all. Address

KANSAS FARMER -:- -:- TOPEKA, KANSAS

PARK PLACE SHORTHORNS

Four Great Herd Bulls

IMPORTED BAPTON CORPORAL
Bred by J. Dean Willis. Sire, Hoar Frost, winner at Royal Shows of England.

IMPORTED NEWTON FRIAR
Dam, A Marr Flora. Sire, Violet's Victory. Bred by Wm. Duthie and a great show bull.

ROSEWOOD DALE
Dam, Imported Rosewood 92d. Sire, Avondale.

ROYAL MAJOR is bred from the greatest family of milking Shorthorns in America. Dam with a great record. Two full sisters making 13,000-pound record now.

BREEDING STOCK FOR SALE AT ALL TIMES

Scotch, Scotch Topped, and Milking Families. Two Hundred Head in Herd.

FOR IMMEDIATE SALE—One carload of bulls, one carload of heifers, one carload of cows that will drop calves soon or calf at foot.

Come and bring your neighbors with you and save freight. I pay the freight and send a competent man in charge and deliver free to you carload lots. Will meet buyers at Wichita by appointment.

PARK E. SALTER, Wichita, Kansas

PHONE MARKET 3705 OR 2087 302 BITTING BUILDING

FARM AND HERD.

D. A. Kramer, of Washington, Kansas, owner of one of the very high class herds of Jerseys, reports his herd making a good record this year. His herd is noted for high testing cows and record breeding and a feature at this time is the choice lot of well grown and young stock, including young bulls of Golden Fern's Lad, Raleigh and St. Lambert breeding and from high testing dams.

Fred Chandler, of Charlton, Iowa, owner of noted herds of registered Percheron and Belgian horses, reports a good demand for high class stallions and mares this year. The Chandler farm is always a place of unusual interest to horsemen all over the country on account of the large number of horses in the herds. At this time he has over 100 head of stallions and mares ranging in age from yearlings to ton horses.

R. T. Vandeventer & Son, of Mankato, Kansas, are among the successful breeders of pure-bred Polled Durham cattle, and they have one of the good herds of that popular breed in this state. The blood lines of their herd include all the beat families and by careful selection of herd material they have a fine lot of individuals. A feature of their herd at this time is the choice lot of young stock, including young bulls by Baron Easton.

J. N. George, of Hopkins, Mo., owner of herds of Holstein cattle and Chester White hogs that are among the best in that state, reports his herds doing well and a heavy demand for herd material. His herd of Holsteins is one of the heavy producers and he has a lot of record breeding. His Chester Whites are noted for size and quality and Mr. George has found Holstein cattle and Chester White hogs a profitable combination on his farm.

George J. Burke, of Little River, Kansas, has made a great success with his herd of Duroc Jersey hogs. He has at the head of his herd Graduate Prince, a great son of Graduate Col., a hog that was in service in the G. C. Norman herd for several years and which sired about as many high class herd headers as any hog in Kansas. The sow herd is of the Ohio Chief, Tatarrax, Model Top, Good Enuff Again King, and other good breeding. Mr. Burke has 150 spring pigs and they are all growing nicely. One feature of the herd is the large even litters ranging from eight to ten saved with each sow.

Hereford breeders throughout the country will learn with regret that Benton and S. J. Gabbert, of Dearborn, Missouri, have decided to disperse their great Hereford herd. This herd was established in 1882 and is the oldest herd west of the Mississippi River. This firm has announced a sale to be held at Dearborn on May 11, under the management of the Sothams, of Lansing, Michigan, and 115 head of Herefords will be catalogued for the sale. The offering will consist of sixty-seven cows and heifers and fourteen bulls. At least half of the cows will have calves at side that will go with their dams. The entire offering will represent blood lines that have made the Herefords famous and with very few exceptions the animals catalogued were bred by Benton or S. J. Gabbert, and the combinations of blood that will go in this sale insure a very useful and profitable lot of cattle and it is to be hoped that a large per cent of them will find homes on Kansas farms.

J. M. Nielson, of Marysville, Kansas, owner of good herds of Shorthorn cattle and Berkshire hogs, reports his herds doing well. His Berkshire herd was established in 1902 with foundation stock from the leading Berkshire herds. By careful mating and close culling he has succeeded in building up one of the great Berkshire herds that is famous for winnings at the leading fairs. A feature of the herd at this time is the choice lot of herd material, including a fine lot of fall boars by Rob Robinhood 2d whose sire was first prize senior yearling at the American Royal and weighed 720 pounds at nineteen months of age.

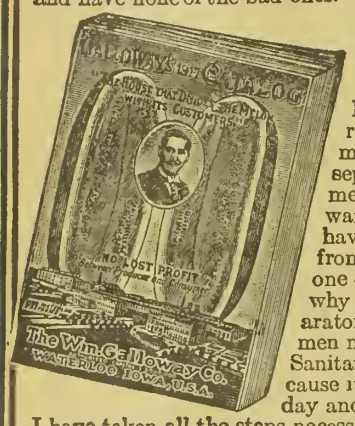
At the Axtell & Potter sale, April 7, fifty-one head of cows, heifers and calves were sold for $10,665, an average of over $209 per head. On account of the atormy, cold weather, there were not so many in attendance, and as the sale had to be held in the barn, it was crowded and prices were not as good as had been expected for the quality of the offerings. Many cows brought less than had heen paid for them in New York. The bidding, however, was spirited at all times, and everything found a buyer. A two-year-old Rag Apple heifer topped the sale at $400. The cows averaged over $256, and the calves, some of them only three days old, averaged $142. Heifer calves seemed to be the most in demand and brought the best prices. A few grade cows sold at about $150 each.

The American Berkshire Association has provided for special premiums amounting to $1,200 at the National Swine Show to be held at Omaha, Nebraska, which, together with $800 offered by the National Swine Growers' Association, will make a classification of $2,000 for Berkshires at that show. An appropriation of $500 was made for Berkshire barrows in the aingle and pen classes at the International Live Stock Exposition. This, with the amount offered by the Live Stock Exposition, will furniah a classification of $1,000 for barrows. The Association premiums at the International for grand champion dressed carcass, barrow, pen and grand champion carload, if won by Berkshires, remains the same. The total amount offered by the Association for Berkshire barrows at the International totals $800 in cash and trophies.

Mortality is reduced and gains are increased by feeding sour skim milk to chicks. Chicks should be given all the milk they will drink, beginning with the first feed they get after hatching. For forcing growth, milk should be fed in the wet mash.

Why I Know SEPARATORS

Because my first job on the farm was to teach the new-born calves to drink skim milk out of a pail by putting my fingers into the milk and then into the calf's mouth, and in this way coaxing them to drink out of the pail. My next job was to milk cows. I teased my father to learn to milk, and after I learned he would not let me stop. Then later on the cream separator came out and my next job was to turn the crank—some hard job in the early days. Then I started in to work for an implement dealer who sold separators. I became better acquainted with separators, because I had to study every separator made in order to meet competition. I learned all their good points and all their bad points. Then I started out on the road selling goods to dealers, and became still better acquainted with separators and finally commenced to sell separators that I had manufactured for me, but they did not suit me. By this time I discovered that to get a separator that was perfect—one that suited me—that contained all the good points and none of the bad ones, I would have to build one myself, and I resolved to do it. When I made this resolution I made up my mind that when my separator did come out it would be the peer of them all, head and shoulders above every other make in every feature and it would embody all of the good points of every separator and have none of the bad ones.



The Galloway SANITARY BUILT BY EXPERTS

I hired, and still have, some of the foremost cream separator designers and engineers in the United States. Men and money were no object to accomplish the right results. We bought for experimental purposes almost every make of cream separator. I had studied separators all my life from the practical, experimental, and manufacturing standpoint, and I wanted the best of all and the faults of none. I am a farmer. I have two herds of dairy cattle and operate a milk route in Waterloo from my farm on the old Cedar Falls road, and have always had one or more cream separators in use two or three times per day. That's why the story of the building of the 1917 Galloway Sanitary Cream Separator is almost the story of my life. As I said before, I spared neither men nor money to perfect this separator. The result is the New Galloway Sanitary which is sweeping the trade of the country by leaps and bounds, because it is making good in the hands of the users. Our factories are running day and night to supply the demand. The reason I know separators is because I have taken all the steps necessary to produce a perfect machine. This knowledge took me a lifetime to get and it is all built into the New 1917 Galloway Sanitary.



FOR 375 LB. SIZE

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OTHER SIZES AT EQUALLY LOW PRICES

TRAVEL 20,000 MILES! SEE THEM ALL!

Look over every factory in the United States and all of the foreign countries, you won't find its superior at any price. We make it in Waterloo from the finest materials on the best automatic machinery by skilled workmen in tremendous quantities, all parts alike, interchangeable and standardized, and sell it direct from our factories to you at wholesale! We make this separator so good in our factories that I will send it anywhere in the United States without an expert to any experienced or inexperienced user for a 90-day trial at my risk, to test against any make or any kind that even sells for twice as much, and will let the user be the sole judge, because it's the most modern, the most sanitary, the most scientific, the cleanest skimming, the most beautiful in design of any separator made today, and I have seen them all. All I ask you to do is to stand it up and try it side by side with any other make under the same conditions—test it for close skimming, easy operating, easy cleaning, and true rated capacity; then size it up for mechanical perfection, workmanship and material, beauty and design! I will leave it entirely to you to be the judge, which is the best, after you have compared it with any machine of any make, kind or at any price. Its skimming capacity is not guessed at, but guaranteed, and not overrated to make the price seem lower. You will find it is not built down to a price but up to a high standard.



"The crowning achievement of my manufacturing career."

Study this separator. Nothing freakish about it—just the plainest kind of cream separator common sense. All parts as nearly smooth as they can be made. All working parts run in spray of oil. Cream shelf drops out of the way when not in use. Only two shafts, both set in long, perfectly fitted bearings. All gear shafts and both bowl spindle bearings are supported by one casting—this means perfect alignment, little wear and easy running. No sharp corners or raw edges in the bowl to break up the globules of butter fat. Separating discs entirely separate from each other. Every drop of milk subjected to full skimming force of the bowl. Milk so distributed in the bowl that every disc gets its share to skim—no more, no less. No flooding in the top of the bowl, no conflicting currents in the bottom. That is the big reason why so few discs in the New Galloway Sanitary skim so much milk. Skimming capacity not guessed at but guaranteed, and not overrated to make the price seem lower. These and many other equally important features make the New Galloway Sanitary Separator the choice of wise and discriminating farmers and dairymen who want the best and will be satisfied with nothing less. It is

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I want you to have it—a big 280-page book, handsomely printed, (which also describes and illustrates our other farm implements). It tells the story of how we took years to design and perfect this 1917 model Galloway Sanitary Cream Separator—to build into it every good cream separator feature. How we build Galloway Separators from the ground up; how they are designed, and many other separator secrets and facts. We perfected this separator before we offered it on the market. We put out in the hands of farmers and dairymen enough of these separators to know that they would stand up under any test whether operated and used in the kitchen, the milk house, the creamery or elsewhere, used two or more times per day, week after week and month after month. How it is as good in the parts you cannot see as in the ones you do see. You do not actually buy it until after you try it. If you find it is not as good as we say it is, send it back after trying it 90 days. It is positively separator perfection at last! Expert designers and engineers worked on it for three years after we were sure it was right and they are still at it. If any part can be simplified they will find a way to do it. If the manufacturing cost can be reduced our efficiency experts will do it, and you will get the benefit not only in high quality but in good service and low price. It combines in the simplest, the most practical and most effective way the best of the old and the best of the new ideas in separator building! That's why I say it is the crowning achievement of my separator manufacturing career! Ask for my 1917 book today. Address

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"I like it better than one I paid $100 for." John Schrader, Corey, Pa.

"I have used three other makes. Yours beats them all. Costs a third less, skims closer and runs lighter." A. Andrews, Clinton, Okla.

completely, accurately, truthfully described in my new 1917 catalog which tells how we build Galloway Sanitary Separators from the ground up. Just try this separator. If you like it, buy it. If you don't, send it back. We pay freight both ways. If the New Galloway Sanitary is as good as I say it is you can't afford to buy any other kind. If it is not as good as I say it is I could not afford to make this ninety-day (180 milkings) trial offer, and I could not afford to guarantee it for ten years, nor have every sale backed by a $25,000 legal bank bond. Ask for my new 1917 book before you buy a separator of any make or kind at any price.

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We know it skims close. It paid for itself. Wm. S. Brower, Farnum, Idaho.

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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 18. TOPEKA, KANSAS, MAY 5, 1917. Established 1863. $1 a Year

PLANT SORGHUMS THIN

A Four Ounce Head Every Ten Inches in Row Means Fifty Bushel Yield

From "Sorghums: Sure Money Crop" By T. A. Borman

THE date on which the sorghums may be safely planted for grain is governed by the season and the condition of the soil upon which they are to be planted. This date may vary a week or ten days on adjoining farms or even adjoining fields. The seed of sorghums, like that of corn, will not grow in cold and wet ground, and when planted in such ground there is danger of the seed rotting and a poor stand resulting. It may be safely said that kafir and milo can be planted in each section at such time as corn planting is well under way. Every corn grower well knows that in his neighborhood farmers differ as to whether corn planting should be done extremely early or delayed until the soil becomes thoroughly warm, and which usually means a difference of not more than a week.

Cultivation of the land early in the spring and continuing until planting time, results in the soil warming earlier than if not cultivated, and on cultivated soils sorghums can be safely planted earlier than on uncultivated soils. Some soils will permit of earlier planting than others, even though prepared similarly. Whether or not the land is free from the seed of weeds at the time of planting is also a factor. Foul land should not be planted until the weeds have started and have been destroyed by cultivation.

To lay down a rule of value as to the amount of kafir, milo, feterita or cane seed to plant per acre, is as impossible as to fix the planting date or determine the best methods of planting. I know that for satisfactory grain yields the prevailing rate of planting is much too thick. Thick planting results in small heads and decreased yields. Thin planting produces larger heads, average yields of grain and greatly increased crop assurance. Were the seasonal conditions such as to insure sufficient moisture for the maturing of a medium-sized head on each stalk in a thick stand, then thick planting would be most advisable. There will be seasons when the yield would have been heavier as a result of thicker planting and the farmer may be disappointed the first year he plants thin, but the consistent thin planter will in a ten-year period have produced much more grain per acre than his neighbor who plants thicker.

The thick planting of grain sorghums is due to two principal causes: (1) the desire to grow both a grain and a forage crop from the same planting, and (2) because to date there is no machinery which will plant the seed of the sorghums at the proper rate. The most consistent grain yields will come from a stand planted for seed. A far better quality of forage will be obtained from planting specially for forage. Two plantings, each for its purpose, give greater crop assurance, can be harvested and fed more cheaply and with greater profit than a crop grown for the two purposes.

For either grain or forage the rate of planting will vary with the different sections and will be governed by the probable rainfall during the growing season, the moisture present in the soil at planting time, and also upon the degree to which the farmer will be able to conserve moisture by thorough cultivation. To attempt to grow more plants than the soil moisture will mature, is foolhardy. To plant as thick in the area of twenty inches of annual precipitation as in the area of forty inches, is a reckless waste of labor and a sacrifice of opportunity on the part of the western grower.

Every farmer who grows corn and sorghums has noted the large ears and heads which grow on the turning row. There the stand is usually the thinnest and the stalks obtain moisture from a larger soil area. Likewise, most farmers have obtained fair yields of corn and grain sorghums in a dry year from accidentally thin planted fields. Every year, in every community, the reader has observed instances of crop failure through too thick planting. In 1913 in every county in Kansas thin planted fields of kafir and milo yielded fair grain crops, while thicker planted fields failed totally. Almost every field of feterita in Kansas matured grain in that year. In every instance of the many I have investigated, the stand of feterita was much thinner than adjoining stands of kafir or milo. Thin stands no doubt contributed largely to the success of that crop in that year. This same condition was true of corn, that planted thin making a crop, while that planted thick failed to mature grain. The growing season of 1913 was a rare exception in its severity, but the best corn growers have come to realize that much thinner planting than formerly is resulting in the highest yield of shelled corn year after year. It is for the farmer to learn the most profitable rate of planting for the crops he grows. He can be helped in this only by suggestion, for the same reason that there can be no ready-made, never-failing rule for successful farming.

If one seed of kafir were planted to each ten inches of row, and each seed grew, there would be slightly in excess of 14,000 kafir stalks per acre, the rows being three and one-half feet apart. If each plant should produce a four-ounce head, the yield would be fifty bushels per acre, figuring seventy pounds of kafir heads as a bushel. This yield would also be far in excess of the state's average. Every stalk of kafir will produce a head if given a chance. It is well for the farmer to begin to realize that two heads of kafir, milo or feterita are the near equal in feeding value of an ear of corn, and that to produce two of these where an ear of corn should grow is a good rule to follow. Under average field conditions kafir heads weigh four to six ounces and milo heads three to four ounces, as reported by Carleton Ball, agronomist for the Federal Department of Agriculture. I have kafir heads of the 1913 Kansas crop weighing three and a half to six ounces, milo heads weighing six to seven ounces, and feterita heads weighing three to three and a half ounces.

Kafir growers generally do not appreciate how thick they do plant. On this point these figures will prove instructive: In a pound of cleaned and graded seed, from which the cracked and small seeds have been removed, there are 22,000 to 24,000 seeds. Planting seeds four inches apart in the row would require 37,200 seeds per acre; eight inches apart, 18,600 seeds; ten inches apart, 14,500; twelve inches apart, 12,400; and sixteen inches apart, 9,300; and such rate of planting would result in about the same number of stalks per acre. It will be noted that the four-inch planting will require only slightly more than one and one-half pounds of seed per acre, and ten-inch planting would require little more than a half pound. A quart of kafir seed weighs one and three-fourths pounds and so has 38,500 to 42,000 seeds. The prevailing rate of planting for grain in Kansas varies from two quarts or three and a half pounds to one gallon or seven pounds of seed per acre. From the above the farmer may be able to determine the number of stalks per acre he is likely to have from the seed he plants.

The areas to which the sorghums are adapted are shown on the map which was prepared for KANSAS FARMER by G. E. Thompson of the agricultural college following the dry year of 1913. Three members of the Manhattan Experiment Station agronomy force concurred with Mr. Thompson in his conclusions. The determination of these areas is the result of the experience of farmers in each section, combined with the results and observations of the branch experiment stations and co-operating demonstration farmers throughout the state. The sorghums adapted to each are:

"Area No. 1 in the map shows where dwarf milo, feterita and Freed's Sorgo have been grown successfully for the production of grain. Dwarf black-hulled kafir and white-hulled kafir mature grain in the more favorable seasons.

"In Area No. 2, dwarf black-hulled kafir, white-huffel kafir, milo and feterita will mature seed in average seasons. The standard black-hulled kafir seldom makes a profitable seed crop.

"Dwarf milo, feterita and Freed's Sorgo are at home in Areas No. 2 and No. 3. The standard black-hulled kafir is the favorite variety for Areas No. 4 and No. 5. In Area No. 5, standard black-hulled kafir produces excellent forage, but is not satisfactory for grain yields. Orange sorghum is an excellent forage in this district."



MAP SHOWING AREAS TO WHICH SEVERAL GRAIN SORGHUMS ARE ADAPTED.—PREPARED BY G. E. THOMPSON

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WINONA TREE DAY

By OSCEOLA HALL

KANSAS was at one time known as part of the Great American desert, but as the brave pioneer crowded west he began to conquer this great waste land and by hard and careful work made it a place desired by many peoples. Even in our own memory in some of our Eastern and Central Kansas towns the pioneer idealized the works of nature and assisted her by planting trees.

For many years we were content to enjoy the beauty and comfort given us by our thoughtful, tree-planting fathers, and were unmindful of our duty and responsibility of even replacing the trees as they died and had not seen the necessity of planting trees in many places that were untouched in the earlier part of our state life. Recently a new interest in this matter of tree planting has become noticeable and people are not now content with replacing the trees that have died, but are placing trees where they have never been planted and where for years it has been thought they could not for certain reasons grow.

In a number of communities in the western part of the state demonstrations have been made in the proper method of planting trees and such demonstrations have proven without doubt that where the people of a community will properly care for the trees after they have been planted, they will mature.

The experiment station at Colby, in Thomas County, has had wonderful success in tree growing. This has been an inspiration to the surrounding communities and counties. While the rainfall in this section of the state is very unfavorable for tree growing, it is being demonstrated that even amid these adverse conditions trees can be made to grow. This is possible beeause the people of that section are ready, willing and eager for the assistance the foresters of the station can give them.

The people in and around Winona recently gave expression to true community co-operation in tree planting. This small town is located in Logan County, just south of Thomas County. The climate, rainfall, and soil formation are practieally the same in these two counties. Having watched the tree-growing work at Colby, the people of Winona began to investigate the possibility for trees there. They looked about for information and for someone who could talk to them with authority concerning the question of tree planting.

It was decided that Prof. C. A. Scott, State Forester, was the one who could give them the best information and assistance in this type of community activity. Mareh 19 was decided upon as tree day and the services of Professor Scott were secured. He spent the forenoon visiting the homes in and around Winona, giving suggestions and helpful instruction. In the afternoon he visited a number of farm homes and later gave a short talk to the school children, arousing their interest and co-operation in the tree-planting eampaign. A demonstration in tree planting was given at the home of F. E. Brooke. Professor Scott studied the soil formation and climatic conditions and gave the people the benefit of his knowledge by telling them the varieties of trees best suited for their community. In the evening he gave an instructive illustrated lecture on trees. As a result Winona put on a great tree-planting campaign this spring. We are sure other communities undertaking this noble work will feel encouraged over what has been accomplished in this western town.

In some communities the boys have been organized into tree clubs. In other neighborhoods where various clubs are already organized it has been found desirable to have the idea of tree planting and preservation as part of the regular club work. The leader of a boys' club might well teach his boys the value of trees by giving some time to the study of the different types, their value, length of life, etc., and also by preparing the ground this coming fall for making a successful planting next spring.

Any group or community taking up this work will agree with the testimony of F. D. Joslyn, editor of the Logan County News, who said: "We feel that all the time, strength and money spent in this work were well given." Another Winona citizen said: "One of the pleasantest, most successful and most satisfactory public events with which we have been connected these many years, was the day spent on the subject of trees."



SHOWING SCHOOL CHILDREN HOW TO PLANT TREES

Bees Help Fruit Growers

Bees are so important to the production of fruit that we might almost consider honey production as a side issue. Without bees there would be little fruit and alfalfa or clover seed. Some fruits are absolutely dependent upon insects for pollination. The strawberry is an example of this kind of fruit. In some varieties of strawberries the staminate and pistillate flowers are borne on different plants. In order to have the pistillate varieties produce fruit, pollen must be borne from other plants having stamens. Dr. J. H. Merrill of the Kansas Experiment Station states that some experiments have been conducted to determine whether or not wind can carry the pollen of strawberry plants. Gelatin plates were exposed which would catch pollen grains if they were carried by the wind. In not a single ease were pollen grains of the strawberry found. The regulator pollinators of the strawberry are honey bees and other small bees.

Bees are also important in pollinating cucumbers. Tomatoes sometimes self-fertilize, but bees are an important factor even here in producing good fruit. The size of the fruit is slightly increased by cross-pollination.

Many varieties of apples, like Arkansas Black, Jonathan, and York Imperial, are self-sterile and require cross-pollination. Ben Davis, Yellow Transparent, and Willow Twig are only part self-fertile and cross-pollination is necessary in these varieties in order to have a good crop of fruit.

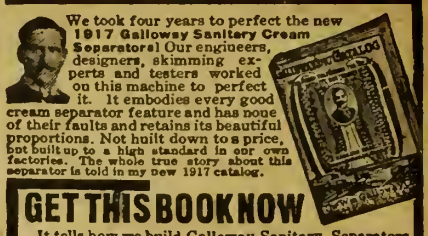
The flower clusters act as guides to bees and other insects, attracting them some distance. When a bee alights on a flower and works his way down into it to get the nectar, its body coated with pollen grains from some other flower comes in contact with the pistils of the flower and the cross-pollination is accomplished.

All observant fruit growers have noted that weather conditions at blooming time have much to do with the setting of fruit. If it is clear and warm at this time bees will be active and the pollination proceeds rapidly. In wet, cold or cloudy weather the bees are not so active and as a result the fruit sets poorly. This is also true of alfalfa and clover.

Actual counts have been made showing that the honey bee is the most important insect in aiding in the pollination of fruit. It is evident the wind cannot be relied upon as an agency in transferring pollen even from one apple tree to another.

While bee-keeping, from the standpoint of producing honey, is a scienee in itself, bees are of sufficient importance to warrant the keeping of a few hives on every farm where fruit is grown. The honey they produce will easily pay for the eost of earing for them.

PERFECTION



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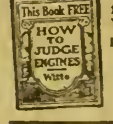

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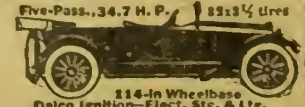

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KANSAS FARMER

THE FARM PAPER OF KANSAS

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MOBILIZING SCHOOL CHILDREN

A tremendous amount of energy is represented by the thousands of boys and girls in our towns and cities, and the idea of mobilizing the school boys into a farm army to help supply the labor deficiency on the farms seems most attractive. The real farmer, however, does not see much in this proposal to help him to till his under-manned acres by using untrained school boys. As one farmer said, "It would be a fine thing for the boy but mighty hard on the farmer." We hear on every hand how important it is to put the new army recruit through a course of training that will make him really serviceable as a soldier. It takes longer to make a farm soldier that is worth his salt than one who carries a rifle and fights in the trenches.

We are by no means deprecating the importance of directing the energies of boys and girls into productive channels. The boys' and girls' club work all over the country has demonstrated the wonderful possibilities of directing the activities of young people along right lines. It is simply astonishing how much food can be produced and preserved for future use by a boy or girl working under proper direction. The club work in Kansas is well organized and should by all means be encouraged to the limit. Additional club leaders and garden supervisors should be employed and the energies of the children utilized in making substantial additions to the family larder. The training they receive in habits of industry and thrift will make them more useful as men and women and this part of the work should not be overlooked. The nation will need trained men and women after the war is over. In attempting to help out in the present labor shortage on the farm by sending school boys to take the places of seasoned and trained men, we are not looking into the future. England has already admitted her mistake in taking boys from school to perform labor on the farms and in the factories as she did in the early days of the war.

We would urge the children to enlist in the food production division of our army, but do it by joining clubs and groups that work under suitable leadership. There has been a great increase during the last few months in the amount of help of this kind available in the different sections of our state. Otis E. Hall, of the extension division of the agricultural college, Manhattan, is the state leader of boys' and girls' club work. He is the commander-in-chief of that division of our food production army and has many able assistants working under his direction.

FIXING OF FOOD PRICES

Two weeks ago on our editorial page we attempted to set forth the matter of price fixing to protect the farmer, as viewed by the St. Louis Food Conference and recommended to Secretary Houston. The attitude of the federal government on this point has been a matter of considerable concern all over the country. The following reply made by Secretary Houston to a telegram regarding the fixing of prices on food products clearly outlines the government's position:

"Your telegram received. No agency now has power to fix prices of food products. Have suggested that Congress confer power on the Government to fix minimum and maximum prices if the emergency requires them. The object of a minimum price to producers would be to stimulate production of certain staple products by assuring farmers that these products would not be disposed of below a certain level which would give them a reasonable return and would not cause them to suffer loss in any event. This would have to be done under proper regulation. The shortage of important crops in this nation, the greatly depleted resources abroad, and the waste and destruction in Europe, should cause a continuance of remunerative prices, but as an additional assurance to farmers the power indicated ought to be vested in the Government. It is not suggested that maximum prices be fixed to producers, but that power to fix such prices governing the distribution of products be given to the Government to be used if necessary to control uneconomic speculation and manipulation in the handling of food products. It is of the first importance that no step be omitted greatly to increase the supply especially of the great staple food products of the United States in every direction."

SORGHUM DAY AT HAYS

Last Saturday a large group of farmers in Ellis County and vicinity gathered at the Hays Experiment Station to make a study of the grain sorghums. At this meeting it was pointed out that farmers should stick to crops adapted to average conditions in that part of the state. It was Prof. L. E. Call's advice that crops be grown that would be marketable or available for use on the farm and that would permit the ground to be handled in such a way as to make it possible to seed wheat in the fall. While corn is somewhat easier to plant and harvest and leaves the ground in better condition for wheat than the grain sorghums, these latter crops were advocated because they are much more dependable than corn. It was suggested that where a considerable amount of land—say a hundred and fifty or two hundred acres—was to be planted, it would be well to divide it equally between the grain sorghums and corn. The grain sorghums, however, should be planted in wide rows, in order that the land may be available for wheat in the fall.

The forage sorghums — Black Amber cane, Freed's Sorgo, and Sudan grass — are sure feed crops, but unless there is live stock to consume them or a market close at hand it would not be advisable to grow them in large quantities this year. The live stock farmers, however, should make ample provision for the feeding of their stock by putting out plenty of these sure crops. Figures presented by R. E. Getty, of the Hays Station, indicated that Red Amber cane stands at the top in that part of the state for both silage and hay. Mr. Getty gave the results of tests at the station showing May 15 to June 1 to be the best dates for seeding dwarf blackhulled kafir in the region about Hays; June 1 for feterita, and June 15 to July 1 for Freed's sorgo.

Farmers present at this meeting, who desired seed, furnished Charles R. Weeks, superintendent of the station, a list of their wants. His office will act as an emergency clearing house in handling the seed situation in that part of the state.

SEED TESTING IMPORTANT

If seed of low germination must be planted, regulate the amount used by the percentage of the seed which will grow as shown by the test. On the front page of this issue is a most important article on the advantages of planting kafir and other grain sorghums thin. Few realize how small an amount of seed is needed when it has a high percentage of germination.

Grain sorghums are liable to be low in germination, and from all reports received this is especially true this year. The only way to know how thick to plant is to make germination tests. If the seed tests but 50 per cent, plant twice as much as would be necessary if every seed could be expected to grow.

A seed testing circular has been prepared by the Kansas Defense Council and is now in the hands of every school teacher in the state. They have been requested and urged by the State Superintendent of Public Instruction to have the children assist in testing seed for farmers of their respective districts. We have repeatedly urged that the schools be used in this way and we hope, now that it is being officially suggested, that farmers will take advantage of this opportunity and have all seed, especially the grain sorghums, tested before being planted.

FINANCIAL AID AVAILABLE

Kansas is going to finance the man who has been unfortunate and therefore short of seed or feed for his live stock. Temporary financial embarrassment due to poor seasons or other uncontrolable circumstances will not be allowed to keep down crop production.

The finance committee of the Kansas Council of Defense has full confidence in the ability and willingness of local bankers, but the committee is acting as a sort of clearing house to bring cases of farm need to the attention of the bankers. Where local funds are inadequate, the committee will provide means for extending the necessary credit.

Several cases have already been taken up, in which farmers lacked the money to buy necessary machinery. In other cases men had no grain and were turning their horses out to graze at night after hard work all day, thus reducing efficiency fully 50 per cent. In all these cases the local banks were able to furnish abundant assistance as soon as the matter was brought to their attention.

The members of this committee, representing all the congressional districts of the state, are: Governor Arthur Capper, chairman; L. H. Wulfekuhler, Leavenworth, president of the State Bankers' Association; Emerson Carey, Hutchinson; Henry Lassen, Wichita; W. R. Stubbs, Lawrence; E. V. Lanyon, Pittsburg; Charles W. Thompson, Marion; C. G. Cochran, Hays; and W. E. Wilson, Washington.

Arms and Agriculture

TO FEED THE NATION IS TO FIGHT ITS BATTLES

THE world demand for food is far above normal. The present supply is far below normal.

Over-production is impossible. Unless more food is produced this year than last, the world will suffer from hunger.

Our wheat crop last year was insufficient for our own requirements. We cannot feed the Allies until we have increased our food production.

Uncle Sam is fearfully near the bottom of his flour barrel. To overcome this condition all forms of waste due to present methods of milling and the use of grain by breweries must cease.

To win the victory in making the world safe for democracy, we must produce more, consume less, and waste nothing.

PLAN OF ATTACK PROPOSED AND URGED

INCREASE AND CONSERVE CROP PRODUCTION

Grow Cereal Crops—Plant every available acre to a staple crop. Use only the very best tested seed. Replace the killed winter wheat with adapted varieties of corn and sorghum.

Build Silos and Save Surplus—Store the feed supply to prevent waste. A good supply of silage means more beef and milk. A silo may be made to pay for itself in one year.

Do More Intensive Gardening—See that the garden plot is well planted and carefully handled. Cultivate well and irrigate if necessary. Can all the surplus.

Increase Orchard Yield — Give more attention to the farm orchard. Spray all fruit trees carefully. Can, dry, preserve every pound of surplus fruit.

IMPROVE AND INCREASE LIVE STOCK PRODUCTS

Increase Dairy Production—Improve dairy herd by careful breeding and selecting. Increase milk production by better care and feeding. Produce a more wholesome product by adopting sanitary measures.

Furnish Bigger Beef Supply — Use only good pure-bred sires. Build up a herd of good beef cows. Utilize all roughage.

Raise More Hogs — Do not sell good brood sows. Produce more fall litters, feed and manage more carefully. Keep premises clean and sanitary to avoid disease.

Increase Poultry Products — Poultry and poultry products should be increased 100 per cent. Eat only the surplus roosters during the summer. Double the winter egg supply by properly feeding the hens.

In fighting the battle in the furrows of the farms we must use as arms efficient machinery and every labor-saving device possible. Every pound of standard food produced will be needed and will bring a profitable price.

The Kansas Council of Defense with its well-organized committees all over the state is in position to insure every farmer receiving financial aid, such seed as may be needed, and help in securing labor.

The council is making its appeal to every citizen of the state to rally to the standard and perform in the most efficient manner possible the task of the day and hour and make the name "Kansas" stand for service to the great nation of which we are a part. A Kansas soldier never sleeps at his post, whether he is serving in the trenches or in the furrows. Agriculture must win.

GUARANTEE OF PRICES

As War Measure Logical and Timely for Government to Fix Prices

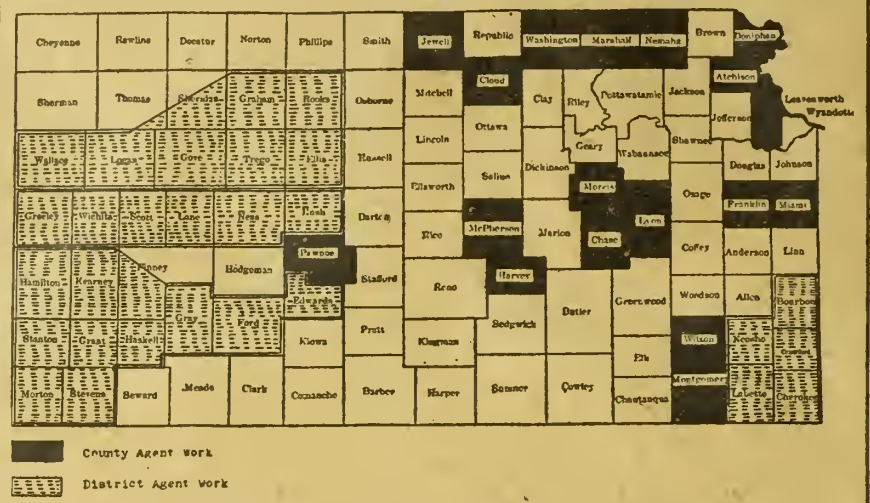
By W. I. Drummond, Chairman, Board of Governors, International Farm Congress

THE fixing of a minimum price for the principal food products, to hold good during the continuation of the war, or at least until an adequate surplus is accumulated, is not only logical and timely, but it is the plain duty of the United States government.

There is no reason or sound argument in favor of government-guaranteed prices in time of peace. The law of supply and demand must then be allowed to prevail. It is a law which is stronger than any government, and would break any government or institution that should attempt permanently to go contrary to it. But war temporarily throws everything out of gear, and compels general readjustment.

We have entered a war, the end of which no man can foresee. It is true that if the alignment remains as it now is, there can scarcely be but one result; but what assurance have we that the present national alignment will remain as it is? Furthermore, it is clear now that Germany not only desires peace as soon as she can get it, but that in case she can secure peace, it will be with a reservation and a firm resolution to plunge the world into another war in the near future, as soon as she has disentangled herself from the disastrous results of her mistakes in this one. Her dreams of world-domination will be by no means ended with this war, unless she be completely crushed or her oligarchic form of government replaced by a comparative democracy. So there is uncertainty either way: If peace comes quickly, other than by the sudden collapse of Germany, it will merely presage another and perhaps greater war, with the United States as a marked nation; for hatred of England has now been largely replaced by hatred of America, in the Teuton mind. And if peace does not come quickly, new alignments, new factors, are liable to prolong the present conflict, and possibly render its very outcome uncertain.

Looking at this matter in another light, to ask farmers to greatly increase the production of any crop without a price guaranty is really asking them to bet on Germany, for should Germany collapse before other complications ensue, or a revolution of her people succeed, universal peace might—and probably would—settle over the world quickly, the armies would melt away into the fields, and over-production would have the same effect as it did before the war. In other words, continued high prices depend directly upon Germany's ability to wage war indefinitely.



A RAPID mobilization of the farm resources was possible in the eighteen counties shown in black on this map. Each of these counties has a farm bureau with a large membership and a trained man as agricultural agent who is the executive officer of the bureau. What crops to grow and how to grow them, where to get seed, how to test seed, how to feed live stock for beef and milk, where to procure farm labor, how to organize a farm business in order to secure the greatest efficiency, the direction of boys' and girls' club work in gardening and canning, are some of the things given attention by farm bureaus. These organizations are co-operating with a score or more members in each township and with their strong committees of progressive farmers have already been invaluable aids to the work of the Kansas State Council of Defense. The council found the machinery all ready for securing exactly the information needed and putting its plans into effect. Many other Kansas counties are now organizing bureaus. The rapidity with which these counties have carried out the plans of the council is but another evidence of the value of the farm bureau work. The dotted areas on the map have district agricultural agents who give attention each to several counties.

America's first line of defense is not her navy. It is her granaries, her feed lots, her warehouses and storage plants. She has the manhood and can shortly accumulate the munitions to render her safe from invasion under any conceivable circumstances. But if she failed to provide herself with foodstuffs, her plight might be a sorry one, and in that event her short-sightedness would be inexcusable.

The farmers of the United States are capable of increasing the production of wheat, corn, oats, rye, barley, potatoes, cotton and pork enormously, on twelve months' notice, provided they have only average weather conditions. In order to induce them to do this, they must be given a guarantee of reasonable remuneration. They know that the population has not yet increased to a point where danger of over-production is past. They know that a large crop normally brings less money than a small one. They have a distinct recollection that the five largest corn crops they raised in the ten years immediately preceding the present war brought them $528,000,000 less money than the five smallest crops grown during the same decade, and that the five largest crops aggregated 1,811,000,000 bushels more than the five smallest. They remember that their five largest wheat crops prior to 1913 aggregated 3,644,000,000 bushels, and brought them $26,000,000 less than the five smallest crops, which only totalled 3,116,000,000 bushels. Ten million bales of cotton have been proven to be worth $100,000,000 more than thirteen million bales, and fifty million hogs more than sixty million hogs.

The United States Department of Agriculture and other agencies are urging the farmers to plant every acre possible, of any staple product they can grow, declaring that there is no possibility of low prices for several years. If such is the case, then the government will be taking no chances in guaranteeing a minimum price. If this should not prove to be the case—if our apprehensions are groundless, and the normal balance of the world is restored as suddenly as it was disrupted—then it will be only fair and just for the entire people to protect the farmers, or share the loss which is certain to be their portion in the event of general over-production.

So there are two excellent reasons for guaranteeing minimum prices temporarily. First, to secure assurance of ample food supplies, whatever happens; second, the element of justice to that class of our people who might, without such guarantee, find themselves in the position of the cotton farmers in 1914.

With a guarantee of $1.25 a bushel for wheat during 1918, and other crops in proportion, the farmers of the United States and Canada will take care of the matter of foodstuff supplies. They can afford to and will farm more acres, and farm them better. Production is a farmer's problem, and the farmer understands it far better than do most of his advisers.

If we are in for a long and hard war, the government can assure itself of ample foodstuffs without actual cost. If the clouds roll quickly by, and peace comes shortly, it might cost half a billion dollars to make good the guaranty. But what is half a billion dollars, compared to other expenditures which the government is prepaing to make, and will make, even though the war be short?

A guaranteed minimum price to the producers would also be the best possible protection to the consumers against famine prices, in case the war is a serious one.

Boys Get Start In Pure-Bred Hogs

ONE HUNDRED boys in Phillips County will this year get started in the pure-bred hog business. This enterprise has been made possible for these boys by the Farmers State Bank of Kirwin and the Farmers National Bank of Phillipsburg. E. C. Trull, cashier of the Kirwin bank, and W. C. Smith, cashier of the Phillipsburg bank, have each organized a community pig club with a membership of fifty boys, the work to be conducted in co-operation with the Kansas Agricultural College through the boys' and girls' club leader, Otis E. Hall.

These banks are furnishing the money for the purchase of registered Duroc-Jersey bred gilts which will be turned over to the boys at actual cost. These bred gilts were inspected and purchased by Carl P. Thompson, specialist in animal husbandry in the division of extension of the agricultural college, from various Kansas breeders. Mr. Thompson gave lectures and prepared instructions for the boys on the feeding and care of their sows and the pigs.

Each boy gives a note for his sow. He is to keep a careful record of all feed eaten by the sow and pigs, and is to pay for the sow out of the profits. The boys are charged interest at the rate of 8 per cent per annum, but the fact that the banks are paying more than twice the amount of interest back to the boys in premiums goes to show that the bankers are not going into this for any direct financial gain.

In the fall two fairs will be held, one at Kirwin and the other at Phillipsburg. At these fairs the boys will each show their three best pigs, and a total of over forty prizes will be given for the best sow pig, best boar pig, and best group of three pigs.

The sows are all of the best blood lines and the boys are going to arrange an exchange whereby each boy can get a boar to use on his sow and gilts this fall.

Next February each boy will contribute two good bred gilts and a two-day sale will be held, one day at Kirwin and one day at Phillipsburg. The contest will wind up with a banquet for the boys.

The final outcome of the contests will be based on the largest per cent of living pigs farrowed and raised to weaning time; the largest total profit per litter; best type and finish; largest total weight of litter; and best story and records.

It would be hard to estimate the value of such club work to Phillips County. The direct profit to the boys of feeding this one sow and litter is insignificant compared to the indirect results that will be secured.

With hogs, to a greater degree than with any other class of live stock, the profit is determined by the methods of handling and feeding. The profitableness of hogs depends on size of litters raised, the condition of health of the hog, and the feeding of a properly balanced ration. Lousy, wormy, and mangy hogs fed on a ration of corn alone, are money-losers. The lessons these boys will learn in this contest of caring for their sows and pigs will stay with them and will be of inestimable value to them when they are men.



DUROC-JERSEY SOW AND HER FAMILY OF EIGHT BELONGING TO MEMBER OF PHILLIPS COUNTY BOYS' PIG CLUB

Beans are not a dependable crop on a field scale in Kansas. They should be grown as garden vegetables.

State Corn Champion's Story

THE following tells in his own words, the story of how Albert Robinson of Leavenworth County grew the acre of corn which won for him the championship prize offered to state corn club boys last year.

"One day last winter, in our agricultural class, the principle, Mr. Rowe, said the topic on corn would be our next lesson. After I returned to the assembly room, I began to think of the trips that were won by corn last year. The school term was about half over. I was going to graduate from the high school in the spring and did not know whether to join an agricultural club or not, so I could have a chance to win a trip. The club which I was a member of the year before, was composed of high school boys. We always held our meetings at Easton. Because of my leaving high school and not living close enough to attend the meetings regularly, I couldn't enter the same club for 1916, so I went home and talked about organizing a club among the boys and girls of my home school.

"We organized on February 28th, 1916. I was elected president of the new organ-



ALBERT ROBINSON, AGE 16, LOWEMONT, KANSAS, STATE CHAMPION CORN CLUB BOY, 1916

ization and called ten meetings during the summer. Mr. Ross, our county farm agent at that time, and Mr. Voorhees, the county superintendent, were present at one of our meetings.

"At our second meeting, we discussed the selection of seed corn. I had gathered my seed for 1916 the previous fall and knew just what kind of corn I had. We tested our corn and it made an average of 90 per cent.

"When it was nearly corn planting time, I selected my acre of ground along the creek bank. The creek overflows this part of the field about twice a year, but I was going to take the chance of it not going so high this time.

"On April 2, I listed the acre about six inches in depth. It took me one hour and I valued my labor at thirty cents per hour.

"After leaving the ground in this condition for about ten days, I decided to plant my corn. My father helped me because I had to help him. It took us one hour and we valued our labor at sixty cents an hour.

"I went back to my acre in about a week and found that the corn had sprouted but was not through the ground. I passed the corn field three days later and found the corn was up. It grew very fast and soon was large enough to harrow.

"After waiting about ten days, I went down to my acre with a harrow and harrowed the ridges nearly flat. It took me thirty minutes. I found a very good stand and went home well pleased.

"In about two weeks, I went back with my cultivator and plowed my corn about four inches deep. The corn had grown about six inches since it was harrowed or in the two weeks. It took me one hour and thirty minutes to cultivate.

"In about a week, my father told me to give my corn another plowing, because he did not want the weeds to get a start if the creek did not overflow the ground and make me lose all my work. I did as he told me, and it took one hour.

"The corn had received several rains in this period of time which made it grow about twelve inches taller.

"I did not go back to my corn for about ten days, on account of rainy weather. When I did get back, I found that the color of the corn had changed from a light green to a dark green and it was about two feet tall. The last plowing took me one hour.

"I was unable to plow the corn any more until after wheat cutting. The corn was clean, and I did not think it needed any more cultivation, so it did not get any more.

"I did nothing more to the corn until October, when I began husking. The first half day I spent hunting seed ears for 1917, so I did not use any wagon. When I got through husking my crop, I was anxious to see how much money I had made during the summer. I found under the expense column 30 cents for listing the first time, 60 cents for listing the second time and planting, 15 cents for harrowing after planting, $1.15 for cultivating three times, 50 cents for seed, $3.00 for husking, $5.00 for rent. The expenses amounted to $10.70.

"I gathered five bushels of seed and 78 bushels of common corn. The value of seed corn when this story was first written was $1.50 per bushel, making the seed worth $7.50. Common corn was worth 80 cents per bushel, making it worth $63.60. The value of both common and seed was $71.10, and $10.70 expenses left a profit of $60.40 from my acre of corn."

Narrow Row Drills

Claims of unusual yields made for a new kind of grain drill that distributes seed in rows four inches apart, instead of eight inches as the ordinary implements do, appear exaggerated in the light of recent tests made with these machines at the Ohio Experiment Station. Under carefully conducted tests in drilling oats and wheat, the ordinary drills have proved as efficient as the new makes recently put on the market.

As an average of two years' tests comparing eight-inch and four-inch drilling of oats, at the rate of five pecks per acre in 1915 and both six and eight pecks in 1916, a gain of 3.71 bushels per acre was obtained in favor of eight-inch drilling.

In 1915 both kinds of drills were tested in seeding wheat, at the rates of 6.5 and 4.5 pecks per acre. A difference of less than a bushel was secured in favor of the ordinary eight-inch drilling.

Nothing is better for keeping hogs free from lice than crude oil or residium oil. The use of a hog oiler is a convenient means of applying it. If one of the oilers is placed where the hogs can get to it, and is kept supplied with oil, there will be little trouble from lice.

$1150 F. o. b. Racine
Mitchell Junior—a 40-h. p. Six
120-inch Wheelbase
Price Will Be Advanced to $1,195 on May 10

Mitchell SIXES

$1460 F. o. b. Racine
7-Passenger—48 Horsepower
127-inch Wheelbase

Why Other Cars
Omit These Mitchell Extras

The Mitchell offers you
31 extra features—
24 per cent added luxury—
100 per cent over-strength.

When you see these extras—each a wanted feature—you will ask why others don't include them. This is to tell you the reason.

Cost $4,000,000

The Mitchell extras, on this year's output, will cost us $4,000,000. To add them to the ordinary car would bring the price too high.

In the Mitchell plant, we save them in factory cost. John W. Bate, the great efficiency expert, has worked for years to do that.

This entire 45-acre plant was built and equipped by him. And every detail is designed to build this one type economically.

He has cut our factory cost in two. No other plant could build a car like the Mitchell at anywhere near our cost. And that saving goes into these extras.

A Lifetime Car
100% Over-Strength

The 31 extra features—like a power tire pump—will seem a great attraction. The added luxury—24 per cent—makes the Mitchell the beauty car of its class.

But our greatest extra is the double strength in each important part. In the past three years we have doubled our margins of safety.

TWO SIZES

Mitchell—a roomy, 7-passenger Six, with 127-inch wheelbase and a highly-developed 48-horsepower motor.
Price $1460, f. o. b. Racine.

Mitchell Junior—a 5-passenger Six on similar lines, with 120-inch wheelbase and a 40-horsepower motor—¼-inch smaller bore.
Price $1150, f. o. b. Racine.

Also six styles of enclosed and convertible bodies. Also new Club Roadster.

Over 440 parts are built of toughened steel. All safety parts are vastly oversize. We use a wealth of Chrome-Vanadium steel. We use Bate cantilever springs, which never yet have broken.

We have proved that Mitchells can run 200,000 miles. Few owners will live to wear a Mitchell out.

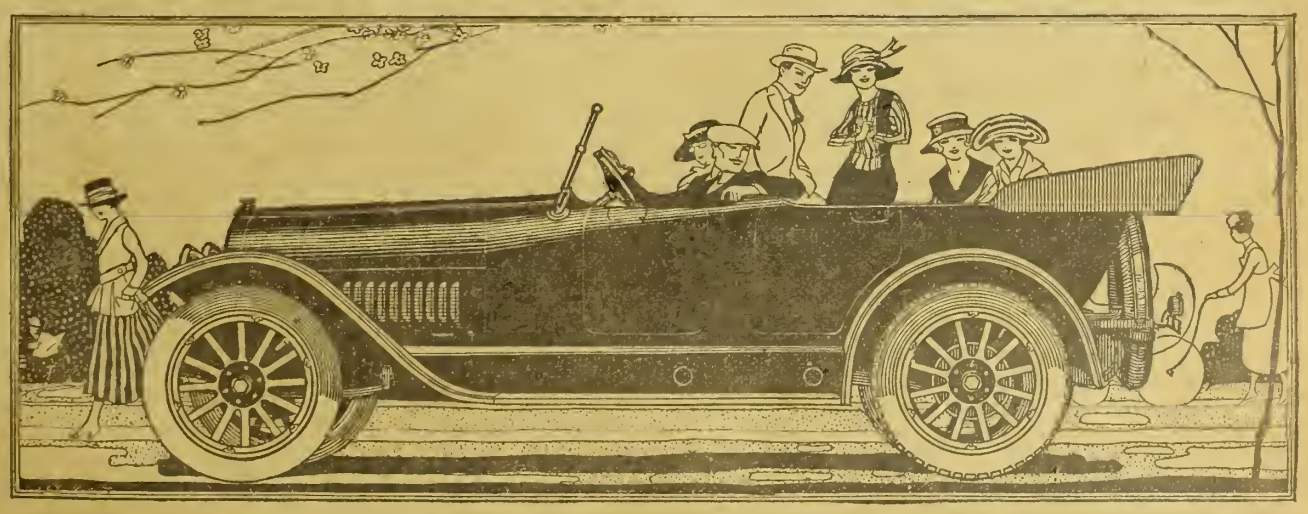
Our $1150 Six

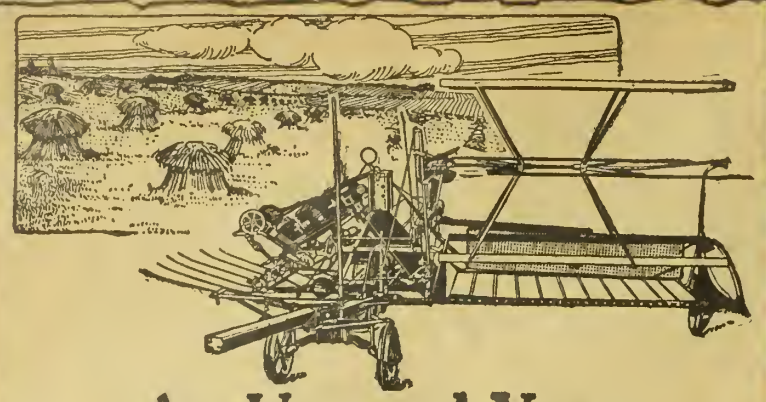
Now there are two sizes—Mitchell and Mitchell Junior. But even the smaller has a 120-inch wheelbase. Both sizes offer you values far beyond similar cars.

See these new models. See all the extras they embody. You will want such a car as the Mitchell when you buy a car to keep.

If you don't know the nearest dealer, ask us for his name.

MITCHELL MOTORS COMPANY, Inc.
Racine, Wis., U. S. A.





An Unusual Year

THIS may be the last year you will have a chance to market your small grain at such high prices. Naturally, you will do everything you can to secure a good crop and to harvest every last grain of it. The size and quality of the crop may not be entirely under your control, but the harvest is yours to make or break. It depends almost entirely upon the binder you use.

If your binder is not in first-class condition, get genuine I H C repairs for it at once and put it in shape. If it is too far gone for that, buy a new **Champion, Deering, McCormick, Milwaukee, Osborne,** or **Plano** binder now, while deliveries can be made and the machines gotten ready for work before harvest time. See your local dealer early in the season and arrange with him to have your binder delivered in plenty of time to assure the complete harvesting of your crop.

The twine situation this year is complicated by a number of unusual features, but we are furnishing our customers with twine of as good quality as ever. Quality in twine is more important than price. At the same time, just as a matter of insurance, it will be wise to make your twine purchases as early as possible. The dealer will appreciate any aid you can give him by placing your orders for I H C repairs, twine, and harvesting machines at the earliest possible moment.

International Harvester Company of America
(Incorporated)

CHICAGO U S A

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—By Using the Right Shade Rollers

You might buy the best shade cloth made, but if you mount it on tricky, undependable rollers you will ruin your shade. It will ravel at the edges, crack, tear, wrinkle and fray—all because the roller does not gather it up smoothly and evenly and let it down flat and straight.

Stewart Hartshorn
SHADE . TRADE MARK **ROLLERS**

will give you perfect satisfaction. They will keep your shades in beautiful condition and make them last much longer. They roll without hitch or jerk—smoothly, steadily, evenly. This is because they have a finely tempered steel spring, accurately adjusted.—We could not find any steel that was fine enough for our use—so we bought a wire mill and make our own steel springs. They wear for years.

Always look for the signature, "Stewart Hartshorn" on every shade roller you buy. It is your guarantee that you are getting the *best*.

Send today for "Shadecraft and Harmonious Decoration"—a FREE book which tells you how to make your home more beautiful.

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SUBSCRIPTION BLANK

Kansas Farmer, Topeka, Kansas.

Gentlemen: Please find enclosed $.....for which send me

KANSAS FARMER.....year.....

One year for $1.00; two years for $1.50; three years for $2.00.

Name .....

Post Office .....

State..... R. F. D. No.....

Are you already taking KANSAS FARMER? .....

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

Kansas Farmer Dairy Club

New Dairy Club Started

THE second Kansas Farmer Dairy Club, which is being conducted in co-operation with the Kansas Agricultural College, is well under way. Although the members of this club have until October 1 in which to get their cows and start their year's records, four have already begun. The first two to start were Lucille and Clarence Radcliffe, of Osage County. They were so anxious to get into the club and get started with their records that they went to their banker in Overbrook in February, borrowed the money, bought two cows and kept their records through March, although according to the rules the records of the new club could not begin earlier than April 1. They have thus begun at the very earliest possible date and have now almost completed their first month's records. They have just purchased a standard thirty-pound milk scale and will be able to weigh their milk conveniently and accurately.

The next two to get started are Alberta and George Sumner, of Delia, Kansas. They also had been marking time since they were told in January that there would be a second club and no sooner had the date of beginning been fixed and announced than they borrowed the money at the Emmett State Bank, bought two Holstein cows and began milking them. They did not even wait to be supplied with the proper blanks, sending in their names and the necessary information in a letter. We like to have boys and girls with plenty of "pep" join the club, and hope the rest of the members will be as keen about the work as have been these first ones to get starter.

New members will be coming in rapidly now. Most of the men in the banks are anxious to furnish money for the work of the dairy club. They know there is no safer risk than a dairy cow being milked by a wide-awake boy or girl. One banker said he would loan money to any worthy boy or girl in his county to buy a cow for the dairy club work. Another said he would not stop short of twenty or twenty-five, and none of the bankers who have written us about the club or with whom we have talked seem disposed to limit the number helped to a single boy or girl. All these men seem to want to help quite a number. One banker has just asked that we send him fifty application blanks by return mail.

The county agricultural agents are also much interested and are offering to help the boys and girls in their respective counties who may wish to join the club and earn a cow for themselves. The ease with which a cow will pay for herself is one of the fine things about dairying. A good dairy cow will not only pay good profit for the feed she eats but will return enough more to pay for herself in a short time. Quite a number of the members of the first club will have their cows paid for from the net receipts over cost of feed before they have completed a year's record.

They have learned a lot about business, too, and formed habits of accuracy and reliability. We have been most insistent that they keep their records accurately and not let them get behind. Some few have occasionally been inclined to be a little careless, but most boys and girls are willing and anxious to carry through a thing of this kind if it is made clear just what is expected of them.

The rules of the new club differ little from those of the first club. We did not require the members of the first club to use a standard milk scale, although we rather urged that they do so and ordered scales for a number of the members. The cheap spring balances used by some of the members are not very accurate and have proved unsatisfactory. While the present price of the standard milk scale—$3.00—may seem high, we have made it a requirement that every member weigh his milk on such a scale. After having used the scale for a while we feel sure that they will not regret having purchased it. The rules and requirements of the new club are as follows:

MEMBERSHIP: Boys or girls 12 to 18 years of age, eligible.

PROJECT: Milking a cow or heifer for one year in such manner as to secure the largest product possible and at the greatest net profit to the boy or girl owning the cow and doing the work.

SECURING COW: The cow is to be purchased with money borrowed from a bank and drawing interest, the note to be secured by chattel mortgage on the cow.

INSURANCE ON COW: The bank may require the cow to be insured in some reputable live stock insurance company, the premium to be paid by the boy or girl, and the amount included in the note given to the bank.

PAYMENT OF NOTE: As soon as the cow begins to produce, the net proceeds from the sale of products are to be applied each month as a payment on the note at the bank, such payments to be made not later than the tenth day of each month, until the note is paid.

TIME FOR BEGINNING RECORD: Record can begin any time from April 1 to October 1, 1917.

KEEPING OF RECORD: All required blanks will be furnished by KANSAS FARMER. The grain fed is to be weighed. Roughage and pasture will be estimated. In calculating final results for the purpose of awarding the prizes, a uniform price will be used for all feeds, these prices to be given on feed blanks furnished. Milk is to be weighed each milking, using a standard thirty-pound scale graduated to tenths of pounds, and pounds and tenths recorded on the milk record. On the fifteenth day of each month a composite sample of the morning's and evening's milk is to be taken and sent to the place to be designated by KANSAS FARMER, to be tested for butter fat. At some time during the year the contestant will be required to send a bottle of milk to the Dairy Department of the Kansas State Agricultural College to be scored for quality.

RECORDS: Not later than the tenth day of each month the contestant must furnish to KANSAS FARMER and the cooperating bank, the completed milk and feed records for the previous month. Contestant shall retain one copy of the milk and feed record for his file.

BASIS OF AWARDS: Total production for year, 0 to 30 points; profit over cost of feed and interest, 0 to 30 points; records and story of work, 0 to 20 points; quality of product, 0 to 20 points.

Will Do Her Part

I am sorry I overlooked the fact that March had thirty-one days and sent my reports without the feed and milk records for the last day of the month. I enclose the figures for March 31.

My cow is doing some better as the pasture is getting better. I do not intend to feed any dry feed after I have used what I have on hand.

I am very proud to say that I will soon have my cow paid for, and am intending to get another cow as soon as I get this one paid for. I do not think I will enter the contest next year, for my high school work will be heavy. I am in the dairy business to stay and hope to be a real farmer.

While the present crisis faces us, if needs be I can take my place in the field and raise food for the United States boys who will have to go to the front and fight for their beloved country.—MAHALA SMITH, Leavenworth County.

More Members for New Club

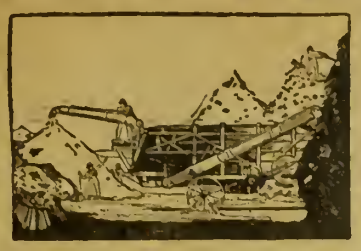
Last January Alberta and George Sumner, of Delia, Kansas, wrote to ask regarding the Dairy Club. Here is what they said:

"We have been thinking we would like to join the Kansas Farmer Dairy Club and get cows of our own, so we are asking you for information as to how to join and get cows. Please let us hear from you soon."

We wrote George and Alberta that we would have another club starting in the spring and suggested that since some of the girls and boys last summer had considerable trouble getting good cows, it would be a good plan for them to be on the lookout for suitable cows so that when the time came they would be ready to start the club work.

It is evident that George and Alberta are wide awake. Two weeks after we made the announcement in KANSAS FARMER that we were ready to enroll members in the new club, we received the following letter:

"We saw in KANSAS FARMER that you were starting the new dairy club and, as we wanted to join, we borrowed the



Save the Thresh Bill From the Stack

"We easily saved our thresh bills by using the Red River Special," says E. L. Hall and 14 other farmers near Densmore, Kansas. Here's the thresher that's *different*. It *beats out* the grain—gets it by force. Built for *fast work* too. Saves the thresherman's time—crowds more bushels into the day's work and more pleased customers into the season's run. Write and learn why the big money makers use the

Red River Special

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If you own a tractor, hook it to Junior Red River Special and clean up an extra income this fall. Thresh your own grain and your neighbors' too. Our "Junior" is the ideal thresher for working with a tractor or gasoline engine. It is a younger brother to the Red River Special. Small enough to make home threshing pay—big enough to make money in custom work.

Has every needed feature of the big Red River Special—famous "Man Behind the Gun"—shakers, large sieves, etc. **Write for circulars.**

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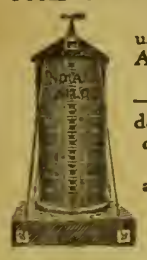
In Continuous Business Since 1848
Builders Exclusively of Red River Special Threshers, Wind Stackers, Feeders, Steam Traction Engines and Oil-Gas Tractors
Battle Creek Michigan

THE INDIANA SILO



Fifty thousand are now in use on the finest farms in America.

If you are going to buy a silo—this satisfactory service rendered everywhere—should be of special interest to you.

The cost of all materials is advancing like the price of wheat and corn.

Why not save money by contracting for your silo now. It undoubtedly will cost you more next spring or summer.

Let us send you our proposition—to contract now for your silo and deliver it later.

We still have openings for a limited number of farmer agents.

INDIANA SILO CO.

611 Union Building, ANDERSON, INDIANA
611 Silo Bldg., KANSAS CITY, MO.
611 Indiana Building DES MOINES, IOWA
611 Live Stock Exch. Bldg., FT. WORTH, TEXAS



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will reduce inflamed, swollen Joints, Sprains, Bruises, Soft Bunches; Heals Boils, Poll Evil, Quittor, Fistula and infected sores quickly as it is a positive antiseptic and germicide. Pleasant to use; does not blister or remove the hair, and you can work the horse. $2.00 per bottle, delivered. Book 7 M free.

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful, Swollen Veins, Weins, Strains, Bruises; stops pain and inflammation. Price $1.00 per bottle at dealers or delivered. Will tell you more if you write. Liberal Trial Bottle for 10c in stamps.

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STEWART COW CLIPPING MACHINE.



Clip flanks and udders so that they may be easily cleaned before milking; also clip entire cow twice a year. Machine has ball bearings and enclosed cut gears that run in oil. Six feet of flexible shaft and one tension out knife. Turns easy. Clips fast. Guaranteed.

Price Complete, $7.50

RILEY HAUK VOGELSANG SUPPLY CO.
THIRD & VINE STS. SEND FOR CATALOG OR COME IN AND SEE US. ST. LOUIS, MO.

SILOS

We have in stock at our various yards quite a quantity of one-piece No. 2 Clear and Better Oregon Fir Silos, which we are closing out, and are in position to name a very low price on sizes we have in stock. If interested, write for particulars. Special prices to clubs ordering in carlots.

LA CROSSE LUMBER COMPANY
LOUISIANA, MISSOURI

money from the Emmett State Bank and have bought two Holstein cows. They are giving about two and a half gallons of milk each daily and will be fresh in July. We hope we are in time to join the club this time."

We hope this record will keep up. The first two members of the club were a brother and sister. Where two in the same family are members of the club they can be very helpful to each other in their work.

Cow Pays for Herself

It will not be long until my year in the dairy club will have been finished. I started May 10, 1916. My cow was fresh May 1. I finished paying for her November 27, 1916, and I paid for her entirely from the sale of her product. I sold milk in town for 6½ cents a quart delivered. Any other money I earned I did not pay on my cow. She paid for herself and her feed, except that I sold her calf and applied what I received for it on the note. My cow is a Jersey seven years old. Her name is Lady Joe. She is insured. She is now giving from eight to eleven pounds of milk a day. Her last test was 6.1 per cent. My score for quality was 86.75 per cent.

I want to tell the rest of the members of the club that I like the dairy work fine. I have been trying to get a grade Holstein cow. I want to join the contest for the second year and be a member of the advanced class. I wish all the other members good luck and hope you will all come into the advanced class for the second year's work.—Howard Weis, Neosho County.

Don'ts for Dairyman

In rearing and developing dairy heifers—

Don't overfeed. Twice as many calves are stunted by overfeeding as by underfeeding.

Don't change suddenly from whole to skim milk.

Don't keep calves in damp, dark, crowded, poorly ventilated barns.

Don't feed milk in dirty pails.

Don't be irregular as to time of feeding, temperature or amount of milk.

Don't feed too much alfalfa hay before the calf is three months old.

Don't let calves suck each other after drinking milk. They should be placed in stanchions and fed grain.

Don't make calf go without water because it has had milk.

Don't let calf drink foaming milk just from the separator.—H. H. Kilder.

A sudden change to pasture in the spring is likely to cause the cows to be under-fed for several days. These fresh pastures are succulent, their water content is very high, and the cows are not accustomed to depend on their own activity for the food necessary for their milk. One of the results of this underfeeding, which is likely to occur with heavy or moderately heavy producers, will be a drop in the milk flow. It is difficult to raise this flow after it has once dropped, especially if it has been some time since the animals have freshened.

It is important that all changes of feed of dairy cows, including the change to fresh pasture, should be made gradually, and good milk-producing animals should be fed some grain in addition to the pasture. This will prevent the possibility of under-feeding. The grain feeding should be continued at least until the pastures become mature and the cows become accustomed to graze for their food.

We have written two of the Dairy Club members several times for corrected milk records for February. If you are one of these, won't you send the corrected record at once as you are inconveniencing us by making us wait so long for these figures.

Uses Milker Successfully

We have just received a letter from G. C. Tredick, Kingman County, in which he states that he is now milking with a machine twenty-two cows without any help as to stripping, in one hour and a half. This includes the time from leaving the milk house to the return after rinsing the machine. He uses two extra milk pails for the machine, stripping into the extra pail without moving it from under the cow. Over half of the cows fill one of the milking machine pails, so that the change is necessary. He does not consider washing the machine a troublesome task.

"One of the main things about running a milking machine," says Mr. Tredick, "is keeping up the rate of the pulsators and looking for leaks. Though my barn was ideal for the installation, leaks show up occasionally. I might add that I am now milking eight cows three times a day, and do it in about thirty minutes.



Cornell Wood Board

Makes Chicken Houses Warm, Vermin-Proof and Sanitary

"Easy to Buy and Apply"

POULTRY experts recommend Cornell-Wood-Board for inside walls and ceilings of chicken houses because it keeps the buildings warm in winter, cool in summer, vermin-proof and weather-proof. A resistant of moisture and fire. Guaranteed satisfactory when properly put up.

This perfect wall-board is adapted for use in homes, garages, all farm buildings and for alterations, repairs, etc. Comes in boards 3-16" thick, 32" and 48" wide, standard lengths. Nails direct to studding or right over old walls. Every farmer should keep a bundle on hand for emergency use.

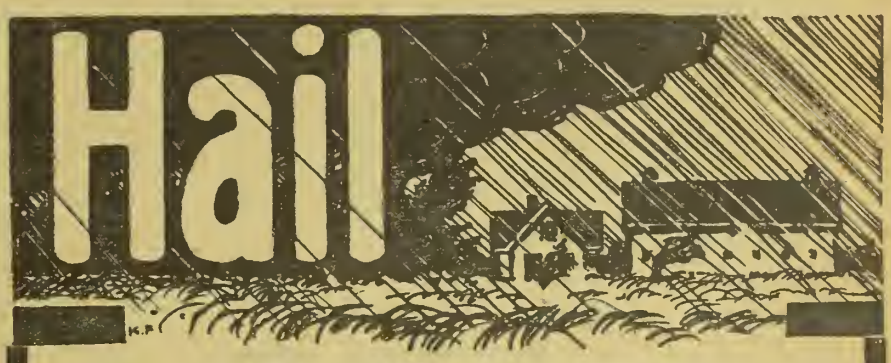
Descriptive Panel Suggestions FREE Send dimensions or blue print of any room or rooms and we will draw up distinctive Panel Suggestions with Cost Estimate. No obligation on your part. We will also send sample, handsome views and complete information. On special request we will send plans for Model Dairy Barn 31x72 ft. Mention Kansas Farmer.

CORNELL WOOD PRODUCTS COMPANY
173-175 W. Jackson Blvd, C. O. FRISBIE, President Chicago, Illinois

Cornell Wood Products Co., Dept. F-10 Chicago
Send sample and complete imformation—or—send Panel Suggestions as per dimensions or blue prints attached. I am not obligated by this service.

Name.....

Address.....



Hail

ARE YOUR CROPS PROTECTED?

You know the deadly work of hail. Within a few hours all your crops can be destroyed. Your income is gone. Your labor is wasted.

What a sense of security you have when your crops are protected against hail in a safe and conservative company. Don't risk another day, but insure now in a company whose officers are bonded to the State of Kansas for $50,000.

THIS IS THE COMPANY

that first put the insurance in force from the moment the application was signed and the premium paid. Always has adjusted all losses, no matter how small. We ask for your application on our past record. Don't wait for the storm, but write us for full particulars or see our agent before you insure your grain.

THE GRAIN GROWERS HAIL INSURANCE COMPANY
Elmer F. Bagley, Secretary, Topeka, Kansas.

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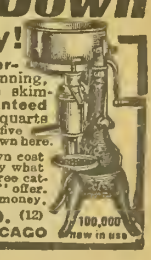
Only $2 Down
One Year to Pay!



$24 Buys the New Butterfly Jr. No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 95 quarts per hour. Made also in five larger sizes up to No. 8 shown here.

30 Days' Free Trial Earns its own cost and more by what it saves in cream. Postal brings Free catalog, folder and "direct-from-factory" offer. Buy from the manufacturer and save money.

ALBAUGH-DOVER CO. (12)
2181 Marshall Blvd. CHICAGO
100,000 now in use

MOLINE-Adriance Grain Binder



NEVER MISSED A BUNDLE

Mr. D. K. Smith of Attica, Iowa, says: "The draft and ease with which my Moline-Adriance Binder performs its work was really surprising, and I also wish to say, *It Never Missed Tying a Bundle.* The convenience and ease of all the levers for shifting the working parts, beats any Binder that I have ever seen. *I can gladly recommend this Binder to any one.*"

Mr. Smith is just one of many good farmers who enthusiastically endorse the Moline-Adriance for its reliability, light draft, convenience and lasting qualities.

Ask your Moline dealer about the Moline-Adriance Binder, or write us for illustrated literature.

Moline Plow Co., MOLINE, ILL. Dept. 10

THE MOLINE LINE INCLUDES
Corn Planters, Cotton Planters, Cultivators, Corn Binders, Grain Binders, Grain Drills, Harrows, Hay Loaders, Hay Rakes, Lime Sowers, Listers, Manure Spreaders, Mowers, Plows (chilled and steel), Reapers, Scales, Seeders, Stalk Cutters, Tractors, Farm Trucks, Vehicles, Wagons.

2 for 30¢



TALBOT 2⅜ in.
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ARROW FORM-FIT COLLARS

The curve-cut top and band assures perfect sit and fit as well as healthful ease and comfort.

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MAKE BIG MONEY BALE HAY THE ADMIRAL WAY

Get your hay to market, neatly baled, while the prices are high. Then reap big profits baling your neighbors' hay. Develop a steady business with the Admiral Power Press. Farmers specify the Admiral for neater, faster and better looking baling. Runs smoothly; free from needless parts. Low fuel costs.

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Thoroughly tested engine insures dependable service for all conditions of field work. Saws wood, grinds feed, etc. Run by tractor, steam or gasoline engine. William Russell of Meriden, Kas., made $8 to $10 per day during the baling season. Pays for itself in record time. Cash or time payments extended to you. Write for our new offer today.

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MAKE BIG MONEY
Concreting In Your Section

You can easily earn $8 to $20 a day with a Sheldon Batch Mixer. Our customers are doing it right now. The jobs go to the man with a Sheldon Mixer every time. Saves labor of 1 to 4 men, according to size of job. Or, if you buy machine for your own use, you can make many times its cost in a season by renting it to your neighbors.

Build Your Own Silo, Tanks, Troughs, Floors, Foundations, Buildings, Etc.

Out of concrete with a Sheldon Batch Mixer. The ideal machine for farm use. Built by a farmer for farmers. Will pay for itself on first small job. Beats hand mixing a mile. And, it's a lot cheaper, too. Takes the backache out of concrete. Makes possible those many small improvements on the farm; you wouldn't do without it. Improvements that save time, labor and money and add many dollars to the value of your land. Just the machine you need.

Make Your Own Concrete Mixer.

FREE Plans



At a cost so low you can not afford to mix concrete by the shovel method. Along with our iron parts we send Free Plans and permit for making your own machine. Or, we will sell you the complete machine. Two styles, hand or power. Will mix 2 1-2 cu. ft. a minute. Keeps 1 to 6 men busy. Has chain drive, self-tilting dump, easily moved, and all parts guaranteed. Does work equal to $400 machines, costs less than 1-10 as much. No other machine like it. Patented.

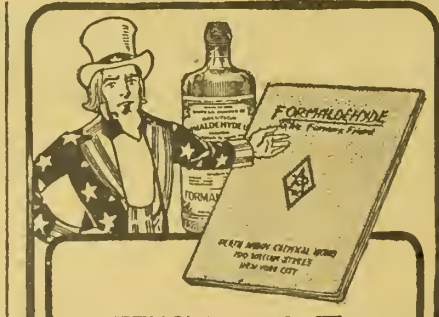
Write For FREE Catalog and Special Offer

Shows our full line. Sold direct to you on strong guarantee, backed by 30 days trial. Ten men wanted in every county right now to accept our *special offer*, which will help you secure a machine at little or no cost. Write us today for catalog and particulars of offer.

SHELDON MFG. CO.
Box 2350 Nebawka, Neb.

$11.50 up Sheldon Batch Mixer

Dairymen in Kansas are becoming more interested in knowing something about the producing capacity of their cows. There can be no progress in dairying without records. A two-year-old Jersey owned by P. J. Stauffer, of Sedgwick County, has just completed a thirty-day record of 840 pounds of milk having an average test of 5 per cent, or a total of forty-two pounds of butter fat. There is something about keeping records that makes a man have more respect for his business. It increases the interest and the work of caring for the cows ceases to be drudgery.



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The Farmer's Friend

is the best and most economical disinfectant—officially endorsed as *the* standard treatment for seed grains. It absolutely rids seed grains of smuts and fungus growth, also scab and blackleg diseases of potatoes—destroys germs in stables, cellars, kennels and chicken houses. One pint bottle costing 35c treats 40 bushels of seed. Write for the new illustrated Hand Book—FREE.

PERTH AMBOY CHEMICAL WORKS
100 WILLIAM STREET NEW YORK



Good Demand For Dairy Products

KANSAS markets have never been as good for dairy products as during the past winter, and all prospects indicate that the markets for the coming year will be fully equal to those just past. Along with the high price of dairy products we have had unprecedented prices for feed stuffs, so that although dairy products are at a high point, the profits from cows have probably been no greater this year than in former years, owing to the increased cost of maintenance. However, the dairyman who has been producing his own feed to a very great extent has had a greater opportunity for farm income than ever before.

The condition that confronts us at the present time makes it imperative that we consider where we are, very carefully. If the war continues through another season feed prices will undoubtedly remain at the present high level, unless we should have exceptionally favorable crop conditions throughout the summer.

The demand for dairy products is becoming greater each year, due not only to the increase in population, but to the fact that the people of the United States are becoming more and more impressed with the value of milk, butter, cheese, and other products of the dairy for food. The normal growth of demand, together with abnormal conditions brought about by the war, promise a market for the coming months that will be better than ever before offered for dairy products. Consequently there is not only a great opportunity for immediate profit, but a great responsibility resting upon the dairymen of the country to supply this valuable food product to our people.

The past winter has taught us a very important lesson. That is, of having an abundance of home-grown feeds for our cows. The men who have had silage and leguminous hay of some sort have been able to produce milk at much profit, while those who have been obliged to buy feed stuffs have hardly broken even. Consequently, an effort should be made to provide an abundant supply of suitable roughage for cows for next winter.

This will mean that there should be a silo on every dairy farm, because silage offers the cheapest and one of the best rougbages for feeding dairy cows. Now is the time to get busy on the silo proposition. Manufacturers of silos are already receiving large orders and in all probability more silos will be built in Kansas this year than ever before. Consequently the man who is going to buy a silo wants to make up his mind as to what he wants and get in his order early. Those who do not have money enough to buy or build a high-priced silo should construct one of the cheaper types of home-made silos. In the western part of the state this will mean the underground silo in most cases, while for those in the east some of the cheaper wooden silos will be the most practical.

In addition to building a silo, an effort should be made to provide good dry roughage to go along with the silage. Those who have alfalfa or clover need look no further than taking good care of these crops at the proper time. Those who do not have these should make an effort to get some other leguminous forage.

One of the best hay crops for the dairyman is a combination of oats and field peas. The season is so far advanced now that this crop must be sown at once, if at all. A little later cowpeas may be sown for hay. With a combination of good silage and leguminous hay the dairyman has at hand a ration which, with a small amount of grain, will produce most economically.

It is important that we get busy on this proposition at once and not only take advantage of the exceptionally high prices for dairy products, but realize that by producing a good supply of these food essentials we will be helping the country in what may be the greatest crisis of its history.—A. S. NEALE, Kansas Agricultural College.

Churning Temperatures

Those who make butter on the farm usually learn from experience the conditions effecting the churning. The butter should come in half an hour. If it does not, it usually means that the cream is too warm or too cold. In the winter about 60 degrees is the best churning temperature and in the summer 52 to 55. There are several factors that have to be considered. Cream from a cow that has just freshened should be churned at a lower temperature than cream from a cow well along in her milking period. Such feeds as grass, alfalfa hay, oil meal and silage produce a cream that can be churned at lower temperatures, while timothy and prairie hay, straw, corn fodder and cottonseed meal produce cream requiring a higher churning temperature. A dairy thermometer is a necessity in butter making. The 35 cents that it costs may easily be saved on one churning.

Select Bulls from Records

The modern dairy cow is bred so far away from the wild cow of nature that it is only by continual selection that the production of our herds can be maintained at the present level, to say nothing of increasing it. In a lecture given to a Farmers' Week audience, C. H. Eckles, of the Missouri College of Agriculture, pointed out that the only practical ways for most farmers to greatly improve their herds are to cull out the inferior cows and introduce the best possible blood through the sire. The old saying that the sire is half the herd is literally true from the standpoint of herd improvement. The sire selected should first of all be a pure-bred of the breed to which the cows belong. Cross breeding does not pay and in the end is disastrous to the herd.

The age of the bull so far as known has nothing to do with the characteristics he transmits. The advantage of the mature bull is that generally it is possible to see some of his daughters and in this way judge as to the character of his offspring. In buying a young bull the pedigree with records of his ancestors are the chief things to take into account. The mother of the sire selected should have the characteristics wanted by the breeder. As a rule those who buy bulls now require that the dam have an Advanced Register test which gives exact information as to her dairy quality. If the mother of the bull is one of a large group of high producing sisters, the chances are especially good that the characteristics will be transmitted. This would indicate that the animal in question belongs to a high producing family.

It is not wise to select a bull from a cow even with a wonderful record if she is the only good animal in her family. In this case she is a freak in her family and will probably transmit not her own milk production but the average of the family to which she belongs.

For a high-producing, pure-bred herd, the safest way is, so far as possible, to select a bull old enough to have daughters in milk. It is then possible to judge fairly accurately as to the character of her offspring.

The two methods of selecting bulls are illustrated by the herd bulls owned by the University of Missouri. Sultana's Virginia Lad, senior sire in the Jersey herd, was selected on account of his splendid daughters. His mother and half sisters were also considered. Sir Korndyke Hengerveld DeKol, at the head of the Holstein herd, was purchased when nine years old on account of his high-producing daughters. The new Jersey bull, Sophie's Demonstrator, was purchased from the Hood Farm on the basis of his pedigree and the records of his ancestors. Sir Melrose Canary, Ayrshire bull, was selected by pedigree and records of his ancestors. Duke Darlington, the dairy Shorthorn herd bull, was also selected by pedigree and the records behind him.

Should a brood of chicks be accidentally caught in a heavy shower of rain and so thoroughly soaked as to be almost dead, many of them can be revived by placing them near a warm stove or in the oven, if it is not too hot. It is wonderful what a revivifying effect the heat has on a half-drowned chick.

Self-Feeding Hogs on Pasture

THE self-feeder is distinctly a labor-saving device. That this method of feeding has special advantages in enabling pigs on pasture to use concentrates to good advantage is indicated by tests made at the Kansas Experiment Station last summer.

Thirty head of fifty-pound Duroc-Jersey pigs were divided into five lots and fed different rations for sufficient periods of time to make an average gain of 150 pounds per pig.

The results show that while all of the lots made good gains, those receiving corn, shorts and tankage made the most rapid and economical gains. The table on this page gives detailed figures.

The pigs which were fed corn, shorts, tankage, and alfalfa, when compared with those which ate only corn and alfalfa, made an average gain of 150 pounds in eighteen days less time, consumed thirty pounds less feed, and saved 43.5 cents per pig.

Compared with pigs which received corn and shorts but no tankage, those in the corn, shorts and tankage lot were ready for market eight days earlier, consumed forty-two pounds less feed, with a saving of 22.5 cents per pig.

The pigs in all of the alfalfa lots were pastured at the rate of eighteen head per acre. Upon this basis the ration of corn, shorts, and tankage and alfalfa pasture gave an advantage of $7.83 per acre of alfalfa when compared with corn and alfalfa pasture, and $4.05 when compared with corn, shorts, and alfalfa pasture. This comparison, however, does not fully explain the advantage gained in the use of corn, shorts, and tankage with pasture. With this ration more pigs could have been pastured per acre while fewer than eighteen pigs per acre should have been pastured when corn alone was used.

The corn-fed pigs grazed closely and practically ruined their pasture through rooting, while those in the corn, shorts, and tankage lots left an abundance of alfalfa and rooted very little.

Although the pigs fed corn and shorts left considerable pasture, they rooted more than the lots which received tankage. The rations which did not contain tankage were not entirely satisfying, due no doubt to the lack of either protein or mineral constituents.

The cheap gains with high-priced concentrates in this experiment indicate the efficiency of the self-feeder in handling concentrates for pasture-fed pigs.

Another point worthy of some attention is the relative market prices for hogs at different periods. C. M. Vestal of the animal husbandry department, who had direct charge of this experiment and who prepared the above report, investigated the average Kansas City market prices for hogs at different dates. He found that the average price for a five-year period—1912 to 1916—on September 26, sixty days from the time the experiment began, was $8.65 a hundred; on October 6, seventy days from the date of the beginning of the experiment, $8.60; October 16, eighty days, $8.55; October 26, ninety days, $8.20; November 5, 100 days, $7.95; November 15, 110 days, $8; November 25, 120 days, $7.20, and December 5, 130 days from the time the experiment started, $7.75.

The pigs used in this experiment were farrowed late, and therefore could not be prepared for market as early as pigs farrowed at an earlier date. The test began July 28, with the pigs weighing about forty-eight pounds apiece. With earlier-farrowed pigs and the same kind of feeding the hog grower might apply the average market prices quited in figuring the advantage to be gained by the higher prices of the early part of the season. This is a point often overlooked in figuring on the cost of preparing hogs for market.



SELF-FEEDERS IN ALFALFA FIELD ON EXPERIMENT STATION FARM, WHERE PIG-FEEDING TESTS WERE CONDUCTED

SELF-FEEDER FOR PIGS ON PASTURE

SIX PIGS IN EACH LOT, ALL FED CONCENTRATES IN SELF-FEEDERS	LOT 1 Corn Meal.70 Shorts ....24 Tankage... 6	LOT 2 Corn Meal.80 Shorts ....16 Tankage... 4 Alfalfa Pasture	LOT 3 Corn Meal Alfalfa Pasture	LOT 4 Corn Meal.55 Shorts ....45 Alfalfa Pasture	LOT 5 Corn Meal.80 Shorts ....16 Tankage... 4 Rape Pasture
Average initial weight, pounds.....48.6		48	47	47.6	47.1
Days to gain 150 pounds.....99		89	107	97	96
Average daily gain per pig, pounds... 1.51		1.68	1.40	1.54	1.56
Cost of concentrates per 100 lbs. gain.$6.04		$5.51	$5.80	$5.66	$5.53

Price of feeds per 100 pounds: Corn meal, $1.60; shorts, $1.45; tankage, $2.55.

Care of Milking Machine

The efficiency of the present day milking machine depends on the ability of the operator.

Several new milking machines have been placed on the market in the last few years and their manufacturers have carried on extensive advertising. Many farmers have been led to believe that with a machine their troubles would be at an end. As a result many machines have been sold. Although they apparently gave good results at first, many are not used now.

In most cases where the machine has been discarded, it has been the fault of the operator. It takes an able man to operate the machine and adjust it to the cow and get good results. Satisfactory results cannot be obtained unless it is properly adjusted to the cow. An efficient hand milker will get more milk from a cow than a machine. The machine, however, will do better milking than the average farm hand. For the farmer who has trouble getting good milkers and has from fifteen to twenty cows, the machine will work to good advantage.

It is necessary, when any machine is used, to finish by stripping the cows by hand. The stripping will vary from one-half to three pounds, depending on the disposition of the cow and the efficiency of the machine. As a rule, if the machine is properly handled, no more udder trouble will result than from hand milking. It is a good plan to strip the cows, even if but little milk is obtained, to determine the condition of the udder.

In case of purebred cattle, where high records are being striven for, the milking machine is not recommended, as more care and attention usually can be given by a good hand milker. This does not always hold true, however, as the Holstein cow, Fancher Farm Maxey, which produced 46 pounds of butter in seven days as a four year old, was milked four times a day with a machine. —J. B. FITCH, K. S. A. C.

If you drained the tank of your automobile last fall and have not used the car since, flush it out with a little gasoline. Moisture collects in a closed tank in cold weather.



Give Your Hogs a Chance to Protect Themselves!

All hogs need protection against disease—at all times. Worms, stomach and bowel troubles, liver, lung and kidney disorders, are a constant menace to your herd. These ailments make hogs easy victims of cholera, and some of these troubles are often mistaken for cholera.

The old methods of waiting till disease shows visible symptoms and then dosing the animals, has proven very costly to hog raisers. It is safe to say that by far the largest percentage of losses in hogs and other live stock is due to failure to administer correct preventives IN TIME.

Your hogs realize their need of medicine long before the care-taker does. If they have the remedy within reach, natural instinct leads them to "doctor themselves" before disease can take firm hold upon the system.

Carey-ized Stock Tonic Brick
The New, Sure, Common-Sense Method

of preserving or restoring hog health. Relieves you of all worry. Gives hogs the right medicine, at the right time, in the right quantity, and in the easiest, most economical manner. There's no overdosing, no underdosing, no waste, no disease, no loss. Your hogs will save themselves.

Composed of powdered gentian root, sulphate of iron, bi-carbonate of soda, sulphur, carbonized peet, quassia, charcoal and pure dairy salt. These ingredients, properly proportioned, constitute a powerful vitalizing force and worm destroyer. With proper feeding, builds up the system to resist all disease.

Carey-ized Stock Tonic Brick contains no harmful ingredients, such as arsenic, black antimony or other poisonous drugs to create a false appetite. It is all pure, wholesome medicine. As good for cattle, horses or sheep as for hogs.

If you are conditioning your hogs for market, Carey-ized Stock Tonic Brick will save from 15% to 25% of your feed cost. Enables animals to assimilate their feed more thoroughly—brings quick returns.

Economical To Feed

Put up in solid brick form which preserves full strength of medicine. Not affected by weather. Place it in the trough or feed box. Hogs will eat only when they need it and as much as they need. Not only supplies animals with needed medicine, but salts them regularly and economically.

Saved Sick Hogs

J. O. Schuler, R.F.D. No. 3, Hutchinson, Kan., writes: "If every farmer knew the good this Carey-ized Stock Tonic Brick will do, they would not experiment with all kinds of powders. You surely have the right thing for knocking the worms. A neighbor of mine was losing his hogs. I recommended your brick to him and he never lost another hog after feeding it."

Good for Sheep and Other Stock

G. W. Thompson, Hutchinson, Kan., Manager of the Mellick Sheep Ranch, writes: "300 of our flock were scouring badly, and in run down condition. Those sheep are now as healthy as the balance of the flock. They are gaining faster than any lot of sheep I ever saw, as a result of feeding Carey-ized Stock Tonic Brick. The brick is good for the rest of the stock also, as I notice they are eating better and looking better."

LIVE MEN WANTED to handle Carey-ized Stock Tonic Brick where we have no dealers. Good proposition; good territory. Write for full information.

Try it 30 Days at Our Risk

Order a dozen or more Carey-ized Stock Tonic Bricks from your dealer. Let your hogs have free access to them for 30 days, and if not satisfied with the result, return what you have left and your dealer will refund all your money. If your dealer does not handle it, write us his name and we will see that you are supplied.

Mail us the coupon or write us a postal today for fuller information.

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Please send me full information on Carey-ized Stock Tonic Brick.

I have.....hogs,.....cows,.....sheep,.....horses

My dealer's name.....

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My name.....

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Those who located in Central Kansas 20 years ago are the big farmers today. Their land has made them independent.

Your chance *now* is in the five Southwestern Kansas counties adjacent to the Santa Fe's new line, where good land is still cheap.

With railroad facilities this country is developing fast. Farmers are making good profits on small investments. It is the place today for the man of moderate means.

Wheat, oats, barley, speltz, kaffir and broom corn, milo and feterita grow abundantly in the Southwest counties referred to. Chickens, hogs, dairy cows and beef cattle increase your profits.

You can get 160 acres for $200 to $300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6 per cent—price $10 to $15 an acre.

Write for our book of letters from farmers who are making good there now, also illustrated folder with particulars of our easy-purchase contract. Address

E. T. Cartlidge,
Santa Fe Land Improvement Co.,
1892 Santa Fe Bldg., Topeka, Kansas.



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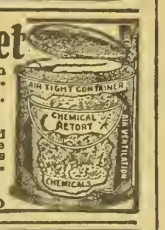

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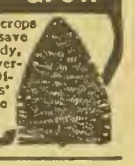

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51st YEAR. Over 28,000 former Students. Our modern Building has 15 elegant Rooms, including FREE GYMNASIUM and Auditorium. 21 experienced Teachers and Lecturers. Day and Night Schools all Year. Free Employment Bureau. Shorthand, Typewriting, Book-keeping and English Branches. Catalogue "K" Free. J. F. Spalding, A. M., Prest.

Ask your dealers for brands of goods advertised in KANSAS FARMER.

Never cross pure breeds of fowls. It is right and proper to grade up the common stock by the use of pure-bred males if you prefer, as such course is much better than no improvement at all, but when you have pure breeds, keep them pure. Crossing destroys all the characteristics of the breeds. Cross two birds of non-setting breeds and the result will be females that will set. The object should rather be to select the best layers of the breeds in the endeavor to increase the average each year. The hens that have made good records were never produced by crossing. Keep a record of your fowls and aim to have something better from them every year.



AGE TO SELL HENS

AT WHAT age should I sell hens? In other words, how long will hens be profitable? The general opinion among poultrymen is to sell all hens when two years old. On a plant where 1,000 hens are kept, 500 should be pullets and 500 one-year-olds. Under this arrangement it is necessary to reproduce one-half your flock each year. This is the most practical plan where hens are kept in large flocks for commercial purposes.

In numerous experiments it has been found that most hens lay a greater number of eggs in their pullet year than at any other period. If hens are forced for egg production in their pullet year they are seldom profitable the second season. At the agricultural college poultry farm where the hens are not forced but cared for and fed in a manner such as any person can reasonably give their poultry, numbers of hens have produced as many eggs in their second season as in their first, and in some instances more. Especially is this true of the egg breeds such as the Leghorns. The heavier breeds are more likely to put on fat after the first season.

In this matter of age the farm flock is commonly neglected. Nature has provided no means whereby a hen's age may be told. There are no new teeth to examine, no horns with their annual rings or no gray hairs to give them away. There must be some artificial means of knowing when they were hatched. A practical way to mark them is to punch a small hole in the web of the foot as soon as the chick is hatched. A punch for this purpose can be purchased for 25 cents. The first year a hole may be punched in the outer web of the left foot, the second year the outer web of the right foot, the third year the inner web of the left foot, and the fourth year the inner web of the right foot. In this way if a hen is especially valuable for any reason she may be kept four years. Where such a plan is followed as soon as a hen is caught its age can be told, provided you have made in a book a record of your system of marking. If you do not, you are sure to forget the mark for each year.

Ordinarily a hen must lay six dozen eggs to pay her board for a year. Very few of the general purpose breeds will lay more than this number after their second season. As most of the farm flocks are of these breeds, it will be readily seen that few hens will be profitable after this period.—N. L. H.

Turkey-Raising Hints

Many parts of Kansas are favored with conditions which make turkey-raising both easy and profitable. In the wheat belt where rain is not too abundant is the most desirable locality. This section is also favored in having an abundant supply of the most desirable turkey feeds always present. Turkeys thrive best when compelled to gather their living from the fields. This is true not only of the mature stock but of the young as well. They do not take kindly to confinement. It is sometimes necessary to confine the hen and her brood in wet weather till the poults are a week or so old. When this is done much care is necessary to induce the needed exercise and not to cause digestive troubles by over-feeding.

The poults may be hatched under chicken hens but should be given to the turkey hen to raise. This may be accomplished by setting a turkey hen when the other hens are set or by slipping a poult beneath a turkey hen that has just commenced to set. She will usually accept a brood in this way and mother them. At all times when the weather is dry enough to permit, the young turkeys should be allowed to range afield, there to feed themselves. Under such conditions when bugs and seeds are abundant little feed will be required other than a small amount scattered by their coop so as to induce them to always return. For the first two weeks they must be kept out of the heavy dews.

Lice is a cause of much mortality in young turkeys. The hens should be dusted once or twice during the incubation period to free them from lice so that the young may have a good start. If this is not done they are almost sure to have lice. Head lice, as with little chicks, are the most common. Where lice are found on the head a small amount of lard should be rubbed well into the skin. Occasionally body lice will appear. If this occurs, the poults should be carefully dusted with some such powder as Persian insect powder.

Careful feeding has much to do with success or failure in raising turkeys. A wise plan is to never allow the young to yet all they want, but to always keep them hungry. No feed is needed for the first forty-eight hours. After that they may be given such feeds as stale bread soaked in milk and squeezed dry; clabbered milk seasoned with pepper; boiled egg; corn bread crumbs, pinhead oats, etc. After the first week whole wheat, hulled oats and cracked corn may be given. When a week or so old, bugs, weed seeds and grass shoots will be about all they will require, and these will be gathered in the field with the mother hen. Where conditions are favorable there is a splendid profit in raising turkeys.—N. L. H.

Swat the Rooster

Does it pay to swat the rooster? As Rooster Day will soon be here, when most of the buyers will make a special price on roosters, it is time to decide what to do. Last year on ten million eggs it was found that where the country merchants had paid 25 cents a dozen after taking their loss off for candling, they received only 19 cents for the eggs. Most of this loss was caused by the eggs being fertile. This loss amounted to over 20 per cent on the purchase price of the eggs. The merchant could not afford to stand this loss, and in order to come out even would have to add enough to his prices for groceries to cover the 20 per cent loss on the eggs. It will thus be seen that the farmer in the long run has to stand the loss.

During the summer months in Kansas it is almost impossible to handle fertile eggs so they will not show the effects of incubation. The infertile egg does not deteriorate rapidly and may be shipped long distances in hot weather and arrive in good condition. People who produced absolutely infertile eggs last summer had practically no eggs candled out on them. Egg prices during the summer months would be much better if only infertile eggs were produced.

Kansas City Poultry Show

It has been announced by the Kansas City Poultry Club that an official show will be held this fall. The executive board has selected the dates of November 27, 28, 29, and 30, and December 1 and 2, and has engaged the entire Convention Hall. It is the intention to make this much more than an ordinary poultry show. It is proposed to make it not only the largest exhibit of birds ever given in this western country, but also a complete educational and appliance exhibit of everything connected with the industry. The Kansas City club has recently joined the American Poultry Association and the show will be conducted under A. P. A. rules.

A poultry club was recently formed in North Central Kansas at which the members pledged themselves to produce infertile eggs after the hatching season was over. More clubs of this kind are needed.

Tells Why Chicks Die

E. J. Reefer, poultry expert, of 4635 Reefer Bldg., Kansas City, Mo., is giving away free a new book which tells of a simple home solution that raises 98 per cent of all chicks hatched and cures white diarrhea over night. All poultry raisers should write for this valuable free book.—[Adv.]

Save Your Chicks—Free

Send two names to the Wight Co., 18 Main, Lamoni, Iowa, and they will send you enough Iowite Remedy, absolutely free, to save forty chicks from White Diarrhea.—[Adv.]



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Ask your dealer for Mayer Shoes. Look for the trade-mark on sole.

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Send for These Two Free Books



WENATCHEE NORTH COUNTRY
WASHINGTON

Great Northern Railway has just issued two beautifully illustrated descriptive bulletins. One describes opportunities in irrigated lands in West Okanogan Valley at the foot of the beautiful Cascade Mountains—fruit-growing and diversified farming paradise. Three crops of alfalfa first year after planting. One-third of entire new irrigated area settled in past year.

Investigate the Profits Made

in Wenatchee North Country. This year's fruit crops amazing. Alfalfa—corn—a great stock-raising country. Small tracts mean big profits. You can buy on easy terms. Be sure to read Wenatchee North Country Booklet. Either or both books about Washington's garden spots mailed on request. Write me personally

GREAT NORTHERN RAILWAY

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SAVES THE LITTLE ONES

Here it is—the one sure, safe, scientific chick feed. The feed that brings 'em through the first two weeks—the critical period. Don't permit roup, dysentery and other diseases to kill off your chicks when for a few cents you can keep them well. You will lose hardly more than 5 or 10 chicks out of every hundred—if—right from the start—you will feed

OTTO WEISS CHICK FEED

For "new" chicks. A natural food, prepared by poultry raisers who know how to mix the right ration of cereals, beef, bone and grit.

A pound feeds 50 chicks one week. Ask your dealer for it.





THE OTTO WEISS COMPANY
Wichita, Kan.

WHITE HOLLAND TURKEY EGGS FOR HATCHING

From Madison Square Garden, New York, winners. 40c each, $4 per twelve.

FRANK J. HICKS, Route 8, Onarga, Illinois

Develop Pullets Well

Pullets that are stunted by poor feeding during the first few weeks of their lives will prove a decided disappointment from the standpoint of their egg production.

If an abundant supply of eggs is to be expected next fall and winter, the young pullets must be fed from the first with this end in view. There is always shortage of eggs in the early fall and winter due largely to the fact that the care and feeding are not properly attended to during the early life of the chick.

Hens do not consume feed one day to manufacture it into eggs the next. Chicks should be fed a good ration throughout the entire year instead of being allowed to hustle for themselves after they have attained a weight of two or three pounds. It is practically impossible to induce the hens to lay during the cold winter months unless they have been well developed and started to laying during the nice fall weather.

General Farm Inquiries

A SHAWNEE COUNTY reader asks our advice relative to planting cane and cow peas together as a forage crop. He needs all the forage he can grow to supply feed for a herd of dairy cattle. The ground upon which he would plant this crop is very rich, having been very heavily manured.

Cow peas and cane make a very good forage combination. Of course, neither cane or cow peas should be planted until the weather gets warm, as they are both warm weather crops. The mixing of cow peas and cane has been tried on the agricultural college farm and Prof. L. E. Call states that they have found that a combination of a bushel of cane and a half bushel of cow peas gives very satisfactory results. The Orange or Sumac cane and Whippoorwill cow peas have given the best results on fertile land on the experiment station farm.

Cow Has Lumpy Jaw

F. R. E., Chase County, writes that he has a calf having a swelling of the throat extending from the ear down the back edge of the jaw to the gullet. Two kernels an inch and a half to two inches across can be felt, one on each side. The calf is four months old and is still sucking the cow. It seems to suffer considerable pain in swallowing. It was eating alfalfa hay before the sickness came upon it. It will not eat even bran or silage now. Our correspondent has tried poulticing the throat without result. He consulted the Department of Agriculture publication on diseases of cattle and thought the trouble might be parotitis. There is no indication of suppuration.

We have submitted the symptoms to Dr. R. R. Dykstra of the agricultural college and he replies as follows: "I am satisfied that this calf is affected with lumpy jaw. When lumpy jaw affects the region located under the parotid gland the symptoms will resemble those of the disease known as parotitis. In human subjects this is known as mumps. I believe that the location of the lumpy jaw in this case has caused you to confuse it with parotitis. This disease is always acute in character, while lumpy jaw is chronic or persistent. The circular regarding lumpy jaw will suggest the treatment to be recommended. The presence of pus may sometimes be detected by making an exploratory puncture with a hollow needle. As long as no pus can be detected the internal administration of iodide of potash is probably the best treatment. It is generally advisable to consult a competent veterinarian in connection with treating cases of lumpy jaw."



GROUP OF BOYS BELONGING TO COMMUNITY PIG CLUB AT KIRWIN, PHILLIPS COUNTY

Spreading Straw Saved Wheat

While a representative of KANSAS FARMER was visiting on the farm of G. D. Crumm, of Harper County, he was shown an eighty-acre field of wheat that had been saved by having straw spread on it in February. Mr. Crumm used one of the special straw spreaders now being sold very extensively and is highly pleased with the result. He believes it would have been better if the straw had been spread in December or January. The wheat is in fine condition and from present indications might easily be expected to yield twenty-five or thirty bushels to the acre.

The soil of this field is a little sandy and would have blown badly if the soil had not been spread. Just across the fences on three sides of this field, where no straw had been spread, the wheat is half blown out.

Preventing soil blowing is not the only advantage from straw spreading. Nearly all the land in Kansas that has been farmed for any considerable period of time needs organic matter. The more it becomes depleted in organic matter, the more easily it blows. Returning straw to the soil thus improves its physical condition and in addition actually aids plant food.

The straw spreader should be part of the equipment of every wheat farm where there is more straw than can be conveniently converted into manure by feeding it to stock or using it as bedding. The time is near at hand when practically every wheat grower will use every effort possible to get the straw back to the soil.

Sweet Clover in Alkali Bottoms

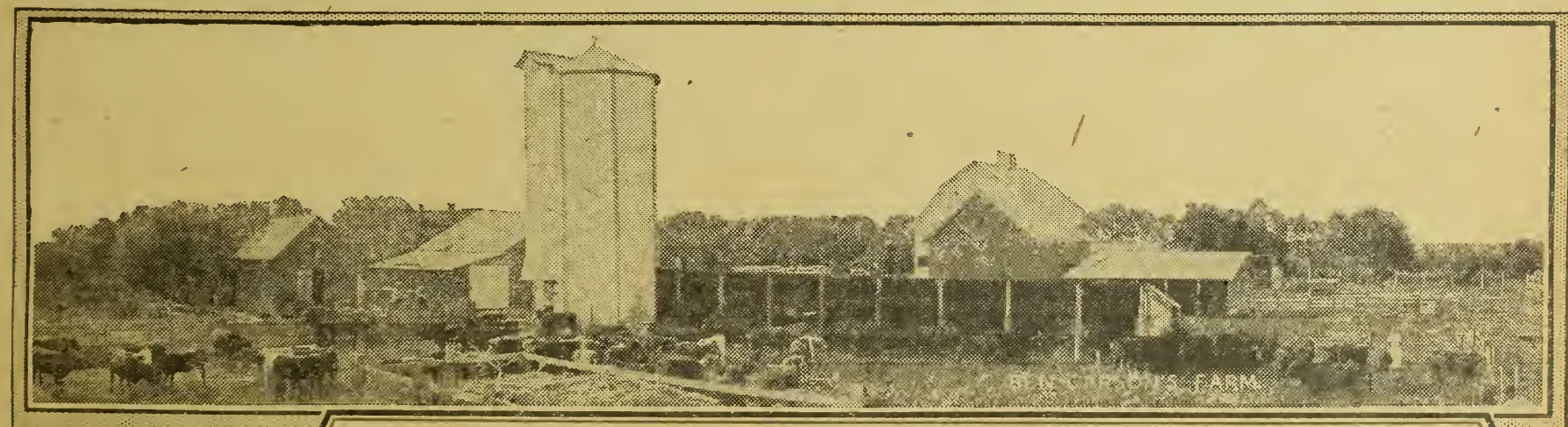
Sweet clover trials on bottom land that is quite sandy, contains alkali, or where the water table is too close for alfalfa to do well, have generally been satisfactory, according to reports coming from W. A. Boys, district agricultural agent working along the lines of the Union Pacific Railroad in Western Kansas. E. J. Guilbert, of Wallace County, secured good results from pasturing sweet clover. L. C. Frey, of Trego County, and H. J. Setchel, of Graham County, have secured good hay crops and also pastured this crop with satisfactory results. Sweet clover trials on divide land have generally been a failure.

Good stands of sweet clover have been secured by seeding from February to May. Some prefer February and March seeding to later. Eight to twelve pounds of hulled seed has been used per acre and good stands secured. Frequently not more than 50 to 60 per cent of the seed will germinate the first year, while the remainder will usually come the second year.

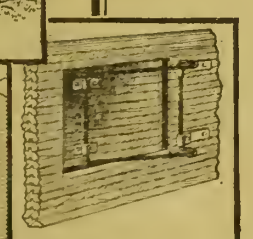
Several farmers are planning to seed small fields of sweet clover on the sandy bottom land along the Solomon River this spring.

Seed List Available

The canvas made of the seed needs of the state by the agricultural committee of the Kansas Defense Council indicates that there is plenty of seed available for this year's planting, providing it can be properly distributed. To further this end seed lists have been prepared showing the names of parties having seed, and these can be obtained by addressing J. C. Mohler, Secretary of the State Board of Agriculture, Topeka, or the Kansas State Agricultural College, Manhattan.







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Here is the ONE Silo that you can build yourself and build as well as if it were put up by expensive "experts." Furthermore, it is the most practical, serviceable and economical Silo for the man who makes farming a business, not a pastive. Compare these TUNG-LOK features with any other Silo made:

THE TUNG-LOK MAKES AND KEEPS SILAGE PERFECTLY, because it is built of wood, has no angles to interfere with compact filling, and its sides always are absolutely air-tight.

A TUNG-LOK, ONCE UP, IS UP TO STAY. It cannot warp, sag, buckle, crack, shrink nor swell, and will withstand wind pressure that would wreck the ordinary barn or farm house.

A TUNG-LOK HAS NO HOOPS TO TIGHTEN, no staves to shrink or warp, no cement to crack or crumble, no anchor cables to rust out.

A TUNG-LOK'S DOORS ARE THE SIMPLEST AND MOST EFFICIENT—self-sealing, no locks or clamps to get out of order, always in their respective places open or closed. When the silo is filled, these doors are perfectly air-tight, so there is no spoilage around their edges.

A TUNG-LOK COSTS LESS—there are no "extras" to pay for in building it. The price we quote you includes everything, except the foundation, to make a complete Silo—lumber, door hinges, bolts, nails and paint. You have no lumber bills for scaffolding and staging (an item of $40.00 or more in the case of many silos) and you need no skilled workmen to help you build. You cannot go wrong in setting up your **TUNG-LOK**—the patented sections are so made and marked that they can be put together in only one way—the simple, right way.

YOU SHOULD ORDER YOUR TUNG-LOK NOW! **A special feature of the TUNG-LOK is that it can be built in installments, at "odd times," without interfering with other farm work. If you order your TUNG-LOK now, you can have it completed and ready for use by late summer or fall, and without ever missing the time required to erect it. Think what it will mean to you, if there is a dry, hot summer, to have a silo ready to receive plenty of green feed for winter, no matter how short the corn crop may be!**

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Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement here reaches over 60,000 farmers for 5 cents a word per week. No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms, always cash with order.

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

HELP WANTED.

FARMERS WANTED—$75 MONTH. MEN and women. U. S. Government jobs. War means hundreds vacancies. Common sense education sufficient. Write immediately for list positions obtainable. Franklin Institute, Dept. C-82, Rochester, New York.

REAL ESTATE.

FOR SALE—A FEW GOOD FARMS AND Western Kansas wheat land. Rogers Land Co., 528 East Douglas, Wichita, Kansas.

WANTED—TO HEAR FROM OWNER OF good farm for sale. State cash price and description. D. F. Bush, Minneapolis, Minn.

BUYERS, SEE THESE BARGAINS BEfore you buy. Farms, businesses any kind, anywhere. Send for free magazine. Western Sales Agency, Minneapolis, Minn.

FOR SALE — RANCH 1,280 ACRES, 300 cows, 2,000 acres leased land will go with place. Buy of owner. S. C. Reveley, Centerville, New Mexico.

NEW FARM OPPORTUNITY IN ONE OF the greatest states in the Union. A new line of the Santa Fe is tapping a rich and fertile prairie section of Northwest Texas, where already many farmers have made good in a big way with wheat, hogs and live stock. Here, if you act now, you can get first choice—get in on the ground floor of a great opportunity. You can get in ahead of the railway—ahead of the people whom the railway will bring—ahead of those who act more slowly than you do. This is the chance of a lifetime for a man of moderate means. A certain number of thrifty, far-seeing farmers can acquire good land at an astonishingly low figure and on long, easy terms. If you have confidence that a great railroad, like the Santa Fe, would only recommend what it considers a good thing, and because it wants to see new territory developed and wants newcomers to prosper and produce—then write me today for particulars about this district. Mild climate, social advantages, schools, churches, telephones, good roads. Everything there but enough men with their families. Will you be one of the fortunate first comers to reap the advantages of a section that has been minutely inspected by a Santa Fe agricultural agent and pronounced right? Write me now and let me send you a copy of the special illustrated circular we are getting out. C. L. Seagraves, Industrial Commissioner, A. T. & S. F. Ry., 931 Railway Exchange, Chicago.

HORSES AND MULES.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

MISCELLANEOUS.

BLACKSMITH SHOP AND GARAGE with good tools, up to date, for sale right. R. C. Watson, Altoona, Kansas.

$15.00 KRESSLOR DISK HARROW. ATtachments for plows while they last. $5.00 each. Reschke Machine Works, Wichita, Kansas.

BUSINESS CHANCES

UNCLE SAM OIL COMPANY PAYS $40,000.00 cash dividend June 12. Stock purchased now participates. Price, $10.00 per thousand shares. A. L. Burton, 401 E. Douglas, Wichita, Kansas.

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

FARM SIGNS

PAINT YOUR OWN FARM SIGNS. EASY with our patterns and instructions. Send for copyrighted booklet entitled "Naming the Farm" containing 200 suitable names and sample pattern and introductory offer. C-N Sign Co., Box 15, Jackson, Minnesota.

ENGINES.

FOR SALE—SIX-HORSE GREAT WESTern gas engine, portable, has not had two weeks' service. $75. Twelve-horse Olds, portable, $250. Reschke Machine Works, Wichita, Kansas.

DOGS.

COLLIE PUPS FROM GENUINE STOCK dogs that drive from the herd. E. L. Dolan, Route 2, Platte City, Missouri.

SCOTCH COLLIE PUPS, $3. GOOD ONES, not quite pure-breds. L. Schul, Minneola, Kansas.

SCOTCH COLLIE PUPS, SABLE WITH white markings. Pedigree furnished. Males, $5; females, $3. Clarence Lacey, Maple Hill Farm, Meriden, Kansas.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

When Writing to Advertisers, Please Mention Kansas Farmer

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FIFTEEN 2-YEAR-OLD HIGH GRADE Holstein heifers. Five springing, ten bred for fall. Priced right. Jno. Davis, Miltonvale, Kansas.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $23 apiece. Frank M. Hawes, Whitewater, Wis.

HOLSTEIN CALVES — TEN HEIFERS and two bulls 15-16ths pure, 4 to 6 weeks old, $18 each, crated for shipment. Also one pure-bred heifer, three months old, $75. These calves are nicely marked. Four Way Farm, Whitewater, Wis.

TREES, SEEDS AND PLANTS.

EVERBEARING STRAWBERRIES—PEDigreed, Progressive Superb varieties. $1 per hundred. J. A. Dowden, North Bend, Neb.

FOR SALE — CHOICE BLACKHULL kafir corn for sale at $2 per bushel, f. o. b. here. V. D. Eberwein, Ralston, Oklahoma.

FOR SALE — SWEET POTATO SLIPS. 100, 30c; 1,000, $2.25, delivered. W. D. Hayman, Stillwater, Okla.

WE SAVE YOU MONEY ON ALL FORage crops, seeds and seed corn. Write at once for samples and prices. Watson Bros., Seed Merchants, Milan, Missouri.

SUDAN SEED, RECLEANED, FREE from Johnson. Delivered. Above fifty pounds, 30 cents; under, 35 cents. J. K. Burke, Idalow, Texas.

SUDAN GRASS SEED, CLEANED, CERtified free from Johnson grass. Less than 20 pounds prepaid, 35 cents per pound; 27½ cents pound net in 100-pound bags at your expense. Ellagene Farm, Aldine, Texas.

THE STRAY LIST.

TAKEN UP—BY S. L. WALTER, OF CEdar Township, Smith County, Kansas, on April 10, 1917, one cow, color red, about 4 years old, no horns, thin in flesh, no brands. J. F. Bennett, County Clerk.

Real Estate For Sale

170 ACRES SMOOTH PRAIRIE LAND—Eight miles McAlester, city 15,000. All tillable. 100 acres cultivation, balance meadow. Fair improvements. $34 per a. Terms. SOUTHERN REALTY CO., McAlester, Okla.

360 ACRES CREEK BOTTOM FARM
160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; $5,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only $45 per acre.
M. T. SPONG - - FREDONIA, KAN.

CAN YOU BEAT IT?

320 Acres, Trego County, Kansas. Six miles from Osgood, 12 miles from Ransom. 240 in cultivation, east slope; 80 acres rolling, good buffalo and bluestem pasture; some mow land; 4-room house; stable; 110 acres wheat, one-fourth delivered goes to purchaser. This is a bargain at $6,000. Only $2,000 cash.
FOUQUET BROTHERS LAND COMPANY
Ransom, Kansas

WILL TRADE LAND FOR STOCK.
One hundred acres tillable, sixty acres pasture. I want good registered Percheron mares or Red Poll cows. Write
CLYDE ABBOTT, LONG ISLAND, KANSAS

CHOICE 170-ACRE FARM, well improved, fine location. Also 80-acre farm, well located, good improvements. Both of these farms are in crop ready for cultivation. Must sell. Can give immediate possession. Write for descriptive list.
MANSFIELD LAND CO., Ottawa, Kansas.

In choosing a rug keep in mind the walls of the room where it will be laid and the furniture that will be used with it. It should not be lighter than the walls and the colors should be soft rather than glaring. If the furniture of the room is not all alike there should be several colors in the rug and these colors should be chosen with a view to making neither rug nor furniture conspicuous for its brightness. A little thought given to the choice of a rug will add to the restfulness of the room.

There are in these United States of ours 478 women county agents. Most of these agents are located in the South. Colorado and Utah have two agents each, and Illinois, Massachusetts, Michigan, Nebraska, New Hampshire, New York, Ohio, and Pennsylvania, each have one of these county agents. The fact that in the last three years the number of counties with women agents has increased from 279 to 478, is proof that these women are doing effective work.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

To fall in love with a good book is one of the greatest events that can mark our lives. It is to have a new influence pouring itself into our lives, a new teacher to inspire and refine us, a new friend to be by our side always, who, when life grows narrow and weary, will take us into his wider and higher and calmer world.—HENRY DRUMMOND.

Canning Demonstrator

Mrs. R. M. M., Brown County, makes the following inquiry:

"Will you please send me the name and address of the person sent out by the state to demonstrate the new methods of canning fruit and vegetables? How can we obtain the services of this person and what are the charges? I would like to get a demonstrator for our club."

The canning club work is in charge of Otis E. Hall, State Club Leader, who may be addressed in care of the Division of Extension, Kansas Agricultural College, Manhattan. Any inquiries for canning demonstrators will be promptly handled by Mr. Hall and provision made for starting this work in any community in the state.

We are glad to know that there is such an increased interest in canning work this season. This has come to our notice in many localities. The present food situation makes it imperative that we produce all the food possible and that we put forth every effort to make economical use of it and save all surplus of the growing season for winter use. This can be done successfully by the new methods of canning, and these new methods are available to all.

If you have not heretofore canned vegetables or if there are any fruits that you have been unable to can successfully, write Mr. Hall for these new methods, in order that you may have a part in the national program of conserving human food and thus helping to supply the great demand there will be for it in the coming months.

Plea for Fair Treatment

One of our readers—a farmer's wife—makes the following plea for herself and others who are responsible for the supply of butter and eggs:

"Those housewives who are trying to lower the price of eggs and butter, are selfish. They fail to see that the price of feed used in producing these foods demands that both eggs and butter be higher. Let them be fair to the farmer's wife. We buy and feed $1.26 corn, $1.40 kafir, and all other things we use are high-priced. We ask for fair play."

"Economize" Our Slogan

We are being daily reminded of the great need for practicing economy in every possible way—both individually and collectively. Our nation is at war and none of us can tell how long the war will last. We are also expected to furnish food to other nations fighting for the same cause. When we consider that two million or more American men will be called from the ranks of production during the war, the weight of our burden becomes apparent and we realize that only through persistent and united effort can we meet the demand.

Most housewives feel that they are economical but few of us know what real economy is so long as our supply is not cut off. We feed our families from the standpoint of giving them what they want rather than what they need for bodily maintenance and energy, and many times efficiency is sacrificed in this very way. We clothe our families just as well as we can instead of as well as they need. By carefully studying our own conditions, most of us can materially reduce our living cost by considering needs instead of wants. Is it not our duty to be satisfied with supplied needs and forget the luxuries or unessentials so long as the war situation warrants it?

Bulletins for Housewives

"How to Select Foods" is the title of Farmers' Bulletin No. 808 just issued by the U. S. Department of Agriculture. This bulletin is full of help for those who would furnish the members of the family a balanced ration at reasonable cost. This, and the following bulletins, can be obtained without cost, by writing the U. S. Department at Washington:

Meats: Composition and Cooking—Farmers' Bulletin 34.

Beans, Peas, and Other Legumes as Food—Farmers' Bulletin 121.

Canned Fruit, Preserves, and Jellies: Household Methods of Preparation—Farmers' Bulletin 203.

Cereal Breakfast Foods—Farmers' Bulletin 249.

Preparation of Vegetables for the Table—Farmers' Bulletin 256.

Use of Fruit as Food—Farmers' Bulletin 293.

Food Value of Corn and Corn Products—Farmers' Bulletin 298.

The Use of Milk as Food—Farmers' Bulletin 363.

Care of Food in the Home—Farmers' Bulletin 375.

Economical Use of Meat in the Home—Farmers' Bulletin 391.

The Care of Milk and Its Use in the Home—Farmers' Bulletin 413.

Mutton and Its Value in the Diet—Farmers' Bulletin 526.

Sugar and Its Value as Food—Farmers' Bulletin 535.

Use of Corn, Kafir, and Cowpeas in the Home—Farmers' Bulletin 559.

Corn Meal As a Food and Ways of Using It—Farmers' Bulletin 565.

Honey and Its Uses in the Home—Farmers' Bulletin 653.

School Lunches — Farmers' Bulletin 712.

Food for Young Children—Farmers' Bulletin 717.

Homemade Fireless Cookers and Their Use—Farmers' Bulletin 771.

"That the intelligence and the integrity of its citizens who live in the open country constitute the cornerstone of a democracy is generally accepted, but the value which women have in the upbuilding and perpetuation of a worthy rural life has been largely overlooked until in a very recent period."



DAINTY, THOUGH SIMPLE, OUTER CLOTHING IS FAR MORE COMFORTABLE FOR THE BABY, REQUIRES MUCH LESS WORK ON PART OF THE MOTHER, AND WEARS LONGER

Farm Items

Beans a Profitable Crop

Beans are something that are as easily grown here in the West as elsewhere. They do well either in regions of moderate rainfall or under irrigation.

For early break beans I plant the Golden Wax and Burpee's Stringless Green Pod. The Golden Wax is a trifle earlier than the green pod and a prolific bearer, but for a main crop for pickling and canning as well as for general use during the summer, I prefer the latter. The pods are tender and succulent and so easily and quickly prepared for cooking, which counts for a great deal when one has much to do and must make every minute count. I take the stringless bean every time, in preference to any other. The seed is a dark reddish brown, and when large enough to shell, before they begin to ripen, they are delicious, cooked either in pods or out.

Last year we planted three short rows, two rods long, and they bore continuously from the middle of June till the first of October. We had all we wanted for table use, I gave some away and canned and pickled thirty quarts.

Another bean we have found it profitable to grow is the Mexican bean, of which we are quite fond, preferring it to the white navy bean for winter use.

We had been buying them at the store to cook, and tested some of the beans to see if they would grow. Nearly every one sprouted, so we planted five rows of these. They make a compact growth, vining considerably but requiring no brushing. As soon as these would do to shell we began using them. The pods are edible when young but quite stringy, so I let them grow to maturity.

After using of these all fall—they did not begin to ripen till August—we had half a bushel left for winter.

I have tried to grow the white lima or butter bean, but have not been very successful with it here. The Old Homestead or Kentucky Wonder does fine, however, as does also the Cut Short or Corn Hill.

I wish someone who has found a way to outwit the squash bugs would report proceedings. I say "bugs" because we are pestered with two or three different varieties and I have tried a dozen different remedies all to no avail.—MRS. C. K. TURNER, Mead County.

Securing Farm Labor

Western Canada is advertising for 50,000 hired hands to replace laborers gone to war. County organizations should take a lesson from this and advertise for the labor they need.

Learn to use the labor bureaus of Topeka and Kansas City, your own local post office and farm bureau office if in a county having a farm bureau organization.

Agricultural Agent A. D. Folker, of Jewell County, reported to his bureau early in the spring that he had been in touch with the labor bureaus in Kansas City, Chicago and Topeka, and also with the Baron De Hirsch Agricultural School, Woodside, New Jersey. He keeps at the farm bureau office a supply of application blanks for any farmer wishing labor.

The Inspector of Immigration, 845 South Wabash Avenue, Chicago, wrote to Mr. Folker as follows: "This office has been sending farm laborers to positions on farms right along for several years. We have applicants of all classes and nationalities, who are generally used to that work. Not many immigrants are coming to this country, however, as compared with former years, owing to war conditions in the old country, and most of those who apply for farm work are those who have been for several years in this country, many being American born and raised on farms. The common wage scale for single men is $35 per month during summer, $45 to $50 for married men."

The Federal Director of Employment, 804 Grand Avenue, Kansas City, says: "We are daily directing both single and married men to work on farms and shall be very glad to assist any farmer in your county to secure competent help."

Tractor Demonstration

There will not be a series of tractor field demonstrations this year. The manufacturers of farm tractors came to this decision at a meeting held in Chicago April 6. Instead of holding a number of demonstrations in different parts of the country, as has been done the past two years, one national demonstration will be held at a location to be decided upon later. It is probable that Fremont, Nebraska, will be selected as the place for this demonstration.

In view of the present labor situation on the farms it seems certain that tractors will take a most important place in bringing about increased production of crops. Manufacturers of power farming equipment recognize this, but they are being affected by high cost of materials and other war conditions and under the circumstances felt that it would be better business judgment to conserve their resources and center on a single demonstration.

RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNDRED. Nora Lamaster, Hallowell, Kansas.

EGGS — CHOICE BARRED ROCKS, thirty, $1.50; hundred, $4.50. Catharine Beightel, Holton, Kansas.

BARRED PLYMOUTH ROCKS — FARM-bred beauties. Eggs for hatching, 5c each. Mrs. W. C. Bocker, Solomon, Kan.

HIGH QUALITY BARRED "RINGLETS." 100 chicks, $15. Eggs, $5. Edward Hall, Junction City, Kansas.

FINE BARRED ROCK EGGS FROM farm raised flock, $1.50 per fifteen. Mrs. J. A. Grimes, Milo, Kansas.

BARRED ROCK EGGS, FANCY STOCK, heavy laying strain, $4.25 per hundred. Earl Summa, Dept. G, Gentry, Missouri.

WHITE ROCKS, SIZE AND QUALITY, good egg strain. Eggs—fifteen, $1; fifty, $3; hundred, $5. G. M. Kretz, Clifton, Kansas.

BUFF AND WHITE ROCK EGGS, $2.50 per fifty, $5 per hundred. Excellent show record. W. H. Beaver, St. John, Kansas.

WHITE ROCKS — PURE-BRED FARM range choice stock. Eggs, fifteen, 75c; 100, $4. H. F. Richter, Hillsboro, Kansas.

WHITE ROCKS, FARM RAISED, PRIZE winners. Eggs, $1.25 setting; $3, fifty; $5, hundred. Mrs. Ben Miller, Newton, Kansas.

PURE BARRED ROCK EGGS — FARM range, $1 per fifteen, $5 per hundred. Mrs. H. Buchenan, Abilene, Kansas.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." $35 cockerel heading Pen No. 1. Eggs, $4 per fifteen. Mrs. Iver Christenson, Jamestown, Kansas.

FOR SALE — BARRED AND WHITE Rocks. Best blood lines in America. Forty premiums 1916-1917. Write for mating list. H. F. Hicks, Cambridge, Kansas.

BARRED ROCK EGGS FROM PRIZE winners at State Fair, 1917. Pens, $3 per fifteen; range, $6 per hundred. S. H. Vincent, Sterling, Kansas.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, $3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

PRIZE WINNING BARRED ROCKS — Four entries, five prizes, State Show 1917. Eggs, special mating, $3 to $5; farm flock, $1. C. D. Swaim, Geuda Springs, Kansas.

BARRED ROCKS—73 PREMIUMS, TOpeka, Manhattan, Clay Center, Denver. Eggs—Fifteen, $5; thirty, $9; fifteen, $3; thirty, $5. Chicks, 50c and $1. Italian bees. Mattie A. Gillespie, Clay Center, Kansas.

BARRED PLYMOUTH ROCK, RINGLET and Bradley strain. Have good show record. Stock for sale. Cockerels, hens and pullets. Eggs, $2 per setting. Jas. W. Anders, Unionville, Missouri.

BARRED ROCK EGGS, BOTH MATINGS. Pens, $3 fifteen; range, $5 hundred delivered. Won first pen, first cock, first and second pullet, second and third cockerel, Kansas State Fair, Hutchinson. Fertility guaranteed. Ed Schmidt, Geneseo, Kansas.

RINGLET BARRED ROCKS—GOOD LAYers. Eggs from pens prize stock, Pittsburg and Oklahoma City, both matings $5 setting. Range headed by pen males $5 hundred. Chicks 12c and 50c each. Circular free. Mrs. W. E. Schmitendorf, Vassar, Kansas.

WHITE LEGHORNS

EGGS FOR HATCHING FROM HOGAN'S laying strain of Single Comb White Leghorns, $5 per hundred. Roy Rhodes, Maize, Kansas.

OUR SINGLE COMB WHITE LEGHORNS are real layers. Bred exclusively 15 years. Eggs, 100, $4. Ed N. Regnier, Wamego, Kansas.

ROSE COMB WHITE LEGHORN EGGS for hatching from full blooded birds. Satisfaction guaranteed. $4 per hundred, $7 per two hundred. Mrs. Joe Streeter, Route 5, Hamilton, Missouri.

MINORCAS.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

S. C. BLACK MINORCA EGGS FOR hatching. Pen No. 1, $2; pen No. 2, $1.50 for fifteen eggs, $6 per hundred. W. F. Fulton, Waterville, Kansas.

BRAHMAS.

HIGH SCORING LIGHT BRAHMA EGGS $1.00 per fifteen, parcel post prepaid. Geo. Pratt, Route 2, Topeka, Kansas.

RHODE ISLAND REDS.

FINE ROSE COMB REDS—EGGS, $4.00 hundred. Adda Walker, White City, Kan.

S. C. R. I. REDS—EGGS FOR HATCHing, $1 for fifteen, $5 per hundred. M. M. Long, Maitland, Mo.

PURE SINGLE COMB RHODE ISLAND Red eggs, 5c apiece. Prepaid. C. A. Madden, Abilene, Kansas.

ROSE COMB RHODE ISLAND REDS—Utility stock. Winter layers. Eggs, $2, 15; $5, 45; $9, 100. Louise Krigbaum, Route 1, Topeka. Phone 2427 K-4.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Baby chicks. Mating list. L. E. Castle, Wichita, Kansas.

LARGE, DARK, RICH EVEN RED R. C. Reds—Eggs, fifteen, $1; fifty, $3. Dark colored range flock, $5 hundred. Nora Luthye, Route 6, North Topeka, Kansas.

DARK R. C. REDS, PURE-BRED, EXTRA fine. Eggs, $3 and $2 per fifteen; $5 per hundred. W. J. Honeyman & Sons, Hillside farm, Madison, Kansas.

PURE-BRED ROSE COMB RHODE Island Reds. Eggs for hatching, $1 per fifteen, $5 per hundred. Mrs. L. F. Hinson, Stockdale, Kan.

ROSE COMB REDS — PRIZE WINNERS and special on color at State Fair, 1917. Pens, $3 per fifteen; range, $6 per hundred. S. H. Vincent, Sterling, Kansas.

EGGS FOR SALE—S. C. R. I. REDS.—Breeder for twelve years. $1.50 per setting of fifteen; $5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

LEGHORNS.

TIP TOP ROSE COMB BROWN LEGhorn eggs. J. E. Wright, Wilmore, Kan.

S. C. W. LEGHORN EGGS. STATE WINner. Mrs. W. R. Hildreth, Oswego, Kansas.

PURE-BRED SINGLE COMB BROWN Leghorns. Choice farm flock. Eggs, 100, $4. Mrs. D. A. Wohler, Hillsboro, Kansas.

SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

S. C. B. LEGHORN EGGS—GOOD STOCK. Fifty, $2.75; 100, $5. Carriage prepaid. Cornelius Phillips, Route 9, Emporia, Kan.

PURE SINGLE COMB BROWN LEGhorn eggs, $4 hundred. Baby chicks, 10c each. Mrs. Will Brooks, Beattie, Kansas.

EGGS, EGGS FROM KEEP-LAYING strain Single Comb White Leghorns. Thol. R. Wolfe, Conway Springs, Kansas.

ROSE COMB BROWN LEGHORNS WON five prizes, two state. Eggs, fifty, $1.90; hundred, $3.75. Rufus Standiferd, Reading, Kansas.

S. C. BROWN LEGHORNS—HAVE BEEN raising them 21 years, the 222 to 266 egg record kind. Under hens the fertility runs 95%. Eggs—Fifteen, $1.25; 100, $5. Safe arrival guaranteed. Gorsuch, Stillwell, Kan.

WYANDOTTES.

WHITE WYANDOTTES — EGGS FROM choice stock, $1.30, thirty; $5, hundred. Mrs. Will Beightel, Holton, Kansas.

PURE-BRED WHITE WYANDOTTES — Eggs, fifteen for $1, or 100 for $5. Mrs. Clarence Kagarice, Darlow, Kansas.

CHOICE ROSE COMB SILVER WYANdotte eggs, $1 for 15; $5 for 100. Mrs. Phillip Schuppert, Arrington, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $6. Mrs. Edwin Shuff, Plevna, Kan.

ROSE COMB WHITE WYANDOTTE eggs, per fifteen, $1; one hundred, $4. H. A. Ritter, Route 2, Kiowa, Kansas.

EGGS — SILVER LACED WYANDOTTE. Fifteen, $1; hundred, $5. Chicks, 10c each. Lawrence Blythe, White City, Kansas.

WHITE WYANDOTTE EGGS—FIFTEEN, $1; hundred, $5. Careful selection and packing, John Smoley, Marengo, Iowa.

SIXTEEN WHITE WYANDOTTE EGGS, 90c; 100, $4. Mrs. Geo. Rankin, Gardner, Kansas.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuis, Fredonia, Kansas.

PURE-BRED WHITE WYANDOTTE AND Single Comb White Leghorn eggs, $1 per fifteen, $5 per hundred. A. F. Hutley, Maple Hill, Kansas.

SILVER WYANDOTTES. YES, I AM still selling Silvers. Have some good cockerels left. Eggs in season. Prices reasonable. Write me. M. B. Caldwell, Broughton, Kansas.

WHITE WYANDOTTE EGGS — REGAL strain, prize winners. Farm range, $5 hundred. Pen 1, Martin male direct, fifteen, $5. Pen 2, high scoring male, fifteen, $3. Prepaid. Frances Fleury, Concordia, Kansas.

DUCKS AND GEESE.

BUFF DUCKS — WINNERS WITH EGG record. Eggs, $1.50 per thirteen. Mrs. J. H. Wood, Solomon, Kansas.

FAWN RUNNER DUCKS—WHITE EGGS, prize winners. Eggs, $1 setting, $5 hundred. Mrs. Ben Miller, Newton, Kansas.

TOULOUSE GEESE AND EGGS FOR sale or trade for Runner ducks. All breeds. Emma Ahlstedt, Roxbury, Kansas.

FAWN WHITE INDIAN RUNNER DUCKS from best laying strains in the country. Fifteen eggs, $1; fifty, $2. Nora Luthye, Route 6, North Topeka, Kansas.

BABY CHICKS.

REDS, ROCKS, LEGHORNS; 12c. REquest folder. McCune Hatchery, Ottawa, Kansas.

ORPINGTONS.

PURE-BRED WHITE ORPINGTONS — Eggs for hatching, $1 per fifteen, $5 per hundred. Frank Hinson, Stockdale, Kansas.

BUFF ORPINGTONS EXCLUSIVELY.—Even buff, large type, prize winners. Eggs, $3 and $2 setting. John Shaffer, Alma, Neb.

EGGS FROM CRYSTAL WHITE PRIZE winning stock, White Orpingtons. Great winter layers. Fifty-five eggs January 20 from sixty-five hens, at live and let live prices. Send for list. John Vanamburg, Marysville, Kansas.

SEVERAL BREEDS.

EGGS FROM EXTRA GOOD BOURBON Reds, $3 for eleven. Silver Laced Wyandotte eggs, $1 for fifteen. Julia Haynes, McDonald, Kansas.

BARRED AND BUFF ROCKS — SINGLE Comb White Leghorns. Fawn and Pencilled Runner Ducks. Eggs—Fifteen, $1; hundred, $5, from range flocks. J. T. Rickman, Kiowa, Kansas.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

FOR SALE, EGGS—EGGS FROM PUREbreds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

TURKEYS.

FOR SALE—LARGE PURE-BRED GIANT Bronze turkey hens. One tom. Eggs, 50c each. Vira Bailey, Kinsley, Kansas.

THIRTY-NINE POUND TOM — WHITE Holland eggs, $3 ten. Mrs. S. F. Crites, Florence, Kansas.

BOURBON RED TURKEY EGGS FROM best selected stock. Mrs. D. A. Rodgers, Concordia, Kansas.

MAMMOTH BRONZE TURKEYS OF high quality. Good copper bronze and white edging. Have show record. Eggs—$6-$10 per dozen. Jas. W. Anders, Unionville, Mo.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

BOURBON RED TURKEYS, WORLD'S best strain. Great big, vigorous, farm-raised, deep-breasted birds. Also white-egg Indian Runner ducks, all from prize winning stock. Eleonora Poultry Ranch, Brighton, Colorado.

LANGSHANS.

GET MY FREE MATING LIST OF MADison Square and Chicago prize winning Langshans. John Lovette, Mullinville, Kan.

BLACK LANGSHANS — STOCK FOR sale. Cocks, cockerels, hens and pullets. My birds have great show record. Eggs, $2 per setting. Jas. W. Anders, Unionville, Mo.

PHEASANTS.

PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Booking orders. Eggs of these, $4 dozen; Golden, $5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

RHODE ISLAND WHITES.

GUARANTEED EGGS FROM EXCELsior Rose Comb Rhode Island Whites, $2 per fifteen, $3.50 per thirty prepaid. V. O. Jones, Bancroft, Kansas.

ANCONAS.

S. C. ANCONA EGGS, $5 HUNDRED. Fine layers. Mrs. Will Torgeson, White City, Kansas.

SINGLE COMB ANCONAS—EGGS, FIFteen for $1.25 or $6 per hundred delivered. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

SINGLE COMB ANCONA AND SILVER Laced Wyandotte eggs, $1.25 per sixteen by post prepaid. Mrs. Cecile McGuire, Pratt, Kansas.

S. C. ANCONAS — PRIZE WINNING stock, farm range, $1.50 for fifteen; $5 hundred. Address Mrs. H. F. Knutzen, Bruning, Nebraska.

Growing Tomatoes

Every family should grow enough tomatoes for home use, and this should include a liberal supply canned for winter. The tomato is classed with the warm weather vegetables and should not be transplanted to the field until all danger from frost is past. In Kansas the transplanting season lasts from early in April through the month of May. The earlier tomatoes are set in the field, provided they are not hit by a frost, the better.

Prof. Albert Dickens, of the agricultural college, gives the following instructions on growing tomatoes:

The best success is obtained by growing the plants in a flower or paper pot. They may then be set out in the open field with a ball of soil and there is less danger of breaking the feeding roots. Large plants should be set deeply and if long and spindling, a greater portion of the stem should be placed in the ground. Set the plant a little deeper in the soil than it previously stood. If water is used, some loose soil should be pulled over the puddled portion to prevent evaporation. Medium sized plants apparently stand the hardship of transplanting better than real small plants. Do not permit the roots to wilt, as any check to their steady growth will cut down the yield. During hot, dry weather we have found it advisable to cover the plants during the day with newspaper shaped like a cone. This method is only practical on small plantations.

Large varieties should be set at least four feet apart each way. The smaller or tree tomatoes may be set two feet apart in the row and three feet between the rows.

Tomatoes are usually pruned to one, two or three stems. These plants are staked and tied with some thick material to prevent bruising of the stems. This pruning usually begins when the plants are from twelve to fifteen inches high. Experiments have been tried which would indicate a higher yield from plants so treated. Another and very important point is the length of the picking season. Pruned vines permit of a much longer picking season.

Tomatoes grow well on almost any soil, but a friable rich sandy loam is considered best for a heavy yield. These plants succeed, however, in a variety of soils.

Begin cultivation as soon as possible after the plants are set in the field and keep it up during the entire summer. Cultivate after every rain or after every irrigation. Provided there is a long dry spell, cultivate the soil often to conserve the moisture. Cultivation should continue as long as one is able to run a cultivator between the rows without breaking the plants. Moisture is an important factor in the growing of tomatoes, as it is claimed that water not only controls the blossom-end rot but doubles the yield as well. This moisture may be secured by mulching and irrigation.

Two of the most destructive diseases are blossom end rot and the so-called Mosaiac disease. The former is said to be controlled by the use of water, keeping plenty of moisture in the soil. There is no practical remedy for the latter disease. Bordeaux mixture is helpful in the control of several other diseases of the tomato.

The tomato bug and cutworm often cause considerable damage to the crop. For the potato bug, spray with arsenate of lead or Paris green. Two pounds of arsenate of lead and one-half pound of Paris green to fifty gallons of water. This spray will also control the large green worm that attacks the foliage. For cutworms on small areas use a paper cuff around each plant, encircling the plant to a height of four inches. In large plots one teaspoonful of Paris green and two tablespoonfuls of syrup to one quart of bran. Make this mixture into a stiff dough with water and place a small portion of this near each plant. Spraying with Bordeaux mixture helps to control late wilt and leaf spot.

Begin, live, aspire, realize the best ideal of the moment; and this earnest effort shall lead the way to greater achievements.—H. W. DRESSER.

The Aberdeen-Angus Association sale at St. Joseph, Missouri, April 25, was one of the successful sales of the season. The fifty-nine bulls offered sold for an average of $178.13. This included a number of ten-months-old bulls. The eighteen females offered under the auspices of the Missouri Aberdeen-Angus Association averaged $160 per head. The top price of the sale was $530. A number of good bulls went to Kansas buyers.

HOLSTEIN CATTLE.

MAURER'S HOLSTEIN FARM

Is offering a number of choice young pure-bred cows with good A. R. O. records; also yearlings and heifer calves and a select lot of young bull calves with world's record backing. Write for pedigrees and bargain prices. Also grade cows, heifers and heifer calves.
T. R. MAURER & CO. - - - - - - - - EMPORIA, KANSAS

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

CEDAR LANE HOLSTEIN HERD

We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.
T. M. EWING, INDEPENDENCE, KANSAS

NEMAHA VALLEY HOLSTEIN FARM

Choice yearling bulls and bull calves. World's record blood lines. Price reasonable. We invite inspection of our herd.
H. D. BURGER, Route 2, SENECA, KANSAS

Description, pictures and records of twelve
TREDICO BULLS
Six months old and younger. Write for them.
Geo. C. Tredick, R. 2, Kingman, Kan.

Holstein and Guernsey Calves—Both sexes, 5 weeks old, nicely marked, fawn and white and black and white, mostly 15-16ths pure. $20 each, crated for shipment anywhere. Satisfaction guaranteed.
Edgewood Farms - Whitewater, Wisconsin

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

HOLSTEIN CALVES
Very high grade heifer calves, five weeks old, nicely marked, $23 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

CEDAR LAWN FARMS
C. A. Schroeder & Sons, Props.
Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.
W. C. SCHROEDER - WEST BEND, WIS.

Shady Brook Holsteins

A few choice young springers, also some high class young bulls. If you want record breeding, we will be pleased to have you inspect our offering.
M. E. MOORE & CO. - CAMERON, MO.

HIGH GRADE HOLSTEIN CALVES

Five to six weeks old, nearly pure, well marked, $20, express paid.
COLD SPRINGS FARM, Whitewater, Wis.

Braeburn Holsteins A. R. O. BULL CALVES
With De Kol-Netherland-Korndyke main blood lines, and Johanna, Walker, King Segis out-crosses. H. B. Cowles, Topeka, Kan.

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Imported and Home-Bred
PERCHERONS AND BELGIANS
A gilt edge guarantee of 60 per cent, good for two years, given with each horse sold.
W. H. RICHARDS
Emporia - - Kansas
Barns four blocks from A. T. & S. F. depot.



PERCHERONS, BELGIANS, SHIRES.
Ton stallions ready for heavy stand; also yearlings and twos. Young fillies, also mares with colt by side and bred again. All registered. One hundred individuals of first rank for sale.
FRED CHANDLER, R. 7, Chariton, Iowa
Just above Kansas City

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

OHIO IMPROVED CHESTERS

PURE-BRED O. I. C. PIGS, April 3 Farrow. Boars $15.00.
JOE FOX - - GREELEY, KANSAS

AYRSHIRE CATTLE.

RIVERSIDE AYRSHIRES
Most profitable dairy cow. Herd headed by a son of August Lassie, the 4-year-old champion. Young animals, both sexes, for sale. J. F. Converse & Co., Woodville, N. Y.

HAMPSHIRE HOGS

THIS COMBINATION IS MAKING GOOD. Alfalfa, the Halcyon Herd of Hampshire Hogs, and Satisfied Customers.
Herd boar, yearling boar and September boars. Registered. Immuned, and priced sensible.
GEO. W. ELA, VALLEY FALLS, KANSAS

HOLSTEIN CATTLE.

DUROC JERSEYS.

DUROC BOARS, OCTOBER FARROW
Also gilts unrelated to males, mostly $25. Gilts to farrow in July, $35. Trio spring pigs, $35 at weaning time. Choice July male, $50. Write your wants.
J. E. WELLER - FAUCETT, MISSOURI

McBRIDE'S DUROCS
Booking orders for spring pigs. Choice boar pigs by Parker's Wonder, out of choice dams. W. T. McBRIDE, Parker, Kansas.

JERSEY CATTLE.

LONG ON JERSEY BULLS. Will sell them at your price. Ages, 2 to 10 months. Carrying as much Golden Fern's Lad blood as any bulls in the state. Out of high testing dams. Come and see them. Can also fill your needs in English Berkshire hogs. Several fine young males. Best of breeding. Can furnish pigs from different mating.
H. F. ERDLEY & SON, HOLTON, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

FOR SALE—Two Pure-Bred Jersey Bulls, 9 months old, from high testing dams. Description guaranteed.
D. A. KRAMER - - Washington, Kansas

Breeders' Directory

ANGUS CATTLE.
Geo. A. Deitrich, Carbondale, Kan.
D. J. White, Clements, Kan.
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

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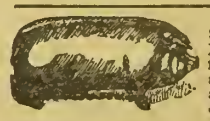
CHESTER WHITE Cholera Immune Gilts, bred to farrow in June, July and August. The good kind. For price, breeding, etc., write Emil Youngberg, Route 3, Essex, Iowa



FOR SALE
Spring Pigs in Pairs and Trios
Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

BERKSHIRE HOGS.

NIELSON'S BERKSHIRES
Fall boars from prize winning ancestry, weighing 200 to 220 pounds April 1. Sired by Rob Robinhood 2d. His sire first prize senior yearling at American Royal and weighing 720 pounds at 18 months. Will give you good value for your money, and accurate description on application.
J. M. NIELSON, MARYSVILLE, KANSAS.

POLLED DURHAM CATTLE.

SEELEY'S POLLED DURHAMS—Nineteen years a breeder, best Scotch tribes. Preparedness. Offering a lot of thick square-ended bulls, all roans and for immediate service. Herd bulls Victoria Clipper and Jovial Sultan. C. R. I. & P. R. R.
W. W. SEELEY - - STUART, IOWA

FOR SALE—Two red and white bull calves, 10 months old, sired by Chief, a son of True Sultan. Priced to sell.
D. C. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 miles S. E. of Topeka)

POLLED DURHAM BULLS
Big enough for service. Sired by Baron Easton. Better get busy if you need a bull this spring.
R. T. Vandeventer & Son, Mankato, Kansas

RED POLLED CATTLE.

Red Polled Cattle

A few 1916 fall bull calves for sale. Also a few cows and heifers.
AULD BROS. - FRANKFORT, KANSAS

ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE
Twenty-five young bulls, also some good cows and heifers for sale. All registered.
D. J. WHITE, CLEMENTS, KANSAS
Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

POLAND CHINAS

OLD ORIGINAL SPOTTED POLANDS
Have only a few of last fall's litters left. Write your wants to
THE CEDAR ROW STOCK FARM
A. S. Alexander, Prop. R. 2, Burlington, Kan.

PROFITABLE TYPE POLANDS

Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.
L. C. WALBRIDGE - RUSSELL, KANSAS

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

TOWNVIEW HERD BOARS
Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

DOWNIE'S BIG POLANDS
Have a couple of choice boars priced for quick sale. Home of Gerstdale Czar.
FRANK DOWNIE, Rte. 4, Hutchinson, Kan.

POLAND CHINA BOARS

Twelve September boars, large husky fellows ready for service. Sired by Big Bob King. Write at once.
DR. J. H. LOMAX
Station D St. Joseph, Missouri

BIG-TYPE POLANDS
Have 100 head of February and March pigs that we are booking orders for to be shipped at weaning time. Boars, $25. Sow pigs at $30, $50 a pair. Book your order now and get the pick.
O. G. LEASE & SON - CENTRALIA, MO.

BIG-TYPE POLANDS AND DUROCS
Booking orders for weaning time. Pigs, $25 each; trios, $50. Will make 700 to 1,000-pound hogs. Two hundred to select from. Top breeding.
O. W. LONG, Route 3, Maitland, Missouri.

FOR SALE
Good Stretchy Poland China Fall Boars.
Ed Beavers, Junction City, Kansas.

Langford's Spotted Polands. Gilts bred for fall farrow. Future herd boars. Satisfaction guaranteed. T. T. LANGFORD & SONS, Jamesport, Missouri

JERSEY CATTLE.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

LINSCOTT JERSEYS
Dispersal Sale, May 31
R. J. LINSCOTT - HOLTON, KAN.

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

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Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

STUNKEL SHORTHORNS
Herd Headed by Cumberland Diamond.
For Sale—Twenty bulls from yearlings to eighteen months old, Scotch and Scotch-topped. Also a few bred cows and heifers. Come and see me. Prices reasonable.
E. L. STUNKEL - PECK, KANSAS

SPRING CREEK SHORTHORNS
Headed by the great sire, Orange Goods. Best families represented in herd, good individuals. Choice young stock for sale.
THOS. MURPHY & SONS, Corbin, Kansas.

TWO SHORTHORN BULLS. One herd boar. Fall gilts, bred or open. February and March pigs, pair or trio, no relation. S. C. White Leghorn eggs.
R. C. WATSON - ALTOONA, KANSAS

Sunflower Herd of Shorthorns
A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

PURE SCOTCH SHORTHORNS

Bulls and heifers by Albion, bulls 7 to 18 months of age. Reds, roans and whites.
C. E. HILL - - TORONTO, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Dr. J. H. Lomax, of St. Joseph, Missouri, is one of the real boosters for Jersey cattle and big-type Poland China hogs. Both his herds are returning a nice profit on his farm, which is located near Leona, Kansas, and is one of the best stock farms in that section of the country. Doctor Lomax is claiming June 26 for his annual Jersey cattle sale at the farm. On this date fifty head of nicely-bred cows and heifers will be sold at public auction. His Poland China herd now numbers over 100 head. About 75 head of fine spring pigs have been saved and a feature of the herd at this time is the choice lot of September boars.

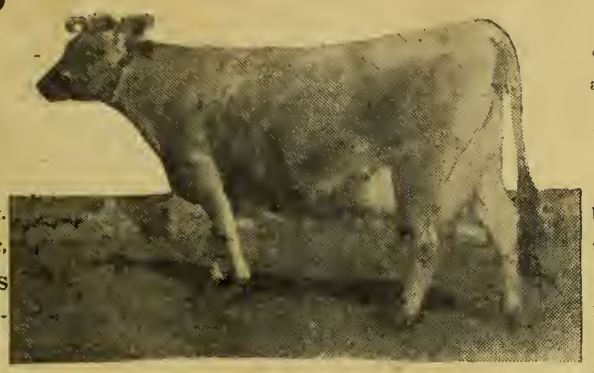
DISPERSAL SALE OF LINSCOTT JERSEYS

125 - Head - 125

MAY 31, 1917

Holton, Kansas

ESTABLISHED 1878



FIRST REGISTER OF MERIT HERD IN KANSAS.

TWENTY BULLS

TWO GREAT HERD BULLS—Unequalled in the West. Suitable to head any Jersey herd in the world.
TWO MATURE HERD BULLS of imported breeding, worthy of anyone's consideration.
FOUR YEARLING GRANDSONS OF GAMBOGE'S KNIGHT (sire of forty-five Register of Merit cows).
TWELVE BULL CALVES from Register of Merit ancestary—all desirable.
EVERY ONE CAREFULLY SELECTED.
EVERY ONE A HERD HEADER.

SIXTY COWS

Register of Merit cows.
Prize winning cows.
Imported cows.
Sisters and grand-daughters of cows with official tests of 1,000 pounds butter in ono year.
Daughters and grand-daughters of world's champions and prize winners.
Cows milking fifty pounds a day.
Fresh cows, heavy springers, cows in all stages of lactation.
JUST THE COW YOU ARE WANTING.

FORTY-FIVE HEIFERS

The most desirable and valuable bunch of heifers ever bred in one herd in Kansas.
Grand-daughters of JACOBA IRENE (1,126 pounds butter one year); of Gamboge's Knight (greatest butter sire ever imported from Jersey), etc.
Heifers of imported breeding and type.
Two-year-old heifers, bred heifers, open heifers, yearling heifers and heifer calves.
THERE IS A STRONG DEMAND FOR THESE.

For catalogue address

R. J. LINSCOTT, - - - HOLTON, KANSAS

Catalogues only sent on request. Plan to attend. Come the day before, so that I can show you the cattle at your leisure.

THE THIRD ANNUAL SALE OF THE Livingston County Holstein Breeder's Sale Company

WILL BE HELD AT

Howell, Mich., Thursday, May 17, 1917, at 10:30 A. M.

AT THE SALE PAVILION ON THE FAIR GROUNDS

We will offer ninety head of high-class registered Holsteins, consisting of three young bulls fit to head herds. Their dams have records of 25 pounds at three years old, 29.68 pounds, and one has a semi-official record of nearly 25,000 pounds milk in one year. The balance are cows and heifers. Over fifty head have official records or are from record cows. Two-thirds are under four years old. A number are from 30-pound bulls. One is a daughter of a 27-pound cow; one a daughter of Johanna McKinley Segis, a 40-pound bull; three grand-daughters of Pontiac Korndyke; one grand-daughter of Hengerveld De Kol. Many of them are bred to bulls whose dams have records from 30 to 35 pounds. A great chance to secure good cattle at your own price. Don't forget the date. Catalogs ready May 5.

F. J. FISHBECK, Secretary, HOWELL, MICH.

AUCTIONEERS—PERRY AND MACK. (This will appear but once.)

ALLIGATOR WRENCH AND HANDY TOOL FREE



The Alligator Wrench requires no adjustment; simple; always ready for use; never slips. Works in closer quarters than any other wrench. It is light, strong, compact. Easily carried in the pocket.

THREE DIES FOR CUTTING or cleaning threads in bolts used on farm machinery. It is drop-forged from the best steel, scientifically tempered, nothing to get out of order.

OUR SPECIAL FREE OFFER We will send the handy Alligator Wrench free and postpaid to all who send $1.00 for a one-year subscription to Kansas Farmer, and 15 cents extra to pay packing and postage—$1.15 in all. Address

KANSAS FARMER -:- -:- TOPEKA, KANSAS

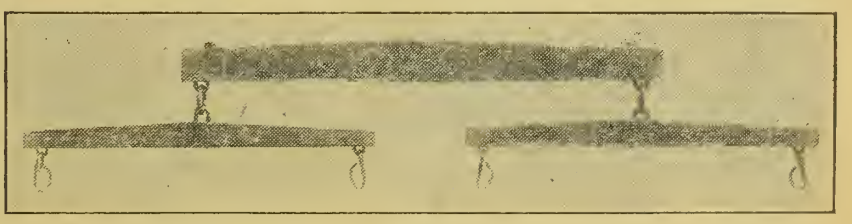
You Cannot Break Them

Here is one of the most practical doubletrees ever made for all ordinary work on the farm: Plowing, harrowing, lead team work, road work—in fact any work requiring a doubletree of medium weight and extra strength.

Fred Anderson, the inventor of the new celebrated Anderson Manure Loader and Scraper, has personally designed the Anderson Doubletree along scientific lines to develop the greatest amount of pulling strength possible, without excessive weight, and Mr. Anderson personally guarantees these doubletrees to stand the terrible strain of a steady pull of a team weighing up to 3,000 pounds.

This doubletree is constructed from carefully selected hardwood, thoroughly seasoned, painted with two coats of good paint. It measures 38 inches long, 3½ inches wide, and 1 11/16 inches thick. The hooks and center irons are of a special design, and will never slip off the end or center of singletrees.

All iron parts are made of ⅞-inch round forged mild steel and strong enough to stand the strain of every use.



KANSAS FARMER takes pleasure in offering its readers a doubletree which cannot be equalled for less than $1.35, absolutely free. For a short time, and while our supply lasts, we will send one pair of doubletrees complete, all charges prepaid, to anyone in Kansas sending us only $2.00 for a three-years' subscription to KANSAS FARMER. Those living outside of Kansas must send 50 cents extra to defray transportation charges, or $2.50 in all. This offer is open to all, new or renewal. If you are already paid in advance, we will extend your subscription. Don't delay, but order now, for this offer may not appear again.

Kansas Farmer

Circulation Dept. Topeka, Kansas

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

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CLAIM SALE DATES.

Hereford Cattle.
May 11—Benton and S. J. Gabbert, Dearborn, Missouri. The Sothams, Lansing, Michigan, managers.

Jerseys.
May 31—R. J. Linscott, Holton, Kansas.
June 26—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.

Double Standard Polled Durhams.
June 8—Ed Stegelin, Straight Creek, Kan.

Holsteins.
May 17—Livingston County Holstein Breeders' Sale Company, Howell, Michigan.

Poland Chinas.
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Feb. 6—H. B. Walter & Son, Effingham, Kansas.

The Livingston County, Michigan, Holstein Breeders Sale Company has announced May 17 as the date of their third annual sale of Holsteins. On that date they will offer ninety head of carefully selected registered Holsteins. The offering will include bulls fit to head herds. The dams of these bulls have records of from 25 to 29.68 pounds at three years old. One has a semi-official record of nearly 25,000 pounds milk in one year. Over fifty head of the cows that will go in this sale have official records or are from record cows.

W. T. McBride, of Parker, Kansas, owner of one of the good herds of Duroc hogs in Kansas, reports his herd doing fine. He has succeeded in saving a choice lot of spring pigs. He also has a fine bunch of fall gilts that will be held for his February, 1918, bred sow sale. A feature of his herd at this time is the extra lot of spring pigs by Parker Wonder and out of Mr. McBride's choice herd sows.

J. E. Weller, of Legal Tender Stock Farm, Faucett, Missouri, and owner of the famous Legal Tender herd of Durocs, writes that his herd is doing well. This is one of the Duroc herds that is drawn upon heavily for herd material. Last year Mr. Weller could not supply the demand and decided to increase his sow herd. He held back a large number of choice young sows and bred them for spring farrow and at this time has about 150 head of the best spring pigs in the history of his herd. He reports a good demand again this year for high-class Durocs.

Joe Fox, of Greeley, Kansas, reports his herd of O. I. C. hogs doing well and the spring pigs growing out fine. He also reports a good demand for pigs to be delivered at weaning time.

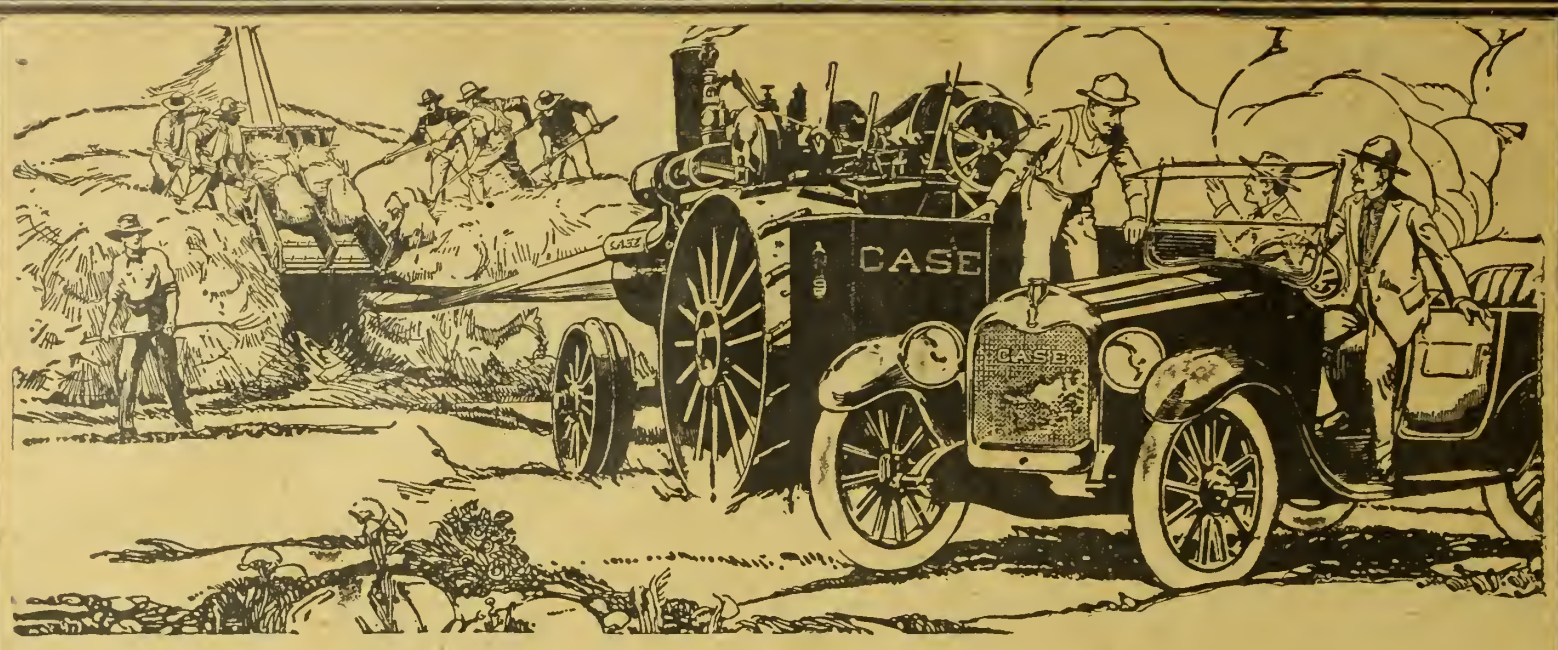
Thos. Murphy & Son, of Corbin, Kansas, own one of the good Shorthorn herds in this state. They have built up their herd by using care in selecting herd material. While all of the popular Shorthorn tribes are represented in their herd, they make it a rule in selecting herd material to get a good individual as well as a good pedigree. They do not believe in fads in the breeding business and their policy is to breed a type of Shorthorns that is profitable. A feature of their herd at this time is the fine lot of young stock, including some extra good bulls.

O. W. Long, formerly of Craig, Missouri, and one of Missouri's leading breeders of pure-bred hogs, has located on his farm near Maitland, Missouri. Mr. Long has built up very fine herds of both Poland Chinas and Durocs and many of the good herds of both breeds were started with foundation stock from his herds. He has decided to make his Maitland farm headquarters for his Duroc herd and the Poland China herd will be maintained on his farm near Craig, Missouri. At this time he has over 200 very fine spring pigs and reports a good demand for pairs and trios to be shipped at weaning time.

George W. Ela, of Valley Falls, Kansas, owner of Halcyon herd of Hampshire hogs, one of the prize-winning herds of that popular breed, reports his herd doing fine. Mr. Ela is one of the successful Hampshire breeders in the West, and the combination of alfalfa and Halcyon herd of Hampshires is proving very profitable on his farm. His herd is drawn upon heavily for breeding stock, and Elmdale Farm is represented in a number of the good herds in the West. His show herd will be at the big fairs again this year. A feature of his herd at this time is the choice herd boars and a very fine lot of September boars. He has one of the good herds of brood sows, representing the best blood lines of the breed. Mr. Ela is secretary of the Kansas State Hampshire Breeders' Association and reports that the Association is growing rapidly.

Frank L. Downie, of Hutchinson, Kansas, owner of one of the good herds of Poland Chinas, reports his herd doing well. Mr. Downie has built up a herd of Polands that have size and quality. The blood lines of his herd are of the best and the most noted big-type sires are represented in his herd. A fine lot of young stock, including some very fine boars, is a feature of his herd at this time.

The number of inquiries received concerning the dispersal sale of Jersey cattle to be held by R. J. Linscott, of Holton, Kansas, May 31, indicates that the announcement of the dispersal of this great Register of Merit herd has created unusual interest in Jersey circles and that it will be one of the big sale events in this state this year. The entire herd, consisting of 125 head, will be sold, and a careful study of the breeding and records of the offering fully explains the widespread interest in this sale. The offering consists of twenty bulls, sixty cows and forty-five heifers. The bulls will include two of the greatest herd bulls in the West. The Register of Merit imported and prize winning cows of the herd include sisters, daughters and grand-daughters of cows with official tests of 1,000 pounds of butter in one year, also daughters and grand-daughters of world's champions and prize winners. The heifers that will go in the sale are an exceptionally fine lot of individuals and are richly bred. That Mr. Linscott has decided to disperse his herd—the first Register of Merit herd in Kansas—is to be regretted.



FARMERS EVERYWHERE PREFER CASE THRESHING RIGS

Case steam engines for years have been acknowledged the *simplest*, the *most powerful* and *most economical* in the steam class.

Year by year Case has set the pace in improvements. Case steam engines have no equal for pulling capacity, ease of operation and all-'round efficiency. They meet the boiler laws of all states and Canadian provinces.

Thousands of farmers all over the world prefer Case engines to all others. These users are our best salesmen. The reputation of Case engines has passed from farm to farm and from generation to generation until today Case steam engines are the standard by which all others are judged.

They come in nine sizes—18, 30, 40, 50, 60, 65, 75, 80 and 110 h. p., a size for every farm or need.

Write today for our complete Case catalog. It is an album of information that no farmer should be without. It is most beautifully printed, with many interesting scenes and reproductions in colors. It costs you merely the price of a postal card. *Write today for this free catalog.*

* * * *

Nowadays it is generally known that **Case steel threshers** are superior. Most farmers want their crop threshed with Case machinery. Many predict the complete dominance of Case threshers. This great demand is the result of only one thing—Case threshers are the *right* threshers. Case principles of construction and Case performance have never been equaled.

Here are a few reasons why Case sells more threshing outfits than any three other concerns:

1. Case threshers get all the grain there is in the crop, and—deliver it *clean* in the sack.
2. They are all-steel; fire, wind and water proof. No warping or rotting of main frame.
3. They are easy to operate—fewest belts—least amount of power needed. Lubricate them while running.
4. The cylinders are big and strong enough to handle damp and long straw. Weed-filled, moldy or stack-burnt bundles don't matter. The grain is always well cleaned and brings top prices.
5. Absence of interior cranks, forks, pitmans, hangers, aprons or other revolving parts back of our concaved beater next to cylinder. Therefore nothing to wrap or wind with straw or twine. *They thresh* from morn till night for weeks, months and years without delay.

These superiorities have given Case threshers the lead they hold today. Study them carefully before you buy. Write for our catalog giving detailed information.

CASE BALING PRESSES please the farmer most. Baled hay offers the biggest profit.

Case Baling Presses are built in two sizes—14x18 inches and 17x22 inches. They are constructed of the best materials and are unexcelled in workmanship.

The same superiorities of design and material that characterize all Case products are equally noticeable in Case balers.

Don't forget that **Case Ensilage Cutters** are best for silo filling. We offer three sizes, all mounted.

J. I. Case Threshing Machine Company, Inc., 316 Erie Street, Racine, Wis.

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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 19. TOPEKA, KANSAS, MAY 12, 1917. Established 1863: $1 a Year

CONSERVE DAIRY COW

Dairying Inevitable as Basis of Permanent Agriculture

THE dairy cow is one of Nature's greatest conservation agencies. The inevitability of dairying as a basis of permanent agriculture must be accepted as one of the established principles of food production. In the food situation now facing this country our first and foremost concern should be to save dairy cows and to use every effort possible to promote increased production of milk, butter and cheese.

"No program of national preparedness for the impending food crisis in the event of war is wise nor complete without sharp emphasis of conserving and increasing our national stock of dairy cows."

This striking statement was made by M. D. Munn, president of the National Dairy Council. "We must, of course, bend all our efforts to the prevention of a war shortage in food stuffs of all kinds," said Mr. Munn, "but when prices for beef begin to rise, dairy cattle must not be slaughtered nor dairy feeds diverted to other uses."

The National Dairy Council is composed of 280,000 dairymen, dairy cattle breeders and representatives of all allied dairy interests. Its purposes are to build a greater and better American dairy agriculture — resulting in improved soil fertility and better farm life — to encourage every American consumer to have a keener appreciation—like European nations—of the high food value of dairy products.

The Council believes its mission is patriotic. It holds that a wider use of dairy products on the tables and in the kitchens of our American homes will mean a healthier and cheaper fed nation. Its slogans are: "Drink and use more milk." "Eat and cook with more butter." "Ice cream is not alone an excellent dessert, but a real food." "Cheese is the staff of life of many nations; why not in U. S. A.?" "Dairy products —palatable, nourishing, economical—are Nature's best food."

The fundamental proposition of this organization is that the dairy cow is mankind's greatest friend. She produces man's best, most serviceable food, and one of the cheapest.

A 1,200-pound steer, ready for market, contains only about 360 pounds of actual food. A dairy cow at two years of age begins to produce and yield daily thereafter about 900 pounds of edible nutrients in the year, and will continue to produce the same amount for seven years thereafter; that is, she produces during her actual life 6,300 pounds of human food. In other words, it takes seventeen steers to produce the same amount of human food as a dairy cow produces during her lifetime.

The figures given above are from the Minnesota University. It might be further pointed out that the steer, before he pays for any of his food, is in debt to his master for two years, and, upon payment, ceases to live, while the cow pays for her food daily as she goes.

On behalf of consumers of dairy products the widest publicity should be given to the bulletin issued recently by the Federal Department of Agriculture, dealing with the great food value and economy of milk and milk products, and showing milk to be an economical food even at a price of 15 cents a quart.

"In energy-giving power, one quart of milk is equal to eleven ounces of sirloin steak, or three-fourths of a pound of round steak, or eight and one-half eggs, or 10.7 ounces of fowl," says the bulletin.

We should bear in mind, also, the significance of the heart-rending appeal made to the German reichstag by Field Marshal von Hindenburg. He cries for fat—fat—fat—fat for his soldiers and fat for the weakened people.

The fate of Germany may hang upon the question of fat. At no time in history has the value of fat assumed so ominous a meaning.

A plentiful stock of dairy cows means not only the quickest, richest and most continuous transformation of feed into human food, but above all, it means a daily dependable supply of butter fat—the finest of all fats—and forestalls the possibility of such deep distress as is experienced in the shortage of fat by unhappy Germany.

A two-year-old steer, ready for market, contains only about 280 pounds of total fat, while a fair dairy cow will produce in her 6,000 pounds of milk 300 pounds of fat yearly for seven years, or a total of 2,100 pounds of fat during her lifetime, as against a steer's 280 pounds of fat in his life.

Unless our people accept, as to the food value of milk, the facts presented by the Department of Agriculture, the tendency of our farmers will be to quit dairying and to send their cows to the butcher rather than perform the irksome services and face the possibility of loss because people fail to appreciate the true value of milk as food. Our stock of dairy cattle is lower today per thousand population than it has been for forty years.

As a nation, we may well be alarmed over the certainty of further depletion, when further rises in the cost of feed and aggravated shortage of farm labor make the production of milk more expensive at the time when milk, butter fat, and the products derived therefrom, should be the country's greatest safeguard and reliance.

Moreover, retrogression in dairying means a shortage in animal manure, lowered soil fertility, a lower yield per acre of cereal products, an excessive rise in the price of all foodstuffs coming from the soil, and a serious derangement of our economic life. It spells Distress in its keenest form.

In view of these facts it would seem that our government should use every means in its power to stabilize dairying and to stimulate an increase rather than a decrease in our dairy stock. To that end an intensive educational campaign should be conducted to keep before the consumer the high food value and relative economy of milk. If it becomes necessary to take governmental action to safeguard our food supplies, the first decree to be issued might well be a peremptory prohibition of the slaughter of productive dairy cows, and our next concern should be an upward revision of the prices of milk based upon the cost of production and a fair profit to both producer and distributor.

Assured a rich supply of milk, plenty of butter and cheese, nations can laugh at starvation blockades.

THE DAIRY COW is mankind's greatest friend. She produces man's best, most serviceable food, and one of the cheapest.

A GOOD DAIRY COW produces each year for about seven years, 900 pounds of edible nutrients, or as much in her lifetime as is produced by seventeen steers.

IN ENERGY-GIVING POWER, one quart of milk is equal to eleven ounces of sirloin steak, or three-fourths of a pound of round steak, or eight and one-half eggs, or 10.7 ounces of fowl.

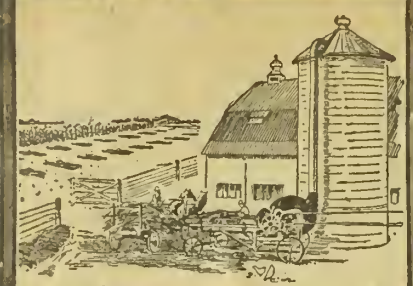
IN MAINTAINING OUR FOOD SUPPLY, first and foremost consideration should be given this remarkable, natural, food-making machine—the dairy cow.

DAIRYING IS INEVITABLE as a basis of permanent agriculture. The cow is one of Nature's greatest conservation agencies.

NO PROGRAM of national food preparedness is complete that does not include conserving and increasing our stock of dairy cows.



DRY COWS AND HEIFERS ON A DAIRY FARM IN BUTLER COUNTY.—THERE ARE PROBABLY A MILLION DAIRY COWS IN KANSAS AT THE PRESENT TIME.—QUALITY IS AS IMPORTANT AS NUMBERS IN BUILDING UP THE DAIRY BUSINESS.—DAIRYMEN CANNOT AFFORD TO NEGLECT THIS POINT IN DEVELOPING THEIR HERDS



Silverize Your Silage

for Better Fat Stock and Dairy Profits

CORN cut by Silver's "Ohio" Silo Filler makes better silage according to the records of "Ohio" users.

There's a difference in silage just as there is a difference in the machines that cut it. Some silage goes into the silo with long shreds and leaves which form air pockets and spoil the silage. Other silage is cut in uneven lengths—the sugar does not get out to properly act in the fermenting process. Silverized silage is cut in *short, even lengths.* The sugar juices around the joints of the cornstalks are *released*—the silage packs down air-tight in a homogeneous mass. Makes the *right* kind of food to bring *maximum milk yield* from dairy cows—or to put *weight* on fat stock.

Silver's "Ohio"

The Logical Silo Filler

"Ohio" cut silage is cut finer and more uniform than ordinary silage. Shorter lengths. Not just in spots but all the way from bottom to the top of the silo. The reason is, the knives hold their position. For example, if you set them at half inch, they cut half inch right along. Pressure of the material cannot spring them out of place. They are of the sturdy cylinder type, with bearings at *both* ends. Have accurate, patented adjustments for a quick, short, clean, shearing cut. The material is cut to a mold-proof semi-pulp—fine and free from "air pockets" and uncut leaves.

And this is but one of the many big features on Silver's "Ohio." Write and let us tell you about the others. About the new beater self-feed that saves a man's work at the feed table; the direct drive—drive pulley, knife cylinder and blower fan all on one shaft, reducing friction and saving power; the low-speed, explosion-proof blower fan; single lever control; bull-dog grip feed rollers, friction reverse and others.

Books Free

One is our catalog—tells about Silver construction and why Silver's "Ohio"—the pioneer—is the logical silo filler for the custom man or the man who does only his own work. The other is a booklet that shows in dollars and cents why it pays to "*Silverize your silage.*" Write today.

The Silver Mfg. Co.
Box 352
Salem Ohio

Silver's "Ohio" is made in seven sizes—fit any farm or purse. For 4 h. p. gas to big tractors. 40 to 300 tons a day. Special light draft models for 4 to 10 h. p. engine.

"Modern Silage Methods" 264 pages—sent for 25c—coin or stamps



There is less waste in feeding silage than in feeding fodder. Good silage properly fed is all consumed.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

OUT of 1,150 replies received by the Kansas Defense Council relative to the use of tractors, 930 report that there are no tractors not busy now or not used to full capacity, while 123 say there are "a few" not fully employed, seventy say "several," five that 25 per cent of the tractors are not busy, and ten that 50 per cent of the machines are idle.

Out of 1,281 replies, 921 say that no tractors can be released for use in other sections now or in the near future, while 263 say tractors are available for use elsewhere, and 97 answer "doubtful."

Carl Vrooman, Assistant Secretary of Agriculture, is urging that every man owning a tractor do all the custom or exchange work he can do without neglecting his own work. Every hour that his tractor would otherwise be idle it ought to be at work helping a neighbor who is behindhand with his plowing or harrowing.

"Make your outfit work from dawn to dark," says Mr. Vrooman. "Make it work all night if you have enough operators to fill the shifts. The acreage to be harvested this fall hangs on the plow. Don't let an acre that might otherwise be planted go untilled because your tractor is in the shed. Help your neighbors and thus do your part in strengthening the allied lines on the battle fronts of Europe."

Road-Building with Dynamite

The scarcity of labor at any price made roadbuilding in 1916 an expensive proposition. Machinery was used to a greater extent than ever before, not only for work for which it has been known to be adapted but also for work that previously was considered best done by pick and shovel. Road builders turned to dynamite in many cases as a substitute for day labor. Blasting has been done for years in grading through very hard material, but lately it has also been done where the excavation is easier, in digging the side ditches of roads and the trenches in which underdrains are laid. The explosive loosens hardpan and other dense material so that the road-grading machine can shape a ditch about as easily as where the work is in loam, and thus the amount of pick-and-shovel work, very expensive where labor is scarce, is greatly reduced. Even in soft clay and muck, dynamite is now being used by the road builder, who follows the practice of drainage engineers and blasts trenches ahead of the grading, not only to assist in the latter work but also to drain the land before the machines arrive to shape the road.

Pumping Water for Garden

It is pointed out by H. B. Walker, irrigation engineer at the agricultural college, that the farm windmill should play an important part this year in the great food production campaign.

"The farm windmill should be no 'slacker' this year," said Professor Walker. "It should be ready day and night to absorb the energy of the wind to lift water for thirsty gardens. Lack of timely rainfall is often the doom of an otherwise carefully handled and tended vegetable garden.

"This year the farm garden will be an important factor in reducing the cost of living. Accordingly, every precaution should be taken to prevent a failure of the garden crops. In those areas where the natural rainfall is not dependable, some simple method of irrigation should be provided."

The farm windmill will serve faithfully and well in lifting water for irrigation if given an opportunity. This faithful source of farm power, however, will not save the garden unless the owner co-operates in conserving the water pumped. The average windmill lifts water intermittently and at a slow rate. Consequently, if the water pumped is allowed to flow directly into the warm dry soil, a small area only can be satisfactorily covered. A small trickling flow does not spread laterally over the surface of the soil, but it percolates deeply into the soil beyond the reach of the shallow-rooted vegetables.

If the water lifted, on the other hand, is stored in tanks, barrels, or reservoirs, a volume sufficiently large can be secured in a surprisingly short time to effectively irrigate a much larger area. A barrel of water containing 31½ gallons will cover a garden bed six feet wide by eight feet long, one inch deep. A quantity of water even as small as this, if properly applied, will greatly help the lettuce bed or the shallow-rooted radishes. It is advisable, therefore, to use even an ordinary barrel for storage if nothing larger is available, in preference to direct pumping.

A reservoir sufficiently large to hold all of the water the average windmill can pump in three or four days is much more desirable. The ordinary stock tank made of wood, steel, or concrete would serve well.

Old Oil Dangerous

Old oil will damage the gas engine far more than will hard work, according to W. H. Sanders, instructor in farm motors in the Kansas Agricultural College. Oil that has become surcharged with the fine steel particles from the bearings should be drained off and fresh oil should be placed in the oiling system at regular intervals.

"Oil becomes black and gritty in time and before this stage is reached it should be replaced by fresh oil," said Mr. Sanders. "The dirty oil may be filtered and used again, but the best method is to use fresh oil. New oil costs something but is cheaper than new bearings."

In cleaning an engine before replacing the supply of oil, it should be run until thoroughly warm, advises Mr. Sanders. All the old oil should then be drained from the crank case. The same amount of clean kerosene should be placed in the oil reservoir and the engine run carefully for a short time until all of the crankshaft bearings are thoroughly cleaned. This should be regulated by the judgment of the operator.

The danger in this operation is in running the engine too long while the kerosene is acting as lubricating oil. Kerosene has little lubricating quality and the bearings will burn out in a short time.

When the engine is stopped it should stand for two or three minutes before the kerosene is drained off in order, to allow all the dirty kerosene to drain from the bearings and walls of the cylinders. The kerosene is drained from the crank case in the same manner as the old oil, and the fresh oil should be placed in the crank case.

"In starting the engine after the new oil has been placed in the lubricating system," said Mr. Sanders, "care should be used. The engine should not be placed under a full load until the fresh oil has had time to circulate thoroughly into the bearings."

Order Silage Cutters Now

There is certain to be delays in the delivery of farm machinery the coming season. With the increase in silos a good many more silo-filling outfits will be needed. It is not safe to delay ordering silage cutters and other equipment needed in filling silos. When such machinery is needed it means serious loss unless it is at once available for harvesting and storing the crop. The safe plan is to take time by the forelock and get in the orders for needed machinery now. Nothing is gained by delay. If co-operation is necessary, get together at once and perfect plans for filling the neighborhood silos when the proper time comes.

Save the Waste

Every year enormous quantities of feed go to waste in Kansas. We plow, plant and cultivate Indian corn and leave in the field over 40 per cent of its feeding value. We should stop such reckless waste. Build a silo.

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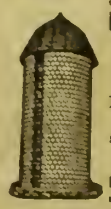

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KANSAS FARMER

THE FARM PAPER OF KANSAS

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DAIRY ASSOCIATION TO TOPEKA

The spring meeting of the Kansas State Dairy Association will be held in Topeka Saturday, May 19. The supplemental meetings held in Abilene and Mulvane last year were well attended, and were most instructive to those present. The idea of holding meetings in different sections of the state appeals to dairymen because their business is rather confining and it is not always possible to get to the annual meeting at Manhattan. The holding of these special meetings means taking the advantages of the association to many who would otherwise be unable to attend its meetings.

There should be a large attendance of dairymen from the eastern and northeastern sections of the state at the Topeka meeting. We cannot give the program in detail in this issue, but we can assure the dairymen of this section that it will be well worth their while to be present at this meeting. The topics discussed will be such as have a practical bearing on the business of dairying.

WICHITA LIVE STOCK MEETING

Stockmen to the number of 150 or more gathered at the Wichita stock yards Thursday of last week to study the results of the cattle and hog feeding demonstrations which closed on that day. The weather was disagreeable and it was not very pleasant getting about the yards, but the men present did not let this condition dampen their enthusiasm. They took the keenest interest in the results of the demonstrations and in the discussions which took place. These were led by Prof. W. A. Cochel, of the animal husbandry department of the agricultural college. The results of the demonstrations emphasize the need for using better-bred stock and better feeding methods.

The territory tributary to Wichita is destined to become a great live stock producing section. The stock yards company is performing a real service in making it possible to demonstrate the improved methods of breeding and feeding that have been worked out by careful tests at the experiment stations at Manhattan and Hays.

J. C. Holmes, a practical stock man, who is also a graduate of the agricultural college, is in charge of this demonstration work being conducted at the Wichita stock yards. It is planned to start some new demonstrations at once.

We cannot go into the details of the demonstration just closed in this issue.

NO GRAIN FOR LIQUOR

In the Kansas Industrialist of April 11, in the report of an address by Dr. H. J. Waters, an error was made in the statement of the amount of grain used annually by the breweries and distilleries of the United States. The figures should have been 118,000,000 bushels a year instead of 618,000,000 bushels.

KANSAS FARMER quoted from this address and made the same mistake.

Even though the amount of grain used by breweries and distilleries is much less than previously stated, farmers are almost unanimous in demanding of the Government that none of the grain they produce be worse than wasted by using it to manufacture intoxicating liquors. Organized bodies of farmers all over the country are making these demands in the form of resolutions addressed to the Federal Government. Authorities differ in their estimates of the exact amount used by brewers and distillers, the estimate ranging from 90,000,000 to 125,000,000 bushels.

Perhaps one-sixth of the amount of grain now being used will be necessary for the production of denatured alcohol. The rest can and should be saved for food purposes.

WIDE ROW PLANTING ADVISED

Wheat farmers with greatly reduced acreages of wheat to harvest, due to winter-killing, can make most profitable use of the wide row method of planting inter-tilled crops. They can do this without cutting down the acreage available for wheat next fall. In a recent issue we urged wheat farmers to consider this method of growing grain in wide rows on land they planned to put into wheat next fall. The report of the agricultural committee of the Kansas Defense Council issued last week advises against summer fallowing large acreages of land for wheat in any county of the state this season. Grain will be too urgently needed to let this land stand idle. Corn, kafir or some other grain sorghum can be planted on all this land in wide rows. The rows should be wide enough apart to permit the ground to be worked with disks, two-row corn cultivators or other large types of machinery with which it can be worked rapidly and economically. Crops can be grown in this way with the same labor that summer-fallowed ground can be handled. The ground will be left in excellent condition for wheat and the crop grown will greatly increase the total output of grain for the state.

TREAT SEED FOR SMUT

Smut is a source of much loss in growing grain sorghums. It is found on practically every farm where the seed is not being treated each year to destroy the spores. The loss comes from the actual destruction of the kernels and from a decrease in the value of the whole crop. Smut is carried from one year to the next by the dust-like spores that cling to the seed.

The losses due to smut can easily be prevented by treating all seed grain with formalin. Mix a pint of commercial formalin with forty or fifty gallons of water. Spread the seed to be treated on a canvas or clean barn floor and sprinkle thoroughly with the mixture. Shovel the seed over to be sure it is all wet and after putting it in a heap, cover for two hours with blankets or canvas to retain the fumes of the formalin. The seed can then be spread out and dried, being careful not to reinfect it by putting it in untreated sacks or bins.

COMBATING ANIMAL DISEASES

Dr. George M. Potter, of the Bureau of Animal Industry, United States Department of Agriculture, has recently been appointed specialist in veterinary medicine in the division of extension of the agricultural college. We heartily endorse this feature of the extension work. Animal diseases of various kinds cause enormous losses. It has been estimated that we lost 200,000 hogs in Kansas last year — three million dollars' worth of pork. Great losses also occur from blackleg, contagious abortion and tuberculosis. Doctor Potter, who took up his work May 1, will work in the field endeavoring in every way possible to aid in reducing the losses from these various animal diseases.

Doctor Potter is well fitted for this work. He was reared on a farm in Ohio and received his veterinary training in the Ohio State University. While with the United States Department of Agriculture he had wide experience throughout the country in meat inspection, the manufacture of blackleg vaccine, tubercular testing and study of contagious abortion. He is author of a number of bulletins, one of the most recent of which is on contagious abortion.

WE NEED YOUR HELP

WE FEEL confident that there are thousands of KANSAS FARMER readers who will gladly respond to our appeal for help in the emergency now facing us. You do not want us to cut your name from our list, but by neglecting from day to day to send in your renewal you are seriously embarassing us and causing us much unnecessary expense.

We are now confronted with a new order from the Post Office Department compelling us to stop sending KANSAS FARMER to a large number of our subscribers who are in arrears. We have in the past been allowed to give you several months in which to renew. The Post Office Department now says it will not carry at the second-class rate papers to those who are not paid up, and its word goes. We have no other recourse but to meet these requirements.

It has ever been the policy of KANSAS FARMER to keep close to the grass roots and under no circumstances to permit other than genuinely helpful material to appear in its columns. We, who are responsible for it editorially, have had real farm experience and keep in such intimate touch with farm conditions that we are able to give you the practical farm viewpoint of whatever appears.

In making this personal appeal to you we feel sure we can count on your loyalty to the cause which KANSAS FARMER represents. You can help us so easily and, what is more, we are going to make it financially worth your while to renew at once and send us in addition the renewals of your friends and neighbors.

You will find the date to which your subscription is paid on the label of the paper you are now reading. Turn to it now while it is fresh in your mind and register a vow to respond to this appeal for your help and co-operation. On page eleven you will find our special renewal and club offer. It is worth a careful reading, as it will save you money.

Do not fail us in this emergency. We need your help.

T. A. BORMAN, President and Editor.
G. C. WHEELER, Associate Editor.
W. J. CODY, Secretary-Treasurer.
C. C. YOUNGGREEN, General Manager.

CONSCRIPTION OF WEALTH

At a recent meeting of the Phillips County Farmers Union, attended by 600 people, one of the resolutions passed called attention to the fact that 95 per cent of the wealth of the country is in the hands of 5 per cent of the people, and urged that this wealth be made to bear its just portion of the tax of war. This is one of the live questions before our people at the present time.

Before this issue is in the hands of our readers the raising of an army by the selective draft system will probably be in operation. This is undoubtedly the most efficient as well as the most just means of raising an army, since it places the rich and the poor on the same level and plans for the using of men wherever they can be of the greatest service. But in addition to this tax of blood which is to be met by the conscription of suitable men, there will be an enormous money tax.

"Money is no more sacred than blood," says Maurice McAuliffe, president of the Farmers Union of Kansas, in commenting on the cost of war. "Now that conscription of men is to become a fixed policy of our country, let conscription of property to pay the fiddler go with it. Compel the wealth of the country to pay the expense of the war as it proceeds. Don't create a national debt for the unborn generation that had nothing to say about its creation to pay. Let the nation pay as it goes."

Big business may interpose some obstacles to this plan of paying the money cost of war, although many great corporations and business concerns are showing a fine spirit in offering their plants to the government to be operated during the war without profit. At such a time as this when almost every activity of life must be directed and ordered by military necessity, wealth cannot hope to escape from its share of the burden.

"If the conscription of men is to be resorted to," says Theodore H. Price in the Outlook, "the conscription of wealth is at least plausible, and those who think it is inequitable will be wise to delay their opposition until the public is willing to give them a dispassionate hearing. The present feeling is that as between dying for one's country and paying its bills, the former is by far the greater sacrifice."

If you believe in the principle of conscripting incomes as well as lives, write to the American Commission on War Finance, 60 Broadway, New York, for its free literature on this subject. This is a patriotic organization whose slogan is:

"The war must be paid for as it proceeds, in dollars as well as in lives. There must be no crushing legacy of bonded debt to be paid in taxes by the men who have done the fighting and their children. Let us make this a cash war, a pay-as-you-enter war. The burden of fighting must be carried by those who are physically strong and fit to fight. The burden of finance must be borne by those who are financially strong and able to give."

It is advocating that there shall be levied on all net incomes in excess of $2,000 for unmarried persons and in excess of $3,000 for married persons, an annual war tax, beginning at 2 per cent and increasing on a sliding scale to a point which will permit of no individual retaining an annual net income in excess of $100,000, such a tax to continue until all bonds, treasury notes and other obligations issued for war purposes are paid.

Congress must decide how the money tax is to be raised. Senators and representatives are servants of the people. Write to your representative and your senators and express to them your views on the method to be employed in raising the money necessary to pay our war expenses.

SILAGE FOR BEEF AND MILK

Silage Cheapens Ration and Releases Grain For Human Food

CHEAPER feed is the most pressing demand of the dairymen as well as the producer of beef. The prices of concentrates are out of sight and there is little prospect that they will be cheaper in the near future. Milk and beef are food products in demand the world over, but they must be made more largely from roughage—materials that are not in such demand for human food as are the grains and concentrates.

The extravagance of using large quantities of grain in feeding live stock is being pressed home in these days of high prices for foodstuffs of all kinds. Grain is necessary in feeding live stock, but as a result of the days when grains of all kinds were cheap, we formed a habit of feeding a great deal more than is absolutely necessary. The ruminant animals are adapted by nature to utilize bulky feeds—such material as cannot go directly to human consumption. In the interests of economic production we should capitalize on this capacity of ruminant animals for converting into human food our hay, fodder and other coarse feed. There is a world-wide demand for grains of all kinds for human food, and in view of this condition we cannot afford to use more grain than is absolutely necessary in growing meat animals and finishing them for market.

In the days of cheap grain it was nothing unusual in finishing steers for market to use from 900 to 1,000 pounds of corn to every hundred pounds of increase. No one would think of arguing that a pound of beef is worth nine or ten times as much as a pound of corn for human food, and it must be remembered further that a considerable portion of the increase on the steer is fat which is a source of waste when the beef is brought to the table.

An insistent demand for greater supplies of human food is coming from all over the world. A conservation of all that is produced by the soil requires that the full value of the forage part of the crop be converted into such form as will make it available for human food. Storing this material in silos will accomplish this result more completely and effectively than any other method of harvesting and preserving forage crops. By putting up silos and preserving the corn, kafir, and cane as silage, the maximum value of the crop will be saved. In feeding this silage to our live stock, large quantities of grain can be released for direct human consumption. The use of these crops in this form will greatly increase the possibilities for meat and milk production on every Kansas farm.

The silo must be regarded as one of our great conservation agencies and its more universal use will not only increase the amount of human food produced but increase the farmer's profit as well because it will turn into dollars much that has hitherto been entirely wasted. In the resent crisis conservation and full utilization of that which is produced is of even greater importance than increased production.

During the next twelve months dairy products will largely come from the feeding of roughages instead of concentrates, as has formerly been the case. Danry cows of quality receiving nothing but roughages can produce 200 to 250 pounds of butter fat annually, provided the roughage is fed in abundance and is composed of a combination of silage and a leguminous hay. Of course poor cows will not do so well on this ration.

SILAGE USED FIRST BY DAIRYMEN

Farmers milking cows were the first to realize the value of silage, for nowhere is the silo so much a necessity as upon the dairy farm. And no dairy farm is complete in its equipment that does not have at least one silo for winter feeding and one with a smaller diameter for summer feeding.

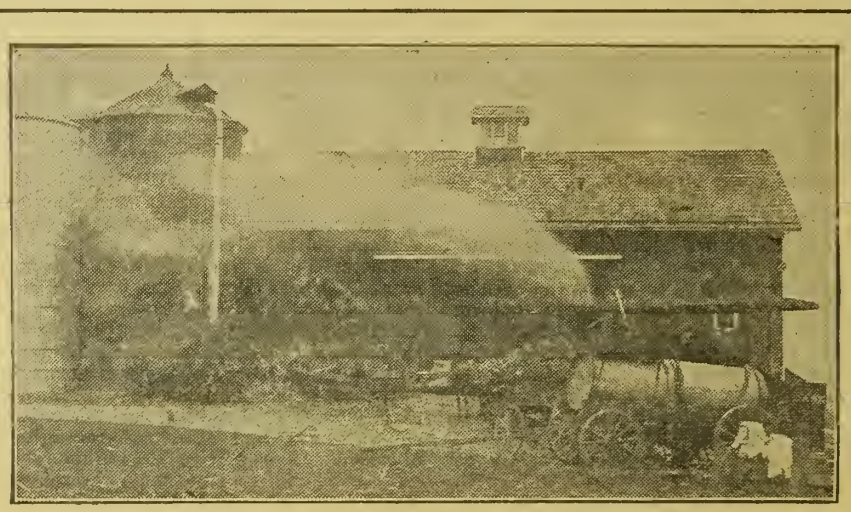
The characteristics of silage make it pre-eminently a feed for dairy cattle. It is palatable, succulent, bulky, beneficial to the digestive tract and economical. These are among the leading characteristics of the ration which is essential to the largest and most economical flow of milk. In fact, most dairy farmers in the corn belt realize that to secure the largest possible profits from a herd of cows they must feed silage. In regions where corn cannot be grown successfully for silage, experience has shown that kafir and cane can be used with fully as good results.

Experiments carried on at the different experiment stations show conclusively that silage is far superior to shock corn or hay in milk production. Silage-fed cows produced from 11 to 13 per cent more milk than cows fed fodder from the same acreage.

SILAGE AND MILK QUALITY

Contrary to the opinion formerly held the milk from silage-fed cows is not inferior in flavor or odor to the milk from cows fed dry feed. The condensed milk companies which formerly did not favor milk from silage-fed cows, are now advising their patrons to put up silos.

Great care should be taken, however, to prevent the odor of silage from contaminating the freshly-drawn milk which takes up odors very quickly. It is best to feed the silage after milking and just what will be eaten up clean at that feed. The silos should be shut off from the barn proper. The idea still held by some, that corn silage will destroy the



THE SILO IS OUR GREATEST CONSERVER OF FEED CROPS.—WE CAN PLAN NOW TO MAKE THE MOST OF WHAT IS PRODUCED.—IT WILL SHOW LACK OF TRUE PATRIOTISM TO PERMIT UNNECESSARY WASTE

teeth and digestive tract of the cow and induce such diseases as tuberculosis, is erroneous. A Jersey cow thirteen years old was shown on the Santa Fe Dairy and Poultry Special which covered Kansas recently, and the statement was made that she had eaten silage almost daily all her life. Her teeth were in perfect condition. She was still producing milk profitably.

SILAGE IS GRASS IN WINTER

The principal reason why a dairy cow increases her milk flow when she is turned out to pasture in the spring is that she is receiving a succulent feed. Thus if we wish to secure a large and persistent flow of milk during the winter months, we must feed some succulent feed that will take the place of the pasture grass of summer. Silage is the grass of the winter season, and some enthusiastic dairymen assert that it is grass minus the flies.

One of the chief reasons why so many of our cows are unprofitable is that they lack persistency or do not keep up their flow of milk for a long period. While this is largely due to inherited characteristics, yet if all cows were properly fed on silage and other desirable feeds, much less trouble would be experienced in trying to keep cows up to their normal flow. Silage and alfalfa or clover hay should form the basis of our rations for dairy cows in winter. A good ration under ordinary conditions would be twenty-five to forty-five pounds of good silage, all the alfalfa or clover hay the cows will eat, or ten to fifteen pounds, and seven pounds of grain for each pound of butter fat, or one pound of grain for each two and one-half pounds to four pounds of milk produced, depending upon the amount and richness of the milk.

SILAGE FOR SUMMER FEEDING

During the latter part of July and the month of August, the pastures are usually very short, due to hot weather and lack of rainfall. If we are to keep up the flow of milk at this critical time we must supply additional feed. There are many soiling crops which will supply the necessary feed in acceptable form, but most of them require more labor in getting them to the animals than the average farmer can spare at this busy season of the year. Therefore, a silo small in diameter filled for summer use is the most satisfactory and economical solution of this problem on the average farm. The value of silage at this season does not lie solely in the temporary increase in milk flow, but we know that if a cow once declines in her milk flow it is practically impossible to bring her back to normal for the remainder of her lactation period.

FEEDING YOUNG DAIRY ANIMALS

Silage also plays a very important role in the most economical and efficient ration for young, growing dairy animals. It has a very beneficial effect upon the system in keeping the digestive organs in the best of condition and as an aid in developing large digestive capacity. In attaining this last effect it is not necessary to feed very much grain to the animals after the end of the first year.

A good winter ration for yearling dairy heifers is corn silage, fifteen to twenty pounds, alfalfa or clover hay, eight to ten pounds, grain mixture consisting of equal parts corn, oats and bran, two pounds.

BEEF BY SILAGE ROUTE

"Silage is a word to chase away gloomy thoughts of high-priced feed and live stock 'cating their heads off'," said Prof. E. F. Ferrin of the Iowa State College, in the Iowa Agriculturalist. "If more than 8 per cent of our corn crop were ensiled we would be farther away than we now are from the high cost of beef-making. Taking the place, to a large extent, of both grain and roughage, silage keeps down the price and increases the amount of gains."

Silage costs from $3 to $4 per ton at the Iowa Experiment Station. This includes not only the cost of production of the crop and the labor in filling the silo, but also the yearly interest and depreciation upon silo and silage machinery. Fifty-bushel corn should yield ten tons of silage at an approximate cost of $3.25 per ton. These ten tons of silage contain about sixty pounds more digestible protein, 975 pounds more of digestible carbohydrates and twenty pounds more of digestible fat than the fifty bushels of grain if fed in the car. The silage is succulent and very palatable, furnishing a great deal of roughage besides the five bushels of grain per ton. Silage is a fine feed for beef cattle. It will carry them through the winter in good condition at a reasonable feed cost. It is suitable for all ages from the breeding cow to the finished steer.

In wintering cows at the Iowa Experiment Station, straw and silage with a pound of cottonseed meal daily to each cow is used. In feeding this ration the racks are kept filled with straw, letting the cows eat what they want. By weighing the silage once, the daily feed can be estimated. Afterwards it is customary to fill the wagon box to the same level each day. Or in case the silage is carried to the bunks from the silo, the baskets can be counted. A bushel and a half basket of well packed silage weighs about forty pounds. The cottonseed meal scattered over the silage in the wagon or bunks sticks to the moist feed, so there is no waste.

SILAGE FOR FATTENING STEERS

In a steer-feeding test recently closed at the Iowa Experiment Station it was clearly shown that silage is the feed that will knock the high cost of feeding out of the cattle business. Steers that were fed all the silage they would eat with a limited amount of corn made more money than steers on full feed of corn and silage. Both lots also received equal amounts of oil meal and alfalfa hay.

Buyers have been in the habit of discounting cattle with a silage finish, but with the present demand for beef they do not draw such fine lines of discrimination. The silage-fed steers made beef at a great saving in corn as compared with steers fattened by the old method. The figures show that the lot of steers, which did so exceptionally well in this test, ate an average of 50.7 pounds of silage per day for the feeding period which lasted 120 days ending March 21. In addition to the silage, they ate an average of 3.3 pounds of corn daily, 2.5 pounds of oil meal, and 1.3 pounds of alfalfa hay. They made a gain of 2.81 pounds per day for the period.

For every hundred pounds of gain made on these steers, it required only 119 pounds of corn, 89 pounds of oil meal, and 16 pounds of alfalfa hay, 1,806 pounds of silage, and a pound of rock salt.

The cost of 100 pounds gain was $10.25, excluding the value of gains made by the hogs which followed. These steers were valued by market experts at $11.48 per hundredweight and the profit per steer, excluding hogs, was $44.40.

The lot fed in the old-fashioned way had the same amount of oil meal as the other lots, an average of 18.1 pounds of corn per day, and 10.4 pounds of alfalfa hay. For 100 pounds gain in this lot it required 523 pounds of corn—nearly five times as much as the up-to-date ration—also 72 pounds of oil meal and 301 pounds of alfalfa hay. The large amount of corn consumed by this group was certain to make the cost of gains high. At market prices it cost $12.77 to make 100 pounds of gain in this lot, the highest of any of the lots. These steers were valued at $11.63 per hundredweight and the profit, excluding hogs, was $36.49 per steer.

The corn was charged against the steers at 90 cents a bushel, oil meal at $46 per ton, silage at $6.50 per ton, and alfalfa hay at $18 per ton. Rock salt was charged the steers at the rate of $1 per hundred pounds.

The large profits obtained in this test are partly due to the wide spread between the buying and the selling price of the steers. It was stated that they would have had to have only $8.30 per hundredweight to break even.

MISSOURI FEEDER REPORTS

Silage has solved the high feed cost problem for Scott Cunningham, of Palmyra, Missouri. He has found a more profitable cattle-feeding plan after three years of careful study and accounting. His first two trials with cattle were less profitable than he had expected, although they were conducted in the usual manner. His first car of cattle, averaging 598 pounds a head, were bought in March, 1913, at $7.15 per hundred. From March 29 to May 23 they consumed thirty-five tons of silage and five tons of wheat straw. Then they were pastured until September 20. The pasture was valued at 90 cents per head per month. From September 20 to November 1 they received grain on pasture. These cattle consumed 890 bushels of corn, eight tons of clover hay and one and one-half tons of cottonseed meal up to January 12, when they weighed 1,051 pounds and were sold for $8.10 a hundred, or a total of $2,085. The cost of the cattle, including feed, was $2,055.92, or only $29.08 below the selling price. This plus $185 worth of pork produced

behind the cattle constituted the $214 profit on the twenty-five head.

A similar lot of cattle was purchased in the winter of 1915 and handled in much the same manner with the exception that the cattle were fed 200 shocks of corn and five tons of mixed hay, instead of silage and straw, before they were turned to grass. From May 1 to October 1 they were pastured. During the four months following October 1 the cattle were fed 800 bushels of corn, ten tons of mixed hay and three tons of cottonseed meal. On February 5, 1916, they averaged 1,149 pounds a head and were valued at $8 a hundred. The sale price was $221.16 less than the cost of the cattle and the value of the feed they consumed. However, $307.50 worth of pork was made behind these cattle, and consequently they returned a profit of $86.34.

Mr. Cunningham's profits thus far had not been encouraging. However, the grazing operations as a whole proved profitable. Realizing that he must continue in the cattle business to find a market for his roughage and grass, he began to seek a means of finishing his cattle at less cost. The next lot of cattle was bought in February, 1916, at $7.25 a hundred, and averaged 638 pounds at home. From February 6 to May 1 they were fed twenty-five tons of silage, four tons of clover hay and one ton of cottonseed meal, after which they were grazed until October 1. The feed from October 1 to December 19 included no corn except that in the silage. During this period the cattle consumed seven tons of clover hay, three and one-half tons of cottonseed meal, and thirty-six tons of silage. They were valued at $8.50 a hundred December 19, when they were sold for $2,108.95. This, minus $1,587.15 —the original cost including feed—left a profit of $521.80. No hogs followed the cattle. The feeding plan in 1916 not only proved more profitable on high-priced feed than in 1915 but made a larger gain on less feed.

According to S. T. Simpson, of the Missouri College of Agriculture, Mr. Cunningham's 1916 feeding plan is similar to that of many other feeders. The use of silage and the reduction of the corn ration is the latest departure in beef making. While Mr. Cunningham's experience in itself is not conclusive, yet feeders and experiment stations are finding similar plans equally profitable and it is safe to assume that the principle is sound.

At the Kansas Experiment Station Prof. W. A. Cochel has shown most conclusively the value of silage in the maintenance ration for cows and heifers. In the tests of the past season breeding cows were fed on silage and alfalfa and gained at the rate of over a pound a day, the feed costing less than 7 cents a day per cow.

A silo will pay for itself in one or two years, depending on conditions, and it will last from fifteen to one hundred or more years, depending upon the material used in its construction. An acre of corn worth—at 50 cents a bushel—$25 when harvested in the old way, is worth fully $40 when cut and put into the silo, and it costs no more to put it into the silo and feed it out than it does to harvest it in the old way and feed it. Thus a silo adds $15 net profit per acre, once it is paid for.

We have never seen a man, or heard from one, who, after having tested the silo as a food preserver, did not become an enthusiastic silo advocate. Don't waste valuable fodder any longer; it is next to criminal to do so from a public point of view. Furthermore, no farmer operating high-priced land can afford to waste any longer. Remember that the American farmer can no longer hide behind the tariff wall; it has been torn down so that corn, beef, and mutton from Argentine and other South American countries can come in to compete with our home-grown products. This competition will have to be met. We have not yet had a taste of world competition, but it is coming.

The silo is one of the things that will cheapen the production of live stock products and the time to take advantage of it is now. Build a silo this year. Do it even if you must postpone buying luxuries till some future time. Build that silo this year.

Hays Cattlemen's Round-up

For four years the farmers of Western Kansas have been invited to attend a spring meeting at the Hays Experiment Station farm to study the results of the cattle feeding work. These are not full feeding experiments. The problems of the Western Kansas farmer have to do with wintering breeding cows and developing the heifers into good breeding animals. The cattle experiments that have been planned and carried on at Hays for the past few years are pointing the way to the best utilization of the waste feeds and feeds having little or no market value. The failure to secure adequate returns from the straw and the feed crops adapted to Western Kansas conditions has constituted one of the serious wastes of farming, and especially has this been so in the West because forage crops are the surest crops that can be grown. But without stock there is no way whereby they can be made to yield a money return.

At this meeting held April 5, which was presided over by W. M. Jardine, director of the experiment stations of Kansas, Professor Cochel stated that the cows in the experimental lots had consumed an average of nine pounds of wheat straw daily. This is nominally a waste product in the Kansas wheat belt and is frequently burned instead of saved and used as feed. He also referred to the fact that hay which has been damaged to such an extent as to bring $5 or $6 a ton below the market price for good hay, can be used to a large extent in the winter feeding of breeding cattle.

The demand for beef breeding females was never so great in Kansas as it is today. Kansas cattlemen and the farmers of the West can develop a profitable business in growing and feeding stock cattle.

Former Governor W. R. Stubbs was also present and spoke on the cattle outlook. Charles R. Weeks, the superintendent of the Hays Station, explained to the visitors the various lines of work being conducted at the station.

Some of the most constructive live stock experimental work being done is that planned by and now being carried out under the direction of Prof. W. A. Cochel. The cattlemen are being shown how the best possible use can be made of much that has hitherto been wasted. The value of this work will be more and more appreciated as the results begin to appear. Cattlemen of the state should by all means give the fullest encouragement to these experiments.

In the northwestern section of Kansas, including ten or twelve counties, dwarf milo and feterita are the grain sorghums to plant, while all kinds of kafir and the amber sorghum are useful for forage. In this region or along the western edge of the next region to the east, if dwarf milo, feterita, or an early variety of kafir is not obtainable, early adapted varieties of corn are preferable as a grain crop to blackhull kafir or other late maturing grain sorghums.

How To Serve Your Country

ORDINARILY you plan your course of action on the basis of advantage to yourself. Now you must plan it on the basis of service to your country. Not more than five per cent of our people will be called to arms. But we are all in this war. Each must do his part, and it must be that part which he can best do. Some must fight. Some must produce. Some must prevent waste. Some must conserve health. Some must get ready to reconstruct the world when the war is over. One service is just as patriotic and important as the other. The greatest calamity that can befall our country would be for our high schools and colleges to cease preparing men and women to bear the country's largest responsibilities. For every student called to the front, another should come forward to take his place. Keep cool! Think it all through. Find what service you can best render to your country. Then act!—H. J. WATERS, President Kansas State Agricultural College.



Tuckered Out!

More than muscle and bone can bear. Killing your horses; wearing your own years away. Yet it isn't the ***hard work*** that hurts—it's the blind, ***brute labor*** that deadens the brain. while the body breathes.

You can't get the best out of your farm unless you ***take time to plan.*** And you can't think clearly when you're just dog tired. But there's a way to "get shet" of all this deadly drudgery that keeps you down.

It's the Tractor Way.

Be a Power Farmer; then You'll be a Modern Farmer

Talk it over with your dealer.

Send for a Copy of the Cooperative Tractor Catalog.

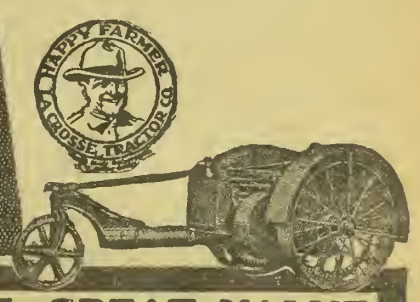
It contains illustrations and specifications of every tractor on the market. All questions are answered before you ask them. It is the only work of the kind published and is fully protected by copyright. This book will be sent to any address for 25 cents, stamps or coin.

Implement & Tractor Trade Journal

Established 1886

Kansas City, Mo., 622 Graphic Arts Bldg.
Omaha, Neb., 1022 Woodmen Bldg.
Minneapolis, Minn., 222 Boston Block

La Crosse Happy Farmer Tractors



LOW PRICE—GREAT VALUE

SO low in first cost and upkeep that any farmer can afford to buy one or more. Simple in construction—with highest quality materials. Only ⅔ the parts used by other tractors, 88% of weight on two drive wheels.

Write for Catalog La Crosse Happy Farmer Tractors are now doing great work in farmers' fields. Model "A" pulls 2 or 3 plows—1500 lbs. guaranteed drawbar pull—16 h. p. on all belt work—extremely light and simple. Use gasoline or kerosene. Model "B"—12-24 h. p. guaranteed—weighs only 3700 lbs. Many exclusive features. Burns kerosene perfectly—Hyatt Roller Bearings throughout. We have a distributor in your territory for prompt service. Write for catalog. Also get literature on the La Crosse Happy Farmer line of tractor-drawn implements.

MODEL "A" 8-16 H. P. $585.00

MODEL "B" 12-24 H. P. $735.00

LA CROSSE TRACTOR CO., Dept. 6 Minneapolis, Minn.
Live Dealer Agents Wanted

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

A Thoroughly Well-built Car at $845

ELCAR

There are few cars equally beautiful at any price, and few, if any, equally good at as low a price. We put into the ELCAR the style, class and high-grade workmanship that went into our former models selling up to and above $2,000. Our organization has had long training in the production of quality cars, and both beauty and quality are inherent in the

A Few Elcar Specifications

Wheel Base—As long as some cars selling up to $2,000 and more—115 in.
Motor—4-cylinder; long stroke; high speed; 34.7 h. p. at 1,800 r. p. m.
Fuel Supply—Stewart vacuum system.
Ignition—Delco automatic spark advance with manual control.
Starting and Lighting—Dyneto two-unit; double-bulb headlights; Willard storage battery.
Clutch—Dry multiple disk—seven plates, steel on Raybestos.
Rear Axle—Full-floating with roller bearings at each end of wheel hubs.
Differential—Spiral bevel driving gears, with roller main bearings and ball thrust bearings.
Brakes—Internal and external, two inches wide on 12-inch drum.

Three New Models at $845

Five-Passenger Touring Car
Four-Passenger Touring-Roadster
Two-Passenger Roadster

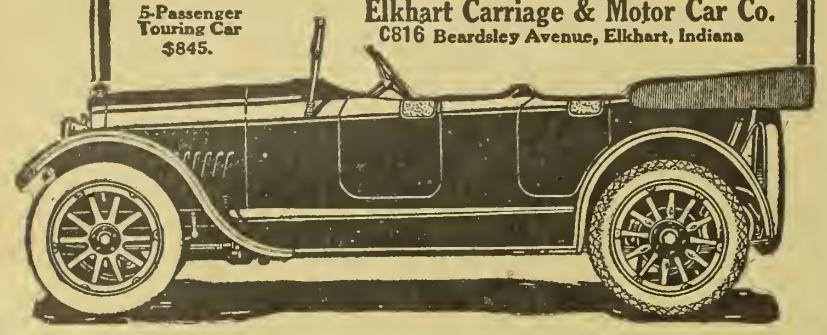
Each model is large and roomy—some would say room to spare, but you want a car that will seat its full load comfortably. Fine in appearance, fine driving and remarkably easy riding qualities, power in excess, economical in upkeep and fuel consumption, a car to give you satisfactory service for years to come—a car that we believe to be as high in quality and as nearly mechanically perfect as any car ever offered at anywhere near as low a price.

Our Illustrated Catalog

will show you views of all the ELCAR models and the more important mechanical parts, and is descriptive even to the minute details of construction. We will gladly mail it to you upon request.

Elkhart Carriage & Motor Car Co.
C816 Beardsley Avenue, Elkhart, Indiana

5-Passenger Touring Car $845.



Hail



ARE YOUR CROPS PROTECTED?

You know the deadly work of hail. Within a few hours all your crops can be destroyed. Your income is gone. Your labor is wasted.

What a sense of security you have when your crops are protected against hail in a safe and conservative company. Don't risk another day, but insure now in a company whose officers are bonded to the State of Kansas for $50,000.

THIS IS THE COMPANY

that first put the insurance in force from the moment the application was signed and the premium paid. Always has adjusted all losses, no matter how small. We ask for your application on our past record. Don't wait for the storm, but write us for full particulars or see our agent before you insure your grain.

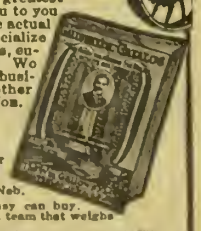
THE GRAIN GROWERS HAIL INSURANCE COMPANY
Elmer F. Bagley, Secretary, Topeka, Kansas.

GET MY PRICES





BEFORE YOU BUY BE sure and get my prices! Before you buy a manure spreader (gasoline engine, cream separator or tractor) of any make, or kind, or price, first get Galloway's 1917 catalog—the biggest, most important book and greatest money-saver for my customers I ever put out! Get my proposition to you and compare it with all others; then be your own judge! We are actual manufacturers and sell direct to you from our factory. We specialize on the lines we offer. We were first to offer manure spreaders, engines, separators direct from the factory at one small profit. We have made the manufacturing and selling of these lines a life business. You can't afford to buy a manure spreader or any of the other Galloway lines until you first get our prices and our proposition. Get my prices before you buy! Cash or Time.



UNDENIABLE PROOF!

I saved $29 by ordering a Galloway. I know it is a better spreader than I could have bought here for $125. Geo. A. Krelik, Okla. City, Okla.

I consider it equal to a prominent machine sold for $140. One neighbor who has used both says he would rather have the Galloway. W. O. Cracraft, Eckley, Colo.

I saved $39. Believe I got a better spreader than was offered me here for $135. A. T. Miller, Orella, Neb.

It is as good a spreader as money can buy. I kept $36.43 in my own pocket. A team that weighs 1,850 lbs. pulls it easily. W. H. Adams, Pound, Wis.

THE WM. GALLOWAY CO., 213 Galloway Sta., Waterloo, Iowa

MENTION KANSAS FARMER WHEN YOU WRITE.

Kansas Farmer Dairy Club

Dairy Herd From One Cow

A SINGLE good cow can easily become the foundation of a profitable dairy herd. Some of our Dairy Club members are already learning the truth of this statement. Of course, it is important that this foundation cow be carefully selected and bred to sires with production records back of them.

The only sure way to tell whether a cow is profitable or not is to keep records of the milk she gives and the feed consumed. This is what Dairy Club members are doing and they are learning the great value of this work. After a year of keeping accurate records, such as have been kept by the boys and girls in the Kansas Farmer Dairy Club, there is no danger that any member will ever be satisfied to conduct a dairy business on any other than a business basis. The dairy farmers who are forging ahead and making the milking of cows more profitable are the ones looking carefully after the business side of their work. Men who work in the dark, as do those who keep no records, are the ones that become dissatisfied with milking cows. They are usually milking and feeding a lot of cows that are not paying and while the herd as a whole may be returning a little profit, it is because the few good cows are producing enough to carry along the boarders.

In almost every day's mail we now get letters from members of the dairy club, showing how quickly a good cow can pay for herself. Some of the members have been especially fortunate in getting heifer calves. Ralph Edwards, of Leavenworth County, who was the first member to start last spring and whose year's record closed in April, has his cow paid for and in addition two heifer calves. The oldest one will soon be a cow. Dora Brader, of Labette County, who borrowed $85 of J. W. Markley, of Oswego, to buy a cow, starting her record about a year ago, now finds herself the owner of a herd. Here is what she writes:

"My cow was fresh April 24. She had a fine heifer calf. My papa offered me $125 for my cow and calf last night, but I do not want to sell. I now have two heifer calves. Papa told me he would give me $50 for the two. I have a fine cow and two fine heifers for only $85. I have not paid my note yet, but could any time by selling my heifers. Would you advise me to sell the calves to pay the note, or should I keep them and get the banker to take a new note when this one comes due? I think he will do it and it will only be for a few dollars.

"My oldest heifer will be fresh in October, 1917, and then I will have two cows to milk.

"I am going to sell butter for 40 cents a pound. I am glad I joined the dairy club and I am always anxious to get KANSAS FARMER to see how the other club members are getting along with their cows."

Dora has good reason to be proud of the result of her year's work in the club. On this page appears a picture of herself and her cow, "Creamy." We hope we may later have a picture showing the cow and the two heifers. We have written Dora that it is our advice that she keep these two calves and give the banker a new note for whatever amount remains due on her other note. Since it will be for a small amount only, she will have it paid off in a short time from the sale of her butter.

Lela Mae Haynes, of Rawlins County, writes as follows:

"My cow freshened April 17, 1917. She had a fine dark red heifer calf weighing about 100 pounds.

"My cow sure is a dandy. She paid for herself with 10 per cent interest on note in nine months and left me a profit of $10."

Lela sold her cow's first calf for $30.

Well Pleased with Investment

I received your letter today and was glad to find that my sample of milk which was sent in to be judged for quality scored so high.

In the last issue of KANSAS FARMER you ask us to write and tell what interest we are paying. I pay 6 per cent on my note. It amounts in all to $107.79 and I have paid $60.01 in ten months. I see from the letters in the Dairy Club column that some of the members have their cows paid for. Mine is a little over half paid for, but I am not at all sorry that I joined the dairy club. An investment that pays 72 per cent interest on a hundred dollars is usually considered pretty good. I will try to get my April records finished and in by the tenth of May.—HARRY LENHERT, Dickinson County.

Banker Will Loan Money

We have just received a letter from Ike W. Crumley, of Rexford, Kansas, assuring us that if anybody wants money from his bank to buy a cow or a dozen cows, he can get it. Mr. Crumley has always been a strong booster for dairying for that part of the state, and has always been glad to finance any worthy applicant who wishes to get a start in dairying. We hope some of the boys and girls in that territory will take advantage of his generous offer to loan money for buying dairy cows, and join the Kansas Farmer Dairy Club.

Dairy Club Prizes

The following prizes are offered for work in the Kansas Farmer Dairy Club:

Beatrice Creamery Company, hinge-door silo.

R. J. Linscott, Holton, Kansas, pure-bred Jersey bull calf.

Empire Cream Separator Company, cream separator.

Beatrice Creamery Company, cream separator.

Hinman Milking Machine Company, two-unit milking machine.

Hunt-Helm-Ferris Company, complete cow stall.

N. A. Kennady Supply Company, twelve-bottle Babcock milk tester.

In our May 20, 1916, issue, KANSAS FARMER offered the following special prizes:

To the member who wrote us oftenest telling of the interesting things that happen in connection with the club work and things learned from it, and who sent us the best pictures, we offered $3 and one year's subscription to KANSAS FARMER. To the one ranking second, $2 and a year's subscription to the paper; third, $1 and a year's subscription; fourth and fifth, one year's subscription each.



DORA BRADER, OF OSWEGO, AND HER COW, "CREAMY."—SHE NOW HAS TWO HEIFER CALVES, ONE A YEARLING, THE OTHER TWO WEEKS OLD

Cow Gets Pasture Only

I just got the report of the score on my sample of milk I sent to Manhattan. I am glad it scored above 80, so I can have the full twenty points for quality.

I pay 6 per cent interest on my loan from the bank. I have only paid $41.42 on my note, but still have my calf. My father wants to buy it and I thought I would sell it to him, so I could pay my note before the first of September.

I am not feeding my cow any grain now except when it is rainy or cold. She runs on good pasture.

Do you want the members of the advanced class to begin the second year's work the first of October?—ERNEST S. ASBURY, Leavenworth County.

Finds Oats Cheap Pasture

My cow, Thilda, is fresh now and is giving over sixty pounds of milk a day. She has a male calf. He weighed 164 pounds when two weeks old.

The rate of interest which I pay on my note is 6 per cent.

I am getting 44 cents for butter fat and 60 cents for skim milk.

I am letting Thilda run on oats which father sowed for pasture. I have noticed that it is much cheaper. It costs almost twice as much feed when I do not pasture her.—ELISE REGIER, Butler County.

Club Popular in Lyon County

The new Dairy Club is receiving new enrollments rapidly. We just received the following letter from H. L. Popenoe, agricultural agent for Lyon County:

"Mr. Boyle and I have been talking up the Dairy Club among a number of our club boys, and have already enrolled five. Two of them have bought their cows, and the other three will go out with us this afternoon to select theirs. It is a very interesting club and the boys are very enthusiastic over it.

"William Wayman, of the Emporia State Bank, has taken the notes of the two who have bought their cows, and is charging only 4 per cent interest. The boys who have bought their cows have chosen Holsteins that are giving about six gallons of milk per day, and I believe they are going to make some good records. The best part of the work is in the business training that it gives the boys. They each have their own bank account and this is checked up once a month when they come back to make deposits from the sale of milk. They are also going to make reports to the bankers, of the work they are doing and the amount of money they are taking in, so I feel that it will give them an early start in this training. We have two banks in town that are offering help—the State Bank and the Citizens National Bank—and I expect before the summer is over to have a great many more boys and girls enrolled in this work than we have now.

"If there ever was a time when Lyon County needed more cows, it is the present, and this Dairy Club is working right in conjunction with the campaign we are putting on for increasing the number of milk cows in this country. I feel that we will get very good results from it."

Club Member Moves

We have just moved from Thayer to Eureka. My father is pastor of the Methodist Church here. In moving I have mislaid some of my letters from KANSAS FARMER. I have rather lost out while we were moving and am sorry for the delays with my records.

I hope to be able to give my cow more attention now. I have enough money in the bank at Thayer to make the last payment on my note.—W. W. CLAWSON, JR., Greenwood County.

Developing Dairy Heifers

THE high producing cow is the result of good methods. This involves judicious breeding and proper feeding and care during the development period. No high producing cow has ever come from haphazard methods. We have observed the truth of these statements in every really good dairy herd that has come under our observation. It is especially noticeable in the herd which has been developed by Prof. O. E. Reed and his able assistants at the agricultural college.

The problem here has been made more difficult because of the necessity for maintaining herds of several dairy breeds. The foundation animals of the different breeds have been selected with much care, but one cannot help being impressed with the attention given to the handling of the calves and young stock. It has been recognized that the best time to start feeding the heifer, to produce a good milk cow, is when it is young. The calf should receive its mother's milk during the first month of its life. Beginning at the end of three weeks, skim milk should gradually be substituted for the whole milk. The skim milk should be supplemented by grain and hay.

It is our belief that many farmers do not realize the feeding value of skim milk. They think that because the fat has been removed, a much larger quantity of milk should be fed. As a result, the calves are often overfed. Shelled corn has been found a good grain supplement to replace the fat content of the skim milk. The calf should be fed skim milk until at least six months of age and as much longer as the milk is available.

Timothy, Sudan grass, or prairie hay is good roughage for the young calf. The leguminous hays—alfalfa, clover or cowpea—tend to produce digestive disorders.

Plenty of water should be supplied for the calf from its birth, but water should never be mixed with the milk. Exercise is essential for the best development of the calf as well as all other live stock.

When the calf is several months old it may eat leguminous hays with no danger of digestive troubles. Alfalfa has proved its worth in building up both muscle tissue and the bone content of the body. The heifer should be bred to calve at from two to two and one-half years of age. The pregnant heifer should receive a liberal ration containing a high per cent of protein and ash, as these are necessary for the development of the fetus. If these elements are not present in sufficient amounts, however, the body of the heifer will suffer rather than the fetus.

Comfort for Milk Cow

Unless the dairy cow is comfortable she cannot be expected to do her best. Cows should be provided with the most comfortable stalls possible. This should be done not only out of a humane regard for the cow but because of future financial returns. Expense incurred in providing a good barn and good stalls will be more than met by the increased financial returns later.

In discussing this question recently, L. H. Fairchild, of the dairy department of our agricultural college, advised that cement be used for the floors of dairy barns because it is the easiest to keep clean and the most durable. The cement should be covered with a removable wooden mat or with two-inch planks. If cows lie on the cold floor, udder trouble may result.

The best kind of stall is one that insures cleanliness and comfort. Home-made stalls can be built at little expense that will fill the requirements. There are also many types of well designed stalls on the market. The partitions between the stalls, the hay racks, and the mangers may be made of wood or metal piping. The wood is preferable because of the expense of the piping.

The partitions should slope from the front to the back of the stall and should be high enough at the back to prevent a cow that is standing from stepping on one that is lying down. The stalls should be wide enough to give ample room for the milker.

The manger should be built about thirty inches above the floor. Its bottom should be round. Corners should be avoided as they tend to hold dirt and leaves that shatter from the hay. On the floor across the back of the stall a four by four may be placed, and held firm by a bolt running through it and into a slot in the cement, so that it can be moved backward and forward. The cow will soon learn to lie in front of this four by four and not on it. This will tend toward cleanliness.

The cost of a stall of this type will range from $5 to $8, according to the quality of materials used. The cost of a comfortable stall will be saved annually by the additional milk supply from the contented and comfortable cows.

PATRIOTISM DEMANDS

That All Butter-Fat Waste Be Stopped

"President Wilson's powerful appeal for the conservation of the nation's resources is still ringing in our ears. "The supreme need," he says, "of our own nation, and of the nations with which we are co-operating, is an abundance of supplies, and especially of food stuffs;" and again, "Upon the farmers of this country, therefore, in large measure rests the fate of the war and the fate of the nation."

Wasteful methods must be abolished. Every device that makes for the saving of time and labor on the farm must be utilized. Every plan that makes for the conservation of our food products must have the farmer's hearty co-operation.

And nowhere is there greater opportunity than in the production of dairy products, particularly butter-fat.

"Fats, fats, fats, more fats," that is the demand of the warring nations in Europe. The men who toil and the men in the trenches must have fats. They are the fuel that the human machine must have.

And no fat is so palatable or so easily assimilated as butter.

When it was simply a question of the farmer's own loss of profit, the tremendous waste of butter-fat on American farms was bad enough, but under present conditions such waste is nothing short of criminal.

And it is wholly unnecessary.

It is conservatively estimated that about a million cow owners in the United States are still skimming by some wasteful "gravity" method.

At an average of four cows to the farm, and an average waste of thirty-five to fifty pounds of butter-fat per cow, all of which could be saved by the use of a De Laval Cream Separator, this alone represents an annual waste of at least 140,000,000 pounds of butter-fat.

Then there are, perhaps, a million inferior or half-worn-out separators in use whose owners could save fifteen to twenty pounds of butter-fat per cow per year by replacing such machines with New De Lavals; and this represents another waste of at least 60,000,000 pounds of butter-fat annually.

Also there is the loss of time and labor that a De Laval would save and which could be better devoted to other productive work on the farm. This waste is hard to compute, but it is almost as important as the loss of butter-fat.

These are startling statements, but any dairy or creamery authority will agree that these estimates of waste are really very conservative.

Shall this tremendous waste continue? Will the loyal American farmer permit such waste when he appreciates the duty that is laid upon him to conserve the one article of food that above all others is necessary to the life and health and energy of the men who serve the nation in the field, the factory, the mine—and soon in the trenches?

We have always had an abiding faith in the American farmer, and we believe that if he is made to appreciate the full purport of the President's appeal to him, the appeal will not be in vain; and when he further appreciates what the De Laval can do to save the butter-fat which is now being wasted, and that his patriotic duty demands that such waste be stopped —NOW—our plants will not be big enough to take care of one-half the demand for De Laval Cream Separators.

THE DE LAVAL SEPARATOR CO

165 Broadway, New York 29 E. Madison St., Chicago

Kill Lice



Begin now, in the spring-time—clean up your poultry, keep hens and little chicks free from lice so they will do their best. When hens pick feathers you have a sure sign of lice.

Dr. Hess Instant Louse Killer

means easy and sure lice riddance. Dust into hens' feathers, about roosts and houses. Put it into the dust bath, both hens and chicks will work it all through the feathers, bringing the Louse Killer right home to the lice. You can do your poultry no better service. Don't neglect them.

Also destroys bugs on cucumber, squash and melon vines, cabbage worms, slugs on rose bushes. Sold in sifting-top cans.

Price, 1 lb. 25c; 3 lbs. 60c (except in Canada).

DR. HESS & CLARK, Ashland, Ohio

REMOVE THAT SPAVIN



—or that Curb, Splint, Ringbone or other blemish with Kendall's Spavin Treatment. Mr. Martens of Shawano, Wis., writes this about

KENDALL'S Spavin Treatment

"I have been using your Spavin Treatment for years for Spavin and Ringbone, and would not be without it, because it never failed."

Let us send you other letters. Get a bottle of Kendall's at once. You may need it any day. At your druggists $1 a bottle. 6 for $5. Ask for "Treatise on the Horse"—Free, or write to

Dr. B. J. Kendall Co., Enosburg Falls, Vermont, U.S.A.

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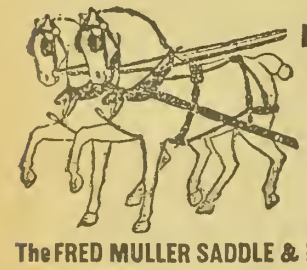

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SELF-OILING WINDMILL

With INCLOSED MOTOR

Keeping OUT DUST and RAIN—Keeping IN OIL

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Constantly Flooding Every Bearing With Oil, Makes It Pump In The Lightest Breeze And Prevents Wear

OIL SUPPLY REPLENISHED ONLY ONCE A YEAR

DOUBLE GEARS — Each Carrying Half the Load

Every feature desirable in a windmill in the AUTO-OILED AERMOTOR

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Don't throw them away. Save them and ship to us. We'll pay you HIGHEST MARKET PRICE. Get your neighbor to ship his bags with yours. Established 1870.

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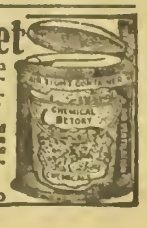

Odorless, Sanitary, Germ-proof. Can be placed anywhere in home. A guarantee of healthy, sanitary conditions.

ABOLISH OUTDOOR CLOSET

Have city conveniences. Germ-life killed instantly by chemicals. Emptied once a month. Needs no other attention. Boards of Health endorse. Write for literature. Agents wanted—exclusive territory.

COMFORT CHEMICAL CLOSET CO.

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Save Sows For Breeding

A BROOD sow is a good investment. This is true even in these strenuous times of high prices of food concentrates. The quotations on these feeds are controlled to a considerable extent by the price at which meat animals sell. Hence concentrates usually command a high figure when hogs on the hoof at large packing centers sell at more than 16 cents per pound. However, record prices for swine as well as feed concentrates have been a great incentive to farmers to "cash in" all the hogs available. That many sows have been included is evident from the fact that on April 1 the correspondents of the Bureau of Crop Estimates of the Federal Department of Agriculture reported approximately 3 per cent fewer sows on farms in the United States than a year before. Further, this is the first year that the supply has not increased since 1913.

At this time the marketing of a sow that can be or has been bred is fairly comparable to "killing the goose that laid the golden egg." Although the fecundity of swine is well appreciated by farmers, at times sows are sacrificed when a little forethought would cause them to be retained. Breeding sows multiply five or six times as rapidly as other meat animals. They have an average litter of five or six pigs and may be bred twice a year, although three times in two years accords more with current farm practice. The litters increase in size, on the average, until sows are five or six years old. However, a large proportion of the sows are sold after producing one or two litters and before they have reached the period of greatest usefulness. Occasionally sows become unsuitable for breeding because of their clumsiness, "high" condition, inactivity or barrenness, and these, of course, go to market when the proper weight, but the total sows of this class is a mere bagatelle.

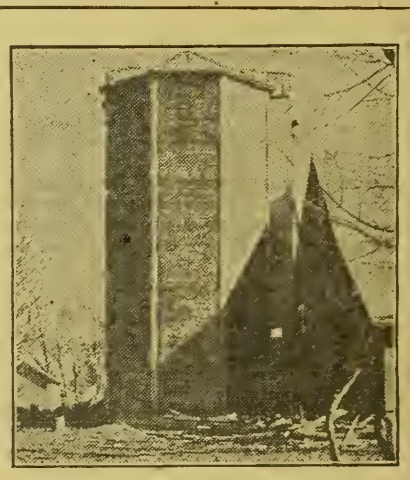
In these days when labor is high and also scarce on many farms, the hog may afford "a way out." Hogs utilize refuse and waste grains, damaged grains, and garbage; garnering grain behind cattle or shattered grain in harvest fields; and utilizing slaughterhouse by-products and dairy products. They are also largely self-feeders. The modern farm "cafeteria" gives a pig a chance to make a hog of himself more quickly than he can by the hand-fed route, and it has the added merit of being the cheapest way of producing pork. A sow when she is not developing a litter or nursing pigs, can in summer time be placed in a pasture and given very little grain. In winter, possibly the cheapest maintenance ration is a combination of grain and hay, such as corn, wheat, rye, or barley, and alfalfa, clover, cowpeas or soy bean hay. The grain should be limited to one or two pounds per hundred pounds live weight per day. Sows should be given all the alfalfa hay or other legume they will clean up. Sows which show exceptionally run-down condition from suckling their pigs should be separated from the herd and fed grain until they regain breeding condition. Where pastures are very luxuriant, it is possible to carry breeding sows on pasture alone, but the most palatable hay will not keep sows in good breeding condition if fed alone.

Breeding sows are at a premium and the demand for young stock is unprecedented. The hog buyers state in their reports that they are compelled to take anything that looks like a hog. The fluctuation in the number of hogs in the United States is subject largely to the fluctuations in the financial condition of the country. The high prices paid for hogs are a big inducement to farmers to market their hogs, and as stated before, the high prices of corn caused them to cut loose during the latter part of the year. The high prices paid for hogs and an increasing export trade are the two main factors which make the hog business especially attractive at the present time. Millions of farmers would purchase sows to farrow this coming spring if they could, but this is almost an impossibility. Those farmers who are fortunate enough to have retained their breeding sows will play an important role in placing spring pigs on the market. The spring gilts from these litters should not be sent to market for meat purposes, but should be retained or sold only for breeding purposes in order to augment the pig crop next year.

Silo Stockman's Friend

My experience may not have been as extended as some, yet it is in general accord with other feeders and is amply sustained by general observation. My conclusions are that there is nearly as much justification for putting up silos in which to store roughage as there is justification for putting up granaries in which to store grain, and the past season has wonderfully emphasized their importance. They not only materially assist in preserving the feed at its highest value, but really improve it by adding to its palatability and digestibility.

All good stockmen know how important it is to increase the quantity and improve the quality of the feed, if possible, that is to be used toward the close of the winter, especially if they wish to secure better gains on grass and be ready for early markets. In the general order of things in the past this principle has been reversed, and the longer the feed—shock corn, kafir, etc.—has been exposed to the weather, the poorer it has become and great loss and waste has occurred.



SILO OF BROWN COUNTY FARM

Take the kafir and sorghum crops generally, we find that the seed is not only softened in the silo, but it is protected against the ravages of sparrows, crows, blackbirds, mice, etc., that prey upon it by thousands, but the fodder is far more generally relished and put into condition for admixtures with cottonseed meal, bran, etc.

Many farmers have told me that they thought the silage was worth more than double what it would have been if left in the fields during the winter, and there are various conclusions as to the merits of silage as a preliminary feed when cattle are to be put on grass. My observation is based on what I learned last year—that nearly all the silage-fed cattle got fat earlier and were ready for market sooner than those fed in the customary way. They made their owners money while others lost, as the cattle made no gains owing to the dry season. —ALFRED ROGLER, Chase County.

Plant Pumpkins for Hogs

Pumpkins can be grown at a small cost and form a valuable addition to the rations of hogs. They may be grown in the corn fields, especially where there is a poor stand.

A supply of pumpkins will help out in economizing on grain. Their value does not lie entirely in their nutritive composition, but is due largely to the beneficial effects on the digestive tract, as they tend to regulate the bowels and keep the animals in healthy condition. It is also claimed that the seeds are valuable as a vermifuge, or worm remedy.

Silage is the best and cheapest form in which a succulent feed can be provided for winter use.

Farm Power

WHEN an engine is bought for the farm it has nothing to do but work. Too many makers forget this and sell you an engine that would be more at home driving a pleasure car.

Nichols & Shepard don't forget what a farm engine is for—*just work*. For steam they build from 13-40 to 25-85 h. p., in five sizes and fifteen variations burning wood, coal or straw. For Oil-Gas from 25-50 to 35-70 h. p., full power on kerosene. All in the

Red River Special Line

Either kind will buckle down and *work*—not snort around and swell the expense account. Use your automobile when you want to burn up power for fun, but buy an engine that has no nonsense about it when it goes to work.

The final test on a farm engine is to hook it to a grain separator. That will require steady and reliable power to do paying work. Send to the Nichols & Shepard branch house that is nearest to you for a little paper that shows your own neighbors' letters on the farm power question. Any one of them will give you a money-saving tip. The handsome general catalog of the Red River Special Line will come with the paper if you ask for it.

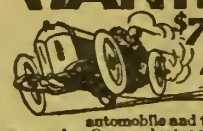
Nichols & Shepard Co.

In Continuous Business Since 1848

Builders Exclusively of Red River Special Threshers, Wind Stackers, Feeders, Steam Traction Engines and Oil-Gas Tractors

Battle Creek Michigan

WANTED MEN!



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We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

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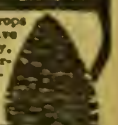

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LEPAGE'S GLUE HANDY BOTTLES

MEND IT TODAY 10¢

Have you sprayed your orchard? It is a pretty profitable kind of insurance. Clean, well formed fruit will usually sell at a good price. Wormy, poor fruit does not sell readily, if at all.

Enlist Your Cows

IN THE SERVICE OF YOUR COUNTRY

"It is sweet and honorable to die for one's country!"

So sang the Roman poet sounding a theme of patriotism which has inspired generations.

It is equally sweet and honorable to live for and **serve** one's country.

Not all can court the soldier's death at the firing line.

But all can do what in their power lies to help to win the cause.

The allied battling armies need food. Nature seems to have conspired with human passion in this great catastrophe. Her yields are less, in these times of greatest stress, than they have been in years. The dread spectre of famine stalks through the world.

Our own country faces a serious food shortage.

Prices are abnormally high and already beyond the reach of some pocketbooks.

Your duty is plain. You must "do your bit." You must enlist in the service of your country and work that others may live. You must help. And none **can** help quite so well as the Dairy Farmer by conserving the Dairy Cow and her female offspring and safeguarding the supply of the best and most essential food of mankind—Milk and its products.

RESOLVE HERE AND NOW

1. I will not kill, nor permit to be killed, a productive Dairy Cow nor her promising female offspring.

My country needs food and fat. The Dairy Cow furnishes both in great abundance. She is a natural food-making machine, capable of producing human food equivalent to that produced by 17 steers, capable of producing 2,100 pounds of fat as compared to the steer's 280 pounds of fat.

It is a crime to cripple or destroy such a wonderful food-making machine, especially during my country's direst hour of need.

2. I shall bring my heifers to maturity. It is my duty to my country.

And it pays.

A fair Dairy Cow has the earning-capacity of $1,000 securely invested at 5%. It is folly to sell for $125 or less a machine which equals the earning capacity of one thousand gold dollars.

3. I will not permit a scrub bull in my herd. I resolve to breed up, not down, to the end that each generation of my herd shall be a vast improvement on the preceding generation.

My country needs better stock, better and more bountiful production, and I shall help her so far as in my power lies to improve and increase my stock and its production.

It is my duty as a citizen, and it pays—in pride and pocket—to permit only worthy sires in my herd.

4. I believe in intelligent feeding. I know that it will increase my production. I promise faithfully to follow the most practical instructions available on this subject.

I owe it to my country, to myself, and to my cows, to make the most of my opportunities, to give time and thought freely to the important subject of feeding. I shall be proud to set an example in intelligent feeding and thereby inspire my neighbors to do likewise.

5. I will not waste my skim milk. It is fine food for human consumption, and I shall support vigorously the movement to spread the truth about the food value of skim milk, to procure the repeal of the ignorant and vicious legislation and remove the superstition which makes my nation banish from the table and the kitchens 30,000 millions of pounds of this cheap, nutritious and digestible food yearly.

6. I shall plant intelligently to grow my own feed, and thereby lower the cost of production and increase my profit. I demand efficiency and low cost from the man who furnishes me my food, my clothing, my houses, my household furniture, my barns, equipment and machinery—and all my needs.

He has a right to demand in return and I promise to give equal efficiency, equal low-cost production on what I furnish to him.

7. I believe in soil conservation and shall do all in my power to maintain the fertility of the soil in my care and so shall I hold my lands in trust for this and coming generations.

My country depends upon me to safeguard the continuous fertility of my soil and I shall not fail her, surely not now, in her hour of need.

This, Mr. Dairy Farmer, is your oath of enlistment. Will you subscribe to it as a fair token of gratitude to the men who render their lives on the firing-line that you may be free and remain in full enjoyment of the blessings of democracy?

You can do no less! You can do more by living the creed and spreading it.

Acquaint yourself with the work of the National Dairy Council, and support it with all your might. It is bending every effort to improve and increase production, and through nation-wide advertising it is increasing the consumption of your products, teaching the public that Milk, Butter, Cheese and Ice Cream are the best, most wholesome and cheapest of foods. It is spending vast sums to inform 100 million Americans that Milk is cheap at 15 to 20 cents per quart, and that there is no substitute for Butter because there is no substitute for Butterfat; that Cheese is the staff of life of many nations and should be a staple food for the armies in the field. The Council urges you to increase production, and while it is so urging you it is finding a market for you. See to it that this market is supplied and raise the quality.

A new era is dawning in Dairydom. Dairying is gaining in understanding, in dignity, in profit. Stick! Stick and improve!

AND---COME

Come to the National Dairy Show at Columbus, Ohio, October 18 to 27, 1917. Let nothing interfere.

The Show will be the center for mobilizing the Dairy Industry for service to our country in its need now and ever after. It will be the greatest and most profitable Short Course ever offered.

The whole grandeur of Dairying will be enrolled before your very eyes. Over a thousand admired asistocrats of Cattledom will inspire you to breed upward. The country's greatest scientists, government and state officials, noted professors of Agriculture, will discuss with you and for you important, practical questions for the betterment of your business and the increase of your profits. It is the greatest opportunity ever offered you to learn and become inspired by the whole majesty, dignity and profitableness of Dairying. Proof will be furnished you that you cannot afford to neglect or treat indifferently this wonderful part of your work, and we urge you especially to bring with you your growing sons and teach them new and lasting attachment to Dairying—the world's greatest and best service.

You will serve your country and yourself—SO COME.

NATIONAL DAIRY SHOW ASSOCIATION

130 NORTH FIFTH AVE. **CHICAGO, ILL.**



The Eyes of America Turned on Her Farmers

AT last the American farmer occupies his rightful place in the esteem of the world. Manufacturers, merchants, bankers and city dwellers of all kinds heretofore have taken their food for granted and have overlooked the man behind the plow—the man who feeds them.

Conditions today are such that the *producer* of foodstuffs is recognized as the mightiest force—not only in the welfare and prosperity of the nations of the world but in the very existence of nations and their peoples.

A noticeable feature of the situation, which has shown the American farmer to be on a high moral plane as well as holding an important industrial place is the fact that he has *not* taken advantage of conditions to extort unreasonable prices from his fellow Americans. He has patriotically increased his production in order to prevent famine prices instead of keeping production down to force prices up.

He has shamed the food speculator—though unfortunately his example has not been followed by all manufacturers—particularly among the makers of so-called luxuries; though many big manufacturers in this country have followed the farmer's lead.

One of the most noticeable cases among those who have kept faith is that of the makers of Coca-Cola. In spite of the enormously high price of cane sugar—the principal ingredient of Coca-Cola—and in spite of the higher cost of its other ingredients the Coca-Cola Company have not raised the price to consumers nor lowered the quality of that delicious and refreshing beverage one iota. Like the farmers they have kept faith with the people to their own cost.

Perhaps the lessons of fair-dealing and helpfulness that the heads of that institution learned as boys on the farm (for they are products of the soil) have strengthened them to stand firm in this crisis. So let us remember that the beverage Coca-Cola, known as the National Beverage because of its great popularity, has proved itself indeed national by doing its bit to keep down the cost of living.



160 ACRE FARMS IN WESTERN CANADA FREE

Canadian Farmers Profit From Wheat

The war's devastation of European crops has caused an unusual demand for grain from the American Continent. The people of the world must be fed and wheat over $2 a bushel offers great profits to the farmer. Canada's invitation is therefore especially attractive. She wants settlers to make money and happy, prosperous homes for themselves by helping her raise immense wheat crops.

You can get a Homestead of 160 acres FREE and other lands at remarkably low prices. During many years Canadian wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to acre. Wonderful crops also of **Oats, Barley and Flax.**

Mixed farming as profitable an industry as grain raising. The excellent grasses full of nutrition are the only food required for beef or dairy purposes. Good schools, churches, markets convenient, climate excellent.

There is now an extra demand for farm laborers to replace the many young men who have volunteered for service in war. The government is urging farmers to put extra acreage into grain. Write for literature and particulars as to reduced railway rates to Supt. of Immigration, Ottawa, Canada, or

GEO. A. COOK

2012 Main St., Kansas City, Mo. Canadian Gov't Agt.

2 Plows

PRAIRIE DOG TRACTOR

Makes Work a Pleasure. Early plowing conserves moisture and increases crops. The greater profit will pay for a Prairie Dog Tractor. Works in any weather. Does not mind the heat—never tires. Pulls two 14-inch plows under ordinary conditions at 2½ miles per hour. 20 H-P. Waukesha Motor for belt work. Speed on high for road work, 7 to 10 miles per hour. Saves time, makes work pleasant. High quality—low price. Write for catalog and special offer to reliable farmers.

K. C. HAY PRESS CO., Kansas City, Mo.

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We have several thousand subscriptions expiring in May It would be a saving of much time to us and avoid missing copies by the subscriber if the renewal could reach us before the expiration. The best way to do is to send in $2 when you renew and have your subscription paid three years in advance.



Sodium Fluorid For Lice

ONE application of sodium fluorid will kill all lice of chickens, entomologists of the Department of Agriculture have discovered. This inexpensive white powder, they find, will rid a flock of all the seven common species of chicken lice in a few days. One pound, costing only 40 or 50 cents at the time of this writing, is enough to treat a hundred fowls, if dusted on. If dissolved in water and used as a dip, the same amount will go three times as far. It is easily applied, economical, gives immediate results, and does not injure the fowls or the poultryman.

The complete effectiveness of the sodium fluorid remedy and methods of using it are discussed in Farmers' Bulletin No. 801 of the U. S. Department of Agriculture, "Mites and Lice on Poultry," by F. C. Bishopp and H. P. Wood. The bulletin deals also with mites, the night pests of chickens, which requires a different treatment. Lice are the biting insects that work by day and are a serious foe in neglected small flocks of general farms and back yards.

Sodium fluorid—say it plainly to the druggist or you may get sodium chlorid, common salt, which it not only resembles in name but in appearance—may be obtained at most large drug stores. Until its recent use against cockroaches, and still more recently against poultry, this substance had not been employed as an insecticide. The demand for it, therefore, has been quite limited, and it is not ordinarily found in the stock of the small drug store. Druggists, however, can obtain it readily from manufacturing chemists, and with demand, it likely will be carried by local dealers. The finely powdered commercial form is cheaper and more easily applied by the dusting method than the fine, crystallized sodium fluorid.

To apply the material in dust form, place it in an open vessel on a table and with one hand hold down the fowl by the legs or wings. With the other hand place small pinches of the chemical among the feathers next to the skin, according to what is known as the "pinch" method, which proceeds as follows: One pinch on the head, one below the vent, one on the tail, one on either thigh, and one scattered on the under side of each wing when spread. Each pinch can be distributed by pushing the thumb and fingers among the feathers as the material is released. If the chicken is held over the vessel, the material which falls from the fowl during the operation is recovered.

The material may also be applied by means of a shaker, but this method has some disadvantages as compared with the "pinch" method. When this method is used the amount of sodium fluorid may be reduced by adding four parts of some finely powdered material, such as road dust or flour, to each part of the fluorid. The dust, while not poisonous, is somewhat irritating to the nose and throat. If allowed to remain on the skin in any quantity for any great length of time, it may cause slight local irritation. For these reasons, those dusting a large number of chickens would do well to cover nose and mouth with a dust guard or damp cloth and to wash their hands occasionally.

The dipping method is more economical but among many poultry raisers there is a general sentiment against the practice of dipping fowls, largely because most of the dips contain materials which discolor the feathers. The sodium fluorid dip, however, is harmless and as compared with dusting is more easily done. As it is necessary that the fowls dry quickly, dipping is most applicable in the Southern States and to summer treatment in the North. For lice on young chickens, young turkeys, and in fact all newly-hatched or sick fowls, the application of sodium fluorid in the dust form is recommended.

This is the way the dip is prepared: In a tub of tepid water dissolve the poison at the rate of three-fourths to one ounce of the commercial powder, or two-thirds of an ounce of the chemically pure material, to each gallon of water. The fowls should be held by the wings over the back with the left hand and quickly submerged in the solution, keeping the head out, while the feathers are ruffled with the other hand to allow the dip to penetrate to the skin. The head then should be dipped once or twice and the bird lifted and allowed to drain a few seconds. A fowl may be treated in thirty to forty-five seconds. The sodium fluorid solution should not be allowed to remain long in galvanized vessels as its action on this metal is injurious. The solution does not injure the hands unless it comes in contact with sores, when it may cause slight irritation.

In experiments conducted by the department's specialists, more than 800 fowls have been dipped at one time, using on the average 5.2 ounces of sodium fluorid to 100 birds, at a cost of 13 cents. Labor is also reduced by dipping, the cost being about 58 cents for 100 fowls.

Produce Infertile Eggs

The farmers of the United States lose each year large sums because of improper methods of producing and handling eggs. One-third at least of this loss is easily preventable. It is due to the partial hatching of fertile eggs.

The eggs laid by a hen may be either fertile or infertile, depending on whether or not the male bird has been allowed to run with the female. A fertile egg is one in which the germ has been fertilized by the male bird. Except for this process of fertilization, the male bird has no influence upon the eggs which the hens lay. Egg production is equally great in flocks from which roosters are excluded.

A fertile egg does not keep as well as an infertile one because the fertilized germ responds more readily to high temperatures than the unfertilized one. It is impossible to hatch an infertile egg or to cause a blood ring to form in one. Such eggs are much more likely to reach the table in good condition and there is much less spoilage in shipments composed entirely of them than in mixed shipments of fertile and infertile eggs.

After the hatching season, therefore, the male birds should be eaten, sold or confined. In approximately fourteen days after this all the eggs laid by the hens will be infertile. These can be marketed much more successfully under the adverse conditions that frequently prevail in the hot summer months.

Heat is the great enemy of eggs, both fertile and infertile. By following these simple rules, which cost nothing but time and thought, dollars can be added to the poultry yard returns:

Keep the nests clean.

Provide one nest for every four hens.

Gather the eggs twice daily.

Keep the eggs in a cool, dry room or cellar.

Market the eggs at least twice a week.

Sell, kill, or confine all male birds as soon as the hatching season is over.

Rotten-Egg Law

While talking with a man who is making a business of furnishing eggs and vegetables to special customers, he told me that he had built up his trade by furnishing only perfectly good products. He never sold rotten potatoes or wilted vegetables—even when it was possible to do so by hiding the rotten ones under the good ones.

He is now shifting to make a specialty of good eggs. He has been reading the pure food laws and has learned that the sale of rotten eggs comes under the head of impure food, "not fit for human consumption." He says that he is careful to sell no rotten eggs, so he separates the roosters from the hens about the middle of May, and closely inspects all eggs which he sells throughout the year.—J. E. PAYNE, Oklahoma.

Tells Why Chicks Die

E. J. Reefer, poultry expert, of 4635 Reefer Bldg., Kansas City, Mo., is giving away free a new book which tells of a simple home solution that raises 98 per cent of all chicks hatched and cures white diarrhea over night. All poultry raisers should write for this valuable free book.—[Adv.]

Good Profits From Pasture

ALFALFA or rape pasture returns good profits when grazed by pigs fed grain in self-feeders. Tests made at the Kansas Experiment Station last summer gave excellent results from this method of feeding.

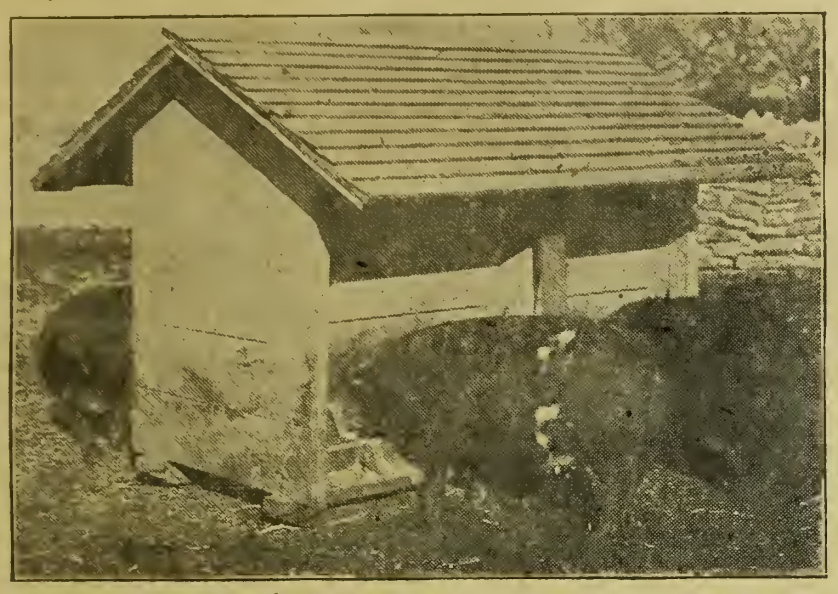
Thirty head of fifty-pound Duroc-Jersey pigs were put on full feed July 28 and continued for sufficient periods of time to allow an average gain of 150 pounds per pig. These pigs were divided into five lots of six pigs each. Two lots were fed in dry pens, two on alfalfa pasture, and one on rape pasture.

A study of the results shows that the pasture pigs made slightly greater gains which allowed them to make an average of 150 pounds, only one and one-half days earlier. However, they showed a saving of 8 per cent in the use of concentrates amounting to 45 cents for each hundred pounds of gain. This figures a saving of 67½ cents per pig, or $4.05 per lot, through the period of ninety-four days, or approximately three months. These pigs were pastured at the rate of eighteen per acre with forage to spare.

Each lot thus grazed one-third of an acre. This shows a return of $12.15 per acre for the alfalfa pasture in three months' time. Two cuttings of hay had been removed before the feeding period began. Figured on the basis of a five-months' pasturing season there results a return of $20.25 per acre and in addition the saving of the manure right on the ground where it is needed.

The rape pigs were pastured at the rate of twenty-four per acre, but with a slight shortage of rape during the latter part of the feeding period. Using the prices named above, an acre of rape would give a return of $16.20 for the three months' feeding period. Figuring on the basis of a four months' pasturing season there results a return of $21.60, though conditions were not the most favorable for rape production.

The table shows detailed figures. The lots fed by the free-choice method had the different feeds always available and made their own selections from the different compartments of the self-feeder.—C. M. VESTAL, K. S. A. C.



SELF-FEEDER USED IN EXPERIMENTS AT KANSAS AGRICULTURAL COLLEGE.—THIS FEEDER DESIGNED BY THE ANIMAL HUSBANDRY DEPARTMENT

Dry Lot Versus Pasture Self-Feeding

SIX PIGS IN EACH LOT, ALL FED IN SELF-FEEDERS	LOT 1 Mixed Corn meal 70 Shorts 24 Tankage 6	LOT 2 Free Choice Corn meal Shorts Tankage Bone ash	LOT 3 Free Choice Corn meal Shorts Tankage Bone ash Alf'a pasture	LOT 4 Mixed Corn meal 80 Shorts 16 Tankage 4 Alfalfa pasture	LOT 5 Mixed Corn meal 80 Shorts 16 Tankage 4 Rape pasture
Average initial weight	48.6	49.1	48	48	47.1
Days to gain 150 pounds per pig	99	91	98	89	96
Average daily gain per pig	1.51	1.64	1.53	1.68	1.56
Concentrates consumed daily per pig	5.64	6.11	5.36	5.75	5.37
Concentrates consumed per 100 lbs. gain	373	369	350	342	343
Cost of concentrates per 100 lbs. gain	$6.04	$5.92	$5.56	$5.51	$5.53

Prices of Feeds: Corn meal $1.60, shorts $1.45, tankage $2.55 per cwt.

No Danger of Over-Production

WHILE the farmer is being urged to greater and greater production, he naturally considers the possibility of overproduction. Many farmers are raising this question. Overproduction is exceedingly improbable this year. It has been agreed that this country's part in the war will be largely to supply food. Our food resources have been depleted by shipments to Europe and by several poor crop years, and now with unrestricted exports to the Allies, the small reserve which we have will be further decreased. Any surplus which the American farmers can produce will be quickly absorbed at war-time prices. Millions of people in England, France and other countries at war with the German powers are in need of food. They must have food not only for their civil population but for their armies. They are too busy fighting to provide that food themselves. It then behooves the United States to supply food.

But it is not alone for the Allies that we must produce maximum crops. If we have a poor crop year throughout the country, our own people may actually suffer.

If Germany is able to continue the ruthless submarine warfare unhindered, some food will be lost on its way to Europe. Consequently the losses will tend toward a further shortage and to absorb any surplus even if there were danger of overproduction.

What would happen if peace should come within the next few weeks? Would not the markets be glutted? It is doubtful if there will be a great decrease in the demand for food immediately following the war. With commerce restored, every nation which is now at war will become a market place for American farm produce. Those countries have no food reserves left and they will turn to the United States to furnish food during reconstruction and until they can feed themselves.

In 1915 the United States produced ten bushels of wheat per capita; in 1916 we produced six bushels per capita, but used six and one-third bushels for seed and ordinary consumption and exported two and one-half bushels per capita. The present condition of wheat in the United States is 63 per cent of a normal crop. This is 23 per cent below the average for the last ten years. The condition in Missouri is even worse—59 as compared with the fifteen-year average of 85 per cent. The latest reports are that the world crop of wheat is far below average. Other foods are correspondingly scarce. — F. B. MUMFORD, Columbia, Missouri.

We Need Your Help In a Critical Time

KANSAS FARMER READERS CAN BE OF GREAT HELP TO THEIR FAVORITE FARM PAPER NOW

KANSAS FARMER comes to you through the mails. It is distributed under the jurisdiction of the Post Office Department, which has made some new rulings which the publishers of KANSAS FARMER must observe in respect to the procuring and continuation of subscriptions. During these critical times the rulings may be changed at any time, at the option of the Post Office Department.

The Postmaster General has made a ruling which makes it necessary that certain classes of subscriptions may not be carried after expiration. It has always been customary and permissable for the publisher to carry, at his option, subscriptions for a short time after they expire, in order that the subscriber might have an opportunity to renew his subscription and thus prevent his missing any copies of the publication.

The new rule, however, requires that this practice must be stopped.

We feel that you want KANSAS FARMER, because it is strictly a Kansas paper and is striving to help you in your work, and you certainly do not want to miss the good things that this old paper carries each week for the betterment of farm conditions. We do not want to discontinue your paper. We are very anxious to retain every one of our subscribers. In order to do so, we must urge that you send us your renewal subscription at once.

Here are four distinct offers which we submit to you. We will greatly appreciate your acceptance of any of them:

1. May we immediately have your renewal for one year at $1.00?

2. If you send us $2.00, we will renew your subscription for three years—a saving of $1.00.

3. If you will send us the subscription of two of your neighbors for one year for $1.00 each—$2.00 in all—we will renew your own subscription one year without additional charge in appreciation of this service rendered.

4. If you will send us the subscriptions of four of your neighbors at $1.00 each—$4.00 in all—we will extend your subscription for a period of three years without additional charge.

We have provided a special blank below to be used in sending in your renewal subscription or the subscriptions of your neighbors. May we again urge you to co-operate with us by accepting one of the offers provided?

Special Club Subscription Blank

KANSAS FARMER, Topeka, Kansas.

I enclose $.....for.....subscriptions to KANSAS FARMER for one year each. For this service I am to receive KANSAS FARMER for { 1 year / 3 years } without additional charge.

Name .....

Address .....

Name .....

Address .....

Name .....

Address .....

Name .....

Address .....

Special Renewal Blank

(To be used in case Club Offer is not accepted.)

KANSAS FARMER, Topeka, Kansas.

Enclosed please find { $1.00 / $2.00 } to pay for my renewal to KANSAS FARMER for { 1 year / 3 years } as per offer above.

Name .....

Post Office .....

R. F. D..... Box..... State.....



WHEN YOU BUILD BUILD PERMANENTLY

The Humboldt Hollow Tile Silo or Barn will last forever. It is the last thing in Silo and Barn Construction.

Economical, Fire-Proof, Indestructible

Hollow Tile Silos will cost no more than one-piece fir stave silos. The Humboldt Tile Barn will cost very little more than a frame barn, and you have permanency. No shrinking or swelling, warping or twisting, no rotting. Needs no paint. Extremes of heat and cold, moisture or dryness will not affect this wonderful construction.

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Hollow Tile is fire-proof because the tiles are made of shale, burned with natural gas to a temperature of 2,000 degrees.

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This is indestructible and is many permanent features make the Humboldt Hollow Tile Silos and Barns the cheapest that money can buy. Everlasting strength makes a lasting improvement for any farm. Our silos are tried and proven and in constant use at the Kansas Agricultural College at Manhattan, and the Oklahoma Agricultural College at Stillwater, and among hundreds of the permanent farmers and stockmen in the country. We refer you to any of them for reference on our silos.

LET US FIGURE ON BUILDING A SILO OR BARN FOR YOU

WRITE US TODAY FOR COMPLETE LITERATURE.



Tile Silo and Dairy Barn on Farm of J. W. Hamm, Humboldt, Kansas.

HUMBOLDT BRICK MANUFACTURING COMPANY, HUMBOLDT, KANS.

Makers of Brick, Drain Tile, Silos, Tile for Churches, School Houses, Store Buildings, Residences, Barns, Farm Buildings of All Kinds.

Municipal and Community Canneries

Saves the Food Ordinarily Wasted by Canning the Surplus

SMALL co-operative canneries will provide a practical means for the saving of surplus fruit and vegetable products in many Kansas towns, villages and rural communities. This proposition has been carefully investigated by the State Council of Defense committee on gardening and canning, of which Otis E. Hall, state club leader in the extension division of the agricultural college, is secretary.

Such plants will probably prove to be most successful in the smaller towns and communities where fruit and vegetables are grown in abundance and where the market for the fresh products is limited.

The cost of installing a medium-sized plant is not excessive. A first class hot water outfit with a daily capacity of something like 200 to 1,000 quarts can be installed for from $50 to $100, and a steam pressure outfit with the same capacity can be installed for $100 to $500. This of course does not include buildings, but special buildings are not necessary. It is quite likely that in most cases the work could be done in school buildings or homes. Empty store rooms or farm buildings, for that matter, might be used, provided of course that water is accessible and they can be made sanitary and convenient. Some of the factories that make equipment for these small canneries suggest that the plant can frequently be placed out of doors and all the work be done under the shade of trees.

Before a co-operative canning plant is installed, a definite plan for financing it should be adopted. The first cost of equipment must be met and unless the plant is wholly co-operative, the salary of a superintendent and the expense of labor and materials used must be provided for.

There can be no community or municipal cannery in the true sense of the word unless it is owned and controlled by several individuals representing the community or municipality. A fund of $200 for the installation of an average-sized plant could be satisfactorily raised by selling forty shares of stock at $5.00 a share and generally speaking forty homes would include the entire community.

The operating expense of the plant will be more than covered by the receipts from the canned products if a capable manager is hired, and the boys and girls of the community assist in the work, either voluntering for the service one or more days a week or working for a small wage.

The expense will include the salary of a manager unless such manager is already receiving a salary from the school board or other source, the wages of boys and girls, the sugar, sirups and brines used in the process, and the containers. It is suggested that where the products are canned for home use a fixed charge be made against each can to cover the expense of its preparation. Local merchants can do much to help the enterprise by agreeing to buy the surplus product at a reasonable price, if satisfactory, instead of shipping in canned goods from other states. The wages of each boy and girl should be determined by setting a fixed rate for each can of vegetables brought in or prepared for the container. In case the superintendent is employed especially for the canning work and not paid by the community as a whole, his salary could be prorated and charged against the products also.

SUPERVISION AND MANAGEMENT

Efficient supervision and management is more important than expensive equipment. It would be poor business judgment to even consider a plant without first having in mind an efficient manager for it. The success of even a small cannery depends in a large measure on this factor.

The manager should not only be scientifically trained but should also be acquainted with the fruit and garden conditions in the community. As a rule, the proper person for this responsibility is the successful agricultural teacher, who is paid by the school board for the full twelve months of the year, and looks after the cannery as part of his vacation work, the rest of his time being devoted to gardening and general agricultural work. Perhaps the busiest plants would only be kept running a few days out of each week during the canning season.

The duties of the manager are to locate the materials for canning, see that they are brought in to the plant at the proper maturity and in sufficient quantities, to direct the work of properly preparing the fruits and vegetables for the jars and cans, and to see that sterilization and sealing is properly done. If there is a failure in any of these particulars, both time and products are worse than wasted. A poor product will create a prejudice against canned foods of this kind.

COLLECTION OF PRODUCTS

In most cases the Boy Scouts or the garden club boys could collect the products from the different gardens or orchards and see that they are all delivered to the cannery at the proper time. Either autos or horse-drawn vehicles could be used. Each boy should be assigned a certain route which he should make each day during the time the cannery is running. It often happens that on many farms large quantities of fruit and vegetables can be had for one-half their real worth, as the heavy canning season generally comes when farmers are the busiest and do not have time to look after the delivery of the few products maturing from day to day, and prompt delivery of these products is a matter which must be attended to regularly if first class canned foods are to be put out. Often one or two days' time makes such vegetables as corn, tomatoes, peas, and several of the fruits unfit for first class canned products.

PREPARATION OF PRODUCTS

As the boys should look after the collection of the products, so should the girls look after the work of preparing them for the jars and cans. The only reason that commercial canning factories are able to produce a finished product cheaper than can the average farmer is because practically all of their work is done by machinery. The corn, for example, is husked, cut off the cob and put into the jars by machinery. The peas are hulled by machinery and all the labeling as well as the sealing of the cans is done by machinery. A small plant cannot afford to invest very much in equipment, so it should try to make use of inexpensive or volunteer help. When properly supervised, most of the work for a small cannery could be done by boys and girls. Young people like to work together and the average girl can snap as many beans, hull as many peas, husk and silk as much corn, core as many apples, and stem as many cherries as can the average housewife.

The following fruits and vegetables might be handled successfully in such canneries:

Of the fruits, blackberries, apples, cherries, peaches, apricots, pears, plums, and strawberries.

Of the vegetables, asparagus, lima beans, snap beans, corn, beet top and other greens, pumpkins, rhubarb, squash, sweet potatoes, and tomatoes.

CANS OR JARS

Unless the canned products are to be handled considerably, jars and not cans should be used. With cans at the present price, they are too expensive. Jars can be used for several years, and such products as rhubarb, pumpkin, and some of the sourer berries should not be preserved in cans unless the enameled or lacquered lined cans are used. Whether the products are to be canned for market or home use in the community, standard sized cans and jars should be used. In cans these sizes are Nos. 2, 3 and 10, and in jars, half-pints, pints, quarts and two-quarts. However, any jars that may be on hand, regardless of size, may be used if it is not possible to procure those of standard size. As a rule vegetables and meats should be preserved in small containers. Fruits keep better than vegetables after the containers are once opened, and for this reason can be handled more successfully in quart or two-quart jars than can the vegetables or meats.

LABELS FOR PRODUCTS

When the canned products are to be used for market purposes, labels should be had. Special labels with printed matter as desired by the managers of the plant and such as is required by the Pure Food law, may be had very reasonably. Before having labels printed, submit a sample copy to the Bureau of Chemistry, Washington, D. C., to make



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A shade roller with a weak spring is almost useless. It will not roll your shade up nor let it down without a struggle. Finally it refuses to work—and then there is nothing to do but buy a new roller. Millions of women use

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because the spring is strong and sure—because they last—because they protect the shade from sagging, tearing or wrinkling. When you buy Hartshorn Shade Rollers you know that you will not have to replace them within a few months. The strong springs are made in our own wire mill from the finest tempered steel. —That is why they last so long.

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Kill All Flies! They Spread Disease

Placed anywhere, Daisy Fly Killer attracts and kills all flies. Neat, clean, ornamental, convenient, and cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Ask for



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HAROLD SOMERS, 180 DeKalb Ave., Brooklyn, N. Y.

Spalding's COMMERCIAL COLLEGE

10th & Oak Sts., KANSAS CITY, MO.
51st YEAR. Over 28,000 former Students. Our modern Building has 15 elegant Rooms, including FREE GYMNASIUM and Auditorium. 21 experienced Teachers and Lecturers. Day and Night Schools all Year. Free Employment Bureau. Shorthand, Typewriting, Book-keeping and English Branches. Catalogue "K" Free. J. F. Spalding, A. M., Prest.

WHITE HOLLAND TURKEY EGGS FOR HATCHING

From Madison Square Garden, New York, winners. 40c each, $4 per twelve.

FRANK J. HICKS, Route 8, Onarga, Illinois

"Our Flags" The new game. All the rage. Interesting and exciting. Flags of different nations. All salute the U. S. flag. Eighty-four cards, extra good quality. 50c per pack. Send stamps today. Your money refunded if not pleased.
"OUR FLAGS" GAME CO. - OLNEY, ILLINOIS

When Writing to Advertisers, Please Mention Kansas Farmer

sure they meet the law requirements. This is only necessary, of course, when the canned products are marketed.

These plants are not being recommended as commercial propositions or as big dividend-paying organizations, although a small cannery, when managed properly, could be made somewhat profitable. They are recommended, however, as an economic means of utilizing a large supply of valuable food which would otherwise be wasted.

Further information on this and related subjects will be furnished gladly by the Extension Division of the Kansas Agricultural College.

Are You Worth Your Salt?

"Not worth his salt" is an expression originating in the Roman army when the legionaries were given a portion of salt as part of their pay. As you know, "sal" is the Latin word for salt, and when in the course of time salt gave place to money, the amount was called "salarium," or salt money. This is the origin of our word "salary," and the expression, "Not worth his salt."—The American Boy.

In seating a schoolroom three things should be considered: the quality of the seats, their size with reference to the size of the pupils who are to occupy them from day to day, and their arrangement and spacing. In some schools only the largest sizes are found and smaller children sit with their feet swinging above the floor. In others they have only the smaller sizes, and then parents wonder why their big boys and girls are growing stoop-shouldered. In still others are found seats of proper size, but so arranged and spaced that seats and desks do not fit each other and none of the pupils are comfortably seated. A school house need be no less valuable as a community center from the fact that it is properly seated and equipped for school purposes.

Knitting is being taught to the domestic art girls at the Kansas Agricultural College. When they have completed their work they will know how to turn the heel and toe of a sock. Those in charge of this department at the college have written the Red Cross Association to find out the immediate needs in order that they may contribute to these needs.

Insist on yourself; never imitate. There is at this moment for you an utterance brave and grand as that of the colossal chisel of Phidias, or the pen of Moses or Danta, but different from these. If you can hear what these patriarchs say, surely you can reply to them in the same pitch of voice.—EMERSON.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8114—Children's Dress: Cut in sizes 2, 4 and 6 years. The correct way to make a day dress for a girl under six years of age is suggested by this design. It shows the front of the frock made with a yoke that is finished for lacing, as the dress slips on over the head. The upper edges of the dress fronts are neatly gathered and joined to yoke. **No. 8110—Ladies' Shirtwaist:** Cut in sizes 36 to 42 inches bust measure. Delightfully smart and simple in its design, this waist might depend for its success on the collar alone, but a wide box plait in each front and in each half of the back cannot be overlooked. The button decoration is very neat and appropriate, and contrasting goods for the roll cuffs on long sleeves and to edge of collar gives softness to the plain lines. **No. 7419—Children's Night Drawers:** Cut in sizes 1, 3, 5, 7 and 9 years. These night drawers are made with a square yoke in front and with the front and the drawers below the yoke in one piece. In the back there is a division across the waistline and the closing down the center. The material is gathered into bands at the ankle. **No. 8135—Misses' Dress:** Cut in sizes 14 to 20 years. The universal note of the season is easily recognized in this frock, which is cut in one piece and made with inserted plaited sections at the sides. There is no fitted effect, but a wide belt proves its popularity at normal waistline. **No. 7711—Ladies' Skirt:** Cut in sizes 24 to 30 inches waist measure. One style of the fall models. The skirt is cut in two gores and is mounted on a raised waistline and has yokes to which the front and back gores are gathered. A trimming tab is a decorative feature of the back yoke and nothing could be more novel than the placing of a pocket at the lower edge of each yoke. **No. 8099—Misses' Dress:** Cut in sizes 14 to 20 years. A design that answers every demand of fashion, from its one-piece cut to the button decoration at front where the closing is made. At the shoulder seams the fronts are gathered and at the waistline the fullness of the skirt section is neatly drawn in with a belt arranged across the back and its ends tacked to the front sides, as pictured.

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement **here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks,** for bona fide seekers of employment on farms.

HELP WANTED.

FARMERS WANTED—$75 MONTH. MEN and women. U. S. Government jobs. War means hundreds vacancies. Common sense education sufficient. Write immediately for list positions obtainable. Franklin Institute, Dept. C-82, Rochester, New York.

REAL ESTATE.

320 IN JUDITH BASIN—A SNAP AT $4,000. Box 440, Roy, Montana.

FOR SALE—A FEW GOOD FARMS AND Western Kansas wheat land. Rogers Land Co., 528 East Douglas, Wichita, Kansas.

FOR SALE — RANCH 1,280 ACRES, 300 cows, 2,000 acres leased land will go with place. Buy of owner. S. C. Reveley, Centerville, New Mexico.

FARM AND PROPERTY WANTED EVerywhere. If you want to sell, try me. One per cent commission after sale. If you want to buy, get my Farm Journal. Hahr's Farm Agency, 800 Broad St., Newark, N. J.

ATTENTION, FARMERS! 300 RICH, choice Eastern Oklahoma and North Louisiana farms for sale and rent on easy terms. We have already located hundreds of families who have made good. Best opportunity ever offered to farmers to get homes of their own from the owner. Write James P. Allen, Claremore, Oklahoma.

NEW FARM OPPORTUNITY IN ONE OF the greatest states in the Union. A new line of the Santa Fe is tapping a rich and fertile prairie section of Northwest Texas, where already many farmers have made good in a big way with wheat, hogs and live stock. Here, if you act now, you can get first choice—get in on the ground floor of a great opportunity. You can get in ahead of the railway—ahead of the people whom the railway will bring—ahead of those who act more slowly than you do. This is the chance of a lifetime for a man of moderate means. A certain number of thrifty, far-seeing farmers can acquire good land at an astonishingly low figure and on long, easy terms. If you have confidence that a great railroad, like the Santa Fe, would only recommend what it considers a good thing, and because it wants to see new territory developed and wants newcomers to prosper and produce—then write me today for particulars about this district. Mild climate, social advantages, schools, churches, telephones, good roads. Everything there but enough men with their families. Will you be one of the fortunate first comers to reap the advantages of a section that has been minutely inspected by a Santa Fe agricultural agent and pronounced right? Write me now and let me send you a copy of the special illustrated circular we are getting out. C. L. Seagraves, Industrial Commissioner, A. T. & S. F. Ry., 931 Railway Exchange, Chicago.

HORSES AND MULES.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

MISCELLANEOUS.

BLACKSMITH SHOP AND GARAGE with good tools, up to date, for sale right. R. C. Watson, Altoona, Kansas.

BUSINESS CHANCES

UNCLE SAM OIL COMPANY PAYS $40,000.00 cash dividend June 12. Stock purchased now participates. Price, $10.00 per thousand shares. A. L. Burton, 401 E. Douglas, Wichita, Kansas.

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

THE STRAY LIST.

TAKEN UP—BY S. L. WALTER, OF Cedar Township, Smith County, Kansas, on April 10, 1917, one cow, color red, about 4 years old, no horns, thin in flesh, no brands. J. F. Bennett, County Clerk.

TAKEN UP—BY ROY WEHLGEHAGEN, of Dudley Township, Haskell County, Kansas, on April 28, 1917, one stray horse, color black, age two years. Branded with an open A. And the said Roy Wehlgehagen, the taker-up, resides in Dudley Township, said county. His post office address is Satanta, Haskell County, Kansas. A. R. Henage, County Clerk.

DOGS.

COLLIE PUPS—MALES, $5; FEMALES, $2.50. A. R. Ihde, Hope, Kansas.

SCOTCH COLLIE PUPS FOR SALE. BOX 111, Inman, Kansas.

COLLIE PUPS FROM GENUINE STOCK dogs that drive from the heel. E. L. Dolan, Route 2, Platte City, Missouri.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

HOLSTEIN CALVES FROM TESTED dams. Blue Label Stock Farm, Route 5, Whitewater, Wisconsin.

CALVES — HOLSTEINS, SHORTHORNS and Guernseys. A few specially fine ones, $12.50 to $25. For catalog write Ed Howey, South St. Paul, Minn.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $23 apiece. Frank M. Hawes, Whitewater, Wis.

HOLSTEIN CALVES — TEN HEIFERS and two bulls 15-16ths pure, 4 to 6 weeks old, $18 each, crated for shipment. Also one pure-bred heifer, three months old, $75. These calves are nicely marked. Four Way Farm, Whitewater, Wis.

HOLSTEIN BULL FOR SALE, TWO years old; weight, 1,600 pounds. The total milk of dam for the last five months is 8,054.1 pounds, testing 4 per cent. Must sell, having only a small herd and the offspring are all heifers. No bad habits. Jay B. Bennett, Holton, Kansas.

FOR SALE — VERY CHOICE HIGHgrade Holstein calves, either sex, three to six weeks old, at $17 per head. Or if you want dairy cattle any age, I will buy them on a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

FARM SIGNS

PAINT YOUR OWN FARM SIGNS. EASY with our patterns and instructions. Send for copyrighted booklet entitled "Naming the Farm" containing 200 suitable names and sample pattern and introductory offer. C-N Sign Co., Box 15, Jackson, Minnesota.

TREES, SEEDS AND PLANTS.

FOR SALE — CHOICE BLACKHULL kafir corn for sale at $2 per bushel, f. o. b. here. V. D. Eberwein, Ralston, Oklahoma.

BLACK-HULLED WHITE KAFIR AND Black Amber cane seed. Choice seed, $2.25 per bushel. H. W. Chestnut, Kincaid, Kan.

FOR SALE — SWEET POTATO SLIPS. 100, 30c; 1,000, $2.25, delivered. W. D. Hayman, Stillwater, Okla.

WE SAVE YOU MONEY ON ALL FORage crops, seeds and seed corn. Write at once for samples and prices. Watson Bros., Seed Merchants, Milan, Missouri.

SUDAN SEED, RECLEANED, FREE from Johnson. Delivered. Above fifty pounds, 30 cents; under, 35 cents. J. K. Burke, Idalow, Texas.

CABBAGE AND TOMATO PLANTS: Offer fine large plants and quick shipment. Our plants are growing in 3,000 towns. Tomato for canning offer Greater Baltimore and Red Rock, the variety used by Van Camp, Rider and all the Giant Canners, also Chalk's Jewel, Matchless, New Stone, Favorite, Paragon and Dwarf Champion Tree varieties. 100, 40c; 200, 70c; 500, $1.25; 1,000, $2, prepaid. Cabbage plants: Surehead, Charleston, Jersey, Winningstadt, Copenhagen, Flatdutch, Allseasons, 100, 40c; 200, 65c; 500, $1; 1,000, $1.50, prepaid. We can ship quick. Cabbage bringing $200 ton. No order too large. None too small. Ozark Seed & Plant Co., Nashville, Arkansas.

Real Estate For Sale

360 ACRES CREEK BOTTOM FARM
160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; $5,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only $45 per acre.
M. T. SPONG - - FREDONIA, KAN.

Eastern Kansas Bargain

200 Acres, all first class land, no stone, highly improved, fine location. Must sell at once. Low price, easy terms. Send for full information. Address Owner,
LOCK BOX 367 - - IOLA, KANSAS

Creek Bottom Farm 160 Acres, 5 miles town; 20 acres good alfalfa, timber, on fine road; near school; good buildings. $55 per acre. Write for list.
T. B. GODSEY - - - EMPORIA, KANSAS

200 ACRES, 1 mile city, this county, 1,000, splendid fence and water. 20 acres cult., fair imp.; 30 acres more tillable; bal. pasture. $11 per acre. Terms.
SOUTHERN REALTY CO., McAlester, Okla.

Too many children gain the impression that it is necessary to use the tooth brush only on special occasions. Much suffering because of tooth trouble could be traced to this early neglect in the care of the teeth. Physicians tell us that much indigestion, heart disease, brain trouble, rheumatism and kidney trouble is also traceable to the neglect of the teeth. These are enough reasons why the teeth should be cared for from early childhood, to say nothing of the unattractiveness of dirty, neglected teeth.

Farm Items

Garden Beans

Much food can be produced by growing beans in the gardens. Prof. M. F. Ahearn of the agricultural college is urging that a special effort be put forth this year to produce food by planting beans liberally in our gardens.

Professor Ahearn points out that beans are a warm weather crop and may be planted any time after the ground becomes fairly warm and when there is no danger of frost after the plants are through the ground. The growing season extends from May 10 to September 15.

There are three distinct kinds of beans —string, green shell, and field. The pods of the first type are used while young and tender. When they are older the beans are taken out and cooked alone. Any average soil is good for the cultivation of this first variety and a succession of plantings should be made. They are planted about three inches apart in rows covered to a depth of two to three inches. Either the yellow or green pod variety may be used.

The green shell or bunch bean, as it is more commonly called, is planted in hills and a pole is placed by each hill on which the vine may climb. This variety is sometimes planted by hills of corn, thus doing away with the necessity for the poles. These beans are usually taken from the pods just before they are fully matured, though they may be left in the pod until fully matured and then dried.

Red kidney and white pea, or navy bean, are the two varieties classed as field beans, or dry shell beans. These are never taken from the pods until fully matured. These are more often a field crop, the planting, harvesting and threshing being done by machinery. There is much danger of field beans rusting if there is a large amount of rain and heat, and if the weather is dry the pods will not fill, due to imperfect pollination.

Pasturing Alfalfa Early

A Shawnee County farmer told us last week that he was grazing down his alfalfa with horses and thus saving considerable grain. Grain feed of all kinds is so high in price that the early growth of alfalfa is a great help to the live stock farmer. A lot of valuable feed is produced by alfalfa very early in the season before the regular crops are more than planted. The method being practiced by this farmer is a good way to make use of this early growth of alfalfa although of course it is unsafe to pasture it with cattle or sheep. They are especially liable to bloat on this early succulent growth.

By grazing alfalfa early in the season the first cutting of hay will come later and this is an advantage, especially in the eastern part of Kansas, for rains are less frequent later in the season and there is less danger of having the hay spoiled.

Plan to put all your feed—corn, kafir, milo, and cane—into a silo this year, and there will be plenty for the stock to eat this winter. The live stock of Kansas is one of the state's greatest assets. Without live stock no market can be found for the vast amount of rough feed which is grown every year, and in no other way can it be used so profitably as in the form of silage.

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

Address All Communications to Kansas Farmer, and Not to Individuals

Personal mail may have to be held for several days, or be delayed in forwarding, and Kansas Farmer cannot assume any responsibility for mistakes occurring thereby

CLAIM SALE DATES.

Hereford Cattle.

May 11—Benton and S. J. Gabbert, Dearborn, Missouri. The Sothams, Lansing, Michigan, managers.

Jerseys.

May 31—R. J. Linscott, Holton, Kansas.
June 26—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.

Double Standard Polled Durhams.

June 8—Ed Stegelin, Straight Creek, Kan.

Holsteins.

May 17—Livingston County Holstein Breeders' Sale Company, Howell, Michigan.

Poland Chinas.

Aug. 15—H. L. Faulkner, Jamesport, Mo.
Oct 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Feb. 6—H. B. Walter & Son, Effingham, Kansas.

Recently two carloads of hogs from the Imperial Valley in the extreme southern part of California were marketed in Kansas City. There were 185 head of these hogs, averaging 185 pounds. They sold at $15.15. They were only unloaded once on their 1,700-mile trip and not a hog was lost on the long trip.

O. H. Fitzsimmons, of Wilsey, Kansas, owner of one of the good herds of big-type Polands in Kansas, reports his herd doing well. He has a large number of early spring pigs that are growing out fine. These pigs were sired by Giant Ben by Big Ben and Hadley's Jr., two of the good boars now in service. The litters are unusually large and even.

RELIABLE POULTRY BREEDERS

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

EGGS — CHOICE BARRED ROCKS, thirty, $1.50; hundred, $4.50. Catharine Belghtel, Holton, Kansas.

BARRED PLYMOUTH ROCKS — FARMbred beauties. Eggs for hatching, 5c each. Mrs. W. C. Bocker, Solomon, Kan.

HIGH QUALITY BARRED "RINGLETS." 100 chicks, $15. Eggs, $5. Edward Hall, Junction City, Kansas.

BARRED ROCK EGGS, FANCY STOCK, heavy laying strain, $4.25 per hundred. Earl Summa, Dept. G, Gentry, Missouri.

WHITE ROCKS, SIZE AND QUALITY, good egg strain. Eggs—fifteen, $1; fifty, $3; hundred, $5. G. M. Kretz, Clifton, Kansas.

BUFF ROCK EGGS, ONE DOLLAR PER setting; choice stock. Mrs. E. C. Hicks, Columbus, Kansas.

BUFF AND WHITE ROCK EGGS, $2.50 per fifty, $5 per hundred. Excellent show record. W. H. Beaver, St. John, Kansas.

WHITE ROCKS — PURE-BRED FARM range choice stock. Eggs, fifteen, 75c; 100, $4. H. F. Richter, Hillsboro, Kansas.

WHITE ROCKS, FARM RAISED, PRIZE winners. Eggs, $1.25 setting; $3, fifty; $5, hundred. Mrs. Ben Miller, Newton, Kansas.

PURE BARRED ROCK EGGS — FARM range, $1 per fifteen, $5 per hundred. Mrs. H. Buchenan, Abilene, Kansas.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." $35 cockerel heading Pen No. 1. Eggs, $4 per fifteen. Mrs. Iver Christenson, Jamestown, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." Prices eggs reduced after May 10, No. 1 either mating, $2, fifteen; $3.50, thirty; $10 hundred. Mrs. Iver Christenson, Jamestown, Missouri.

FOR SALE — BARRED AND WHITE Rocks. Best blood lines in America. Forty premiums 1916-1917. Write for mating list. H. F. Hicks, Cambridge, Kansas.

BARRED ROCK EGGS FROM PRIZE winners at State Fair, 1917. Pens, $3 per fifteen; range, $6 per hundred. S. H. Vincent, Sterling, Kansas.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, $3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

PRIZE WINNING BARRED ROCKS — Four entries, five prizes, State Show 1917. Eggs, special mating, $3 to $5; farm flock, $1. C. D. Swaim, Geuda Springs, Kansas.

BARRED ROCKS—73 PREMIUMS, Topeka, Manhattan, Clay Center, Denver. Eggs—Fifteen, $5; thirty, $9; fifteen, $3; thirty, $5. Chicks, 50c and $1. Italian bees. Mattie A. Gillespie, Clay Center, Kansas.

BARRED PLYMOUTH ROCK, RINGLET and Bradley strain. Have good show record. Stock for sale. Cockerels, hens and pullets. Eggs, $2 per setting. Jas. W. Anders, Unionville, Missouri.

WHITE LEGHORNS

EGGS FOR HATCHING FROM HOGAN'S laying strain of Single Comb White Leghorns, $5 per hundred. Roy Rhodes, Maize, Kansas.

OUR SINGLE COMB WHITE LEGHORNS are real layers. Bred exclusively 15 years. Eggs, 100, $4. Ed N. Regnier, Wamego, Kansas.

ROSE COMB WHITE LEGHORN EGGS for hatching from full blooded birds. Satisfaction guaranteed. $4 per hundred, $7 per two hundred. Mrs. Joe Streeter, Route 5, Hamilton, Missouri.

MINORCAS.

SINGLE COMB BLACK MINORCA EGGS, 100, $5. Sarah Peters, Nashville, Kansas.

SINGLE COMB BLACK MINORCA EGGS, $5 hundred; $1 setting. Claud Hamilton, Garnett, Kansas.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

S. C. BLACK MINORCA EGGS FOR hatching. Pen No. 1, $2; pen No. 2, $1.50 for fifteen eggs, $6 per hundred. W. F. Fulton, Waterville, Kansas.

RHODE ISLAND REDS.

PURE SINGLE COMB RHODE ISLAND Red eggs, 5c apiece. Prepaid. C. A. Madden, Abilene, Kansas.

SINGLE COMB RED EGGS, GOOD FARM range, $4 per hundred; $1.50 per thirty. Mrs. Rosa Janzen, Box 242, Geneseo, Kansas.

280 EGG LAYERS, PURE-BRED, BLOOD red, big Rose Comb Reds. Eggs, fiftcen, $2; hundred, $10. E. Stewart, Henderson, Iowa.

ROSE COMB RHODE ISLAND REDS— Eggs, $2 per setting. Kansas state show winners. Baby chicks. Mating list. L. E. Castle, Wichita, Kansas.

DARK R. C. REDS, PURE-BRED, EXTRA fine. Eggs, $3 and $2 per fifteen; $5 per hundred. W. J. Honeyman & Sons, Hillside farm, Madison, Kansas.

PURE-BRED ROSE COMB RHODE Island Reds. Eggs for hatching, $1 per fifteen, $5 per hundred. Mrs. L. F. Hinson, Stockdale, Kan.

ROSE COMB REDS — PRIZE WINNERS and special on color at State Fair, 1917. Pens, $3 per fifteen; range, $6 per hundred. S. H. Vincent, Sterling, Kansas.

EGGS FOR SALE—S. C. R. I. REDS.— Breeder for twelve years. $1.50 per setting of fifteen; $5 a hundred. Mrs. Jno. G. Schmidt, Route 1, Box 135, Edgewood, Lexington, Mo.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

LEGHORNS.

TIP TOP ROSE COMB BROWN LEGhorn eggs. J. E. Wright, Wilmore, Kan.

R. C. W. LEGHORN EGGS, $4 PER HUNdred. Mrs. Henry Apking, Bruning, Neb.

S. C. W. LEGHORN EGGS. STATE WINner. Mrs. W. R. Hildreth, Oswego, Kansas.

S. C. B. LEGHORN EGGS—GOOD STOCK. Fifty, $2.75; 100, $5. Carriage prepaid. Cornelius Phillips, Route 9, Emporia, Kan.

PURE-BRED BUFF LEGHORN EGGS, $1 per setting, $5 per hundred. P. A. Wempe, Seneca, Kansas.

R. C. B. LEGHORNS, WINTER LAYERS, vigorous stock. Eggs, $5 per hundred. The Blue Grass Stock Farm, Oneida, Kansas.

PURE SINGLE COMB BROWN LEGhorn eggs, $4 hundred. Baby chicks, 10c each. Mrs. Will Brooks, Beattie, Kansas.

EGGS, EGGS FROM KEEP-LAYING strain Single Comb White Leghorns. Thos. R. Wolfe, Conway Springs, Kansas.

ROSE COMB BROWN LEGHORNS WON five prizes, two state. Eggs, fifty, $1.90; hundred, $3.75. Rufus Standiferd, Reading, Kansas.

PURE-BRED ROSE COMB WHITE LEGhorns. Eggs for hatching; forty-five, $2; one hundred, $4. Prepaid in Kansas. G. Schmidt, Route 1, Goessel, Kansas.

S. C. BROWN LEGHORNS—HAVE BEEN raising them 21 years, the 222 to 266 egg record kind. Under hens the fertility runs 95%. Eggs—Fifteen, $1.25; 100, $5. Safe arrival guaranteed. Gorsuch, Stilwell, Kan.

WYANDOTTES.

WHITE WYANDOTTES — EGGS FROM choice stock, $1.80, thirty; $5, hundred. Mrs. Will Beightel, Holton, Kansas.

WHITE WYANDOTTE EGGS — STOCK from (Fishel World Best Direct) $2.50 for 48, prepaid. S. Peltier, Concordia, Kansas.

CHOICE ROSE COMB SILVER WYANdotte eggs, $1 for 15; $5 for 100. Mrs. Phillip Schuppert, Arrington, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $6. Mrs. Edwin Shuff, Plevna, Kan.

ROSE COMB WHITE WYANDOTTE eggs, per fifteen, $1; one hundred, $4. H. A. Ritter, Route 2, Kiowa, Kansas.

EGGS — SILVER LACED WYANDOTTE. Fifteen, $1; hundred, $5. Chicks, 10c each. Lawrence Blythe, White City, Kansas.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuis, Fredonia, Kansas.

ROSE COMB BUFF WYANDOTTE EGGS, fifteen, $1; hundred, $4. Mrs. Ida Alexander, Hilltop, Kansas.

ROSE COMB WHITE WYANDOTTES — Eggs from pen, setting, $2; from flock, setting, $1; hundred, $4.75. Mrs. Effie Acheson, Palco, Kansas.

PURE-BRED WHITE WYANDOTTE AND Single Comb White Leghorn eggs, $1 per fifteen, $5 per hundred. A. F. Hutley, Maple Hill, Kansas.

SILVER WYANDOTTES. YES, I AM still selling Silvers. Have some good cockerels left. Eggs in season. Prices reasonable. Write me. M. B. Caldwell, Broughton, Kansas.

EGGS—SILVER LACED WYANDOTTES, fifteen, $1; fifty, $3. Duck eggs—Rouen, Pekin, Indian Runners, twelve, $1.25. Buff Orpington and Muscovy duck eggs, twelve, $1.50. Fred Kucera, Clarkson, Neb.

BLACK SPANISH.

BLACK SPANISH EGGS AND BABY chicks. Eggs, 10c each; chicks, 20c each. H. W. Chestnut, Kincaid, Kansas.

DUCKS AND GEESE.

BUFF DUCKS — WINNERS WITH EGG record. Eggs, $1.50 per thirteen. Mrs. J. H. Wood, Solomon, Kansas.

FAWN RUNNER DUCKS—WHITE EGGS, prize winners. Eggs, $1 setting, $5 hundred. Mrs. Ben Miller, Newton, Kansas.

TOULOUSE GEESE AND EGGS FOR sale or trade for Runner ducks. All breeds. Emma Ahlstedt, Roxbury, Kansas.

BABY CHICKS.

REDS, ROCKS, LEGHORNS; 12c. REquest folder. McCune Hatchery, Ottawa, Kansas.

ORPINGTONS.

PURE-BRED WHITE ORPINGTONS — Eggs for hatching, $1 per fifteen, $5 per hundred. Frank Hinson, Stockdale, Kansas.

FINE GOLDDUST BUFF ORPINGTONS— Eggs, $1.50 setting; $8 hundred. Prepaid. Mary E. Price, Route 7, Manhattan, Kansas.

BUFF ORPINGTONS EXCLUSIVELY.— Even buff, large type, prize winners. Eggs, $3 and $2 setting. John Shaffer, Alma, Neb.

CEDARDELL POULTRY FARM — S. C. Buff Orpingtons exclusively, bred for size, color and eggs. $1 per sixteen, $5 per hundred. Martha Brown, Parkerville, Kansas.

SEVERAL BREEDS.

EGGS FROM EXTRA GOOD BOURBON Reds, $3 for eleven. Silver Laced Wyandotte eggs, $1 for fifteen. Julia Haynes, McDonald, Kansas.

BARRED AND BUFF ROCKS — SINGLE Comb White Leghorns. Fawn and Pencilled Runner Ducks. Eggs—Fifteen, $1; hundred, $5, from range flocks. J. T. Rickman, Kiowa, Kansas.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

FOR SALE, EGGS—EGGS FROM PUREbreds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

TURKEYS.

PURE-BRED WHITE HOLLAND TURkey eggs. Winnie Litton, Peabody, Kansas.

BOURBON RED TURKEY EGGS—TWOyear-old hen, 40-pound tom. $3 setting. S. Peltier, Concordia, Kansas.

FOR SALE—LARGE PURE-BRED GIANT Bronze turkey hens. One tom. Eggs, 50c each. Vira Bailey, Kinsley, Kansas.

THIRTY-NINE POUND TOM — WHITE Holland eggs, $3 ten. Mrs. S. F. Crites, Florence, Kansas.

BOURBON RED TURKEY EGGS FROM best selected stock. Mrs. D. A. Rodgers, Concordia, Kansas.

MAMMOTH BRONZE TURKEYS OF high quality. Good copper bronze and white edging. Have show record. Eggs—$6-$ per dozen. Jas. W. Anders, Unionville, Mo.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

BOURBON RED TURKEYS, WORLD'S best strain. Great big, vigorous, farm-raised, deep-breasted birds. Also white-egg Indian Runner ducks, all from prize winning stock. Eleonora Poultry Ranch, Brighton, Colorado.

LANGSHANS.

GET MY FREE MATING LIST OF MADison Square and Chicago prize winning Langshans. John Lovette, Mullinville, Kan.

BLACK LANGSHANS — STOCK FOR sale. Cocks, cockerels, hens and pullets. My birds have great show record. Eggs, $2 per setting. Jas. W. Anders, Unionville, Mo.

PHEASANTS.

PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Booking orders. Eggs of these, $4 dozen; Golden, $5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

ANCONAS.

S. C. ANCONA EGGS, $5 HUNDRED. Fine layers. Mrs. Will Torgeson, White City, Kansas.

SINGLE COMB ANCONA AND SILVER Laced Wyandotte eggs, $1.25 per sixteen by post prepaid. Mrs. Cecile McGuire, Pratt, Kansas.

S. C. ANCONAS — PRIZE WINNING stock, farm range, $1.50 for fifteen; $5 hundred. Address Mrs. H. F. Knutzen, Bruning, Nebraska.

SEND FOR MY "ANCONA DOPE" AT once. Tells why I quit all other breeds. It's free and worth reading. Fill orders for eggs promptly. Page's Ancona Farm, Salina, Kansas.

BRAHMAS.

HIGH SCORING LIGHT BRAHMA EGGS $1.00 per fifteen, parcel post prepaid. Geo. Pratt, Route 2, Topeka, Kansas.

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

OHIO IMPROVED CHESTERS

PURE-BRED O. I. C. PIGS, April 3 Farrow. Boars, $15.00.
JOE FOX - - GREELEY, KANSAS

HORSES AND MULES.



Imported and Home-Bred
PERCHERONS AND BELGIANS
A gilt edge guarantee of 60 per cent, good for two years, given with each horse sold.
W. H. RICHARDS
Emporia - - Kansas
Barns four blocks from A. T. & S. F. depot.



PERCHERONS, BELGIANS, SHIRES. Ton stallions ready for heavy stand; also yearlings and twos. Young fillies, also mares with colt by side and bred again. All registered. One hundred individuals of first rank for sale.
FRED CHANDLER, R. 7. Chariton, Iowa
Just above Kansas City

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

FARM AND HERD.

R. J. Bazant, of Narka, Kansas, owner of one of the choice herds of big-boned Spotted Polands, reports his herd doing fine. Mr. Bazant has succeeded in building up a herd of Spotted Polands that are the profitable feeding type. He has a great herd of brood sows weighing from 600 to 700 pounds and at this time has three of the great boars of that breed in service in his herd. This year he saved over 200 March pigs.

D. C. Van Nice, of Richland, Shawnee County, Kansas, is one of the successful breeders of double-standard Polled Durhams in Kansas. He has retained in the herd for breeding purposes only the best Scotch families and has used only the very best Scotch bulls. The herd has been kept up to the very best standard of cattle both for beef and dairy type. Mr. Van Nice finds that the double-standard Polled Durham cattle are growing more popular each year among farmers and dairymen, and the demand has drawn very heavy on his herd for breeding stock. He was compelled to refuse to price any females until he could build his herd up to about 100 head of females. The herd bulls used the past few years are widely known—Belvidere, Acacia Prince, the champion Roan Hero, and Chief by True Sultan, the bull now in service. Roan Hero was used in the herd for a number of years. Mr. Van Nice has a fine lot of young cows by this noted sire left in the herd. They will be mated to Chief, a son of True Sultan, also a grand champion of three state fairs two years in succession.

An eight-year-old Holstein cow owned by Segrist & Stephenson, of Holton, Kansas, has broken the state seven-day record by producing 544.6 pounds of milk and 26.6 pounds of butter. This cow took the place of her sister that held the record with 460.1 pounds milk and 26.29 pounds butter and that sold in the recent Searle sale for $1,000. Charles Seifert, of Leavenworth, Kansas, was the purchaser.

L. W. Terwilliger, of Fernwood Farms, Wauwatosa, Wisconsin, reports his Holsteins making a good record again this year. This farm has long been noted as the home of choice herds of pure-bred and high-grade Holsteins and for the long line of record breeding. Many of the profitable herds now assembled were started with foundation stock from Fernwood Farms.

B. E. Totten, of Cress Lawn Farms, Farmdale, Ohio, and owner of one of the great Holstein herds in that state, announces a sale of Holstein cows and heifers to be held at Hiawatha, Kansas, May 19. He has catalogued sixty head for this sale. The offering will consist of thirty head of registered cows, heifers and bulls, and thirty head of choice high grade cows, heifers and calves. The offering is backed by a line of records that insures producers.

HOLSTEIN CATTLE.

MAURER'S HOLSTEIN FARM

Is offering a number of choice young pure-bred cows with good A. R. O. records; also yearlings and heifer calves and a select lot of young bull calves with world's record backing. Write for pedigrees and bargain prices. Also grade cows, heifers and heifer calves.
T. R. MAURER & CO. - - - - - - - - EMPORIA, KANSAS



Purebred Registered
HOLSTEIN CATTLE

The broad highway to success is persistent and intelligent application to something worth while. A successful 60 year old dairyman said, "I have made the greater part of my money since I was forty-five. Up to that time I was making mistakes. I corrected a host of mistakes and ideas about cows and have made nearly all the money I have since that time." The difficulty is that some dairymen never wake up. Any farmer who will devote a short time to a study of the supremacy of Holstein-Friesian cattle as profitable milk producers and as dual purpose cattle will be able to turn his dairy operations to a profitable basis. Send for free literature. There's big money in the big "Black and White" Holsteins.
Send for FREE Illustrated Descriptive Booklets.
The Holstein-Friesian Association of America
F. L. Houghton, Sec'y. Box 114, Brattleboro, Vt.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

CEDAR LANE HOLSTEIN HERD

We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.
T. M. EWING, INDEPENDENCE, KANSAS

NEMAHA VALLEY HOLSTEIN FARM

Choice yearling bulls and bull calves. World's record blood lines. Price reasonable. We invite inspection of our herd.
H. D. BURGER, Route 2, SENECA, KANSAS

High Grade Holstein Calves 12 heifers 15-16 pure bred, 4 to 6 weeks old, beautifully marked, $18 each. Safe delivery and satisfaction guaranteed.
FERNWOOD FARMS, WAUWATOSA, WISCONSIN

Description, pictures and records of twelve
TREDICO BULLS
Six months old and younger. Write for them.
Geo. C. Tredick, R. 2, Kingman, Kan.

Holstein and Guernsey Calves—Both sexes, 5 weeks old, nicely marked, fawn and white and black and white, mostly 15-16ths pure. $20 each, crated for shipment anywhere. Satisfaction guaranteed.
Edgewood Farms - Whitewater, Wisconsin

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

HOLSTEIN CALVES
Very high grade heifer calves, five weeks old, nicely marked, $23 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wis.

CEDAR LAWN FARMS
C. A. Schroeder & Sons, Props.
Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.
W. C. SCHROEDER - WEST BEND, WIS.

Shady Brook Holsteins

A few choice young springers, also some high class young bulls. If you want record breeding, we will be pleased to have you inspect our offering.
M. E. MOORE & CO. - CAMERON, MO.

HIGH GRADE HOLSTEIN CALVES

Five to six weeks old, nearly pure, well marked, $20, express paid.
COLD SPRINGS FARM, Whitewater, Wis.

Braeburn Holsteins A. R. O. BULL CALVES
With De Kol-Netherland-Korndyke main blood lines, and Johanna, Walker, King Segis out-crosses. H. B. Cowles, Topeka, Kan.

HOLSTEIN CATTLE.

LONG ON JERSEY BULLS. Will sell them at your price. Ages, 2 to 10 months. Carrying as much Golden Fern's Lad blood as any bulls in the state. Out of high testing dams. Come and see them. Can also fill your needs in English Berkshire hogs. Several fine young males. Best of breeding. Can furnish pigs from different mating.
H. F. ERDLEY & SON, HOLTON, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

FOR SALE—Two Pure-Bred Jersey Bulls, 9 months old, from high testing dams. Description guaranteed.
D. A. KRAMER - - Washington, Kansas

Breeders' Directory

ANGUS CATTLE.
D. J. White, Clements, Kan.
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kan.
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

CHESTER WHITE HOGS

CHESTER WHITE Cholera Immune Gilts, bred to farrow in June, July and August. The good kind. For price, breeding, etc., write Emil Youngberg, Route 3, Essex, Iowa



FOR SALE
Spring Pigs in Pairs and Trios
Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

BERKSHIRE HOGS.

NIELSON'S BERKSHIRES
Fall boars from prize winning ancestry, weighing 200 to 220 pounds April 1. Sired by Rob Robinhood 2d. His sire first prize senior yearling at American Royal and weighing 720 pounds at 18 months. Will give you good value for your money, and accurate description on application.
J. M. NIELSON, MARYSVILLE, KANSAS.

POLLED DURHAM CATTLE.

SEELEY'S POLLED DURHAMS—Nineteen years a breeder, best Scotch tribes. Preparedness. Offering a lot of thick square-ended bulls, all roans and for immediate service. Herd bulls Victoria Clipper and Jovial Sultan. C. R. I. & P. R. R.
W. W. SEELEY - - STUART, IOWA

FOR SALE—Two red and white bull calves, 10 months old, sired by Chief, a son of True Sultan. Priced to sell.
D. C. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 miles S. E. of Topeka)

POLLED DURHAM BULLS
Big enough for service. Sired by Baron Easton. Better get busy if you need a bull this spring.
R. T. Vandeventer & Son, Mankato, Kansas

RED POLLED CATTLE.

Red Polled Cattle

A few 1916 fall bull calves for sale. Also a few cows and heifers.
AULD BROS. - FRANKFORT, KANSAS

ANGUS CATTLE

EDGEWOOD FARM
ABERDEEN-ANGUS CATTLE
Twenty-five young bulls, also some good cows and heifers for sale. All registered.
D. J. WHITE, CLEMENTS, KANSAS
Main line of A. T. & S. F. Ry., 145 Miles West of Kansas City.

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

DUROC JERSEYS.

DUROC BOARS, OCTOBER FARROW
Also gilts unrelated to males, mostly $25. Gilts to farrow in July, $35. Trio spring pigs, $35 at weaning time. Choice July male, $50. Write your wants.
J. E. WELLER - FAUCETT, MISSOURI

LONE TREE DUROC FARM
Herd Boar Graduate Prince by Graduate Col. Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.
GEO. J. BURKE, LITTLE RIVER, KANSAS

POLAND CHINAS

BAZANT'S
Famous Spotted Poland Chinas
Two hundred March pigs for sale on approval. All to be recorded free in the S. P. C. Record Association. Average in litter, nine. Can sell boar and four gilts not related. All sired by three of the best boars in the West. Pigs out of 600 and 700-pound mature dams. I can start you in the business. Address
R. J. Bazant, Narka, Kansas
(Republic County.)
Ship over the Rock Island and Burlington Railroads.

OLD ORIGINAL SPOTTED POLANDS
Have only a few of last fall's litters left. Write your wants to
THE CEDAR ROW STOCK FARM
A. S. Alexander, Prop. R. 2. Burlington, Kan.

PROFITABLE TYPE POLANDS
Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.
L. C. WALBRIDGE - RUSSELL, KANSAS

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

TOWNVIEW HERD BOARS
Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

DOWNIE'S BIG POLANDS
Have a couple of choice boars priced for quick sale. Home of Gerstdale Czar.
FRANK DOWNIE, Rte. 4, Hutchinson, Kan.

POLAND CHINA BOARS
Twelve September boars, large husky fellows ready for service. Sired by Big Bob King. Write at once.
DR. J. H. LOMAX
Station D St. Joseph, Missouri

BIG-TYPE POLANDS AND DUROCS
Booking orders for weaning time. Pigs, $25 each; trios, $50. Will make 700 to 1,000-pound hogs. Two hundred to select from. Top breeding.
O. W. LONG, Route 3, Maitland, Missouri.

FOR SALE
Good Stretchy Poland China Fall Boars.
Ed Beavers, Junction City, Kansas.

Langford's Spotted Polands. Gilts bred for fall farrow. Future herd boars. Satisfaction guaranteed. T. T. LANGFORD & SONS, Jamesport, Missouri

JERSEY CATTLE.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

LINSCOTT JERSEYS
BJH Dispersal Sale, May 31
R. J. LINSCOTT - HOLTON, KAN.

REDHURST JERSEYS
Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

SHORTHORN CATTLE.

Sycamore Springs Shorthorns
Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

SPRING CREEK SHORTHORNS
Headed by the great sire, Orange Goods. Best families represented in herd, good individuals. Choice young stock for sale.
THOS. MURPHY & SONS, Corbin, Kansas.

TWO SHORTHORN BULLS. One herd boar. Fall gilts, bred or open. February and March pigs, pair or trio, no relation. S. C. White Leghorn eggs.
R. C. WATSON - ALTOONA, KANSAS

Sunflower Herd of Shorthorns
A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

AYRSHIRE CATTLE.

RIVERSIDE AYRSHIRES
Most profitable dairy cow. Herd headed by a son of August Lassie, the 4-year-old champion. Young animals, both sexes, for sale. J. F. Converse & Co., Woodville, N. Y.

HAMPSHIRE HOGS

THIS COMBINATION IS MAKING GOOD. Alfalfa, the Halcyon Herd of Hampshire Hogs, and Satisfied Customers.
Herd boar, yearling boar and September boars. Registered, immuned, and priced sensible.
GEO. W. ELA, VALLEY FALLS, KANSAS

SECOND PUBLIC AUCTION OF HOLSTEINS

At Hiawatha, Brown County, Kansas, on Saturday, May 19
Beginning at 1 p. m., at the C. W. Biddle Barn



SIXTY HEAD

Consisting of thirty head registered Cows, Heifers and Calves, and several Bulls of serviceable age. Most of these heifers and calves are from my $2,500 son of King of the Pontiacs, who leads all others in respect to number of A. R. O. daughters, in respect to number of 30-pound daughters, 20-pound two-year-old daughters, and semi-officially tested daughters. These are all of good dairy type and are in nice condition. Will have catalogs showing pedigrees at time of sale. Balance of thirty head will be high grade Holstein Cows, Heifers and Heifer Calves, of good dairy type and in good order. All stock over six months of age tuberculin tested.

W. R. GUILD, CLERK
Auctioneers
Col. C. M. Scott and Col. N. T. Moore,

B. E. TOTTEN - - - - - - HIAWATHA, KANSAS

Let Me Treat All Your Hogs For 60 Days FREE

PERRY STRATTON
BREEDER OF
BERKSHIRES

Momence, Ill. Dec. 14/16

Avalon Farms Co.
Chicago, Ill.

Dear Sir.

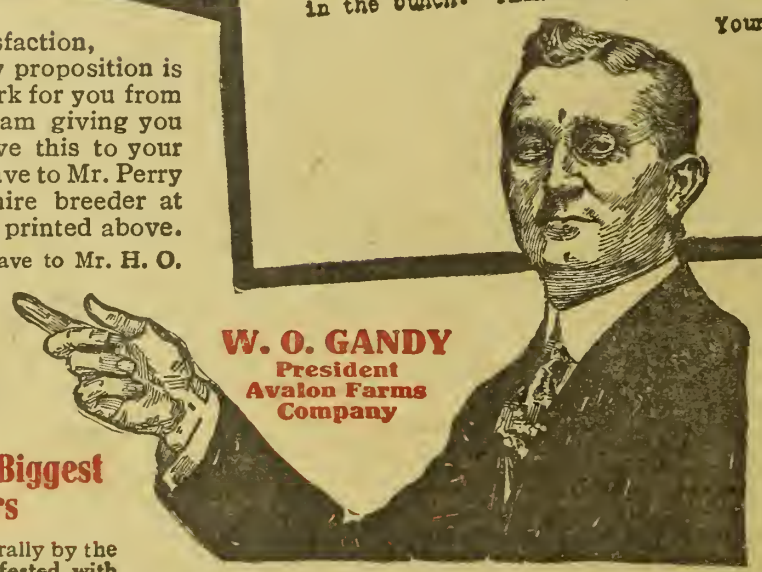
I thought I would drop you a line and thank you for the bottle of Hog-Tone that I received from you through the influence of the Frost Pub. Co. I didn't have much faith in it when it first arrived as I have tried so many different kinds of stock foods and so called worm powders with no results that I supposed they were all alike; but yours being in a liquid form I thought "Well now here's something different."

I took a couple of shoats that did not seem to be doing well from a larger bunch of hogs and began by feeding them some of your Hog-Tone and in about five weeks time you would not have believed they were the same hogs. They grew so rapidly and made such fast gains that now I have them back with the other hogs and when feeding time comes they are the biggest scrappers in the bunch. Thanks to you for your bottle of Hog-Tone.

Yours truly.
Perry Stratton

And—if I don't make your hogs make you **more** money, and prove it to your own satisfaction, I don't want your money! My proposition is to produce more pounds of pork for you from the same amount of feed. I am giving you the same opportunity to prove this to your **complete satisfaction** that I gave to Mr. Perry Stratton, the famous Berkshire breeder at Momence, Ill., whose letter is printed above.

It is the same opportunity that I gave to Mr. H. O. Michael, R. No. 2, Markle, Ind. He writes—"My first bottle of Hog-Tone made me one hundred dollars ($100.00) as it saved more than that many dollars' worth of hogs for me. I will not be without Hog-Tone, as I think it is wonderful what this remedy will do for hogs."



W. O. GANDY
President
Avalon Farms Company

Hog Raisers Face Their Biggest Opportunity in Years

Worms are killing off the hogs literally by the million. **"Nearly every hog is infested with worms,"** declares the U. S. Dept. of Agriculture. And **"More hogs may be lost from worms this year than from hog cholera, and many cases of apparent cholera are only worms,"** says Bulletin No. 470, of the South Dakota State College. The malignant Thorn Head Worms—Stomach Worms—Liver Worms—Lung and Bronchial Worms—weaken the hogs—affect every sow's litter—make millions of hogs **easy victims** of cholera, scours, thumps, rheumatism, enteritis, gastritis—rob surviving hogs of nourishment their food should bring, cut down their weight and quality at marketing time. Read the letters at the right—study this whole ad—and then—**grasp** this opportunity to try

Read These Letters

"I had a bunch of seven hogs. They took sick and two died. Three of them would not eat at all. After the first dose of Hog-Tone they commenced to improve and continued to do so. I thought these hogs had the cholera, as they acted like it and the neighbors had it all around me and their hogs died. My hogs never missed a feed after feeding Hog-Tone, and they made good hogs. I'll not be without Hog-Tone from this on as I cannot afford to take chances for what Hog-Tone costs."
GUY HOOPINGARNER
Rural No. 1 Uniondale, Ind.

"I bought two hogs the 20th of October; they weighed 270 lbs. I put them up and started feeding Hog-Tone. They made a remarkable gain. I am sure that they have gained 100 lbs. in 30 days and they are eating good and look thrifty.
I am well pleased, as I am satisfied Hog-Tone is a wonderful treatment."
ALBERT COLES, Warren, Ind.

"I have been feeding Hog-Tone and found it to be the best medicine for freeing hogs of the worms. I fed fourteen and at the age of six months they averaged two hundred pounds. I cannot recommend the Hog-Tone too highly and I never will be without it."
SILAS STAYER,
Arcola, Indiana

"Hog-Tone has surely benefited me in fattening my hogs. I experimented on one sow. At the time I weaned her pigs she weighed 150 lbs. live and in just 42 days I killed her and she dressed 273 pounds."
THEO. FORNWALT,
Baldwin, Indiana

AVALON FARMS HOG-TONE

—The Liquid Worm Killer and Hog Conditioner

for 60 days—on all your hogs—at no initial expense—**at my risk! Avalon Farms Hog-Tone costs very little.** I will ship you one $1.00 bottle of Hog-Tone for each eight hogs in your herd—the day the coupon below, filled in, reaches this office. That will be sufficient to treat your hogs 60 days or more, according to size. This will mean just 12½ cents per hog for all the treatment and that treatment is guaranteed by me to free your hogs of all worms—to enable them to put on more weight from the same feed—to fill them with strength and vitality—to resist disease attacks.

Avalon Farms Hog-Tone is a highly concentrated liquid medicine FOR HOGS ONLY. It contains highly important medical ingredients which are liquids and which cannot be combined in Medicated Salts, Stock Foods or Condition Powders of any kind. It is very easy to treat your hogs with Avalon Farms Hog-Tone. It is EASILY MIXED WITH ANY KIND OF SLOPS, WITH THE DRINKING WATER OR DAMPENED FEED. It is given only every third day for the first six weeks and after that only once a week. 100% strong.

Really does clean out all and every kind of worms that infest hogs. By doing so, it gives **protection** to your hogs from easily contracting Cholera, Rheumatism, Scours, Thumps caused by worms, Enteritis, Indigestion and a score of other diseases. Also will prove **a simply wonderful tonic and conditioner**—gives the hogs voracious appetites, aids their digestion, helps them thrive, grow and put on fast increases of flesh. **Splendid for pregnant sows—helping to assure fine, strong litters.**

Don't Send Me a Penny! Simply tell me how many head of hogs you have—write down your name and address and mail to us. I will immediately ship you enough **Avalon Farms Hog-Tone** to treat your hogs for 60 days! You simply pay transportation charges. Feed **Hog-Tone** according to directions. If at the end of treatment you are not completely satisfied—simply return the labels and you don't owe me a cent.

Grasp This Opportunity—Mail Me the Coupon Today

W. O. GANDY, Pres., Avalon Farms Company
623 Rand McNally Bldg. Chicago, Illinois

W. O. Gandy, Pres.

Avalon Farms Co.
623 Rand McNally Bldg., Chicago, Ill.

SEND NO MONEY—TAKE NO RISK

Just Mail Me This FREE COUPON

I have_____ hogs. Ship me immediately enough AVALON FARMS HOG-TONE to treat them for 60 days. I am to pay nothing now except transportation charges. I agree to report results to you at end of 60 days and pay for the Hog-Tone at that time if it has done all you claim. If it does not, I will return the labels, you agree to cancel the charge.

Name_____

P. O._____

R. R. No._____ State_____

Ship to_____

Name and address of my druggist_____



KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 20. TOPEKA, KANSAS, MAY 19, 1917. Established 1863. $1 a Year

WIDE ROW PLANTING

Growing Corn or Kafir in Wide Rows Gives Ideal Seedbed For Wheat

By C. C. Cunningham, K. S. A. C.

CORN PLANTED IN WIDE ROWS in the western part of the state will outyield corn planted in the usual manner.

WIDE SPACING OF GRAIN SORGHUMS is of advantage where moisture is deficient or where wheat is to be sown in the fall.

BLANK ROWS MUST BE CULTIVATED the same as the planted row in order to destroy weeds and conserve moisture.

MOISTURE MIDWAY BETWEEN WIDE-SPACED ROWS can be held in reserve for later stages of growth.

STALKS AND LEAVES of crop develop first, the roots reaching the middle of the row by the time moisture is needed to mature grain.

WHEAT SOWN ON WIDE-SPACED corn or kafir land often produces larger yields than on summer fallow.

CORN OR KAFIR IN WIDE ROWS can be grown with the same labor that is necessary to summer fallow.

GRAIN OUTPUT WILL BE INCREASED by wide row method and ideal seed bed for wheat prepared at same time.

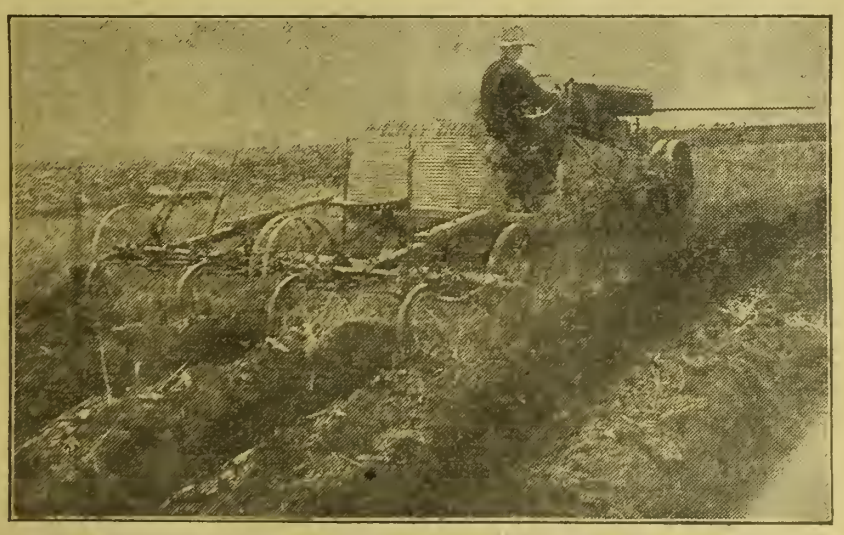
PLANTING corn or grain sorghums in wide spaced rows is a good method of preparing ground for wheat and growing a crop at the same time. In this method of planting, a blank row is alternated with a planted one. The blank row is cultivated the same as the planted row in order to keep the weeds down and the ground in condition to absorb moisture. It is practically a summer fallow method of seed bed preparation for wheat.

Farmers in West Central and Western Kansas are confronted with the problem of readjusting their cropping plans because of the failure of a large per cent of the wheat. Considerable land that should normally be seeded to wheat this fall will have to grow corn or rowed sorghums or else be idle. It has been quite conclusively demonstrated that a better seed bed for wheat can be obtained where corn or grain sorghums are planted by the wide spacing method rather than in the ordinary manner, and that corn, kafir or other grain sorghum planted in this way is more likely to produce a crop of grain under dry weather conditions.

The greater yields secured from wide spaced corn and grain sorghums under dry conditions is due to the fact that these crops planted in this way utilize the moisture and plant food to a better advantage in the production of grain. The stalks and leaves are formed first and the grain last. In most seasons there is sufficient moisture to produce a good growth of foliage. The supply of moisture, however, is often exhausted before the grain is developed. Some years the grain fails entirely while in other seasons small, poorly developed ears or heads are produced. The problem is to keep the crop growing until it completes its development. To accomplish this it is necessary to provide moisture throughout the growing period. It appears that this is brought about to a considerable extent by planting the crops in wide rows. The supply of moisture is not increased in any way, but is so utilized that a larger per cent of it is available during the later period of growth or when the grain is being formed.

Where corn, kafir or other grain sorghum is planted in three and one-half foot rows, the roots when they become about twenty-six inches long, occupy the entire surface soil space between rows. In wide row planting the roots of the crop do not occupy all of the surface soil until they become forty-three inches in length. If the soil is moist to a depth of four feet, then the entire soil space from which moisture would be available would not be occupied until the corn roots attained a length of nearly four and one-half feet for the narrow spaced rows and nearly six feet for those seven feet apart. Because of the wide spacing, the moisture midway between the rows—especially that in the deep subsoil—is held in reserve for the later stages of growth, since the roots do not grow out into this soil until the plants become nearly full grown. During temporary periods of drouth, this reserve moisture is often sufficient to maintain the corn or sorghum in a flourishing condition until rains come, and occasionally it may complete the development of the crop. In either case the chances of obtaining a yield of grain are greatly increased.

During the past five years the wide spacing method of planting has been quite conclusively tried out by the branch experiment stations in Western Kansas and by farmers throughout that part of the state. With corn, increased yields or yields as good as from narrow planting were secured in most tests except in the wet season of 1915. The few tests conducted with grain sorghums—kafir—indicate that oftentimes grain can be produced under conditions where the crop would otherwise fail to head because of lack of rain during the period when the grain is forming. Where conditions are such that the crop matures when planted in the ordinary way, little if any increase in yield can be expected, and under favorable conditions the yield will likely be reduced. Wide spacing of grain sorghum is advisable only where there is a likelihood that the crop will not produce grain because of lack of moisture and where it is desirable to follow the crop with wheat.



LISTING FOUR ROWS AT ONCE.—IN WIDE-ROW METHOD ONLY ALTERNATE ROWS PLANTED BUT BLANK ROWS ARE CAREFULLY CULTIVATED

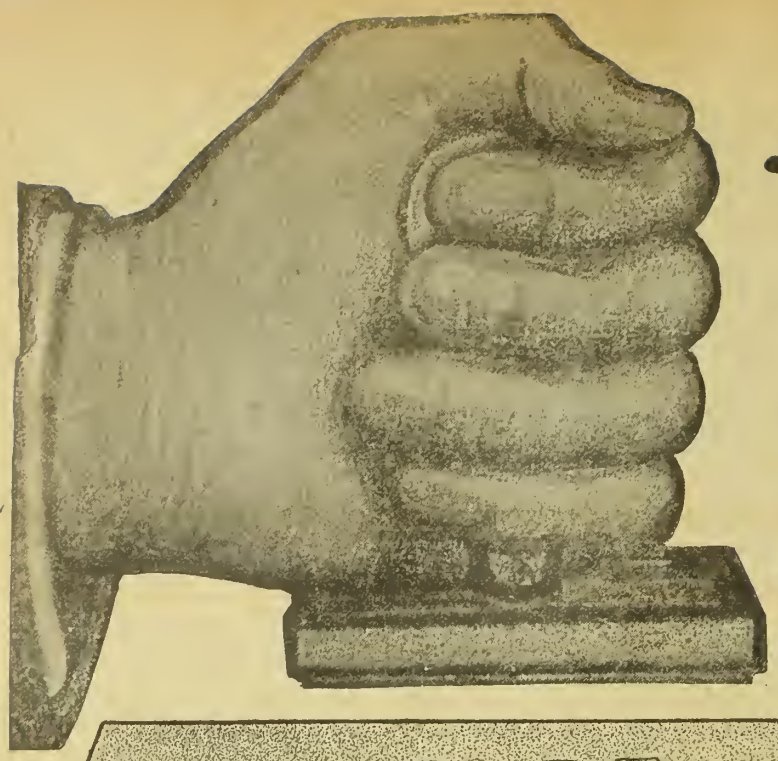
There are several advantages in cultivation that should make the wide spacing method of planting popular, even though nothing else is gained. The weeds most difficult to control are those that come up in the row near or on a line with the crop. Since only half as much row space is planted, the liability of trouble from this source is reduced 50 per cent. In cultivating, the two-row cultivator may be used, straddling the rows in the same manner that the one-row implement is employed in going over single spaced rows. This does away with the necessity of trying to watch two rows at the same time. Also the two-row cultivator may be used without trouble in cultivating crops planted by a single-row lister. Crops planted in the ordinary way with a single-row lister cannot be cultivated to good advantage with the two-row implement unless the rows are uniformly spaced. This requires more careful planting than is ordinarily possible with the single-row lister. With the double spacing method it is not so essential to make the rows the same distance apart.

After the crop becomes too high to cultivate by straddling the rows, implements requiring two horses may be used in cultivating double-spaced corn or sorghum. This is important, for the work can be accomplished much more rapidly and at less expense than it could be done if it were necessary to use comparatively narrow implements drawn by one horse.

One of the most important advantages gained in planting corn or sorghum in wide rows is that the ground is left in excellent condition for wheat if properly tilled. Growing wheat on such land, especially after corn, is often more satisfactory than on summer fallow. The wheat does not make the overgrowth of straw characteristic of that on summer fallow, while the stalks tend to hold the snow during the winter and to prevent soil drifting. A two-horse drill can be utilized in seeding between wide-spaced rows, and a more uniform stand of wheat can be secured in that there are less rows of stalks to interfere with the drilling.

In planting corn or sorghums in wide-spaced rows the rate of planting should be thicker in the row than when planting in the ordinary way. However, the rate per acre should not be increased.

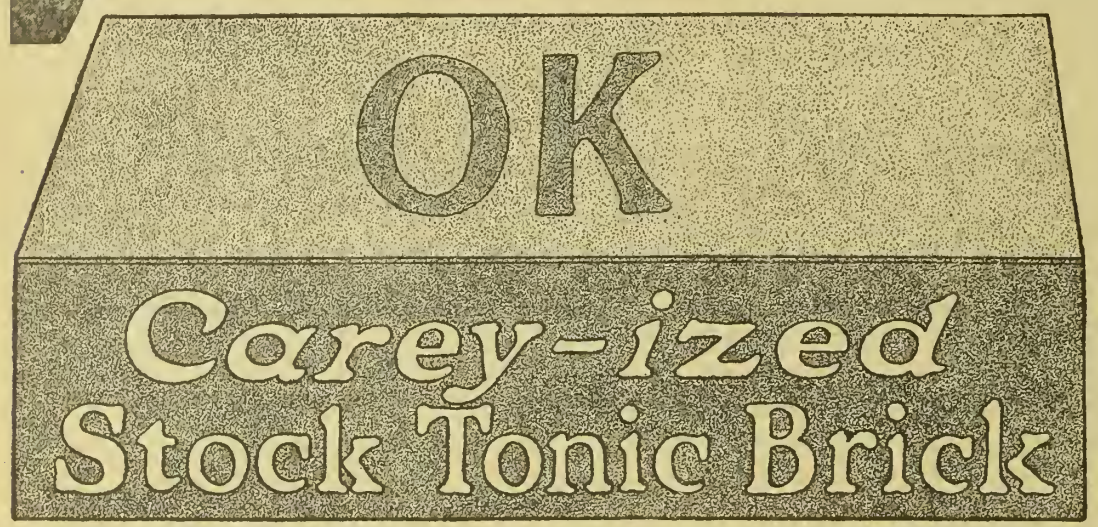
To obtain any benefit from the wide spacing or rowed crops, it is absolutely essential that the space between rows be kept free from weeds. Nothing is gained if weeds are allowed to rob the crop of the moisture between rows.



Approved! by Veterinarians and Hog Raisers

Carey-ized Stock Tonic Brick is based upon a thorough knowledge of medical science and upon the needs of animal life on the farm. Each of the eight different ingredients chosen by our chemists has distinctive medicinal value and is prescribed by medical science to assist nature.

Veterinarians of high standing and leading hog raisers have thoroughly tested Carey-ized Stock Tonic Brick. They give it their unqualified endorsement as a superior and reliable worm destroyer and disease preventive.



Carey-ized Stock Tonic Brick is all Pure Medicine

Absolutely free from harmful or worthless maserial. No arsenic, black antimony or other poitonous substances to create a false appetite. Guaranteed to contain only the following eight ingredients:

Powdered Gentian Root	Sulphur
Sulphate of Iron	Quassia
Bi-Carbonate of Soda	Charcoal
Carbonized Peet	Pure Dairy Salt

A Life Saving Necessity In Every Hog Lot

Saved Sick Hogs

J. O. Schuler, R.F.D. No. 3, Hutchinson, Kan., writes: "Ifevery farmer knew the good this Carey-ized Stock Tonic Brick will do, they would not experiment with all kinds of powders. You surely have the right thing for knocking the worms. A neighbor of mine was losing his hogs. I recommended your brick to him and he never lost another hog after feeding it."

Good for Sheep and Other Stock

G. W. Thompson, Hutchinson, Kan., Manager of the Mellick Sheep Ranch, writes: "300 of our flock were scouring badly, and in run down condition. Those sheep are now as healthy as the balance of the flock. They are gaining faster than any lot of sheep I ever saw, as a result of feeding Carey-ized Stock Tonic Brick. The brick is good for the rest of the stock also, as I notice they are eating better and looking better."

LIVE MEN WANTED to handle Carey-ized Stock Tonic Brick where we have no dealers. Good proposition; good territory. Write for full information.

The medicine your hogs crave and must have to live and thrive—under present day methods of forcing them to quick development and finish.

Positively prevents or destroys the profit robbing, death-dealing worms. Keeps the animals stomach, bowels, kidneys and liver in good working order.

Costs But a Few Cents Per Hog

Carey-ized Stock Tonic Brick is a highly concentrated medicine. But little is needed to keep the hogs in prime condition from weaning time to market time. After they have satisfied their first craving they will partake of it only at intervals as nature demands.

Aids digestion. Enables the hog to assimilate its food more thoroughly; builds up a strong constitution; helps nature to resist disease.

Hogs given access to Carey-ized Stock Tonic Brick develop quicker, finish better for market, at a considerable saving in feed cost.

Easy to Feed—Animals Like it

Put up in convenient form for feeding. Does away with the antiquated, troublesome, expensive and ineffective method of dosing. Simply place the brick where animals can have access to it all the time. They will get all they need and only as much as they need.

Carey-ized Stock Tonic Brick is not only a splendid medicine for hogs but for cattle, sheep and horses as well. A tonic and blood purifier of the highest order—improves the appetite, revives the spirits, promotes general health—insures increased productiveness. Supplies the necessary salt also, without which animals cannot thrive. No waste; no bother.

Here's Our 30 Day Trial Offer

We want you to give Carey-ized Stock Tonic Brick a fair trial in your own feed lot, without any risk to you. Order a dozen or more bricks from your dealer; let your animals have free access to them for 30 days and if you are not satisfied that it is the best, cheapest, most convenient, most effective worm destroyer and general conditioner you ever fed, return what you have left and your dealer will refund all your money. We stand behind this offer and Carey-ized Stock Tonic Brick with this positive guarantee of satisfactory results. You take no chances.

If your dealer does not handle Carey-ized Stock Tonic Brick write us his name and address and we will see that you are supplied. Fill out and mail us the coupon or write us a postal. Write today. Don't wait till you can see that your hogs are ailing. Give them a chance to protect themselves with Carey-ized Stock Tonic Brick, before disease attacks them.

DEALERS IN KANSAS

Abbyville—Backus & Winder Drug Co.
Admire—R. H. Best & Co.
Altoona—Stafford'a Grocery.
Altamont—H. K. Mourning.
Americus—E. P. Orrill.
Alden—Stephen & Isern Mer. Co.
Andale—L. Gorges.
Andover—W. E. Peacock.
Antelope—Jno. W. Ford, Jr.
Anthony—J. F. Tuttle.
Ashland—Schawe & Son.
Ashland—Culp Bros.
Atchison—Intlen's Grocery.
Aurora—Gesselin & Lamie.
Axtell—O'Nell Mercantile Co.
Baldwin—F. S. Hardin.
Baileyville—W. I. Davis.
Barnes—Barnes Mercantile Co.
Belcourt—L. W. Calvin.
Bazine—J. J. Schenkel.
Benton—Lane & DeLong.
Bentley—M. A. Hankins & Co.
Bern—Richard Hatch Merc. Co.
Bern—Farmers Union Bus. Assn.
Berryton—L. M. Woodcox.
Bluff City—Lewis & Schnolder.
Boling—Chas. Gist & Co.
Brazilton—J. H. Knopp.
Bronson—Bronson Co-Op. Assn.
Brownell—Congenour & Hartley.
Bucklin—J. F. Bryan.
Bucyrus—J. P. Canaday.
Burdette—Farmers G. & S. Co.
Burlingame—Oberle Produce Co.
Burlington—O. E. Sanford.
Burns—A. Funke & Co.
Burrton—Obley's Cash Merc. Co.
Caldwell—Johnson Bros. Mer. Co.
Caldwell—Dietrick Trad. Co.
Cancy—The Cash Feed Store.
Carbondale—Wm. Lowes & Co.
Castleton—H. J. Voth.
Chanute—Chanute Grain Co.
Chase—H. W. Schroeder.
Cimarron—Cimarron Co-Op. Eq. Exchange.
Cimarron—Ritter & Ward.
Cimarron—Kolley & Hanning.
Cimarron—C. C. Isely Lbr. Co.
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Coldwater—Cook & Baker.
Columbus—Stauffer-Cammack Grain Co.
Copeland—S. R. Stebbins.
Crystal Springs—J. J. Millor.
Danville—G. A. Olivier.
Darlow—J. W. Stewart.
Delia—D. B. Sumpter.
Denton—Wm. M. Gillen.
Dodge City—Frank G. Barkley.
Dunavant—R. P. Simpson
Dunolin—Geo. W. Flich Lbr. Co.
Earlton—Foetlab & Balch.
Elk City—Grangers Elev & Supply Co.
Ellinwood—Nicholas Sprinkler.
Ellsworth—C. H. Veatch
Englewood—M. E. Scofield.
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Erie—Johnson & Son.
Eureka—A. D. Burt & Co.
Ford—Alpha P. Emrie.
Frankfort—Chas. H. Heleker.
Fredonia—J. H. Simpson.
Falun—A. Bengston.
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Garden City—G. H. Mack & Co.
Garden City—F. Finnup & Co.
Gardon City—M. & L. Gro. Co.
Garden City—H. M. Knox.
Garfield—S. C. Olson.
Gas—Carl & Hunter.
Gorlane—J. K. Rochardson & Co.
Girard—Walborts & Timborlake.
Girard—C. N. Vincent.
Glen Elder—Farmers Co-Op. Asn.
Goodrich—T. H. Finch.
Great Bend—D. Turner & Son.
Grenola—J. F. Moore.
Haggard—R. N. Norton.
Halifax—C. J. Powell.
Hamlin—G. T. Stronh.
Hammond—Bridgeman & Co.
Hanston—W. J. Querback.
Hlawatha—S. D. Snyder.
Harpor—C. C. Aby.
Harper—C. Ray Thompson.
Herington—C. E. Shephard.
Hillsdale—Eaton & Young.
Holcomb—Jack Harwood.
Hoyt—H. B. Talbot.
Hugoton—Porter Drug Co
Hugeton—Hanby's Cash Store.
Hugoton—Joe Ruffin.
Ingalls—Ingalls Co-Op. Exch.
Iola—R. C. McKinney.
Irving—J. C. Rohr.
Irving—Frank Thomson.
Isabel—Bennett Bros.
Jennings—Eakin More. Co.
Jetmore—Holbrook Bros.
Johnson—C. Norlin & Son.
Kanorado—Henry Hartstine.
Kanona—The Frontier Store.
Kan. City—W. B. Maxwell & Sons
Kendall—T. A. Wells.
Kingman—Cheatum Bros.
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Kinsley—Fravel & Lewis.
Kinsley—Eslinger & Reed.
Kiowa—L. B. Hill.
LaCrosse—L. M. Krauso.
Lake City—Med. Val. Grain Co.
Lakin—C. H. Waterman.
Lawrence—Farmers Union Co-Op. Association.
Lawrence—C. D. Edmondson Co.
Lawrence—Spot Cash Grocery.
Lawrence—Harvey Kane.
Lawronce—S. B. Lawrence.
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Larned—D. Y. Eyor.
Lewis—Ray Bros.
Lehanon—Derge Merc. Co.
Lehigh—Sells Big Daylight Store.
Leona—O. L. Dennis
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Stafford—H. S. Fritzmeier.
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Vilas—Gust. Nelson.
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FOOD REGULATION

The government will undoubtedly undertake some sort of control of prices and markets during the war. The Lever bill bearing on this matter was introduced in Congress May 3, and this bill will doubless be used as the basis for any legislation passed at this session. The purpose of the bill is to stimulate production, facilitate distribution, reduce waste, assure fair prices, prevent injurious speculation, and protect the public against all kinds of extortion.

Food regulation is a most complex proposition. We do not believe there will be any need for enacting laws to keep up prices of food products this year, but producers who are being urged to go to extra expense in order to increase the output should have assurance that the government will stand back of them and see that they get a square deal. If there is any price-fixing at the present time, it should take the form of guaranteeing a minimum so that farmers who respond to the appeal for increased production need not fear a possible loss.

A rather interesting proposition was recently made to the government by the Northeast Nebraska Live Stock Breeders' Association. This was made in the form of an open letter to Secretary Houston, commenting on the offer of the Chicago packers to either permit the government to fix prices on their products or turn their plants over to the government to operate. It says:

"If Mr. Armour proposes to turn over the packers' plants to the government and run them for the benefit of the government for a minimum profit, we will not allow him to be more magnanimous than we. We, too, will turn over our plants. We will turn our farms over to the government and operate them for the government on the basis of three per cent on the investment. This is only a bondholder's percentage, and the bondholder does not give his services, as we propose to do, without extra wage or salary. This offer is bona fide and we are prepared to stand by it. * * * We desire some security for the future. No stockman today knows what to do. The tendency is to cash corn and quit the producing of finished beef. This would be a national calamity and in some way must be averted. Secure to the feeder and producer of corn-fed beef and pork adequate remuneration for his labor and feed, and the future supply of corn-fed beef and pork is assured."

It is not likely that the government will go into either the farming business or the packing business, but the mere fact that such an organization makes an offer of this kind directs attention to the need of protecting farmers and meat producers against unfair demands of consumers.

USE HIGH SCHOOLS TO SAVE FOOD

There are in Kansas 225 high schools having equipment for teaching girls domestic science. In the present emergency when every agency possible is being used to increase our food supply, this equipment might well be made of service in the preservation of vegetable and other food products. The school board in each of these towns where high schools have domestic science equipment could make this possible by employing the teacher of domestic science for the entire vacation period. The high school equipment could then be turned over to the community for canning, preserving and drying fruits and vegetables. A most important part of the program for conserving food is the preservation of our garden and orchard products.

Mrs. Cora G. Lewis, member of the State Board of Administration, suggests that clubs of high school girls could be organized by the domestic science teacher during the vacation and the equipment divided so as to have two periods a day —from nine to twelve in the forenoon and from two to five in the afternoon. Mother and daughter clubs could also be organized. If necessary, extra pressure cookers could be bought for canning where the money is available.

Placing a small canning plant in the basement of the high school building would be worth far more to the community than it costs, if proper provision can be made for its use. This is by no means a purely town proposition. By the use of automobiles it is possible for both country and town women to use the domestic science departments of the various high schools for community canning work.

ENLIST YOUR COWS

We wish to commend the National Dairy Council for the forceful manner in which it is appealing to dairymen all over the country to enlist their cows in the service of the nation. No man reading the statement being circulated by the Council can be indifferent to the importance of using every effort possible to promote better dairy methods and to give every dairy cow in the land a fair chance to demonstrate her capacity as a conserver of food. Every man milking cows should be inspired by the publicity work of this organization. It is not only keeping to the front the wonderful capacity of a good cow as a food-making machine, but is spending large sums of money in educating people to the value of dairy products as food.

If you did not read the article, "Conserve Dairy Cow," in last week's issue of KANSAS FARMER, turn to it now, and also read the statement of the National Dairy Council on another page of the same issue.

KANSAS ROAD LAWS FREE

Farmers of Kansas are vitally interested in good roads. The new road laws passed at the last session of the legislature are now being put into operation. The highway commission has recently been in session in Topeka working out Tentative road systems.

The four big road laws, including the automobile law, the bridge law, the one creating the highway commission, and the improved road law, have been put in form for distribution by the Kansas Good Roads Association. Any one or all of them are free for the asking. Address Kansas Good Roads Association, Columbian Building, Topeka.

Safety of Country Depends on Farmers

IN THIS great time, when every citizen must do his part, the President has made his chief appeal to the men who live on the land. He is right in doing so, for the safety of our country just now is in the hands of our farmers. What I mean is not merely our safety and the safety of our Allies in the matter of food. I mean that the safety of the United States against foreign invasion hangs on the decision of the farmers of the forty-eight states.

The two great weapons in this war are arms and starvation. The war against German arms will be won or lost in France—the war against starvation will be won or lost in America. The Kaiser cannot whip the French and English armies and the English navy while England has food. But it is still possible that the German submarines may be able to keep food enough from reaching England to starve her into submission.

If the submarines win, the first item in the Kaiser's terms of peace will be the English fleet. With the English fleet in his possession, the Kaiser will be master of the world.

What will happen to us then? Every man who stops to think knows the answer. We shall have money, food, labor, land—everything that is desirable in the world, except the power to protect what we have. Experts estimate that it will take us nine months to get ready to meet a German army of even 150,000 men, with modern artillery. Under such circumstances, would the Germans treat us better than they have already treated Belgium and France?

Even if the armies of our Allies should crush the German military power this summer, before the shortage of food can reach the point of want, the world would still need vast quantities of American food. But if they do not, only one course can make us safe, and that is to grow food enough on our farms for ourselves and our Allies, and to put ships enough on the sea to carry the food, in spite of the submarines, to the men who are fighting our fight.

If the war lasts beyond this summer, it will be the American farmer who will win or lose the war, who will overcome militarism and autocracy, or allow them to spread and control the world, ourselves included.

This is no fanciful picture, but sober fact. Many a man will make light of it until he comes to think it over, but I venture to say that few will treat it lightly after careful thought. It is no more impossible than the great war itself appeared to be, only a few days before it began.

It is true that we can greatly increase the available food supply out of grain now used in making liquors, and by reducing household waste. But when these two things are done, and done thoroughly, they will not be enough. The final decision will still rest in the hands of the men who raise our food in the first place.

The clear duty of the Nation is to guarantee the farmers a fair price for their crops when grown, and a reasonable supply of labor at harvest. The clear duty of the farmer is to raise food enough to win this war for democracy against Kaiserism.

No such responsibility has ever rested on any class of men since the world began as rests today on the farmers of America.—GIFFORD PINCHOT

GRAIN WASTE AT MARKETS

Much grain is wasted at our central live stock markets. The elimination of waste is an important part of the food conservation and production campaign now being conducted all over the country. Prof. W. A. Cochel has been making some estimates on the waste which occurs in feeding hogs at our live stock markets. As a result of his investigations he makes the statement that a saving of over two million bushels of corn annually could be made in the United States by limiting the amount fed to hogs on the market to two bushels a car. This estimate is based upon the supposition that the eastern, central, southern and western markets and the smaller packing plants in the corn belt follow the same practices as do the nine markets west of Chicago.

At these nine hog markets west of Chicago there was unloaded during the year 1916, 33,056 cars of hogs for slaughter. The prevailing custom at all these markets is to feed hogs all the corn they will eat from the time they arrive until they are weighed up to the packer. This amounts on an average approximately to six bushels per car, or a grand total at these nine markets of 1,823,136 bushels. Practically all of this corn is an absolute waste, a great deal of it going into the sewer directly from the pens. The hogs are slaughtered before they are able to digest and assimilate that which they have eaten.

For humane reasons it is of course necessary to feed a reasonable amount of corn, but two bushels to a car would be ample to prevent suffering. Shippers may object to this because of the fear that it would affect the sale of their hogs. But if all the markets were on a uniform basis the price paid for hogs would probably be based on the absence of fill rather than the presence of it.

Two or three hundred vacant lots in Beloit have been donated by the owners for the summer to be used in reinforcing the food drive that is now being made by the Kansas State Council of Defense. The commercial clubs of the town have employed a teacher of agriculture in the high school for the summer, to supervise the work of planting these lots to gardens. School boys will do the work. Mrs. Carrie McClintic, a Kansas State Agricultural College graduate, has been appointed overseer of the work of canning the vegetables and fruits.

Morris County has employed A. L. Clapp as agricultural agent. Mr. Clapp was graduated from the Kansas Agricultural College in 1914. Since then he has had a year's experience as foreman of the agronomy farm at the college, one year as manager of a ranch in Colorado, and one year as teacher of agriculture in the high school at Castle Rock, Colorado. His headquarters will be at Council Grove.

Inquiries are being received relative to the planting of Mexican beans. These beans stand dry weather well and in the extreme western and southwestern part of the state many farmers have raised small fields of them with good results. Yields in excess of 300 pounds an acre have been recorded at the Tribune branch experiment station in Greeley County. Three hundred pounds will pay well at the present prices.

With live stock selling at higher and higher prices and with feed going up, many may be tempted to sell their breeding stock. This will be killing "the goose that laid the golden egg." Keep the breeding stock and raise more stock —it will pay. In one great country the farmers sold their sows last year when the pigs were weaned. This year pork is higher in that country, and the farmers have no pigs to sell nor sows to raise more. It would have paid them well to have kept the sows to supply the nation with pork.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

INQUIRIES have been received concerning the Schrock kafir which was discovered at Enid, Oklahoma, in 1912. This variety of kafir is believed to be a hybrid between some kafir and a sweet sorghum. It was once thought that it might be found valuable for both grain and fodder, but tests show that the tannin in the seed lessens its value as a grain crop. It may prove of value as a silage sorghum, but this quality alone will not warrant its general adoption.

It has also been claimed that it is early and has great resistance to drouth. The Federal Department of Agriculture states that it requires fully 100 to 120 days to mature and this of course would make it of little value in Kansas. It has been tested with other varieties at Hays, Kansas, and at Chillicothe and Amarillo, Texas, but none of these tests have indicated that it is worthy of general adoption. It has made good yields at the southern stations but on account of the presence of tannin in the seed which effects its feeding value it could not be recommended because of its yielding qualities.

It is inadvisable to experiment with new varieties at a time when high production is most desirable. Both the federal department of agriculture and the state experiment stations are advising against the use of new untried varieties of the sorghums. The experiment stations are continually on the lookout for improved varieties, but the average farmer can hardly afford to conduct experiments of this kind.

Growing Mexican Beans

J. S., of Clark County, writes that he plans to put out five to ten acres of Mexican beans and desires information as to the proper time to plant, whether to plant in hills, on top of the ground, or to list in shallow furrows. He states that he has had no experience in growing beans and is unable to find any one in that vicinity who has had experience.

So much has been written about the growing of beans that many will probably put out a few acres this year who will have as little knowledge and experience as to the proper methods to follow as our correspondent. In order to supply the most reliable information possible on growing this crop, we asked C. C. Cunningham, who has charge of the co-operative experimental work conducted by the agricultural college, to furnish the desired information, and his reply follows:

"It is by no means certain that the growing of Mexican beans will prove a profitable undertaking. In 1911, 1912, 1913 and 1914 the agronomy department co-operated with farmers throughout Western Kansas in trying out Mexican beans as a field crop. In only one of these four seasons did the beans prove to be profitable. In 1912, yields ranging from four to 16.5 bushels per acre were reported. In 1913—a very dry season—the crops were badly injured or destroyed by the excessively hot, dry weather. In 1914 nearly all of the co-operators reported that the beans made a good growth of vines but for some reason pods failed to set. Similar results were reported for 1911. Our conclusions are that Mexican beans are not a sufficiently profitable crop to warrant growing on a field scale in Kansas. However, if the season should prove to be a favorable one, the crop might prove to be profitable this season because of the high price being paid for beans.

"The preparation of the ground for Mexican beans will necessarily be governed by local conditions. Where fall plowing can be practiced safely without danger of the soil blowing, this method is to be preferred. Early spring plowing gives satisfactory results, providing the ground is moist and is worked subsequently to settle it into a good seed bed. Under average conditions, early spring disking, with one or two diskings later in the season to kill weeds and keep the soil in good tilth, is probably the most practical way of preparing the ground.

"Beans are very susceptible to frost and should never be planted until all danger from that source is past. The middle of May is the best time to plant. The temperature and moisture conditions are usually favorable at this time and the beans germinate promptly and make a rapid growth, thus making it possible to cultivate and keep down weeds to better advantage.

"Planting in very shallow furrows with a corn lister is the most practical way. The seed should be covered about two or three inches deep. About twenty pounds of seed is required to plant an acre. One bean should be dropped every six to ten inches.

"Sufficient cultivation should be given to keep the ground free from weeds and in good tilth. This is very important and satisfactory results will not follow unless the beans are well cultivated. The later cultivation should be shallow to avoid injuring the roots."

A circular which gives considerable information regarding the growing of beans in Kansas will be mailed by the Kansas Experiment Station, Manhattan, on request.

Treating Calf for Scours

R. F. A., Marshall County, writes that he recently shipped in a small Holstein calf. The first few days it seemed all right, drinking its whole milk well. It then began to scour and he gave it a teaspoonful of salts. Following this it became weaker, grinding its teeth and refusing its milk.

This subscriber enclosed a stamp for immediate personal reply. The information given may be of value to others who are having similar trouble.

Scours in calves is usually caused by some mistake in feeding, such as overfeeding, irregular feeding, sour milk, dirty milk, or dirty pails. Almost any of these things is liable to bring on this trouble. Usually reducing the amount of milk given about one-half, seeing to it that it is perfectly clean and fresh and being fed at the right temperature, will correct the trouble. It would have been a great deal better had he given from two to four tablespoonfuls of castor oil in the milk instead of the salts. In persistent cases the United States Department of Agriculture recommends the giving of a mixture of one part of salol and two parts of subnitrate of bismuth in doses of from one to two teaspoonfuls two or three times a day, the dose depending on the size of the calf.

A remedy that the editor has found very effective in his own experience is blood meal. Use a teaspoonful or two dissolved in milk. This blood meal is a packinghouse by-product. It can usually be purchased from feed dealers, although in a small town it may be more difficult to get it. It is also a good plan to dilute the milk used with one-third lime water. Lime water is made by pouring water on a little lump of fresh lime. After it has slaked and settled the water can be poured off the top. Parched flour added to boiled milk is a remedy sometimes successfully used. In using any of these remedies, give the milk in small quantities and often.

Destroying Pocket Gophers

In a recent issue we answered an inquiry relative to destroying pocket gophers. T. S., one of our readers in Riley County, writes us that he thinks no farmer has any excuse for permitting these pests to take his alfalfa fields. His method is to poison them. His method of preparing and using the poison follows:

Into one-half pint of boiling water put one-eighth ounce of strychnine pulverized, one teaspoonful salt, and stir well; corn, three-fourths pint, raisins one pound. Stir this thoroughly, then add two tablespoonfuls flour and stir in enough corn meal to absorb moisture, if any. Stir the whole mixture well.

Take a three-fourths-inch rod or stick and prod around the fresh mounds until a run is found, drop a spoonful of the poison in the hole. Close hole again, being careful not to drop dirt on the poison. Use spoon or paddle, as the touch of the bare hand will spoil the bait for Mr. Gopher. Use poison while fresh.

This will work equally well for moles, only omit the raisins and substitute corn.

The committee on injurious mammals of the State Council of Defense is urging the destruction of gophers as a most important conservation measure. They state that gophers can be destroyed for 25 cents a dozen—a low price considering the fact that these little animals destroy fully 10 per cent of the alfalfa of Kansas every year, in addition to damaging other crops. Destruction of the gophers will mean an annual saving of millions of dollars to the state.

It is a comparatively simple matter to eradicate these pests, says this committee. Grain treated with a poisoned syrup may be inserted in their burrows. An effectual poison is sold at cost by the agricultural college. Another method is to use small pieces of apple or sweet potato poisoned with a few grains of strychnine. Trapping is a slower but surer method of eradicating gophers.

The committee is ready to furnish detailed information to any one or to arrange special co-operation with groups of persons planning to eliminate the pests from a considerable area.

Oats for Brood Sow

N. E., Johnson County, one of the boy readers of KANSAS FARMER who is raising a litter of pigs, asks about feeding oats to the sow. He says corn chop is so high that he decided not to buy any more and is feeding his sow at present only weeds and clover and slop. They have some oats and he asks if oats soaked before feeding would be good for her. We believe this boy was doing the proper thing in not buying more corn chop now that it is so high. By feeding the sow plenty of weeds and clover she will not require as much grain. Of course, a sow cannot give a lot of milk for the pigs on weeds and clover alone, and we would by all means advise giving her some oats. Oats make a fine grain feed for a brood sow. They are a better milk-making grain than is corn. They are not so good, however, for fattening hogs.

Protect Cabbage from Worms

Every year we receive inquiries on the prevention of insect injury to cabbage. Such inquiries have not begun to come in yet this year, but it is only a question of time, and we are going to suggest right now that those who set out cabbage plants take measures to destroy the worms before the leaves are riddled. In other words, go after the worms as soon as the plants have been set out.

Dusting the leaves with a poisonous mixture is a practical method of destroying the cabbage worm in patches of ordinary size. One pound of paris green or two pounds of finely powdered lead arsenate is mixed with ten pounds of hydrated lime or dry flour. The mixture is placed in a flour sack or in a can with top or bottom finely perforated. The operator walks between two rows, with a bag or can in each hand, and shakes out the poisonous dust so that it settles on the leaves. Worms eating of these leaves will die in a day or two.

The work should be done when the leaves are dry and there is little wind, and repeated at intervals of one to two weeks, depending on how often the rains occur. There may be four or more generations of cabbage worms in a year, so that constant vigilance is necessary.

For patches of three acres or more, spraying with a barrel pump or other large sprayer is suitable. Half a pound of paris green, or one and one-half pounds of lead arsenate, or three pounds of paste lead arsenate may be stirred into fifty gallons of water for the spray. The addition of two pounds of soap or three pounds of flour in paste form will cause the liquid to adhere better to the smooth cabbage leaves.

Thousands of cattle have been sacrificed in Kansas because of dry weather and parched pastures. If the owners had provided silos and laid by a reserve of silage for such emergencies, many could have held the stock until they were ready to go.

Agricultural Production Committee Makes Timely Suggestions

A MATTER of first importance is the testing of representative samples of all sorghum seeds to be planted. They are abnormally low in growing quality this year. It is taking big chances to plant such seeds without first testing them.

It is highly essential to prepare a good seed bed where sorghum crops of any variety are to be planted. A good seed bed will help to overcome poor quality of seed. It is easier and less expensive to kill weeds before the crop is planted than afterwards. Where corn is planted, it is highly essential to look after the cultivation of the same while the weeds are young and easily killed. One cultivation while the weeds are delicate will do more to get rid of them than two cultivations ten days later.

Land that is to lie fallow during the summer should be plowed five or eight inches deep because it will absorb and hold more water than if plowed four inches deep or less, and water is what counts in Kansas.

Cultivation of fallow land should begin as soon as the weeds have thoroughly started, or as soon after sorghum planting is out of the way as possible. Only such cultivation should be given thereafter as is necessary to keep down most of the weeds. The surface soil should not be worked into a dust-like condition; rather it should be left rough or cloddy.

Kansas often loses thousands of tons of the first cutting of alfalfa hay through damage by rain. Unusual care should be exercised this year to guard against every possible loss or waste. Our meat supply depends upon an ample supply of good feed. Feed is going to be worth money this fall.

A great many farmers, especially those living in districts where the winter wheat was killed, are beginning to worry and wonder where they will secure good seed for planting next fall. There isn't going to be any question about obtaining plenty of good sound seed for every farmer who wants to plant wheat next fall. The state will produce from fifty to seventy million bushels of good wheat this year. Almost all of it will be fit for seed, and it will very likely be sold for less money at harvest time than wheat can be bought for today. The wheat we now have is needed more for bread than for seed next fall.

Ask the school boards of the various communities to hire the teacher of agriculture and home economics for the summer months to supervise the garden work of the boys and girls, and see that all the garden surplus is canned or preserved by drying or storage.

Conduct a special campaign for increasing the planting of garden beans and sweet corn, and the canning and drying of these two standard garden crops. Emphasize that sweet corn, even field corn, is extremely palatable when dried in the roasting-ear stage, and will keep indefinitely. Should there be a shortage of cans, much corn should be preserved by drying.

Start a movement to save all glass jars, bottles, etc., that might be used in place of tin cans. Tin is high and cans will be scarce.

The above are all trite suggestions and without doubt most of our readers are striving as best they can to carry them out. It is a good idea, however, to systematically state in concise terms a program such as is outlined by this committee.



Supplementing Pastures

THE dairyman who wishes to make the most profit from his business cannot afford to let his cows suffer for feed at any season of the year. Right now is a good time to recall what happened last summer and previous summers that tended to reduce the milk flow. We will remember how short and dry the pastures were and how the cows suffered from flies during this season of the year. If during these periods, in which it is so hard to keep up the milk flow, summer silage had been available, or some supplemental forage crops that could have been fed to the cows green, this period would not have been so serious in its effects on the production of the herd. Recalling these conditions which we are compelled to face almost every summer should serve as a lesson to provide against their future occurrence. Now when we are planting the spring crops is the time to plan for these periods so trying to the dairyman.

The seasons do not differ much. Each summer is almost sure to have its dry spell when green feed in the pastures will be short. In some years it may come earlier than others, but cows are almost sure at some time during the summer to suffer for feed and need some protection from the excessive heat and the flies.

To provide against this shortage of feed a small plot of ground close to the barn can be prepared and portions of it seeded at intervals to various forage forage crops such as cane, Sudan grass, or sweet corn. With such crops to fall back on we can feed our cows during the hot dry spells and keep up the milk flow.

One of the great losses that every dairyman must sustain each year is that occasioned by allowing the cows to fall off in milk flow and run down in condition during these trying periods to such an extent that several months of good feeding will be required to get them back into condition and bring up their milk flow to what it should be. When cows have fallen off in milk it is almost impossible to get them back to normal production.

The most successful dairymen are those who recognize that no matter what the season of the year, the cows must have an abundance of feed or they cannot be maintained in such a condition of health and thrift as to enable them to produce milk profitably. It is just as necessary to provide a supply of feed for these dry, hot periods of the summer as to lay in a store of feed for the winter.

Dairymen generally are coming to recognize that there is no cheaper or better feed for the winter period than good silage. Silage is equally good to supplement short pastures during the summer seasons. In fact on most farms where milk cows are kept the feeding of silage in the summer is more practical than the feeding of soiling crops. Almost every dairyman who has had a silo for preserving feed for the winter soon begins to plan for a summer silo. In the western part of the state pit silos can be made and filled with kafir or cane to be used at any time when it may be needed. Silage has been fed from pit silos at the Hays Experiment Station that had been stored for three or four years. The dairy herd at Manhattan has for a number of years been fed silage the year round. Cows can be changed from pasture to silage with very little effect on the milk flow. This is not true when the attempt is made to supplement pasture with dry roughage. The important thing is to provide palatable feed for dairy cows the year round. Unless this is done they will not return the highest profits.

Selecting Dairy Cow by Type

The essential functions of the dairy cow are milk production and reproduction. L. W. Wing, Jr., of the Missouri College of Agriculture, points out that the most accurate methods of determining these are: Milk production by means of the scales and the Babcock test; reproduction by breeding records.

There is only a small proportion of the cows used for dairy purposes on which such records are kept. This necessitates the employment of some other method of selection. In the breeding of high producing animals through several generations it has been observed that there are certain characteristics of the large production. These characteristics are namely: Extreme angular form, carrying no surplus flesh but in good physical condition; prominent development of the udder and veins, and the symmetrical development of the barrel with large capacity. After one becomes familiar with these external characteristics it is possible to select cows producing 300 pounds of fat per year from those producing 150 pounds. The difficulty comes in picking the animal that will produce 500 pounds of fat per year as compared to the one producing 400 pounds.

The selection of animals by this method is rather uncertain. The farmer makes the largest majority of his selections in this manner and should be familiar with its limitations. In order to judge the animal with much accuracy she should be in milk and at the best stage in her lactation period. A cow that is dry offers very little upon which to base opinion as she has a tendency to take on flesh. Cows that have been underfed are in no condition to be judged. It is hard to tell what heifers will do from appearance before calving. Sometimes the cow that has all of the external appearances does not have the stimulation to produce milk. Until records are kept of more animals or some other means devised for selection, the selection by type should be used and it is up to everyone interested in dairy cattle to become familiar with it.

Grade Herd Production

A grade Guernsey cow named Sue produced 50,134 pounds of milk and 2,169 pounds of butter fat, equivalent to over 2,700 pounds of butter in the four years from January 1, 1913, to January 1, 1917. She is one of a herd of seventy-five grade Guernseys kept near Greeley, Colorado, by H. D. Parker. Mr. Parker is building up a herd of pure-bred Guernseys and already has about thirty. In the meantime, the grades are preparing the way for their aristocratic sisters.

Sue's yearly average of production amounts to 12,533.5 pounds of milk and



GRADE GUERNSEY COW, EDITH

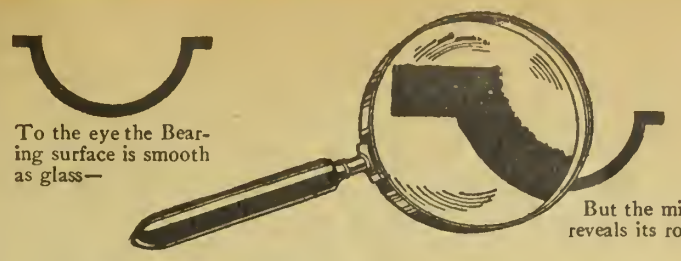
636.19 pounds of butter fat, but of course long time records are of most importance in considering the value of any animal.

The record of Edith, another grade Guernsey in the same herd, is nearly as remarkable as that of Sue. From January 1, 1914, to January 1, 1917—three years — Edith produced 24,141.7 pounds of milk and 1,535 pounds of butter fat, equivalent to 1,920 pounds of butter. This makes her yearly average 11,380.6 pounds of milk and 512 pounds of butter fat.

The production per cow in the entire herd for the calendar year of 1916 was 7,421.9 pounds of milk and 349.14 pounds of butter fat, equivalent to 436.4 pounds of butter; and the average production of those in milk for the entire year was 10,179.2 pounds of milk and 447.87 pounds of butter fat. Such a herd of grade cows of any breed indicates clearly the service to the dairy industry which can be done by pure-bred sires from ancestry of known producing capacity.

Tests made at the Kansas Experiment Station show that silage from the sorghums is superior in most cases to that made from corn, and this is especially true where the corn is grown with limited moisture and dried by hot winds before it is put into the silo.

War and a food shortage is turning the attention of everyone to the home garden. No one can afford to neglect



WORN BEARINGS

What do they mean?

THE repair man says: "That knock? Worn bearings." Tightening will temporarily remedy the trouble. Refitting or renewing is the only permanent remedy. But it is more important to know what will help prevent this expensive operation.

To the eye, the surface of a bearing is smooth. But under the microscope it has a very different appearance. You see a succession of little hills and valleys.

Now, imagine the engine in motion.

What happens?

Surfaces are in motion. Unless protected by a correct film of lubricating oil, the microscopic hills of metal meet and rub. The engine-power overcomes this resistance, but tiny particles of metal grind off.

By degrees the snug fit becomes a loose fit. Noise follows. To correct this condition now, the bearings must be refitted or renewed.

The only protection against undue wear of bearings is the thin film of oil.

This thin film of oil must be highly elastic. It must fill-in the valleys. It must cushion the peaks and withstand pressure. It must stand up under the heat of service. These requirements call for oil of the very highest quality and of the correct body and character.

Gargoyle Mobiloils meet these requirements with scientific exactness Used as specified in the Chart of Recommendations they effectively cushion the bearing surfaces, and meet the most severe demands of service and heat.

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. If the dealer has not the grade specified for your car, kindly write our nearest branch, giving dealer's name and address.

GARGOYLE **Mobiloils**

A grade for each type of motor

CORRECT AUTOMOBILE LUBRICATION

Explanation:—The four grades of Gargoyle Mobiloils, for engine lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A" **Gargoyle Mobiloil "E"**
Gargoyle Mobiloil "B" **Gargoyle Mobiloil "Arctic"**

In the Chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A," "Arc" means Gargoyle Mobiloil "Arctic" etc. The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

Model of CARS	1917 Summer	1917 Winter	1916 Summer	1916 Winter	1915 Summer	1915 Winter	1914 Summer	1914 Winter	1913 Summer	1913 Winter
Abbott-Detroit	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc
" (8 cyl)			A	A						
Allen	A	Arc	A	Arc	A	Arc	A	A	A	A
" (Mod. 33-34-35)					Arc	Arc	Arc	Arc	Arc	Arc
Apperson	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A							
Auburn (4 cyl)			A	Arc	A	Arc	A	A	A	A
" (6 cyl)	Arc	Arc	Arc	Arc	Arc	Arc	Arc			
Avery					A	A	A	A	A	A
" (Mod. 5 & C 1 ton)			Arc	Arc	Arc	Arc	Arc	Arc		
Briscoe	A	Arc	A	A	Arc	A	Arc			
" (8 cyl)			A	A						
Buick	Arc	Arc	Arc	Arc	Arc	A	Arc	A	Arc	
Cadillac					Arc	Arc	Arc	Arc	Arc	
" (8 cyl)	A	A	A							
Case	A	Arc	A	Arc	A	Arc	A	A	Arc	
Chalmers			Arc	Arc	Arc	Arc	A	A	Arc	Arc
" (Mod. 6-40)			A	Arc						
" (Mod. 6-30)	A	A	A	A						
Chandler Six	Arc	Arc	Arc	Arc	Arc	Arc	Arc			
Chevrolet	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc	A	
Cole			Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A	A	A					
Dart	A	Arc	A	Arc	Arc	Arc	A	A	A	Arc
" (Mod. C)	A	Arc	A	Arc	A	Arc	A	A	A	A
Detroiter	Arc	Arc	Arc	Arc	A	Arc	A	A	A	Arc
" (8 cyl)					Arc	Arc				
Dodge	A	Arc	A	Arc	E	E				
Dort	A	Arc	A	Arc	A	Arc				
Empire (4 cyl)	A	Arc	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (6 cyl)	Arc	Arc	Arc	Arc						
Federal	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Ford	E	E	E	E	E	E	E	E	E	E
Franklin	A	A	A	A	A	A	A	A	A	Arc
Grant	A	Arc	A	Arc	Arc	Arc	Arc	Arc		
Haynes	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" (12 cyl)	A	A	A	A						
Hudson			Arc	Arc	Arc	Arc	Arc	Arc	A	Arc
" (Super Six)	A	Arc	A	A						
Hupmobile	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
I.H.C. (air)					B	A	B	A	B	A
I.H.C. (water) (2 cycle)					A	A	A	A	A	A
I.H.C. (water) (4 cycle)			A	Arc						
Interstate	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Jeffery	A	Arc	A	Arc	A	Arc	A	A		
" (6 cyl)	A	A								
" Com'l	A	Arc	A	Arc	A	Arc	Arc	Arc	Arc	Arc
King					A	A	A	A	E	
" (8 cyl)	A	A	A		Arc	Arc				
" Com'l	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		

Model of CARS	1917 Summer	1917 Winter	1916 Summer	1916 Winter	1915 Summer	1915 Winter	1914 Summer	1914 Winter	1913 Summer	1913 Winter
Kissel Kar	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" Com'l	A	Arc	A	Arc	A	Arc	A	Arc	Arc	Arc
" (Mod. 48)			A	A	A	A	A	A		
Lexington	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Locomobile	E	E	E	E	E	E	E	E	Arc	Arc
Marmon	A	A	A	A	A	A	A	Arc	A	Arc
Maxwell	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Mitchell	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Mitchell (8 cyl)			A	A						
Moline									A	Arc
" Knight	A	A	A	A	A	A	A			
Monroe	A	A	E	E	A	Arc				
Moon (4 cyl)					Arc	Arc	Arc	Arc	Arc	Arc
" (6 cyl)	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
National	Arc	Arc	A	Arc	A	Arc	A	A	A	A
" (12 cyl)	A	A	A	A						
Oakland	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc
" (8 cyl)			A	A						
Oldsmobile			Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A							
Overland	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Packard					A	Arc	A	Arc	Arc	Arc
" (12 cyl)	A	A	A	A						
" Com'l	A	A	A	A	A	A	Arc	Arc	Arc	Arc
Paige					A	Arc	A	A	A	E
" (6-46)	Arc	Arc	Arc	Arc	Arc	Arc				
" (6-36 & 38)	A	Arc	A	Arc	A	Arc				
Pathfinder	Arc	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc	
" (12 cyl)	A	A	A	A						
Peerless	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A	A						
Pierce Arrow	A	A	A	A	Arc	Arc	Arc	Arc	Arc	Arc
" Com'l	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Premier	A	A	A	Arc	A	Arc	A	Arc	A	Arc
Regal	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A	A	Arc	Arc	A	A		
Reo	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Saxon	E	E	E	E	E	E	E	E		
Stearns-Knight	A	A	B	A	B	A	B	A	A	A
" (8 cyl)	A	A	B	A						
Stephens	Arc	Arc	Arc	Arc						
Studebaker	A	Arc	A	Arc	Arc	Arc	A	Arc	A	Arc
Stutz	A	A	A	A	A	A	A	A	Arc	Arc
Velie (4 cyl)					A	Arc	A	Arc	A	Arc
" (6 cyl)	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Westcott	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc
White	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Willys-Knight	A	A	B	A	B	A	A	A		
Willys Six	Arc	Arc								
Winton	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc

YOUR TRACTOR

also may be lubricated efficiently with Gargoyle Mobiloils. On request we will mail you a separate Chart specifying the correct grade for each make and model of tractor.

VACUUM OIL COMPANY, Rochester, N. Y., U.S. A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world.

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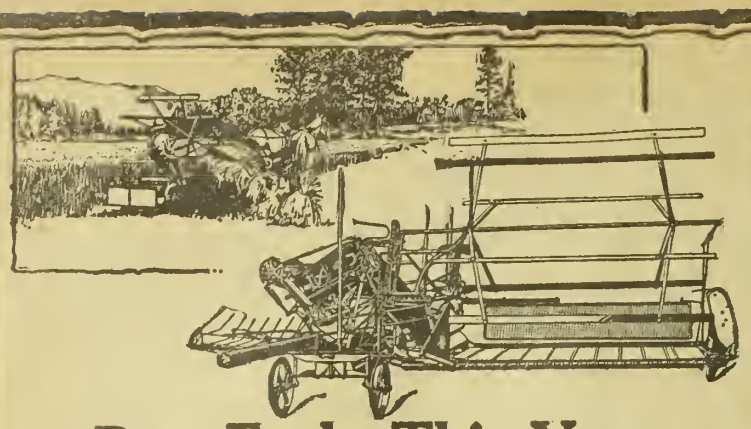


Buy Early This Year

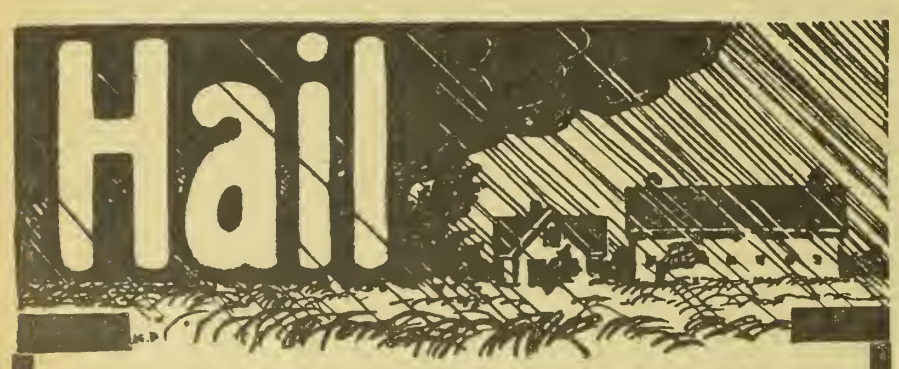
THIS year, American farmers have need of first-class equipment in harvesting machines, twine, and binder repairs. Buy none but well-known, long-tried machines and buy early. The early buyer alone can be sure of securing the necessary repairs and new machines to take care of his grain harvest.

Buy good twine, and buy it now. This is no time to be thinking about saving a cent or two on twine, but to think of the dollars that good twine will save in the field. Our advice to every farmer is to buy at once the full amount he is going to need, and not alone to buy it, but to go to the dealer, get it, and take it home.

Champion, Deering, McCormick, Milwaukee, Osborne, and Plano binders now cost less in the amount of farm produce required to buy them than ever before. But prices of all manufactured goods are likely to go higher without much warning, while there is no chance at all for them to go lower this season. The safe thing to do, therefore, is to buy now, at present prices, for immediate delivery.

Your local dealer has done his share to insure the harvesting of your grain. See him as soon as you can and arrange for the repairs, twine, or new machines you are going to need this year.

International Harvester Company of America
(Incorporated)
CHICAGO U S A
Champion Deering McCormick Milwaukee Osborne Plano



ARE YOUR CROPS PROTECTED?

You know the deadly work of hail. Within a few hours all your crops can be destroyed. Your income is gone. Your labor is wasted.

What a sense of security you have when your crops are protected against hail in a safe and conservative company. Don't risk another day, but insure now in a company whose officers are bonded to the State of Kansas for $50,000.

THIS IS THE COMPANY

that first put the insurance in force from the moment the application was signed and the premium paid. Always has adjusted all losses, no matter how small. We ask for your application on our past record. Don't wait for the storm, but write us for full particulars or see our agent before you insure your grain.

THE GRAIN GROWERS HAIL INSURANCE COMPANY
Elmer F. Bagley, Secretary, Topeka, Kansas.

GET MY PRICES



BEFORE YOU BUY BE sure and get my prices! Before buying a gasoline engine (manure spreader, cream separator or tractor) of any make, or kind, or price, please ask for and read Galloway's 1917 catalog—the biggest, most important book and greatest money-saver for my customers I ever put out! Get my proposition to you and compare it with all others; then be your own judge! We are actual manufacturers and sell direct to you from our factory. We specialize on the lines we offer. We were first to offer engines, separators, spreaders direct from the factory at one small profit. We have made the manufacturing and selling of these lines a life business. You can't afford to buy a gasoline engine or any of the other Galloway lines until you first get our prices and our proposition. Get my price before you buy! Cash or Time.



HERE'S THE REAL PROOF!

I can't give it praise enough. I had a 6 h. p. Galloway engine belted to my 16 in. corn mill and it does the work where an 8 h. p. of another make did not. M. F. SHOEMAKE, DEFEATED, TENN.

It has not cost me one cent for repairs. Am now buying a 2 1-4 h. p. engine and washing machine for the home. Consider the Galloway simplest engine made. ADOLPH DRINOVSKY, TRAER, IA.

I found the 16 h. p. Galloway simplest, most powerful, best governed engine I ever saw and $125 cheaper. HENRY WENHAM, MILTON, WIS.

My 6 h. p. Galloway was 5 yrs. old this fall. Works perfectly—good for 15 yrs. yet. HAROLD W. BARNES, DELPHI, IND.

THE WM. GALLOWAY CO., 215 Galloway Station, Waterloo, Iowa

Kansas Farmer Dairy Club

Buying Dairy Cows

DAIRY CLUB members will get their first lesson in dairying when they purchase the cow to be used in the club work. Last year we told the boys and girls joining the club that the pedigree of the man from whom the cow was purchased is as important as the pedigree of the cow. There are a good many things to consider in buying cows for a dairy herd. In fact the very best dairymen seldom buy cows. They have found it almost impossible to depend on this means of replenishing their herds. After once getting a start with a few good animals, they breed and raise their own cows. In this way they know absolutely the history and condition of every animal added to the milking herd.

You who are joining the Kansas Farmer Dairy Club are beginners and will have to buy cows. In doing this you will be doing what every dairyman has had to do in the beginning. You will be making your first investment and the cow purchased, if a good one, may be the foundation of the future herd. If she is carelessly selected and is found later to have serious defects, or possibly even diseases that make it necessary to get rid of her, the investment will not be a paying one. Not only will there be loss, but it will be necessary to begin over again.

We hope you will not buy your cows hastily. Too much is at stake in making this initial purchase and it will pay to go about it deliberately and systematically. Professor Reed in the special article which he wrote last year for club members, on dairy cow selection, advised picking the cow from a herd where all the ancestry is known. If the owner of the herd is also known personally and can be depended upon for every statement made, the buying of the cow will be greatly simplified. Such man can usually depended upon to start the beginner with a cow or heifer that will be satisfactory.

In buying a cow or a herd of cows, it is important to know positively that they are free from disease. The two most dreaded diseases among dairy cattle are tuberculosis and contagious abortion. Dairy cattle cannot now be shipped into Kansas without having passed the tuberculin test.

The cow bought should always be purchased subject to the tuberculin test. If the purchase is made from a man personally made, who tests his herd regularly and the animal in question passed at the last test, this might be accepted as satisfactory. If there are reacters in the herd it would be better to insist on a test before accepting the cow.

The presence of contagious abortion in the herd is sometimes difficult to determine. In buying a cow, the history of the herd as to calves lost should be investigated. A thoroughly honest man would not attempt to sell a cow from his herd if he knew he had contagious abortion. If the results of the investigation of the herd show that quite a number of abortions have occurred, it should be viewed with suspicion even though the owner may not be willing to admit the presence of this serious disease. Here again the honesty and integrity of the man is of considerable importance. If he succeeds in concealing the truth, a cow might be purchased that is infected with the germs of contagious abortion and not only would the calf be lost, but the production of the cow would be seriously affected. This disease is hard to cure and other cattle on the home place might become infected.

In buying bred cows or heifers, as our dairy club members will have to do, it is always important to have the exact breeding date, likewise the name of the sire. We would urge that our club members insist on having this information supplied positively for the cows they buy. Since October 1 is set as the latest day on which a record can start, this is important. A guarantee should be secured that the cow is bred and in calf, and provision made for rebreeding or adjusting the transaction so that the member can be sure of having a cow that will be fresh within the required time limit. This sort of guarantee is a good one to get, no matter what are the circumstances under which a cow is purchased. The mere statement that the owner thinks the cow will be fresh is not sufficient.

If the cow is purchased from a man having personal knowledge of the animals in his herd, he should be asked to state positively either in writing or in the presence of witnesses, that the cow is all right in every particular, has no "blind teats," is not "breachy," or a kicker, and has no other bad habits or defects that would make her unsatisfactory as a milk cow. If the cow must of necessity be bought from a man who is not in a position to supply all this information, the cow herself should be investigated most closely, and you would be justified in asking assistance from others having experience with dairy cows. Cows with a part of the udder spoiled, having teats with extra openings or other deformities, or that are hard milkers, are to be avoided. It takes more than a skin with the markings of some dairy breed to make a satisfactory milk cow. Many have bought cows recklessly, paying little attention to the real requirements of dairy animals.

In counties where there are agricultural agents you should consult with these men about the cow you buy. They are familiar with the different herds of the county and will gladly direct you to farms where you can get what you want. They will also be willing to assist in making selections if their advice and help is desired. The banker should likewise be consulted frequently in this matter of purchasing the cow. He can give good advice relative to the kind of guarantee that should be required from men from whom cows are purchased. KANSAS FARMER will likewise give help in locating suitable cows for members of the club, when this help is requested. We are anxious to have you get good cows. Unless you start right, you are apt to be disappointed later. Some of the members of the first club were very much disappointed in their cows.

Cow Getting Too Fat

My cow is giving about twenty-two pounds of milk a day now, and I have decreased her feed considerably because I found she was putting it upon her back instead of in the milk pail.

I paid $107.50 for my cow and have $102.99 back on the note, leaving $4.51 yet to pay, besides the interest. She is almost paid for and when she is I will let you know. I pay the bank 8 per cent interest.

I feel I have been successful as a Dairy Club member and I wish all the other members success.—MAX HOLLISTER, Harvey County.

A given amount of corn in the form of silage will produce more milk than the same amount when shocked and dried.

IN buying dairy cows to be used in the work of the Kansas Farmer Dairy Club, if possible buy from a herd where the ancestry of the cows is known. Buy from a man whose reliability and honesty is not questioned.

Buy only tuberculin tested cows.

Do not buy from a herd where contagious abortion is present.

Secure a positive guarantee that the cow is bred, is in calf, and will calve before October 1, which is the last date on which a record can start.

Secure a guarantee that the cow has no bad habits and has no faults or defects that would make her unsatisfactory as a milker.

Watered Stock in Farm Land

By Theo. Macklin, Professor of Agricultural Economics, K.S.A.C.

EVER since the Grange first started in 1867, the farmers of America have been fighting monopoly in whatever form it appeared. The railroads especially were the object of reform. However, because of the railroad method of cleverly hiding excessive earnings by means of watering the stock or inflating the capital value, the original idea of the farmers' movement to effectively solve rate problems has never been fully realized. In other words the railroads have been able to make the farmer accept the supposition that rates were fair because railroads paid a normal rate of interest on their capital stock. Nothing was said to explain whether the amount of the capital value of the railroads was fair or not.

From the business farmer's standpoint this same problem faces him in the question, "Is there any watered stock in the capital value of your farm?" If so, does not this watered stock hide part of your actual labor income? It is fully worth one's while to know whether poor business management or merely incorrect calculation is the cause of a low labor income.

When a non-speculating farmer buys land he does so in order to make money out of farming instead of by the usual way of profiting from a rise in value of the land. His first question is, "How much can I pay for a given farm?" The decision, if made on sound business principles, will be based on what profits the farmer can make beside paying day wages for his own time and that of his family. The certainty of market prices, the probable yield of the farm and the cost of marketing his products might justify him in saying, "I see my way clear as a cash renter to outbid Mr. Jones for the 160-acre farm by paying a cash rent of $1.69 an acre. According to its earning power with the mortgage costs at 6 per cent, I could pay (100 divided by 6 equals 16⅔ multiplied by $1.69) $28.17 an acre for the farm. But Mr. X is holding the farm for $65 an acre. He says that he could not make a labor income farming, and for the last two years had the farm let to a tenant. His calculations were like this: Interest on land at $65 an acre, $3.90, or $624. Total net income including interest on land value but excluding the family's living for the year, $1,024. Deducting $624 interest on land value left him a labor income of only $400. The question is, Did Mr. X know his real labor income? On the basis of correct calculation he did not. The trouble with Mr. X was that the real productive value of his land was only $1.69 an acre for renting, or $28.17 for purchase, instead of the $65 for which it was held. Now Mr. X arrived at his labor income of $400 after deducting $624 from $1,024. As a matter of fact this $624 consisted of $270 interest at 6 per cent on the real capital value of $28.17 an acre, and the other $353 which he called interest on land value was actually part of his real labor income. Instead of $400, his labor income was $753.60, besides the living for himself and family for a year.

Coming back to the proposition of renting or buying this 160-acre farm, it is simply this: If I rent the land at $1.69 an acre I will be farming at a cost for land of 6 per cent of its real value of $28.17. If I buy the farm from Mr. X at $65 per acre it will cost me $3.90 interest a year instead of $1.69, or in other words while I would make 6 per cent on the real or earning value of the land, I would have to pay in order to become an owner 13.8 per cent interest on the earning value. This is too high a penalty to become an owner. I tell the boys to whom I lecture that they should be shrewd and look out for this watered stock in land. If they can't get land at a price based on its value for farming, they had better leave farming and go into a line of work where they base their calculations on sound business principles. A farmer can't keep on farming when he has to have more go out than it is possible to bring in. And I think maybe this watered stock is far too common in Kansas farms. The young men are "wise to it," as we say, and are not to be fooled into any sieve-like business where there is plenty of hard work and more going out than coming in.

Sorghum for Syrup

Some of our readers are asking if it would not be a saving of money in these days of high-priced sugar to go back to the old practice of making "sorghum molasses."

The agriculture committee of the State Council of Defense has considered this question and in view of the present high price of sugar it is their conclusion that where a sorghum mill is available, the growing of cane for manufacturing the syrup may prove very profitable in supplementing the sugar.

The varieties of sweet sorghum ordinarily grown in the state can be utilized for syrup. The varieties best adapted for this purpose are the Orange and early strains of Sumac in Eastern Kansas and the Western Orange and Red Amber in the western part of the state. Black Amber is not so satisfactory but may be the only one available.

Sorghum for syrup production is planted and cultivated in practically the same way as corn. In Eastern Kansas surface planting or planting with a furrow opener attached to the planter gives better results than listing, while the latter method is preferable in Central and Western Kansas.

The proper time to plant sorghum is about ten days after the best time to plant corn. Sorghum for syrup should be planted thinner than for forage or silage. For best results the plants should be five to seven inches apart in the row.

Sorghum for syrup should be cut when the seed is in the late milk or the dough stage. The best grade of syrup is obtained when the leaves, heads and suckers are removed and only the main stalks used. When this practice is followed the work must be done by hand. Large commercial factories, however, do not remove the leaves before crushing.

A ton of sorghum will furnish from 700 to 1,200 pounds of juice, from which eight to thirty gallons of syrup may be made, depending on the sugar content of the juice. The production of the syrup per acre will vary from a few gallons to as much as 300 gallons, depending on variety grown, season, soil, and method of growing and manufacturing.

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President
Avalon Farms Company

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I know I am safe in making this guarantee. **I know** what Hog-Tone has done and is doing for the herds of other hog raisers. I also know that the market price of hogs is going higher every day—and is **bound** to go higher from now on. There is a **serious** hog-shortage. Especially a shortage of high-grade porkers **—hogs absolutely free from worms—big hogs with sound, clean flesh!** Worms are killing off the hogs!

"More hogs may be lost from worms this year than from hog cholera, and many cases of apparent cholera are only worms," says Dr. J. T. Dinwoodie, Veterinary Specialist of the South Dakota State College. "Nearly every hog is infested with worms," declares the U. S. Dept. of Agriculture. The malignant Thorn Head Worms — Stomach Worms — Liver Worms — Lung and Bronchial Worms weaken the Hogs—affect every sow's litter—make million of hogs easy victims of cholera, scours, thumps, rheumatism, enteritis, gastritis—rob surviving hogs of nourishment their food should bring, cut down their weight and quality at marketing time. Grasp this opportunity to try

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Avalon Farms Hog-Tone Costs Very Little

I will ship you one $1.00 bottle of Hog-Tone for each eight hogs in your herd—the day the coupon below, filled in, reaches this office. That will be sufficient to treat your hogs 60 days or more, according to size. This will mean just 12½ cents per hog for all the treatment—and that treatment is guaranteed by me to give you a 400 per cent profit over and above the cost of the Hog-Tone treatment, at marketing time. This is the same opportunity that these men grasped—and made money by doing so.

M. S. McFadden, Poland China Editor of Swine World (who feeds about 1000 hogs annually near Flossmoor, Illinois) advises: "I received Hog-Tone and gave it a test on five pigs. Our farm manager says that it is the best worm-expeller he ever used. **The pigs fed on Hog-Tone have made 25 per cent larger gains than those not fed on Hog-Tone."**

John Heinman, R. F. D. No. 5. Decatur, Ind., states: "I fed the Hog-Tone to a lot of hogs that had the ecours. **Some of my pigs had their backs turned up like a rainbow.** In less than two weeks I could not get to the trough to feed them. I do not know exactly what the gain on this lot of hogs was, but I could see a great change in them."

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Avalon Farms Hog-Tone is safe. It is very easy to treat your hogs with Avalon Farms Hog-Tone. IT IS EASILY MIXED WITH ANY KIND OF SLOPS, WITH THE DRINKING WATER OR DAMPENED FEED. It is only given every third day for the first six weeks and after that only once a week. 100 per cent strong.

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Use of Feed Produced

ALMOST every year low grade feed material goes to waste in Kansas. Sometimes it is because of lack of capital to buy the necessary stock, or there may be a shortage of labor to properly harvest and store the feed. These and other reasons result in much of this class of feed being lost in so far as production of food value is concerned.

In the present emergency the Kansas Council of Defense, through its live stock committee, is planning to procure enough live stock to consume the surplus feed that will be raised in the big agricultural campaign for increased production now being conducted.

Products—such as straw and corn and kafir stalks—often burned or otherwise wasted, will be available for feed and should be used, the committee points out. It is possible to winter cattle on wheat straw—of which there will be an abundance in Kansas—with the addition of a little cottonseed cake. The committee is making plans for obtaining enough cattle so that there will be no waste of possible feed products in this war year.

The labor situation is most serious. Competent farm hands should be kept on the farms so far as possible. If they enlist in the army, they should be detailed back to the farm, according to a resolution adopted by the live stock committee.

The resolution points out that "Kansas and other agricultural states are short of experienced farm labor and inexperienced labor is almost worthless to the farmer." With a decreased supply of labor, the resolution goes on to state, it is useless to expect increased production. The first crop of alfalfa will be ready to cut in from two to three weeks, and a heavy increase in the labor supply will be necessary if it is to be cared for properly. We need this alfalfa for our stock. An army is of little use without an abundance of food and the feeding of our Allies is of even more importance than to send them men. Saving the alfalfa is of the greatest importance to our program of increased live stock production and the trained farm hand working in the alfalfa field is performing a greater service to his country than the man enlisted as a soldier in the hanks.

Using the Land

When some people are plowing up their lawns for planting to food, it may look sinful to leave land uncropped, but we must show our patriotism by using our reason, as well as our muscle. With all land in crops that there is labor to care for, it would be wrong to plant more—even if some of the land upon which wheat has failed must be idle. If possible, such idle land should be prepared early for the next year's crop. The best field of wheat I saw during a recent trip of 400 miles was on land which was summer-tilled. In 1913 the men who planted kafir on summer-tilled land raised good crops of grain.

We suggest that this is not the only year we shall need to produce food. Also, that we should not let the hysterical efforts of recent converts to the dignity of "the food producing job" cause us to cease using the knowledge, skill and reason we possess.—J. E. PAYNE, Oklahoma.

Essentials of a Good Pit Silo

There are certain points that must be kept in mind when constructing a pit silo in order that it may give the best satisfaction when completed. In brief, they are as follows:

The silo must be located in firm, dry and well-drained soil, and therefore is not adapted to humid districts.

The silo must have a curb extending a few inches above ground and a little below the frost line.

The walls should be plastered from three-fourths to one inch thick.

The walls should be washed with a cement coat to make them air- and water-tight.

The walls must be absolutely perpendicular and smooth, so that the silage will settle evenly.

A covering must be provided that will keep out dirt, trash, domestic animals and children, and also provide for a free circulation of air.

If walls become dry before plastering they should be sprinkled lightly. This helps the plaster to stick, and keeps it from drying out too rapidly.

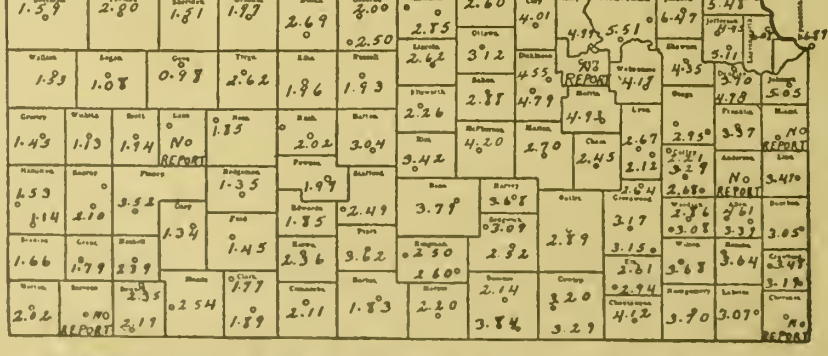
Plan for Next Year's Crop

In view of the shortage of wheat the wheat farmer can make no mistake in planning for maximum production in 1918. It will require no guarantee of a minimum price to insure wheat production being profitable, although we believe the President should be given authority to fix minimum prices in case an unforeseen emergency should arise that would threaten the producer with loss.

Where land is to be fallowed in preparation for wheat, cultivation should begin as soon as the weeds have thoroughly started, or as soon as possible after sorghum planting is out of the way. Only such cultivation should be given there-

Rainfall Over Kansas, for April

Reports furnished by S. D. Flora, Meteorologist, Weather Bureau



MORE rain fell in Kansas this month than in any other month since last June, and almost as much as during the five previous months combined. The monthly amounts were above normal in nearly all parts except some of the western counties and by the end of the month the moisture in the ground was sufficient for present needs in that part of the state.

Crop prospects were greatly improved. Wheat that survived the long winter's drouth greened up, made a fine growth, and stooled out. Pastures, oats, and alfalfa each made a fine growth, and a great deal of early truck and gardens were planted with the ground in excellent shape.

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Remember the late crop of tomatoes, peppers, egg plants, and celery. Plants for this purpose can be raised in a box in the house, or can be grown outside.

after as is necessary to keep down most of the weeds. The surface soil should not be worked into a dust-like condition; it should rather be left rough or cloddy.

Seed Wheat Next Fall

The agricultural production committee of the Kansas Council of Defense points out that there will be no question about obtaining plenty of good seed for every farmer who wants to plant wheat next fall. Some concern has been expressed about the matter in places where the wheat has winter-killed.

The state will produce from fifty to seventy million bushels of wheat this year, it is estimated by the committee. Almost all will be suitable for seed. The wheat now on hand is needed for bread more than for next fall's seeding.

The Federal Department of Agriculture in its May 1 forecast gives Kansas a possible production of forty-two millions bushels, and the United States 366 million bushels. The final estimate of last year's production is given by the government as 481,744,000 bushels, two years ago (1915) 673,947,000 bushels, and the average for 1910-1914, 494,654,000 bushels.

For Best Results

Test your seed.

Prepare a good seed bed for sorghum crops.

Cultivate corn while the weeds are young and easily killed.

Guard against damage to the first cutting of alfalfa through rain.

For summer fallowing, plow land five to eight inches deep.

Maintain a campaign for increasing the planting of garden beans and sweet corn for canning and drying these two standard crops.

The foregoing are suggestions made by the agricultural production committee of the State Council for Defense for keeping up the big Kansas food drive.

Plant Parsnips and Carrots

Parsnips and carrots are used very sparingly by the average family. These vegetables are easily grown and merit a much more extended use. Half a dozen rows af each, 100 feet long, at a cost of 25 cents for parsnip seed and 10 or 15 cents for carrot seed, will make quite an addition to the food supply.

One important feature of parsnips is that they will keep in the ground. Freezing does not hurt them. A supply should be put in the cellar or "pit," to be drawn on when the outside crop is frozen up. The great service of parsnips is as a connecting link in the vegetable succession, for a month or two after the ground thaws. Then they occupy an important place in the menu of the housekeeper who knows their value.

Ground Fence Wires

This is the season of the year when electrical storms are frequent. Often lightning strikes wire fences. We noticed in a daily paper this week that seventeen steers valued at over $100 each were killed by one stroke of lightning on a Saline County farm. When lightning strikes a wire fence the electric current will follow the wires until it shoots off to some near-by object. If horses or cattle are standing near they are likely to be killed. A storm will always drive the stock along until they come to a fence, where they will bunch up and thus make it possible for a number of animals to be killed by an electric bolt striking the fence.

If the fence is properly grounded, however, it will carry the electric current directly into the ground. Ground wires should be placed at intervals of twenty rods. Use a No. 8 or 9 galvanized iron wire. A rod or a small cable is better, but is more expensive. Twist the wire two or three turns around each fence wire, and by means of a crowbar set it in the ground to a depth of four or five feet. In a dry section it is better to sink the wire deeper until it comes into contact with moisture, since a dry earth makes a poor conductor of electricity. Grounding pasture fences in this manner will greatly lessen the danger of losing animals from lightning.

Potato Bugs and Blight

In our issue of April 28 we answered an inquiry relative to protecting potatoes from Colorado potato beetles, but the subject of preventing insect and fungous injury is of sufficient importance to bear repetition.

If the potato beetles are attacking potatoes just as they are coming through the ground, the full grown insects should be picked off by hand. The plants may later be sprayed with four pounds of arsenate of lead pasto or one pound of paris green to fifty gallons of water. In case paris green is used, one pound of freshly slaked lime should be added with every pound of the poison.

If the potato patch is small, good results may be obtained by dusting paris green or powdered arsenate of lead upon the plants by means of a perforated tin can or a cloth bag. A heaping tablespoonful of either of these ingredients should be mixed with one quart of flour or hydrated lime and used while the dew is still on the plants.

The early blight, which is a foliage fungus disease, will become serious if it gets started. Growers should not take a chance on its appearance. This plant disease causes spots on the leaves in the beginning and later the leaves dry up and hang on the plant. Diseased plants will not form tubers. Rainy weather is favorable to this disease.

In order to prevent the occurrence of epidemics of the early blight, Bordeaux mixture sprays of 4:4:50 strength should be used. In order to obtain the best results, sprays should be given at intervals of about a week, beginning when the plants are six inches high. The earlier sprays are very important. Bordeaux sprays should be continued well up to flowering stage.

Bordeaux mixture is copper sulphate, or blue vitrol, lime and water. The 4:4:50 strength means four pounds of the vitrol, four pounds of lime and fifty gallons of water. To prepare it, dissolve the vitrol in half the water to be used, and slake the lime in another vessel and dilute with the balance of the water. Then strain and put the two solutions together and stir thoroughly.

When spraying for the early blight and the Colorado potato beetle, a combination spray of Bordeaux mixture 4:4:50 and three to four pounds of arsenate of lead paste or one pound of paris green to fifty gallons of spray is used. When paris green is used an equal amount of lime should be added.

The flea beetles, which sometimes do considerable damage, may be controlled by the combination spray if the under sides of the leaves are also well sprayed.

Certain potato diseases, such as wilt and blackleg, cannot be controlled by spraying. Growers should tear out suspicious looking plants, otherwise these plants may form tubers which will spread the diseases.

Tomatoes Important Crop

In our issue of May 5 we gave some valuable suggestions on growing tomatoes. As a vigorous grower, a high yielder, and a vegetable which can be completely utilized—both fresh and canned—the tomato is outstanding among its garden neighbors.

It is not too late yet to set out tomato plants. In order to have a uniform supply of fresh tomatoes beginning at the first ripening and lasting until frost, it will be necessary to plant several varieties. The following varieties are suggested, arranged in the order in which they mature their fruit: Earliana, John Bair, Landreth, Chalk's Early Jewel, Bonnie Best, and Trucker's Favorite. Dwarf Champion and Improved Dwarf Stone are good varieties of the tree sort.

Cultivation should begin as soon as the plants are set in the soil and should be continued as long as the vines will permit. Moisture, when deficient, can often be profitably supplied from a near-by pump or hydrant. Care should be taken to stir the soil after each rain.

The yield of tomatoes can often be increased and the picking season lengthened by pruning and staking the vines. They are usually pruned to two or three stems and are then tied to stakes or trellises with soft material which will not bruise the plant.

Two Litters a Year

The cost of pork production can be reduced somewhat by having brood sows farrow two litters a year. From early June to early August many "grass widows," as sows which have produced a spring litter are called, are sent to market. The most economical use of these animals is to make them produce a fall litter. These sows can be bred as soon as they have weaned their spring pigs. Fall pigs are ready for market when there is a scarcity of marketable hogs and when the price is relatively high. They may be fed for spring market or may be finished on summer pasture.

Frequent stirring of the soil during dry weather is essential to gardening success.



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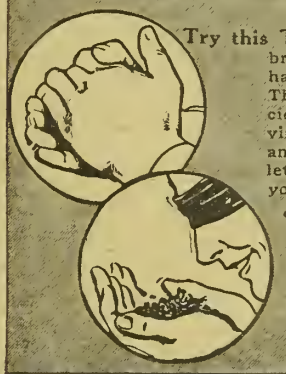

Try this Test: Rub a little Tuxedo briskly in the palm of your hand to bring out its full aroma. Then smell it deep—its delicious, *pure fragrance* will convince you. Try this test with any other tobacco and we will let Tuxedo stand or fall on your judgment—

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5 cent BAGS
10 cent TINS
HALF and FULL POUND GLASS HUMIDORS

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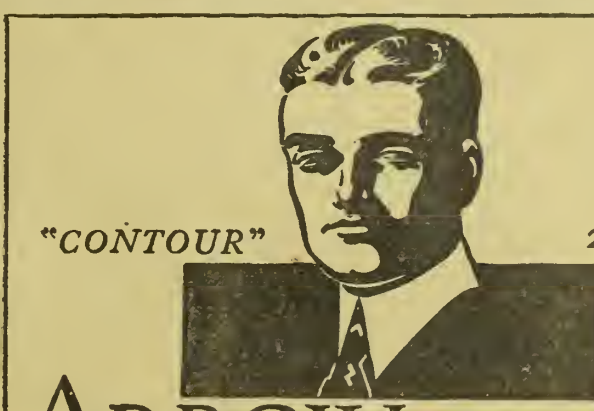

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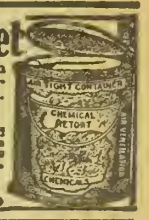

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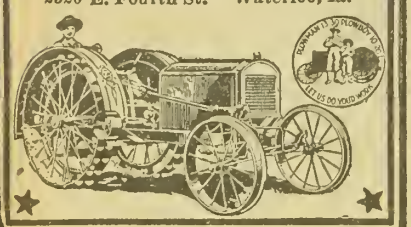



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Spiraled knives give clean shearing cut, requiring least power. 10 lengths of cut (7/16 to 2½ in.). Frictionless self-feed table runs on chilled iron rollers. Speed of blower adjustable to least use of power for any height silo. One lever controls feed rolls and table. Automatic safety device.

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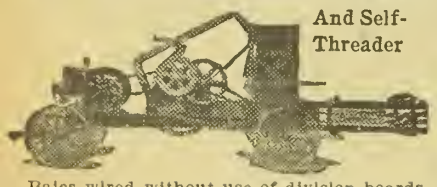

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We have in stock at our various yards quite a quantity of one-piece No. 2 Clear and Better Oregon Fir Silos, which we are closing out, and are in position to name a very low price on sizes we have in stock. If interested, write for particulars. Special prices to clubs ordering in carlots.

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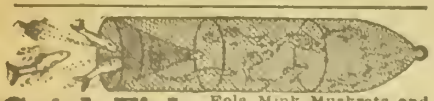

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WHITE HOLLAND TURKEY EGGS FOR HATCHING

From Madison Square Garden, New York, winners. 40c each, $4 per twelve

FRANK J. HICKS, Route 8, Onarga, Illinois



Demand for Better Cattle

PURE-BRED cattle are coming into their own. The world-wide shortage of meat is having its natural effect in stimulating increased production, and those who would get into the game of producing beef seem to realize the necessity for using the best of breeding stock. The scrub is on the run and will continue to decrease in numbers.

B. O. Cowan, who is known to all Shorthorn breeders, recently pointed out that four or five years ago when the price of beef cattle in our markets showed such a rapid and unexpected advance in value, most stockmen began to realize that the announced shortage in cattle was something more than a prediction—it was a stern reality. The price of feed in the country had something to do with the sudden enhancement of values that sent fat steers up to $10 and $11 per hundred, but persons in touch with market conditions and with the cattle industry could plainly see that the question of supply was an important factor.

Live stock journals sounded a warning of depleted farms and abandoned ranges and counselled farmers to breed more cattle. At that time Mr. Cowan contributed an article to farm papers calling attentnon to the fact that while there had been a large increase in the value of steers, both fat and stockers, there had been practically no enhancement in the price of pure-bred Shorthorns, and advising farmers to lay the foundations of herds while these cattle were going at such moderate prices and so be prepared for the brisk trade in cattle that there was good reason to believe was coming. Some took advantage of the opportunity and began breeding Shorthorns and so are now reaping a financial reward, but to many others opportunity knocked in vain and they continued to grow corn and pay high prices for feeders.

The price of pure-bred Shorthorns increased slowly, but hardly kept pace with the increase in the value of steers until during the last eight or ten months. A demand for them so sharp and insistent has sent values up to a level that will give abundant reward and great encouragement to those breeders who were loyal to the breed and who maintained their herds during years when prices were low and profits small. And while it is a hopeful and an encouraging condition of this active buying that among the buyers are many new men, it is one of the anomalies of trade that farmers who refused to buy Shorthorns when they were selling so low a few years ago are now eager to get them at four or five times their values at that time. But in this case, as in some others, it is "better late than never." The purchase of a foundation at that time would have been a very wise investment, but purchases of good cattle made now and handled with intelligence will give a good return to the investor.

The success of raising and selling pure-bred cattle of any breed depends on the quality of stock and on the intelligence and skill of the breeder as a feeder, fitter and salesman, but to the farmer who does not wish to raise pure-breds, there is still strong encouragement to grow steers for the markets, either finished or as feeders.

The prices for steers that have prevailed for five years should encourage farmers to raise them in every community, as they did in the days before the competition of free grass on the western ranges drove cattle from farms in the corn belt.

Sheep Need Dipping

A dipping vat is necessary in the sheep business. The flock should be dipped at least once a year and in case of ticks and scab as often as necessary. This dipping should be done in warm weather. Sheep should always be dipped after shearing. The ticks will leave the old sheep after shearing and go to the lambs. A lamb that is covered with ticks should be dipped.

It is advisable to examine the flock in the fall and if ticks are present the sheep should be dipped again. Dipping not only kills parasites, but tends to improve the general health of the animal, giving a more luxuriant growth of wool.

In dipping the sheep use a large tank so that it is possible to totally immerse each animal in the liquid. Any of the coal tar dips make a good solution. The sulphur dip has also proved satisfactory.

Duroc Association Offers Prize

R. L. Hill, field secretary of the National Duroc-Jersey Record Association, has just written us that the association has decided to offer a cup to the student doing the best judging work on swine at the International Live Stock Show at Chicago. The purpose of making this offer is to promote not only the Duroc-Jersey breed but the hog business generally.

Jersey Breeders to Organize

Plans are under way to organize a Kansas Jersey Breeders' Association. A call has been issued to the breeders of Jerseys in the state and all others interested in this breed to meet in Holton, Kansas, on Decoration Day, May 30. Over forty breeders of Jerseys in the state have joined in sending out this call.

The Holton Business Men's Association will give a banquet in the evening to visiting Jersey breeders. For further information regarding this proposed organization write to R. J. Linscott, Holton, Kansas.

Co-operative Wool Sale

The sheep breeders of Gage County, Nebraska, at a meeting held last winter at Beatrice decided to pool their wool clips this spring and sell together. Also to buy sacks and twine together.

The week of May 28 was chosen as the time when the wool is to be delivered at warehouse in Beatrice. Warehouse receipt will be delivered on receipt of each clip.

Bids to be asked for and sale to be made the following week, actual expenses pro rated and checks for net receipts mailed to each owner.

If enough wool is received to make it worth while an expert grader will be hired to grade all wool before the sale. The expenses for this will be around one-half cent per pound or less.

Wool buyers say that this co-operative selling plan should net the wool producers from one to one and one-half cents and possibly two cents per pound above the prices that they could afford to pay individuals for small lots of wool because of the large saving of time, traveling expenses, hotel bills, etc., by the buyer. The wool grower will have the advantage of competition among buyers as several will be present. That alone should be much better than putting wool into the hands of one buyer and taking whatever he is willing to give.

This wool sale is an illustration of what can be accomplished through organization. Gage County has a farm bureau, its agent being L. B. Rist. He and J. H. Tubbs, director of sheep in the Gage County Breeders' Association, will have charge of the wool sale. The selling expense will be low. The more wool that is received and sold, the less the pro rata expense will be.

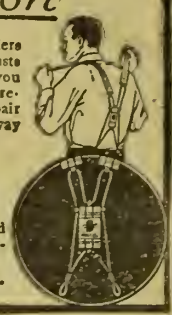
This sale is not limited to Gage County. Any sheep owner is welcome to consign his clip to this sale. It will be handled and sold the same as the rest. Already the managers have partial promises of the clip from the University of Nebraska flock, one clip from Kansas and one from Fillmore County.

Arrangements have been made so that seven-foot sacks can be offered at 70 cents each and jute twine at 15 cents a pound. If the same company buys wool as sells the sacks, they will return the price of the sacks. In figuring the number of sacks needed, allow twenty to twenty-five fleeces per sack and about twenty fleeces per pound of twine. This will be a good place to sell pelts, tags and loose wool.

Consignments and inquiries should be sent to J. H. Tubbs, Beatrice, Nebraska.

Make work easier in hot weather

President Suspenders for comfort



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Look for the *President* buckle and guarantee tag on every pair. Accept no others. All dealers.
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Those who located in Central Kansas 20 years ago are the big farmers today. Their land has made them independent.

Your chance *now* is in the five Southwestern Kansas counties adjacent to the Santa Fe's new line, where good land is still cheap.

With railroad facilities this country is developing fast. Farmers are making good profits on small investments. It is the place today for the man of moderate means.

Wheat, oats, barley, speltz, kaffir and broom corn, milo and feterita grow abundantly in the Southwest counties referred to. Chickens, hogs, dairy cows and beef cattle increase your profits.

You can get 160 acres for $200 to $300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6 per cent—price $10 to $15 an acre.

Write for our book of letters from farmers who are making good there now, also illustrated folder with particulars of our easy-purchase contract. Address

E. T. Cartlidge,
Santa Fe Land Improvement Co.,
1892 Santa Fe Bldg., Topeka, Kansas.

Force new growth into the rose bushes that were partially killed by the severe winter by cutting out all the dead wood and leaving the vigorous shoots.



Preserve Eggs For Winter Use

ONE-HALF of the yearly egg crop is produced in March, April, May and June. More eggs are produced then than are consumed. Egg dealers put this surplus into storage and sell when production is light. Cold storage is the practical commercial way to preserve eggs, but for home use other satisfactory methods can be employed.

There are many methods of preserving eggs for winter use, such as packing in bran or salt, or covering in lime water, but water glass ranks second only to cold storage.

Water glass is known chemically as sodium silicate and can be obtained at any drug store. Mix one gallon of this with nine gallons of water which has been previously boiled. This solution should be placed in some container such as a stone crock or jar. The eggs can then be put in the solution and used when desired.

The containing vessel should be kept in a cool place, preferably an odorless cellar. The vessel should be covered with a board to exclude dirt and trash. The only attention required is that water be added occasionally as evaporation causes the solution to become thick and jelly-like.

Eggs preserved in this manner will be good for use next winter. The preserved eggs do not absorb any undesirable flavors from the water and are excellent for baking or boiling, but are not so good for frying, as the albumen or white of the egg will absorb water from the solution and become watery. If the eggs are to be boiled the shell should be pierced with a needle to prevent bracking.

In selecting eggs too great care cannot be exercised. Only clean, unwashed, fresh, strong-shelled eggs should be used. Infertile eggs are better than those from a flock where male birds are present. If possible the eggs should be stored the day they are laid. If this is impossible, they should be candled and those which show effects of heat, incubation, or which have large air cells, should be discarded. Spring-laid eggs are better in quality and are less likely to be bad than those produced in summer. One gallon of water glass will make enough solution for fifty dozen eggs.

Another method of preserving eggs is to coat them with a commercial egg preservative. Such preparations close the pores of the egg so that air and germs of decay are excluded and evaporation is prevented. Some patience is required to thoroughly coat the egg, but this is repaid by the ease with which the eggs can be handled, as they can be stored in egg cases.

The cost of these preservatives is about one cent a dozen. If such eggs are sold, they must be offered as preserved eggs.

Growing the Cockerels

The cockerels on most general farms are really the by-product of pullet production, and should be finished out for market as rapidly as possible. At the time the pullets are put on free range, the cockerels may be given a mash containing corn meal, wheat bran, shorts, and meat scrap, in equal parts by weight. Sour milk may be fed in addition. The mash and milk should be kept before them constantly, and a grain ration fed in connection with it. The wet mash at noon on very hot days is desirable for the cockerels, just as in the case of the pullets. There should be a constant and plentiful supply of grit and granulated bone or oyster shell.

Cracked Eggs Spoil

Over thirteen million dozen eggs, most of them laid in the spring, spoil in cold storage simply because their shells have been cracked slightly between the hen and the cold room. Just a little more care in handling eggs on the farm, in getting them to the country collector, in packing them properly in cases for shipment, in handling the cases as fragile shipments, will greatly lessen this enormous and important waste of valuable food. The U. S. Department of Agriculture, therefore, urges every one who has anything to do with getting eggs to the storage markets to exercise unusual care this year to prevent them from being even checked. Once an egg shell is cracked, even so slightly that the eye can not see it, germs and molds find ready entrance into the egg and spoil its contents. Nature has provided the egg with a delicate protective gelatinous coating, which as long as it is intact tends to keep out air and germs. Once this coating is pierced, the keeping quality of the egg is lessened immediately. Five per cent of the 2,400,000,000 dozen eggs put in cold storage, the specialists find, spoil because they were checks; that is, eggs so slightly cracked that they could not be detected in quick handling during the spring rush of storing the bulk of eggs for winter use.

Overcoming Egg Shortage

Reports from the largest egg buyer in Kansas show that the egg production is from 20 to 40 per cent lower than it was a year ago, and last year's production was below normal. The government reports 38 per cent less eggs in cold storage on April 1 than at that time last year.

The nation is confronted with a serious shortage of laying hens. We can help out this phase of the food supply problem by hatching more chicks than usual this season.

Because of the high feed prices many sold hens last fall that ordinarily would have been retained for breeding purposes and egg production. The low egg production this spring has been due to the shortage in laying stock and to the failure on the part of poultry raisers to feed their hens adequately.

Give the laying hens more feed. They should have a good feed of grain at night and all the sour milk they can use during the day. Use the cheapest grain feed available, whether corn, kafir, or feterita.

It is too common a practice on the Kansas farms to let the hens shift for themselves during the spring and summer, or, at most, to throw them a little grain. Birds fed in this way seldom give a profitable production the following fall and winter. The most serious shortage will come next November, December and January, unless precautionary measures are taken.

Keep on hatching until the first of July and have an abundance of young chicks to help bolster up the food shortage. Well fed chicks will weigh three pounds in fifteen to seventeen weeks, and this is a profitable time to put them on the market. It gives a larger carcass for food and is just as profitable for the farmer. A three-pound chick will eat eight to ten pounds of feed in addition to what it picks up on the farm. There is money in them even at the high price of feed.

The pullets should be well fed so that they will be ready to lay before cold weather. Caution should be taken not to develop small breeds too early, for pullets laying before September 15 are apt to molt in the fall, and thus lose three months of egg production.—Ross M. Sherwood.

A good yet cheap lice powder can be made by mixing three parts of gasoline with one part of cresol, and gradually stirring in plaster of paris or building cement to take up the moisture. This mixture is dried, after which it is ready to apply thoroughly to the mature fowls.

Prune your flowering shrubs after the blossoming season is over. Pruning causes a vigorous growth and most of next year's flowers will be on this year's growth.

Tells Why Chicks Die

E. J. Reefer, poultry expert, of 4635 Reefer Bldg., Kansas City, Mo., is giving away free a new book which tells of a simple home solution that raises 98 per cent of all chicks hatched and cures white diarrhea over night. All poultry raisers should write for this valuable free book.—[Adv.]

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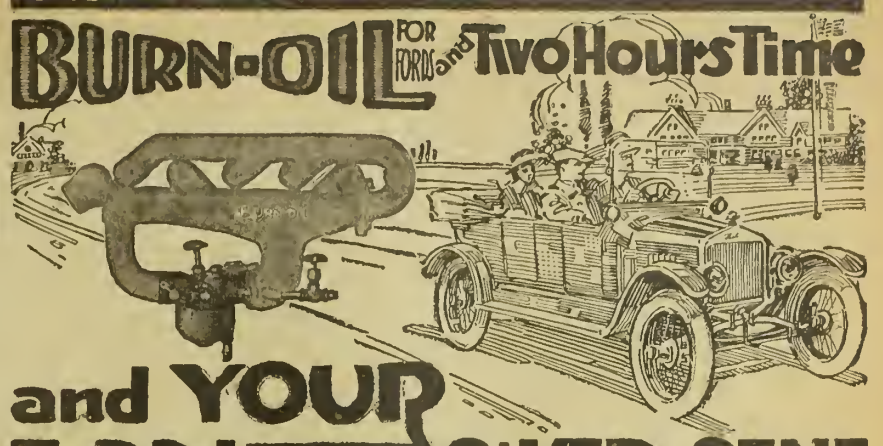

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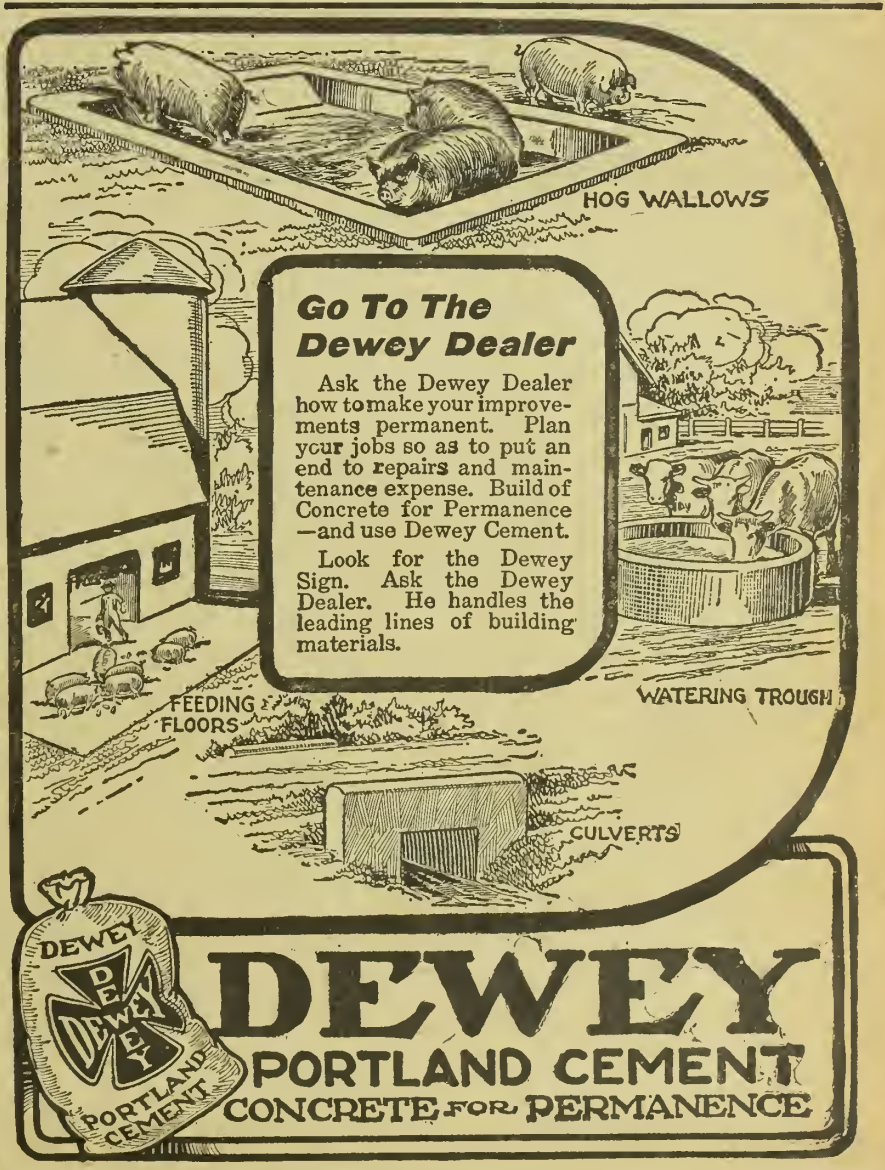

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The Postmaster General has made a ruling which makes it necessary that certain classes of subscriptions may not be carried after expiration. It has always been customary and permissable for the publisher to carry, at his option, subscriptions for a short time after they expire, in order that the subscriber might have an opportunity to renew his subscription and thus prevent his missing any copies of the publication.

The new rule, however, requires that this practice must be stopped.

We feel that you want KANSAS FARMER, because it is strictly a Kansas paper and is striving to help you in your work, and you certainly do not want to miss the good things that this old paper carries each week for the betterment of farm conditions. We do not want to discontinue your paper. We are very anxious to retain every one of our subscribers. In order to do so, we must urge that you send us your renewal subscription at once.

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I enclose $.....for.....subscriptions to KANSAS FARMER for one year each. For this service I am to receive KANSAS FARMER for { 1 year / 3 years } without additional charge.

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We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Just to be good, to keep life pure from degrading elements, to make it constantly helpful in little ways to those who are touched by it, to keep one's spirit sweet and avoid all manner of petty anger and irritability,—that is an idea as noble as it is difficult.—EDWARD HOWARD GRIGGS.

Clothes Moth Time Is Near

When the tiny, yellowish moths are seen flying about the lighted lamp, this should be a warning to the housewife that unless the household woolens are cared for immediately she will quite likely find them moth eaten. The moths seen around the lamp do not eat the woolens—they have no mouth parts. But these little moths are busy laying their eggs and unless these eggs are destroyed there will be a good crop of tiny caterpillars in a few weeks time, and these caterpilars do the damage to the woolens.

There are a number of ways to protect against moth damage so far as the storing part is concerned, but before storing the same treatment is necessary in all cases. If there are eggs on the garment when it is stored, these eggs will hatch and the caterpillars will do their destructive work. Moth balls, cedar shavings, tobacco, or any of the other odors so commonly used in packing away woolens, are merely repellents and any eggs that may be in the garments at the time of storing will hatch and damage will be done the clothing.

As soon as the use of woolens, furs, etc., can be dispensed with in the spring, they should be thoroughly aired and sunned and brushed and beaten before being packed away. The brushing and beating will remove any eggs or young larvae which cannot be seen. After this treatment the woolens or furs can be safely packed away by enclosing in several wrappings of strong paper so sealed that the moths cannot enter to lay their eggs, or in strong paper or muslin bags which can be securely tied to prevent the moths entering. The addition of the moth balls, cedar chips, tobacco, or other repellents to these packages will make them unattractive for the moths and they will lay no eggs among them after being so packed.

Woolen garments that hang in the closet during the summer should be aired, sunned and brushed every two weeks or at least once a month during the summer in order that any eggs that may be laid among them will not remain long enough to hatch.

The safe keeping of woolens during the summer requires care and time, but the assurance that the garments will be whole and ready for use in the fall, is worth all the care and time required.

Baby's Third Year Feeding

At the beginning of the third year the child's diet may be increased by adding more solid food, especially meats and vegetables. Every healthy child of three should have at least one food a day from each of the following five groups:

1. Milk and dishes made chiefly of milk (most important of this group in children's diet); meat, fish, poultry, and eggs.
2. Bread and other cereal foods.
3. Butter and other wholesome fats.
4. Vegetables and fruits.
5. Simple sweets.

The meats should be beef, boiled, broiled, or roasted, lamb chops, the white meat of chicken, or delicate fish. All meat should be free from fat, gristle, or bone and finely minced when given to the child.

Eggs should be very soft boiled, coddled, or poached, or soft scrambled. Fried eggs should never be given to a child, but the grated or mashed yoke of a very hard boiled egg may sometimes be used.

Meat broths made from mutton, beef, or chicken have little nutriment, but if these are thickened with arrowroot or corn starch, and especially if milk is added, they become a valuable food. Well cooked vegetables, strained and added to warm milk, are not only good foods but serve to teach the child to like vegetables.

Cereals should be thoroughly cooked and served with milk or thin cream and a very small amount of sugar or none.

Bread for a child should be at least two days old. Toast, zwieback, or hard crackers may be given once or twice a day.

Baked potatoes moistened with a little butter, thin cream, beef juice, or platter gravy may be given.

Asparagus tips, spinach, stewed celery, squash, string beans, carrots, young peas, well cooked and mashed, or put through a puree seive, are all good for a child. A small portion of one of these vegetables may be a part of the child's dinner each day.

Fruits may be continually used. At this age sweet oranges, baked apples, or stewed prunes are most useful. The juice or mashed pulp of fresh ripe pears or peaches may be given in the third year, but there is much danger in using overripe or green fruit, as well as in giving too much. It is especially necessary to be careful in hot weather when fresh fruit decays rapidly. Bananas should never be given to a young child.

A child under four years of age should never have dried or salted meats, sausage, pork, game, liver, kidney, goose, or duck. Fried and raw vegetables, hot fresh breads, cakes and pastries, salads, candy, syrup, tea, coffee, beer, cider, and soda water are all unsuitable foods for a child.—Children's Bureau, Federal Department of Labor.

Canning Season Is Here

Rhubarb and greens are ready for canning, and every quart of these products that is put away now will sharpen the appetite next winter and will help in keeping the living cost reasonable.

No housewife need say she cannot can according to the new methods because she does not have the necessary equipment. Very few homes there are without wash boilers, and a wash boiler can very easily be converted into a hot-water bath outfit. A reasonably tight-fitting lid and a false bottom make it a hot-water bath outfit. This outfit is so named because the jars or cans are kept partially or wholly submerged in hot water during the process of sterilization. The false bottom is necessary in order to keep the jars from resting on the bottom of the boiler too near the fire. A few pieces of wood laid in the bottom and heavy wire or tin placed on them, will answer very well, or a fitted bottom of perforated galvanized iron can be used. It is necessary for the water to circulate under the jars, so a solid bottom must not be used.

Following are the recipes sent out by Otis E. Hall, state leader of boys' and girls' club work of the Kansas Agricultural College and U. S. Department of Agriculture co-operating.

Wash and clean the fresh stalks. Skin may or may not be removed. Cut stalks into pieces that will pack best in jars so as to leave as little space as possible. Blanch one to two minutes. By blanching is meant the process of boiling. That is, plunge into rapidly boiling water and keep boiling one or two minutes. If boiling is checked too much by the cold rhubarb, do not begin counting time until the water gets back to the boiling point. After blanching, plunge into cold water and pack in glass jars—never use tin cans for rhubarb. Add hot syrup of thickness desired, or hot water, and partially seal. Before beginning the canning make sure that the cans are clean and scalded, also the lids. See that no pieces of rubber from rings used the year before are on either lid or can shoulder. Also be sure there is no rust on the lid if a screw-top can is used. Use good quality rubber ring and place before putting on lid. After filling jar, turn lid slightly—about as much as can be done easily with thumb and little finger. Place jars in boiler and sterilize fifteen minutes. Then with a cloth in each

hand, remove jars as soon as safe to open boiler and turn lids good and tight. Do not set in a draft after removing from boiler.

The fifteen-minute sterilization period means that the jars should be left in the boiler fifteen minutes after the water begins boiling around them.

Spinach, Swiss chard, or mixed greens should be blanched fifteen minutes and sterilized three and one-half hours if packed in pints. Add one level teaspoonful of salt to each quart.

Cavaliers Asked to Mobilize

D. D. Mayne, principal of the school of agriculture, University farm, St. Paul, Minn., has issued a call to the members of the Farm Boy Cavaliers of America to mobilize. He calls upon them for the production of more food and for the prevention of waste in the service of their country. This he urges in keeping with the four principles of the organization—service, thrift, loyalty and honor.

All farm boys in America, furthermore, are called upon to enlist with the farm boy cavaliers in the patriotic service of food production and conservation.

Mr. Mayne says that the completion of one or more of the achievement projects of the order will not only advance the farm boy in the organization, but will help him to do his bit for his country and humanity.

The Farm Boy Cavaliers is an organization similar to the Boy Scouts, but planned especially to fit the activities of the boy on the farm. We have one troop in Kansas. It was organized by Paul Studdard, of Leavenworth, who is also a member of the Kansas Farmer Dairy Club. Paul will gladly write to other boys in the state who may be interested in the organization of a troop of cavaliers.

Order glass jars early, is the advice of the Council of Defense to every family. The preservation of fruits and vegetables this summer will be a big item in Kansas' war work, and offers opportunities to every household in the state to be of service to the nation.

Promises unkept cause disappointment and a loss of faith in people. Especially is this true if the promises have been made to children. Recently there has come to our notice the disappointment of a boy and several of his classmates because of an unkept promise made them by their school teacher. While these boys may still respect their teacher, undoubtedly much of his influence with them has been lost through this unkept promise.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8069—Girls' Dress: Cut in sizes 6 to 12 years. For a junior, this dress design is in very good taste. Many buttons, braid and fringe add to the splendor of the frock, which has a waist on the plainest lines, set off with a collar of contrasting goods and outlined with fringe. The sleeves may be long or short. **No. 8068—Ladies' Shirtwaist:** Cut in sizes 36 to 42 inches bust measure. It adds to the fascination of this blouse to have the fronts extended in tab effect and crossed just below the line of the bust. The sleeves are easily full and gathered into cuffs that are trimmed to match the collar and revers in opposing color. **No. 8078—Girls' Dress:** Cut in sizes 6 to 12 years. The strong tendency for original effects in girls' dresses shows in this one, with a box plait down the center front and three tucks either side of the plait, in the waist body. The skirt is a full plaited model, joined to the side edges of the fronts. **No. 8070—Ladies' Dress:** Cut in sizes 36 to 44 inches bust measure. This one-piece frock lays claim to having the newest style features because of the marked simplicity, grace and straightness of line. For smartness the collar deserves the better half of credit that is shared by the pointed girdle which draws in the fullness at normal waistline without any fitted effect. **No. 8064—Ladies' Skirt:** Cut in sizes 24 to 32 inches waist measure. On simple lines but with a distinguished air, this skirt is cut in two gores that are gathered at the top and gracefully draped from yokes that are mounted on a raised waistline. **No. 8090—Ladies' House Dress:** Cut in sizes 36, 40 and 44 inches bust measure. The collar that marks the style of the hour found its way to this practical house dress. Another notable feature is that the garment is cut in one piece, with the fullness neatly gathered on an elastic at the waistline. A pocket is added either side of the skirt for convenience.

Classified Advertising

Advertising **"bargain counter."** Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks,** for bona fide seekers of employment on farms.

HELP WANTED.

FARMERS WANTED—$75 MONTH, MEN and women. U. S. Government jobs. War means hundreds vacancies. Common sense education sufficient. Write immediately for list positions obtainable. Franklin Institute, Dept. C-82, Rochester, New York.

REAL ESTATE.

WANTED—TO HEAR FROM OWNER OF good farm for sale. State cash price and description. D. F. Bush, Minneapolis, Minn.

IF YOU WANT TO SELL OR EXCHANGE your property, write me. John J. Black, Desk C, Chippewa Falls, Wisconsin.

FOR SALE—A FEW GOOD FARMS AND Western Kansas wheat land. Rogers Land Co., 528 East Douglas, Wichita, Kansas.

FOR SALE — RANCH 1,280 ACRES, 300 cows, 2,000 acres leased land will go with place. Buy of owner. S. C. Reveley, Centerville, New Mexico.

FARM AND PROPERTY WANTED EVerywhere. If you want to sell, try me. One per cent commission after sale. If you want to buy, get my Farm Journal. Hahr's Farm Agency, 800 Broad St., Newark, N. J.

ATTENTION, FARMERS! 300 RICH, choice Eastern Oklahoma and North Louisiana farms for sale and rent on easy terms. We have already located hundreds of families who have made good. Best opportunity ever offered to farmers to get homes of their own from the owner. Write James P. Allen, Claremore, Oklahoma.

HORSES AND MULES.

FOR SALE — BAY SHETLAND PONY, weight 500 pounds; buggy, harness, $75.00. John Seybold, 114 E. Eighth, Topeka.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

BUSINESS CHANCES

UNCLE SAM OIL COMPANY PAYS $40,000.00 cash dividend June 12. Stock purchased now participates. Price, $10.00 per thousand shares. A. L. Burton, 401 E. Douglas, Wichita, Kansas.

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

THE STRAY LIST.

TAKEN UP—BY S. L. WALTER, OF Cedar Township, Smith County, Kansas, on April 10, 1917, one cow, color red, about 4 years old, no horns, thin in flesh, no brands. J. F. Bennett, County Clerk.

TAKEN UP—BY ROY WEHLGEHAGEN, of Dudley Township, Haskell County, Kansas, on April 28, 1917, one stray horse, color black, age two years. Branded with an open A. And the said Roy Wehlgehagen, the taker-up, resides in Dudley Township, said county. His post office address is Satanta, Haskell County, Kansas. A. R. Henage, County Clerk.

DOGS.

SCOTCH COLLIE PUPS FOR SALE. BOX 111, Inman, Kansas.

COLLIE PUPS FROM GENUINE STOCK dogs that drive from the heel. E. L. Doian, Route 2, Platte City, Missouri.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

LUMBER.

LUMBER, MILLWORK, FENCE POSTS—Wholesale mill prices. Send carpenter's list for freight prepaid estimate. Keystone Lumber Company, Tacoma, Washington.

WANTED

WANTED — REGISTERED PERCHERON mare. Give details, description, price. Fred Perkins, Oswego, Kansas.

THRESHING MACHINES.

FOR SALE—AN AVERY GAS THRESHing and plow outfit. Address J. E. Wallace, Route 4, Abilene, Kansas.

TRACTORS.

FOR SALE CHEAP—ONE HART-PARR tractor with plows and one two-ton Reo truck. Stucky Bros., Moundridge, Kan.

FARM SIGNS

PAINT YOUR OWN FARM SIGNS. EASY with our patterns and instructions. Send for copyrighted booklet entitled "Naming the Farm" containing 200 suitable names and sample pattern and introductory offer. C-N Sign Co., Box 15, Jackson, Minnesota.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

HOLSTEIN CALVES FROM TESTED dams. Blue Label Stock Farm, Route 5, Whitewater, Wisconsin.

CALVES — HOLSTEINS, SHORTHORNS and Guernseys. A few specially fine ones, $12.50 to $25. For catalog write Ed Howey, South St. Paul, Minn.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $23 apiece. Frank M. Hawes, Whitewater, Wis.

HOLSTEIN CALVES — TEN HEIFERS and two bulls 15-16ths pure, 4 to 6 weeks old, $18 each, crated for shipment. Also one pure-bred heifer, three months old, $75. These calves are nicely marked. Four Way Farm, Whitewater, Wis.

HOLSTEIN BULL FOR SALE, TWO years old; weight, 1,600 pounds. The total milk of dam for the last five months is 8,054.1 pounds, testing 4 per cent. Must sell, having only a small herd and the offspring are all heifers. No bad habits. Jay B. Bennett, Holton, Kansas.

FOR SALE — VERY CHOICE HIGHgrade Holstein calves, either sex, three to six weeks old, at $17 per head. Or if you want dairy cattle any age, I will buy them on a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

HOGS.

DUROC BOAR PIGS—FARMERS PRICES. Best of breeding. Chester McWilson, Rice, Kansas.

TREES, SEEDS AND PLANTS.

BROOMCORN—DWARF, $2.50 PER BU. Leu Sanders, Atlanta, Kansas.

FOR SALE — SWEET POTATO SLIPS. 100, 30c; 1,000, $2.25, delivered. W. D. Hayman, Stillwater, Okla.

ALFALFA SEED FROM NORTHWEST Kansas, 95% pure, good germination, $5.50 per bushel. Geo. Bowman, Logan, Kansas.

WE SAVE YOU MONEY ON ALL FORage crops, seeds and seed corn. Write at once for samples and prices. Watson Bros., Seed Merchants, Milan, Missouri.

CABBAGE AND TOMATO PLANTS: Offer fine large plants and quick shipment. Our plants are growing in 3,000 towns. Tomato for canning offer Greater Baltimore and Red Rock, the variety used by Van Camp, Rider and all the Giant Canners, also Chalk's Jewel, Matchless, New Stone, Favorite, Paragon and Dwarf Champion Tree varieties. 100, 40c; 200, 70c; 500, $1.25; 1,000, $2, prepaid. Cabbage plants: Surehead, Charleston, Jersey, Winningstadt, Copenhagen, Flatdutch, Allseasons, 100, 40c; 200, 65c; 500, $1; 1,000, $1.50, prepaid. We can ship quick. Cabbage bringing $200 ton. No order too large. None too small. Ozark Seed & Plant Co., Nashville, Arkansas.

Real Estate For Sale

360 ACRES CREEK BOTTOM FARM
160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; $5,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only $45 per acre.
M. T. SPONG - - FREDONIA, KAN.

Eastern Kansas Bargain

200 Acres, all first class land, no stone, highly improved, fine location. Must sell at once. Low price, easy terms. Send for full information. Address Owner,
LOCK BOX 367 - - IOLA, KANSAS

Creek Bottom Farm 160 Acres, 5 miles town; 20 acres good alfalfa, timber, on fine road; near school; good buildings. $55 per acre. Write for list.
T. B. GODSEY - - - EMPORIA, KANSAS

200 ACRES, 1 mile city, this county, 1,000, splendid fence and water. 20 acres cult., fair imp.; 30 acres more tillable; bal. pasture. $11 per acre. Terms.
SOUTHERN REALTY CO., McAlester, Okla.

320 IN JUDITH BASIN
A snap at $4,000. **Box 440, Roy, Montana**

Kill the worms and insects that infest the leaves by using a mixture of powdered arsenate of lead and air-slaked lime, half and half. Dust over the plants through a cheesecloth bag in the morning when the dew is on.

V. E. Lawrence, of Salisbury, Missouri, is one of the live boosters in that state for pure-bred stock. His specialty is Aberdeen-Angus cattle and he owns one of Missouri's good herds of that popular and profitable breed of beef cattle. His herd was established thirteen years ago with carefully selected foundation stock from the best herds in the country, and since that time Mr. Lawrence has made it a rule to use only the best sires in his herd, and by careful mating he has succeeded in building up a herd of the low-down, blocky, easy-feeding type. The best families of the breed are represented in his herd and a feature at this time is the fine lot of heifers of breeding age.

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

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CLAIM SALE DATES.

Jerseys.
May 31—R. J. Linscott, Holton, Kansas.
June 26—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.

Double Standard Polled Durhams.
June 8—Ed Stegelin, Straight Creek, Kan.

Poland Chinas.
Aug. 15—H. L. Faulkner, Jamesport, Mo.
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.

E. S. Engle & Son, of Abilene, Kansas, owners of one of the great producing Holstein herds in Kansas, report their herd making a fine record again this year. Engle & Son have succeeded in building up a herd of producers. They have the record breeding that insures profitable Holsteins.

R. T. Kreipe has announced a closing out sale of Shetland ponies to be held May 24. On that date he will close out his entire herd of Shetland ponies at public auction.

Segrist & Stephenson, of Holton, Kansas, owners of one of the heavy producing herds of Holsteins in the West, report their herd making a splendid record again this year. Their herd now consists of thirty females, all of record breeding. They have a herd of consistent producers that have repeatedly held state records in the various classes.

M. E. Peck & Son, Salina, Kansas, are making a great success with the combination of Holstein cattle, Hampshire hogs and alfalfa on their 200-acre river bottom farm near Salina. They have a class of cattle that are real dairy cows. They are supplying a number of cows to members of the Kansas Farmer Dairy Club. A feature of the herd at this time is fifty head of large well-grown-out two-year-old heifers that will freshen in late summer and fall.

The indications are that the dispersion sale of R. J. Linscott's famous Register of Merit Jersey herd to be held at Holton, Kansas, May 31, will be one of the big sale events of the year. Jersey breeders throughout the country are manifesting great interest in this sale on account of the very desirable lot of Jerseys that will be offered. While Mr. Linscott's decision to disperse this great herd is to be regretted, it is to be hoped that at least a big per cent of the herd will remain in Kansas.

E. D. King, of Burlington, Kansas, reports his Berkshires doing well. Mr. King is one of the successful Berkshire breeders in the West and for years his herd has been noted for high class breeding and quality. A feature of the herd at this time is the choice lot of young stock, including an extra lot of fall boars.

A. S. Alexander, of Burlington, Kansas, reports his herd of old original big-boned Spotted Polands doing fine. Mr. Alexander succeeded in saving a fine lot of spring pigs this year that are growing out fine. They are by some of the best boars of the spotted breed and the sows in his herd are noted for their size and quality.

Redman & Son, of Tipton, Missouri, owners of one of Missouri's choice Jersey herds, report their milking herd making a fine record this year. They have a very fine lot of young stock in the herd at this time, mostly of Golden Jolly and Noble of Oaklands breeding.

John Linn & Son, of Manhattan, Kansas, owners of one of the good herds of pure-bred Ayrshire cattle in this state, report their herd making a good record this year. Theirs was the first privately-owned Ayrshire herd in this state to begin the A. R. test, and the records made by this herd in the past show them to be consistent and highly profitable producers. They have a line of Ayrshire breeding that insures profits and a feature of their herd at this time is the choice lot of young stock, including a number of bulls out of heavy producing dams.

The forty-ninth annual meeting of the American Jersey Cattle Club, held at the Waldorf-Astoria on Wednesday, May 3, at which every state but one was represented, disclosed that the year just ended has been the most successful in the history of the club. The secretary's report showed the finances of the club to be in excellent condition, and also showed a substantial increase in the amount of business transacted. During the year 36,117 Jerseys were entered in the herd register and there were 34,499 transfers recorded, indicating an increase of 17 per cent over the year before in the sale of Jerseys, which is the largest increase in transfers that has been recorded for over twelve years. Eighty-four new members were admitted to the club during the year, bringing the total membership up to 649 as against 592 the year previous. There are now one hundred applications for membership pending, and it is expected that the club membership will soon be over 700. A report on extension work brought out the fact that Jersey breeders are boosting the breed and its products more energetically than they have ever done before, and that great results have been attained by the breeders in their respective localities in stimulating interest in the breed. Field workers attended over 500 meetings in the interest of the breed, and have been instrumental in organizing many state and local associations. It is planned to carry on this work more vigorously during the coming year. M. D. Munn, of St. Paul, Minnesota, was unanimously re-elected president of the American Jersey Cattle Club; Ed Cary, of Carlton, Oregon, F. J. Bannister of Kansas City, Mo., W. Gettys of Athens, Tenn., and George Batten of New Jersey, were elected members of the board of directors for a term of three years. At a meeting of the board of directors following the annual meeting, F. W. Sessions of Utica, New York, was elected vice-president. R. M. Gow was reappointed secretary.

C. W. Taylor, the well known Shorthorn breeder of Abilene, Kansas, owns 1,800 acres of valuable farm and pasture land. Mr. Taylor has 800 acres of wheat that looks as though it would yield thirty to thirty-five bushels per acre. Last year he raised corn that made a yield of seventy-five bushels. Three cuttings of alfalfa averaged two and one-half tons per acre for each cutting. His pastures are about the best in the country, and a large amount of the credit for the richness of the soil on this farm is due to othe fact that for thirty years a large herd of Shorthorn cattle has been kept on the farm and all the waste and manure has been carefully hauled back on the land. The farm is kept new and the land is always productive, and the live stock end of the business is one of the most profitable. About 100 head of both Scotch and Scotch-topped Shorthorns are now on the farm, some of them from the most noted families of milking Shorthorns that have been bred both for beef and milk records. A feature of the herd at this time is twenty-five young stock bulls from ten to eighteen months old. All of them are of the type that improves herds.

V. O. Johnson, cashier of the Aulne State Bank, president of the Marion County Hereford Breeders' Association, and proprietor of the Fashionable Stock Place, is one of the live boosters for registered live stock. Mr. Johnson purchased a number of Hereford cows from the famous herd of R. H. Hazlett at El Dorado, Kansas, and they are bred to the champion bull, Bocaldo 6th. Mr. Johnson has at the head of his herd Beau Baltimore 3d, also purchased from the Hazlett farm. Of late Mr. Johnson has had a great demand for dairy stock and to meet the demand Mr. Johnson purchased from the Helendale Farm, at Milwaukee, Wisconsin, a number of pure-bred Holstein cows and the great breeding bull, Walker Korndyke DeKol. From these matings he is developing a splendid herd of Holstein cattle. He also has ono of the good herds of Poland Chinas. The herd sows purchased to found this herd were premium winners such as Sankist, Vanity, Big Defender, Josie Jumbo and Big Maid, headed by four great breeding big-type boars, Johnson's Big Fashion, Fashionable Price, Chunck's Fashion and Big Wonder. While Mr. Johnson is interested in the banking business, a large part of his time is devoted to promoting the live stock interests of his community. A feature of the Poland China herd at this time is eighty-five fine spring pigs that are coming along in good condition.

Park E. Salter, of Wichita, Kansas, is importing to Kansas a number of high-class Shorthorn cattle. The herd now numbers more than 200 head and is headed by three of as good bulls as will be found on any breeding farm. Two are imported—Bapton Corporal and Newton Friar—and Rosewood Dale is a home-bred bull of the great Avondale. Mr. Salter is building a valuable herd and improving and stocking his farm with a class of cattle that will do a lot of good to the breeders of our state. Bapton Corporal is probably one of the best imported bulls that has ever come across the water and Kansas should feel honored to have in our state such a valuable bull, sired by Hoar First and bred by the famous breeder, J. D. Willis, of Wiltshire, England. Mr. Willis had selected this bull to use in his herd, but was finally persuaded to sell him at a long price to come to America. His dam was one of the best cows in Mr Willis' herd and there is probably not a better two-year-old bull or one with a better pedigree in America. Mr. Salter has on hand fifty imported Canada cows and is planning on holding a sale at Wichita on November 9, and will offer a draft of cows and heifers bred to his three herd bulls.

CLOSING OUT SALE OF
SHETLAND PONIES
MAY 24th, 10 A. M.
WRITE FOR CIRCULAR.
R. T. KRIEPE
310 East Fourth St. TOPEKA, KANSAS

RELIABLE POULTRY BREEDERS

WYANDOTTES.

WHITE WYANDOTTES — EGGS FROM choice stock, $1.80, thirty; $5, hundred. Mrs. Will Beightel, Holton, Kansas.

WHITE WYANDOTTE EGGS — STOCK from (Fishel World Best Direct) $2.50 for 48, prepaid. S. Peltier, Concordia, Kansas.

CHOICE ROSE COMB SILVER WYANdotte eggs, $1 for 15; $5 for 100. Mrs. Phillip Schuppert, Arrington, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $6. Mrs. Edwin Shuff, Plevna, Kan.

EGGS — SILVER LACED WYANDOTTE. Fifteen, $1; hundred, $5. Chicks, 10c each. Lawrence Blythe, White City, Kansas.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuis, Fredonia, Kansas.

IF YOU WANT THE BEST SILVER Wyandottes, Barred Rocks or White Crested Black Polish breeding stock or eggs, write to William Neiers, Box T, Cascade, Iowa.

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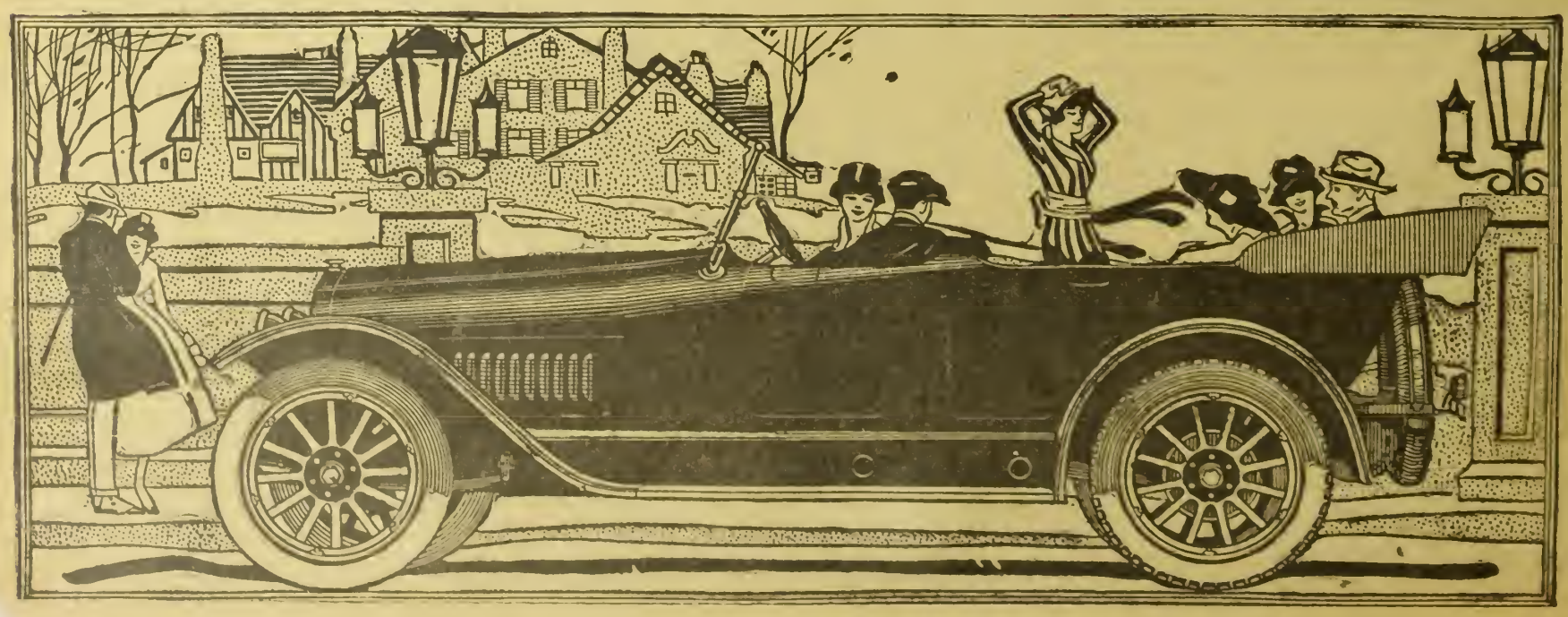


KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 21. TOPEKA, KANSAS, MAY 26, 1917. Established 1863. $1 a Year

INCREASE MEAT PRODUCTION

Diversified Farming is a Winner and the World is Waiting to Buy Your Product

IT WOULD be a national calamity to have any further reduction take place in our meat-producing animals. The whole world is hungry for meat, and the meat-producing animals are absolutely essential in converting into human food large quantities of low grade feed material. Bread is called the staff of life, but to be deprived of meat is a serious handicap in the proper nourishment of mankind. Our most virile races have ever been consumers of meat and meat products.

Because of various conditions in recent months, prices have been unusually high, but, as Prof. W. A. Cochel recently pointed out, war conditions have influenced the price of meat and meat products less than any other foodstuffs which come to our tables. Producers are wondering whether these high prices are to continue for any considerable period. In discussing the food situation as related to meat production, before the food conference, Professor Cochel pointed out that in spite of the high prices prevailing, a large proportion of our people, due to profitable employment, are able to pay the price.

This has undoubtedly worked a hardship upon those whose incomes have not increased proportionately with the advance in food costs. We can look for little or no decrease in prices so long as industrial conditions remain in their present healthy condition. Statistics show that the number of animals slaughtered during the past twelve months has been greater than in the corresponding period three years ago and the domestic supply has been augmented by an almost total absence of export business. Hence the price is not due to smaller supplies but to greater demand.

"Although these facts are self-evident," said Professor Cochel, "yet our production is decidedly less than conditions warrant. Among the many causes leading to the present condition are the continual agitations against the so-called 'meat trusts' and 'packer combines,' recommendations of 'doctors' who are unable to diagnose symptoms, that their 'patients' discontinue the use of meats, violent fluctuations in the market price of meat-making animals, and the decrease in surplus of grain and forage usually used in the preparation of animals for market. All of these factors have caused the farmer to decrease meat-making operations for fear they would be unprofitable."

Professor Cochel pointed out that the production of pork, mutton and beef is limited by the production of grain, roughage and pastures. While it is generally assumed that live stock is essential to the maintenance of soil fertility, little emphasis has been placed on the fact that good farming, resulting in large yields of crops, is essential to the economic and extensive production of meat.

Methods may be materially improved by the use of more efficient animals. The rapid increase in the use of purebred sires indicates that this advantage is being made use of by farmers and ranchmen. Better methods of management are recommended which will permit each animal to make an increase in weight every day of its life instead of frequently failing to gain or actually losing weight during the winter or in seasons when protracted drought has caused pastures to fail.

Theorists have recommended that the beef supply could be materially increased by the prevention of the slaughter of young animals. Students who have taken into consideration all of the influences of age on cost and amount of production, agree that a greater supply of beef could be secured more readily from the available feed supplies by increasing the number of breeding females and finishing the product at from fifteen to twenty months of age rather than by permitting steers to obtain an age of from thirty-six to forty-eight months before being marketed.

A further increase in the meat supply could be secured by utilizing more fully the by-products of grain farming, such as corn stalks and straw, rather than allowing them to go to waste, or by burning, as is frequently practiced in the corn and wheat belts of the country.

Professor Cochel further called attention to the fact that animal diseases greatly reduce the available supply of meat-producing animals. The ravages of hog cholera, blackleg in calves, and stomach worms in lambs, are stupendous. Fortunately, recent investigations by experiment stations have enabled the farmer who is willing to make use of scientific knowledge to control these diseases. It is not generally realized that contagious abortion is responsible for an annual decrease of approximately 10 per cent in the calf crop in Kansas and adjoining states. There are no preventive or curative measures as yet discovered by which this disease can be controlled. Other minor ailments further decrease the number of animals available for slaughter which proper sanitary measures would prevent.

Increased meat production is coming as a result of improvements in methods of breeding, feeding and managing our meat-making animals.

"The greatest future increase," said Professor Cochel, "will follow an improvement in the pastures, an increase in feed supplies, such as corn, kafir, silage, alfalfa, and other roughages, the utilization of the by-products of grain production, and the use of more efficient animals.

"The greatest possible incentive for increase in live stock production is now being applied, that is, a reasonable assurance of financial profit to the farmer who has invested his capital in live stock to convert his farm-grown feeds into meat."

"Better stick to the old cow—she will pull you through," says J. C. Hopper, of Ness County. Mr. Hopper is a firm believer in diversified farming and live stock production for the western part of our state. In a recent letter he states that the continued lack of rain is a reminder to those who live west of the ninety-eighth meridian that it has not forgotten to get dry. Not since wheat was sown last fall has there been sufficient moisture to bring it in sight in many sections of the so-called wheat belt. Just when many were getting ready to turn their backs on the cow, something happens to remind us of her importance in food production.



BREEDING COWS ON J. C. HOPPER'S RANCH, NESS COUNTY.—GREAT OPPORTUNITIES FOR CATTLE PRODUCTION IN LAND OF THE GRAIN SORGHUMS

The cow will thrive and fatten on the short buffalo grass, even when it is dry enough to burn. She will eat almost any kind of rough feed and only asks that there be plenty of it. Common cane or the new-fangled white and black varieties all look alike to her and she does not object to such drouth-resisting crops as Sudan, or if nothing else offers will consume the lamb's quarter, which grows rain or shine, or the Russian thistles if they are properly stored for her use.

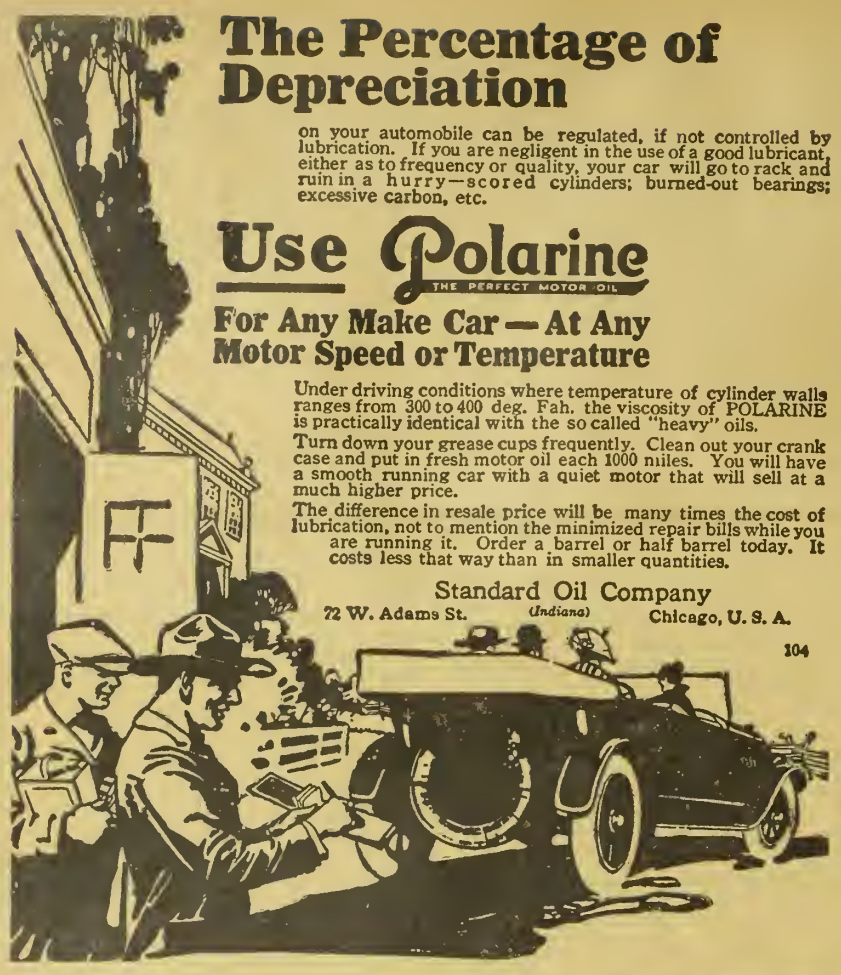
"Quality in cattle is becoming more evident on our western farms. We have passed up the longhorn and the streaked and striped. Jacob would have a poor chance with his father-in-law on the plains of Western Kansas. Here you will find the cattle becoming more and more uniform in appearance. Good blood counts and no people know it so well as those who live in the West. Good blood plus feed is developing on the plains that which the states of Ohio, Indiana, Illinois and Kentucky thought could only be produced within their borders. Western Kansas breeders are even getting into line to produce herd headers. The theory that large-boned, well-developed cattle can only be grown in the East is being exploded. A well balanced ration which can be supplied together with the open range is enabling us to produce beef at a much less cost than that for which it can be produced in the East.

"A remarkable change has taken place in the cattle business in Western Kansas during the past dozen years. There was a time when cattlemen who were not handling registered herds cared little whether their males were pure-bred or mongrels. The herds contained grades of all colors, types and sizes. Now we find the herds uniform in appearance and all of the same color and breed and headed with registered males. This is working a wonderful reformation in the beef-making business in this section.

"There has never been a period when the cattle business was more promising than it is at the present time. The cow is absolutely essential, both on the farm and on the ranch. It will take years to catch up with the world's shortage of meat. Young men seeking opportunities cannot do better than to take up the business of growing cattle.

"The plains of Western Kansas contain much undeveloped land that is waiting for young men with energy and pluck and a determination to win. There are great opportunities for those who will work out systems of diversified farming which will include the handling of cattle as an important feature of the business. This type of farming is sure to win and the world is waiting to buy your product."

The cut on this page illustrates a scene on Mr. Hopper's ranch in Ness County.



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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

IT IS entirely possible that the winning of the great war may yet hinge upon the ability of the American farmer to greatly increase crop production. We must not only feed our own people at home, but our non-productive armies in the field and at the same time provide an enormous surplus to sustain our allies.

In this emergency the farm tractor somes like a godsend to the nation. The successful development of the tractor seems to have been providentially timed to meet the crying need for more help and more power on the farm. The American tractor may yet win this war —not alone as armored tanks crawling across shell craters, cutting through barbed wire entanglements and dealing deadly broadsides at the enemy, but here on our American farms turning two or three furrows where only one was turned before, cultivating two acres where only one was cultivated before, and harvesting the yield of the fields on time and with a great saving of hand labor.

We should recognize the possibilities and efficiency of the improved tractors of today. Don't make the mistake of disparaging all tractors because some have failed to do what was expected of them — don't judge the light, one-man, all-purpose tractors of today with the clumsy, heavy, pioneer machines that were adapted only to long stretches of level acres in the northwest grain belt.

The tractor of today is a proven success on thousands of farms. There is not alone one type, but several—all of which have their advantages—all of which do good work and some one of which is exactly suited to your needs. For example, if you work a farm of only eighty acres you will find a type that will do all your farm work without horses. A tractor that is light, easy to handle, economical to operate, and low in first cost.

Write for different tractor catalogs. Study the maker's claims for each. Note the advantages each would have when applied to your own farm problems. But our recommendation to every farmer is to investigate farm tractors—now. War or no war—power farming is here to stay and the most successful farmer of the future will be the one who like the successful manufacturer installs the latest and most efficient machinery. And the most vital of all machines in these days of scarcity of hired help is the farm tractor.

The Spark Plug of Today

"Good ignition is a source of much satisfaction to the owner of a motor car," observes Chester S. Ricker, M. E., in the May number of American Motorist. "I often feel that good ignition is less appreciated by the average car user of late years than it is by the pioneer motorist. When you stop to consider the many miles that you have run without replacing a broken spark plug or even cleaning the plugs in use, you first begin to realize how reliable the little things have become.

"I can well remember how in the early days of my automobile experience I always carried a whole set of spark plugs along, and never thought aught of it if I had to change a couple of plugs in a fifty-mile run. We always carried extra porcelains in those days, and few were the motorists who could not take a plug apart and replace the broken part. . . . At that time it was a question whether jump spark with battery ignition or make-and-break ignition was the most desirable.

"Ten years have rolled around since then, and today the jump spark is universal. This was only brought about by the development of the spark plug which was reliable. Nowadays almost any plug will give better results than the most expensive ones did in the past. Furthermore, the plug of today costs only about one-quarter as much as did those of yesterday. Today you can purchase a good plug at prices ranging from 75 cents to $1.25. Some of the best plugs, however, run into much more money, and a charge of $5 for a high-grade plug, such as is used in aeroplane and racing motors, is not considered exorbitant."

Essentials of Tractor

There are so many tractors now on the market that the would-be purchaser is often puzzled in selecting the proper outfit to suit his conditions. There are many requirements necessary to meet all the conditions of power farming, but it is pointed out in a recent issue of Gas Engine that a successful tractor engine must have certain qualifications regardless of its type.

"It must be so constructed that it can develop its maximum horsepower without self destruction. The element of limited overload must be eliminated because it cannot be controlled. It must travel and operate without undue loss of time and must do a season's work with ordinary care and without the services of an expert. It must develop its rate of power economically and operate successfully with the kinds of fuel common in the locality where it is used."

"The Modern Gas Tractor" is the title of a new book prepared by Victor W. Page, who is also author of "The Modern Gasoline Automobile." It describes all types and sizes of gasoline, kerosene and oil tractors. Design and construction are treated exhaustively and complete instructions are furnished for the care, operation and repair of tractors, as well as practical suggestions regarding their use on the road and in the field. It is the latest work out on farm tractors and tractor power plants and is a most valuable book for the tractor owner. It is published by the Norman W. Henley Company, New York, and sells for two dollars.



TRACTOR AT WORK IN FRANCE.—SHORTAGE OF HORSES MAKES USE OF THIS KIND OF POWER INCREASINGLY NECESSARY

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HELP, NOT ADVICE, NEEDED

We do not wonder that farmers are becoming somewhat annoyed at the continual bombardment of advice coming from every quarter. It is refreshing in wading through the mass of material sent out by corporations and business concerns of various kinds to find occasionally a concern that has a writer who realizes the farmer's position and knows how fully he is shouldering his burdens in helping the nation to win victory in the great war. We refer to a circular from the American Steel and Wire Company, which reads as follows:

"The subject of most importance this week is the attitude of the farmer. What is he going to do? One thing is sure, he is going to do as much as any other man, as his record from Lexington to Santiago has shown.

"The farmer stands on the threshold of his new year, and it is a momentous year for him, and his success. All eyes are on him and he is receiving advice from every line of life. If you have had a lot to do with waking him, you say he is awake; if not, you say he is not awake.

"The farmer is just a human being; he is contemplating affairs as others do—perhaps with little more intelligence—and he is going to solve his problems from personal consideration just as others do, despite loud talk to the contrary. Don't apply special rules to understand his motives.

"An analysis of the farmer mind at the moment will be helpful to all. He must be amused at the sudden deep solicitation of the banker for his welfare, for he remembers the interest and renewal commissions he has paid this man.

"Looking backward he sees 1893 when he sold his corn for 16 cents or burned it in the kitchen stove. The hogs went for a pittance.

"Rightly or wrongly he suspects, or believes, he has no part in naming the prices for his produce. Speakers and newspaper headline writers have made him believe the 'board of trade' has priced his grain, the 'packers' priced his live stock, and the 'Elgin board' his butter fat, the free-lance speculator his eggs. He cannot forget when he sent that carload of apples to Market Street expecting a good return, and in place of which he received the polite request to send his check to cover expenses. He has never been able to see why his potatoes must remain on the ground, unsold, when the Chicago man, a hundred miles away, can't afford to use them on account of high price.

"Suspicious by nature, he is doubly suspicious of the hue and cry, from every side, that he grow crops to the limit of his financial ability; breed all the brood animals on the place, etc. Isn't he doing as much as the other fellow?

"Manufacturing and merchandising are always paralyzed by uncertainty, the currents in the channels of commerce at this very moment are slowing down on account of price uncertainty. The farmer isn't a fool, what of his prices? Business has the machinery to stabilize and will soon run on as usual. Provide the machinery to stabilize the prices of the 1917 farm crops and the farmer will take care of the rest.

"Give the farmer a chance to brace himself and you can lean on him, and 'business as usual' may once more be the order of the day. You won't have to worry about enough to eat for our people and allies.

"For years he has had preached to him, by government and state official, 'Don't follow Europe in securing large yields per acre. Remember prices are best obtained by holding down production.'

"Let the federal government establish prices of crop and live stock, help the farmer to credit and labor, and the farmer will do the rest."

MILK AS FOOD

The dairy cow takes high rank as an economical producer of food. It would be a national calamity to have the dairy cows reduced in number at the present time. People generally do not sufficiently recognize the value of milk as food. This fact is at the bottom of the problem now facing the producers of milk for city trade. At the auxiliary meeting of the Kansas State Dairy Association held in Topeka last Saturday the present cost of milk production in relation to the price received was discussed more than any other topic presented. Feed has been unusually high. One speaker stated that the increase in feed prices during the past year ranged from 100 to 300 per cent and that the cost of labor had increased 50 per cent, while the price of milk had advanced only 10 per cent.

We sometimes wonder if people realize how small a quantity of milk enters into the diet of the average person. The estimate for the whole country is a little more than a half pint daily. On farms where milk is produced a larger proportion is probably used, but even here it would be economy to increase the use of this food which supplies the food nutrients so cheaply.

Milk contains all the body-building materials and also nutrients which supply energy. In protein, which is the muscle-building material of a food, a quart of milk contains as much as seven ounces of sirloin steak, 4.3 eggs, or 8.6 ounces of fowl. In total energy a quart of milk supplies as much as eleven ounces of sirloin steak, eight and one-half eggs or 10.7 ounces of fowl. One of our foremost American authorities on nutrition says: "Do not buy meat until you have bought three quarts of milk a day." This applies to a family of two adults and three children.

Producers of milk might well consider the plan of co-operatively advertising the food value of milk. In some of the larger cities the National Dairy Council has most successfully conducted such advertising campaigns. Foods of all kinds are extremely high in price and many families could reduce living expenses by increasing the use of milk and other dairy products. Milk at ten cents a quart furnishes protein as cheaply as sirloin steak at 23.3 cents a pound or eggs at 25 cents a dozen.

In addition to their economy, dairy products have additional advantages. There is no waste connected with their use. They contain valuable mineral salts and other invaluable food substances.

While this sort of information is of the greatest value to people who purchase milk, there are probably many on the farms who could make greater use of dairy products and reduce household expenses.

ENROLLING TRACTOR OPERATORS

The war is creating an increased demand for men who can operate tractors. One of the advantages of a tractor is that it does not get tired and can be kept at almost continuous work if the men are available to operate it. Dean A. A. Potter of the engineering division of the agricultural college told us recently that his division was getting in touch with every young man who had received training in the handling of traction engines and power farming machinery at the college, the object being to make it possible to use all the tractors of Kansas to their full capacity if possible.

We would suggest that any man who has any training in the handling of gasoline engines, report to Dean A. A. Potter, Manhattan, Kansas. Men who have had experience in handling and repairing automobiles and automobile engines can easily learn to operate the gasoline or oil tractors. The demand for this kind of help will be greatest when the work of preparing the soil for next year's wheat crop begins.

According to a recent report the apportionment of steel to manufacturers of farm implements the coming year by the National Council of Defense is to be about one-half the amount used last year. This would suggest the possibility of a shortage in farm equipment. It can be overcome by the co-operative use of machinery for as many hours of the day as is possible, and the immediate repair of all old machinery. Some large implement companies are making definite plans to put on a repair service that will make it possible to extend the usefulness of discarded machinery.

LET COUNTY AGENT HELP

NO ONE who is starting a garden for the first time should hesitate to avail himself of the advice of his state agricultural college, and, where such an official exists, of his county agricultural agent. Land which is planted and which is not cared for represents a greater waste than if it had not been planted at all. This is something which should be borne in mind by the thousands who are venturing into the garden world for the first time this spring. There is a chance that unless these garden activities are properly supervised there will be a waste of valuable seeds and no less valuable labor. It seems to us that the present time represents an admirable opportunity for the extension of the activities of the county agricultural agents who are now so widely scattered throughout the country. These agents should during the present year be provided with assistants to help in the planting and the care of town and village gardens. Communities might well appoint garden supervisors to advise and aid all those who are venturing into the new field of food production.—The Outlook.

CATTLEMEN MEET AT MANHATTAN

The annual cattlemen's meeting held at the agricultural college, Manhattan, is one of the most important meetings of the year. The purpose of this meeting is to give the cattlemen of the state a chance to inspect the work of the experiment station and especially the results of the cattle feeding experiments that are carried on during the winter season. These tests close on the date set for the meeting. This year's meeting will be held Friday, June 1. The stockmen of the state greatly appreciate this opportunity to study at first hand the work of the experiment station. Hundreds of men from all over the state gather at the college for this meeting. Last year some of those in attendance drove automobiles from as far west as Ellis County. Getting together and exchanging ideas on the various phases of live stock production is no small part of the benefits to be derived from attending this conference. Prof. W. A. Cochel earnestly desires the cooperation of all the stockmen in the state in the work he is doing for their benefit.

P. W. Goebel, president of the Commercial National Bank of Kansas City, Kansas, and of the American Banking Association, will speak on "Financing the Cattle Industry." T. H. Ingwersen, of Chicago, for twenty-eight years a cattle buyer on the Chicago market, will discuss "The Cattle Buyer's Viewpoint."

Murdo McKenzie, San Paulo, Brazil, who was formerly the manager of the Matador Ranch; Gov. Arthur Capper, and ex-Gov. W. R. Stubbs will also be present and take part in the program.

The results of experimental work will be given. Six lots of cattle are being fed with a view to determining the comparative value of the influence of different methods of curing alfalfa in fattening cattle. A comparison is also being made between alfalfa hay and sweet clover for fattening purposes, and of the value of corn and barley. The steers have been fed as follows: Lot 1, ground barley, cottonseed meal, alfalfa hay, and silage; Lot 2, shelled corn, cottonseed meal, silage; Lot 3, shelled corn, cottonseed meal, alfalfa hay (green); Lot 4, shelled corn, cottonseed meal, alfalfa hay (brown); Lot 5, shelled corn, cottonseed meal, sweet clover hay; Lot 6, shelled corn, cottonseed meal, alfalfa silage.

The visitors will be taken on an auto trip to the agronomy farm where the field experiments will be explained. An opportunity will be given to inspect the dairy herd and other college stock.

INCREASE PAY OF SOLDIERS

The selective draft act which was approved last week makes a substantial increase in the pay of enlisted men. The new schedule has just been sent out to the recruiting officers. The pay of enlisted men ranges from $30 a month for second class privates and buglers to $81 a month for master hospital sergeant, medical department, master engineers, senior grade, engineers, quartermaster sergeant, senior grade, quartermaster corps. There is need for a great many men having special training of various kinds, and the pay is in accordance with the value of the service rendered.

Make new plantings of snap beans, lima beans, sweet corn, okra, squashes, beets, and cucumbers, to take the place of early lettuce, radishes, mustard, etc. Beans are of special importance just now because they are very nutritious and can be dried for later use if they cannot be canned.

FORAGE CROPS FOR STOCK

Must Have Abundance of Cheap Feed to Handle Live Stock Profitably

THE live stock industry is absolutely dependent on the production of an abundance of cheap feed. No matter what kind of stock we handle, the greatest service they can render is to furnish a market for a lot of farm-grown feed that would otherwise be of little value. There is little profit in handling stock if it is necessary to buy large quantities of feed for them. In sections where the soil and general conditions are not favorable to the extensive growing of cash grain crops, live stock must become the basis of any system of profitable farming.

These fundamental ideas as to the relation of live stock to farming are being advocated and promoted by the Southeast Kansas Improved Live Stock Association which held a most successful meeting at Fredonia in February. The idea of depending more largely on the growing of such crops as can be consumed by live stock is gaining ground in that part of the state. It is important that those who are interested in live stock in that section, or in any other section, study carefully the kinds of forage crops that are best to grow and the methods of growing them. Special interest is being taken in such questions in Southeastern Kansas. Our mail today brought us, among other letters of a similar nature, one from a reader in Cherokee County which suggests the problems being considered. This reader asks about sowing red top and sweet clover together for pasture. He says he does not know much about sweet clover but would like to try some this fall or next spring. Many in this section of the state are interested along similar lines. Sweet clover is a crop of exceptional promise for that part of the state.

At the Fredonia meeting referred to this question of forage crops for stock was one of the important subjects discussed. In answering our correspondent's inquiry and supplying information desired by many others, we would refer to some of the things said at this meeting. Prof. L. E. Call, of the agricultural college, who made the principal talk on thi subject, pointed out that feed crops for thi. region may be classed as follows: First, crops for pasture; second, crops foi hay and roughage; and third, crops for silage.

Good pastures are absolutely essential for the economical production of live stock. There are many farms where the native pastures have become unproductive and where it is desirable to supplement them by seeding a part of the cultivated land to mixed grasses. The old pastures may then be brought under cultivation or given a rest.

The most promising grasses to seed for pasture purposes in Southeast Kansas are Kentucky bluegrass, red top, timothy, orchard grass, English bluegrass, alsike clover, Japanese clover, and sweet clover. The best one to sow will depend upon the type of soil and location. Of the grasses proper, timothy and red top are best for low-lying ground. On well drained bottom land a mixture consisting of two to three pounds of alsike clover, five pounds of sweet clover, four to six pounds of timothy, four to five pounds of red top, and one to two pounds of Kentucky bluegrass gives good results. On upland soils in a fair state of fertility a mixture of five pounds of sweet clover, four pounds of English bluegrass, six pounds of timothy, and one to two pounds of Kentucky bluegrass is good. On thin upland soils containing a fair supply of lime, sweet clover seeded at the rate of ten to fifteen pounds to the acre makes the most economical pasture crop. On thin planted shale soil of an acid nature sweet clover will not make a satisfactory growth and there are no other grasses that will do well. For such soils a mixture of ten to twelve pounds of red top and four to five pounds of alsike clover would be the most apt to succeed

SWEET CLOVER AS PASTURE CROP

As a result of his observations Professor Call stated that sweet clover is one of the best pasture crops for Southeast Kansas except on the white soils of that section or on other soils very deficient in lime. When it can be grown it makes excellent pasture for cattle, sheep, horses, and hogs. It very rarely causes bloat and for this reason is preferable to alfalfa for pasturing cattle or sheep.

Because of its vigorous growing habits, sweet clover will pasture more stock per acre than most other pasture grasses or legumes. It is about equal to alfalfa and red clover in feeding value and stock pastured on it make gains that compare favorably with those secured from the latter crops. It is especially valuable for the poorer types of soil where alfalfa and pasture grasses can seldom be grown with profit.

Sweet clover can be used to good advantage in supplementing other pasture. It produces early and late grazing, survives the midsummer drouths, often furnishes good pasture during the time regular pasture grasses are dormant, and produces fairly well on soils that would otherwise be practically barren. Sweet clover may be grown along river bottoms, on land where the water does not stand, even though the water table occasionally rises within two feet of the surface of the soil. Because of this fact it is an important crop on the low river bottoms where the water table is too near the surface for alfalfa.

As a rule, live stock must acquire a taste for sweet clover before they will eat it. The best way to accustom them to the crop is to pasture them upon it early in the spring before other forms of green feed are available.

For best results sweet clover should be pastured heavily enough to keep down the growth, so there will be an abundance of fresh shoots at all times. During the second season it may be necessary to clip back the old growth once to stimulate the development of fresh shoots. In case permanent pasture is desired, sufficient plants should be left to reseed the field. If hogs are pastured on the sweet clover during the first year it is best to ring them to prevent their digging up the roots of the young plants.

Maximum returns in pasturing sweet clover where the pasture enters into a rotation can be secured by maintaining two fields, one of which is seeded the

Principal Garden Insects and Remedies

THE home gardener must count upon the presence in his garden of insect pests, and if not combated they will interfere seriously with yields and in many instances destroy the plants. The following table, prepared by J. H. Merrill, Assistant Entomologist, Kansas Experiment Station, lists the insects most likely to appear in the vegetable garden and furnishes information in regard to the plants attacked and the treatment recommended:

CROPS ATTACKED	INSECT PEST	WHAT TO DO	WHEN TO DO IT
Beans, Peas	Aphids (plant lice sucking sap from the leaves)	Nicotine sulfate—¾ pint to 100 gallons of water plus 3 or 4 pounds of soap. One teaspoonful to 1 quart of water plus a small piece of soap. Soapy spray—1 pound of laundry soap to 6 gallons of water.	When insects first appear.
Beets, Chard, Spinach	Webworm (worm which eats and ties the leaves)	Arsenate of lead—3 pounds of lead arsenate paste to 50 gallons of water. Must be applied with force.	As soon as insects appear.
Cabbage, Cauliflower, Turnip, Radish	Cabbage Worms (Soft bodied worms which devour the leaves and ruin the heads)	Arsenate of lead—3 pounds of lead arsenate paste to 50 gallons of water. Dust as for Colorado potato beetle.	As soon as the plants are set. Continue until heads are half formed.
	Cutworms (Fleshy worms which cut off young plants at surface of ground)	Poisoned bran mash— Bran. . . . . 20 lbs. Paris green or white arsenic. . . . . 1 lb. Syrup. . . . . 2 qts. Oranges or lemons . . . . . 3 Water. . . . . 3½ gals.	As soon as the damage is noticed sow it broadcast in the evening so that the amount recommended will cover 4 or 5 acres.
	Harlequin cabbage bug (An orange and black triangular bug that sucks the sap)	Hand picking bugs and eggs.	As soon as bugs appear.
	Aphids	On cabbage and cauliflower, use sprays given under beans and peas and wet the aphids. On turnip and radish, use only nicotine sulfate with 3 pounds of soap to 50 gallons, or 1 ounce to a gallon.	When they become numerous.
	Squash bugs (Brown bugs which suck sap from under side of leaves)	Hand pick bugs and eggs and trap with chips and small pieces of board. Soapy spray—1 pound of soap to 3 gallons of water. Strike the bug so as to actually wet it.	When insects appear.
Cucumbers, Muskmelons, Squashes, Pumpkins, Watermelons	Striped cucumber beetle (Small, yellow and black striped beetles which attack young plants)	Protect young plants with screens. Dust with tobacco, lime, or sulphur. Apply arsenate of lead liberally, using 3 pounds of lead arsenate paste to 50 gallons of water.	When the insects appear. Repeat once a week until danger is past.
	Aphids (Plant lice sucking sap from leaves)	Nicotine sulfate and soapy spray used as for bean aphids. Spray under sides of leaves to hit insects.	As soon as insects appear.
Onions	Onion thrips (Small sucking insects causing white spots on plant)	Spray as for aphids, using high pressure.	When insects appear.
Potatoes, Egg Plants, Peppers	Potato bug (Thick, striped beetle and reddish larvae eating leaves)	Arsenate of lead—4 pounds of lead arsenate paste to 50 gallons of water. Paris green . . . . . 1 lb. Freshly slaked lime. . . . . 1 lb. Water. . . . . 50 gals. As a dust—1 heaping tablespoonful of paris green or powdered arsenate of lead to 1 quart of flour or hydrated lime.	Hand pick adults and eggs when plants are not large enough to spray. Spray when insects are attacking the plants. Dust by means of perforated can or cloth bag while dew is still on plants.
	Flea-beetles (Small jumping beetles which perforate the leaves)	Arsenate of lead and Bordeaux mixture on under sides of leaves.	Spray when insects appear.
Sweet Corn	Corn earworm (Worm found eating the kernels of corn in the ear)	Three parts of powdered arsenate of lead to 1 part sulphur or flour.	Dust with cheesecloth bag, perforated can or powder gun when silks first appear and repeat every four or five days while corn is in silk.
Likely to attack any garden truck	Grasshoppers	Poisoned bran mash as recommended for cutworms.	Sow broadcast in the morning so that the amount recommended will cover 4 or 5 acres.

year following the seeding of the other. Newly-seeded sweet clover will furnish pasture after it makes a growth of about twelve inches. Ordinarily it does not attain this height until some time in June in Eastern Kansas. It can then be grazed for the remainder of the season if not pastured too heavily. The second year sweet clover makes a rapid early growth and will provide pasture from very early in the spring until the new seeding is available. The stock can then be transferred to the new field and the old field left for seed production or for hay, or it may be pastured alternately with the new field. By seeding a field to sweet clover every spring, this method of pasturing the crop may be continued indefinitely. Sweet clover pasture is available throughout the growing season and for a longer period than can be secured from most pasture grasses.

CROPS FOR HAY

Two classes of hay crops can be successfully grown in Southeast Kansas. First, the usual crops such as cowpeas, soy beans, millet, sweet sorghum, and Sudan grass; and second, perennial crops such as clover, sweet clover, and alfalfa.

Soy beans and cowpeas can be successfully grown on almost all types of soil in this section of the state. They are especially valuable to plant in the summer as a catch crop after harvesting a small crop of oats, barley, or wheat. If a seed bed can be prepared and the crop planted before the first of August, a fair crop of hay or pasture can usually be obtained. The Whippoorwill, a large-growing cowpea, is one of the heaviest yielding varieties, but it should not be sown after August 1. For later planting, the New Era or Groit should be used. Soy beans usually produce as heavily as cowpeas but are a little more sensitive to soil conditions and usually require inoculation when grown for the first time.

Sweet sorghum—commonly called cane—is a valuable crop to sow for roughage. Sudan grass has replaced this crop to some extent. Sudan grass does not make as heavy a yield under ordinary conditions as a good variety of cane, like Kansas Orange or Sumac, but the hay is finer, more easily cured, and the quality is better. A large number of tests comparing the two crops for hay production have been made by the experiment station in co-operation with farmers in Southeastern Kansas.

As an average of eleven tests conducted during the seasons of 1915 and 1916, in Allen, Miami, Cherokee and Montgomery counties, Kansas Orange cane has produced 2.3 tons of field-cured hay while Sudan grass has produced 1.3 tons. The cane is a little more difficult to cure and undoubtedly contained more water when weighed than the Sudan grass. It is also coarser and is more wasteful in feeding. Sudan grass has a decided advantage in being a crop that can be more easily stacked or even baled and thus stored in better condition than cane. The Sudan grass also often furnishes a large amount of fall pasture after the hay crop is harvested. Everything considered, Sudan grass is almost if not entirely equal to sorghum for hay purposes in seasons when the seed can be bought at a reasonable price.

Perennial crops should be depended upon to produce most of the hay. Not only are such crops more economically grown, but they are of greater value in increasing the fertility of the soil and are usually more easily cured and of better quality for seed than the annual hay crops.

Red clover should be the crop most generally grown for hay in Southeast Kansas. Mixed with a little alsike clover and timothy, it makes a satisfactory and profitable crop on most of the soils of this section which are not acid. It can be grown under wetter conditions than alfalfa and is an easier crop to handle and a better crop to feed than sweet clover.

Sweet clover is growing in favor as a hay crop because of the ease with which it can usually be established, especially on poor soils. When properly handled the quality of the hay is good and is relished by all classes of stock when they become accustomed to it.

ALFALFA REQUIRES FERTILIZING

Alfalfa is the best and most profitable crop to grow for hay on bottom land that is well drained and also on red limestone upland soils. It can be successfully grown on the black limestone soils if well drained, but red clover is usually as good and frequently better on this type of soil. Alfalfa can also be grown on many soils formed from inter-bedded sandstone and shale if the soil is properly prepared for the crop.

An experiment to determine the best method of treating soil formed from inter-bedded sandstone and shale to prepare it for alfalfa has been conducted in Allen County near Carlyle. Alfalfa was sown in the fall of 1914 on ground that had previously been inoculated, about one-half of which had been underdrained with tile. A series of plots laid off so as to extend across both the drained and undrained areas of the field were treated, before seeding, with manure, lime, and commercial fertilizers, as indicated in the following table.

The manure was applied at the rate of ten tons per acre, ground lime rock at the rate of 3,000 pounds per acre, acid phosphate at the rate of 250 pounds, and muriate of potash at the rate of fifty pounds per acre. The manure and lime were applied before seeding only, but the commercial fertilizers have been applied each season.

The alfalfa on the unfertilized ground has produced a total yield of 3,208 pounds. The crop made a poor growth, was very weedy, and the alfalfa plants weak and sickly. This plot will undoubtedly be taken by weeds in another season. When lime alone was used the total yield was 4,765 pounds and the plants were much more healthy. Barnyard manure alone increased the yield to 6,280 pounds and where used with lime to 7,571 pounds. The plot receiving acid phosphate and lime produced 5,893 pounds, while potash in addition to lime and acid phosphate increased the yield to 6,099 pounds. The underdrained ground produced on the average 842 pounds more hay than the undrained ground.

The test shows that alfalfa cannot be successfully grown on unfertilized soil of this character but that lime, manure, or fertilizer greatly improves its growth. Lime or manure alone will insure a profitable stand, but the combination of the two is much better. When manure cannot be obtained, acid phosphate or some other commercial fertilizer supplying phosphorous can be profitably used. Potash was not profitable, although it increased the yield slightly. Underdraining produced a marked increase in yield and will undoubtedly extend the life of the crop.

Pure-Bred Stallions Increase

Eighty per cent of the stallions advertised for public service in Kansas this year are pure-breds and only 20 per cent grades and scrubs, according to Dr. C. W. McCampbell, secretary of the State Live Stock Registry Board.

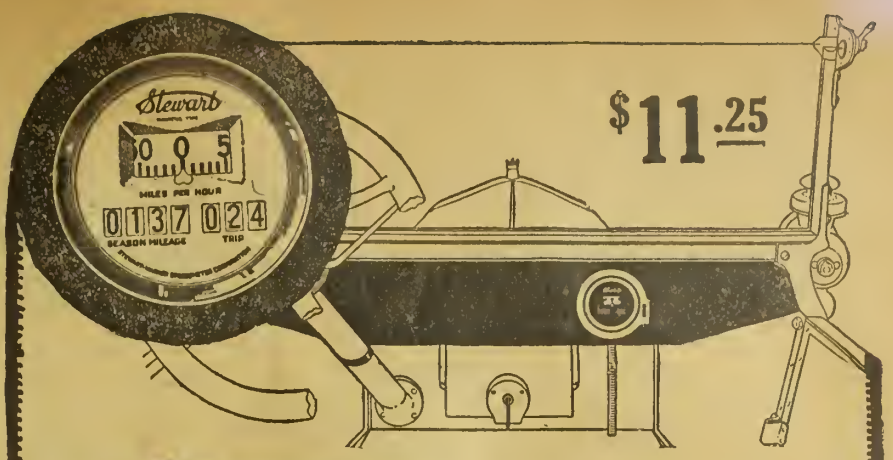
In 1909, the year before Kansas had a stallion license law, 70 per cent of all the stallions advertised for public service were advertised as pure-breds while half of them actually were grades and scrubs. Not one grade or scrub stallion has been advertised as a pure-bred this year as compared with 2,022 of them in 1909. The stallion license law will not permit fraudulent advertising.

A great change also has taken place in the kind of stallions standing for public service in Kansas. In the last six years the grades and scrubs standing for public service in Kansas have decreased 1,300 and the pure-breds have increased 700.

This demand for sires of better breeding is due largely to the enforcement of the stallion license law, the main purpose of which is to give stallion patrons a means of knowing exactly the breeding of any stallion they may wish to patronize.

Protecting Seed

L. H. S., of Eastern Colorado, asks if there is any method of treating seed that will protect it from being eaten by ground squirrels. He is poisoning the squirrels by putting out poisoned grain, but they are so numerous that he fears they will dig up the seed planted. Lee R. Dice, of the zoological department of the agricultural college, states that the best method of treating seed to prevent its being eaten by squirrels or other rodents is to coat it with coal tar before planting, although even this method will not always prevent damage. To treat the seed, mix a large spoonful of coal tar with a gallon of boiling water. When the mixture has partly cooled the seed may be stirred in and allowed to remain several minutes without injuring its germination.



$11.25

Stewart Instrument Board for Fords

Takes Vibration out of steering wheel.

Improves Appearance. No bolts—No screws—No Brackets.

Instantaneous Installation.

Can be installed in One Minute.

JUST WHAT every Ford owner wants. Anyone can install it—takes only a minute. No bolts, no screws, nuts, or brackets. Not like any other instrument board. When installed it becomes a part of the car.

To install it, merely exert a downward pull on the steering column, slip the board into place and it is there to stay.

Top edge of the board is grooved to fit the cowl just below the windshield. The lower edge rests tight against the steering column—eliminates every bit of vibration from the steering wheel. Makes driving a pleasure—no more tired arms, no matter how far you drive.

You can install on the Stewart Instrument Board a clock, headlight control, priming lever, starter control, and any other accessories you desire. If desired, the Instrument Board can be purchased without the Speedometer.

It is exactly what is needed to give the Ford car that look of finished elegance.

Hundreds of thousands of Ford owners will want the Stewart Instrument Board, because of its many features: also because it is furnished with a Stewart magnetic type Speedometer.

The Stewart Speedometer is a flush type instrument. The large figures are white on black. Has season register and also a trip register which can be reset to any mile or tenth of a mile.

You need a Stewart Speedometer to tell how far you travel, how fast you go to avoid arrest for speeding; what mileage you get from gasoline, oil and tires. You can buy the Special Ford model Stewart Speedometer for $10: the Stewart Instrument Board for $1.25, or the combination complete for $11.25.

Better see your dealer today.

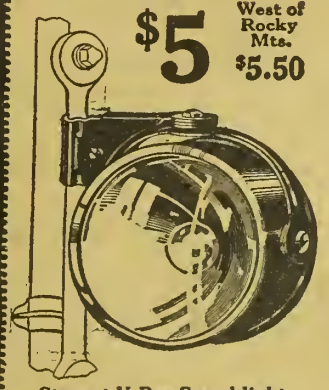
$1



Stewart V-Ray Spark Plug

The Stewart V-Ray Spark Plug, with its four sparking points, will put a V-Ray flame in your cylinders. Sure fire, oil-proof, compression tight and practically fracture-proof. Price $1.

$5 West of Rocky Mts. $5.50



Stewart V-Ray Searchlight

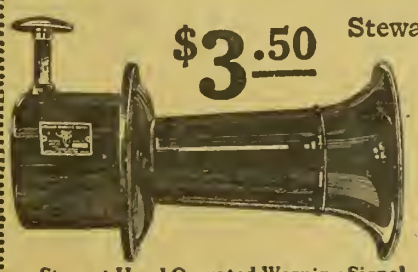
You need the ever-reliable, far-sounding Stewart Warning Signal. A commanding warning blast just when it's needed. Motor-driven type $6.00—hand-operated type, $3.50.

The Stewart V-Ray Searchlight throws a big full daylight ray in any direction. It's a beauty too. You ought to have it. Price $5.

The Stewart Autoguard is another big protection. Exceedingly light but very, very strong. Every Ford ought to have the Autoguard—yours included.

Stewart Products are for sale by leading accessory dealers, jobbers and garages.

$3.50



Stewart Hand Operated Warning Signal

Motor Driven Type $6

Stewart-Warner Speedometer Corp.
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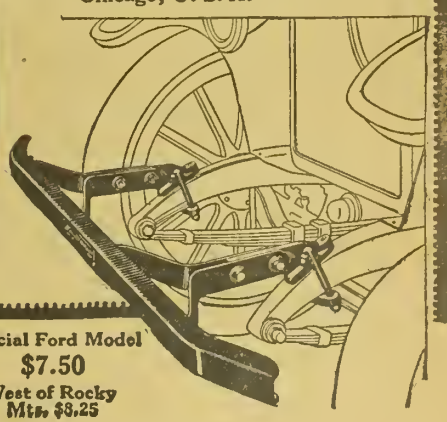

Stewart Autoguard $9
West of Rocky Mts. $9.75

Special Ford Model $7.50
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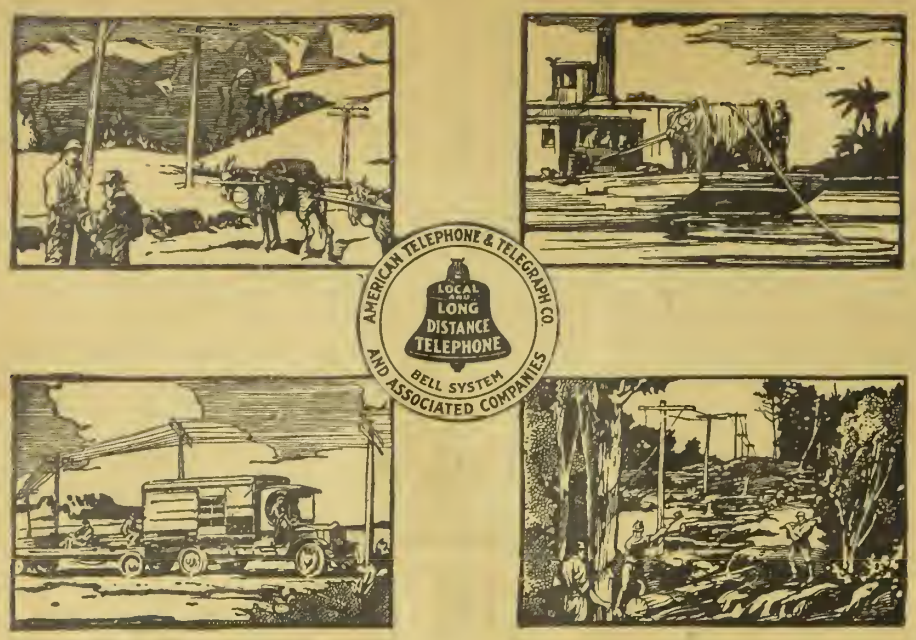


Meeting the Universal Need

In the high passes of the mountains, accessible only to the daring pioneer and the sure-footed burro, there are telephone linemen stringing wires.

Across bays or rivers a flat-bottomed boat is used to unreel the message-bearing cables and lay them beneath the water.

Over the sand-blown, treeless desert a truck train plows its way with telephone material and supplies.

Through dense forests linemen are felling trees and cutting a swath for lines of wire-laden poles.

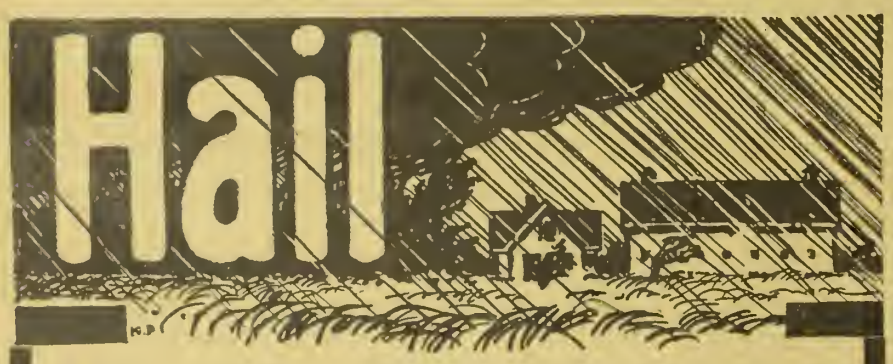
Vast telephone extensions are progressing simultaneously in the waste places as well as in the thickly populated communities.

These betterments are ceaseless and they are voluntary, requiring the expenditure of almost superhuman imagination, energy and large capital.

In the Bell organization, besides the army of manual toilers, there is an army of experts, including almost the entire gamut of human labors. These men, scientific and practical, are constantly inventing means for supplying the numberless new demands of the telephone using public.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*



ARE YOUR CROPS PROTECTED?

You know the deadly work of hail. Within a few hours all your crops can be destroyed. Your income is gone. Your labor is wasted.

What a sense of security you have when your crops are protected against hail in a safe and conservativo company. Don't risk another day, but insure now in a company whose officers are bonded to the State of Kansas for $50.000.

THIS IS THE COMPANY

that first put the insurance in force from the moment the application was signed and the premium paid. Always has adjusted all losses, no matter how small. We ask for your application on our past record. Don't wait for the storm, but write us for full particulars or see our agent before you insure your grain.

THE GRAIN GROWERS HAIL INSURANCE COMPANY

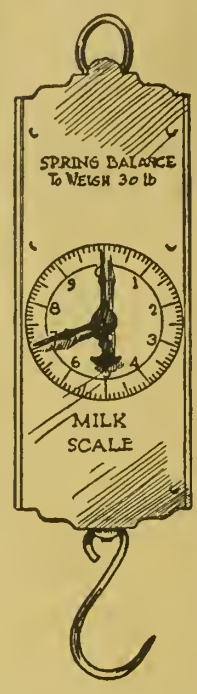
Elmer F. Bagley, Secretary, Topeka, Kansas.

Kansas Farmer Dairy Club

Scale For Weighing Milk

THE keeping of accurate records is a very important part of the work of the Kansas Farmer Dairy Club. It is no small achievement to have accurately weighed and recorded the milk produced by a cow in a period of twelve months. This is one of the things you must do as a member of the dairy club.

There is no information more valuable to a dairyman than an accurate record of the amount of milk produced by the cows in his herd. In order to keep such records it is necessary to have a reliable scale to use in weighing the milk. If one of the cheap spring balances are used, mistakes will be frequent and by the end of the year the sum of all of these mistakes may be quite large. We are anxious to have members of the dairy club form habits of accuracy in their work. You should know to a cent what it is costing to feed your cow and to produce a pound of butter fat or a gallon of milk.



The scale illustrated in this article is the best kind to use in weighing the milk. The same scale may also be used in weighing the feed. It is known as the standard thirty-pound milk scale. There are sixty and 120-pound scales made, but they cost more than the thirty-pound scale and this size will do very well for the work of the dairy club. There will probably be few cows milked that will give more than thirty pounds at any one milking.

These scales are made to weigh either ounces or tenths of pounds. We recommend that a scale graduated in tenths be used. There is a red hand on the dial of the scale, which is movable. By loosening a screw it can be set so as to stand at zero when the milk pail hangs on the hook. It can then be fixed in place by tightening the screw and if the same pail is always used in weighing the milk, this hand will show the amount of milk in the pail.

Some of our club members seem to have trouble in learning to write the amount of milk in the pail in the form of a whole number and a decimal fraction. Half way between the pound marks on the dial is a mark which indicates a half pound, or .5 of a pound. Each one of the four longer graduations between this half-pound mark and the pound mark are tenths. Between each of these marks indicating tenths is a shorter mark. The pound is thus divided into twenty parts, and some of the members write their records in the form of a common fraction—for example, 14 7/20 pounds. With a whole month's record, every single weight of which has a common fraction, the work of adding the columns is much more difficult than if the weights are all recorded in the decimal form. In reading the scale, write the number of pounds first, then count the number of tenths and write that immediately following the decimal point. If the red hand stops half way between two lines indicating tenths, simply write the figure 5 following the figure indicating the number of tenths In reading the scale and writing the 14 7/20 pounds used above as an illustration, it will be noted that the hand has passed the third graduation indicating tenths following the fourteen pounds and stops half way between this graduation and the one indicating four-tenths. The correct way to record the weight is to write it 14.35.

Whatever the number of tenths, the second figure of the decimal is always 5 when the hand stops midway between two graduations indicating tenths. The use of decimal fractions is very simple and will save a great deal of difficult addition work.

One of the requirements of the club work is that members shall use a scale like the one illustrated to weigh their milk. At the present time these scales are costing $3, to which must be added 15 cents to cover postage. We will be glad to order scales for members of the club who may wish us to do so. Some may be so located that you can get the cream buyer to whom you sell your cream to order them. In ordering scales we will instruct the company to mail them direct to you, sending the bill to KANSAS FARMER, and you pay us the amount due. We cannot guarantee the price quoted, as metal is liable to increase in cost and the companies selling the scales might have to raise the price.

Borrow of Home Banker

Boys or girls who wish to become members of the Kansas Farmer Dairy Club cannot expect bankers who do not know them to loan the money needed to buy a cow. The function of banks is to furnish financial help to people in the community where the bank is located. They cannot be expected to loan money to strangers. It is a part of their business to be familiar with the people to whom they loan money so that they may have assurance that the money will be repaid according to contract. Credit is based on confidence and in order to have confidence it is necessary that the banker know his customers personally and be familiar with their habits and the conditions which surround them.

A few weeks ago we referred to a letter from Ike W. Crumley, of the Rexford State Bank, in which he assured us he would loan money to anyone wanting to buy a cow or a dozen cows, and expressing a desire to help finance any worthy applicant for such a loan. We suggested that the boys and girls in that territory take advantage of that generous offer. He has just informed us that he is receiving letters from remote parts of the state as a result of this reference to his offer to make loans.

If you want to become a member of the Kansas Farmer Dairy Club, go to the banker with whom your people do business. This banker knows you and we do not believe he will turn you down if he has confidence in your ability to do your part in paying back the loan which he makes you.

Hardiness in Cows

Is she hardy? is the question often asked by those considering for the first time the buying of dairy-bred cows. There is often a wrong idea back of this question. What the man usually has in mind is not whether a cow has a strong constitution, a great capacity to use feed for milk production and the endurance to persist in her business of giving milk through a long lactation period, but rather will she endure neglect and hardship, improper handling due to lack of real dairy knowledge, and still keep up a profitable milk flow. He wants to know whether she will rustle her feed for herself like a Hereford raised on the range, or stand the cold with no other shelter than a wire fence for a windbreak.

It is this conception of hardiness that prevents dairying from being a success when taken up by those who have not yet learned what is the true measure of a dairy cow's work. Is it any wonder that well-bred dairy animals dry up and fail to return a profit when handled by men having so little appreciation of what constitutes real merit in a dairy animal?

Do not feed the dairy herd as a herd, for cows differ in their food requirements just as human beings do. By feeding all cows in the herd alike, some are sure not to get enough for the greatest profit and others will get more than they can use to advantage.

Cooperative Bull Associations

THE use of good pure-bred bulls is the cheapest and most effective means of improving dairy herds. Co-operative ownership is one way to secure the use of better bulls. There are now more than thirty active co-operative bull associations in the United States. On July 1, 1916, there were thirty-two, representing a total membership of 650 and owning about 120 pure-bred bulls.

The co-operative bull association, says an article in the 1916 Yearbook of the U. S. Department of Agriculture, is especially adapted to herds which are so small that a valuable bull for each herd would be too heavy an investment to be justified by the extent of the business. Through co-operation, cattle owners are enabled to obtain the benefits which come from the use of a pure-bred sire at an expense which is not greater, and in many cases is even less, than the cost of maintaining a scrub.

"Better and fewer bulls" is a phrase which represents the aim of these associations. A typical organization is composed of from fifteen to thirty farmers who own jointly five bulls. The territory of the association is divided into five breeding blocks and one bull assigned to each block. To prevent inbreeding, each bull is moved to the next block every two years. Barring losses from death or other causes, therefore, no new bulls need be purchased for ten years. It is customary to apportion the purchase price, and the expense of supporting the bulls, among the members according to the number of cows owned by each. A smaller number of men can organize for joint ownership. The simplest possible plan of co-operation is for two neighbors to buy a good bull together. Co-operation, to be successful, must be between men who know each other fully and have full confidence in each other.

These associations have been known in the United States only since 1908, when the first one was organized, in Michigan. The short time which has elapsed since then makes it impossible to demonstrate the full value of the associations, because the influence of a pure-bred sire is felt in the herd for more than one generation. Similar associations, however, have existed in Denmark ever since 1874, and the movement in that country has proved most successful. So far as we know now, there seems to be no serious objection to organizations of this character to offset their very obvious advantages. Instead of spreading abortion, tuberculosis, and other diseases, as has been sometimes alleged, they seem to aid in the control of contagion. One association, for example, refused to permit one of its members to use the bulls until he had consented to dispose of all his cattle which reacted to the tuberculin test.

This same association is composed of sixteen farmers and is organized into five blocks. Before the association was formed, eight farmers who afterwards became members had each an average investment of $85 in a scrub bull. These scrubs were sold and five pure-bred bulls were bought at $240 each, or an average or $75 for each member. This actual saving in cash, however, is a far less important matter than the fact that the members now are able to use pure-bred sires instead of the former scrubs. A larger membership would of course reduce the expense still further. In another association which has more than 100 members the original cost to each for purchasing the pure-bred sires was only $23.

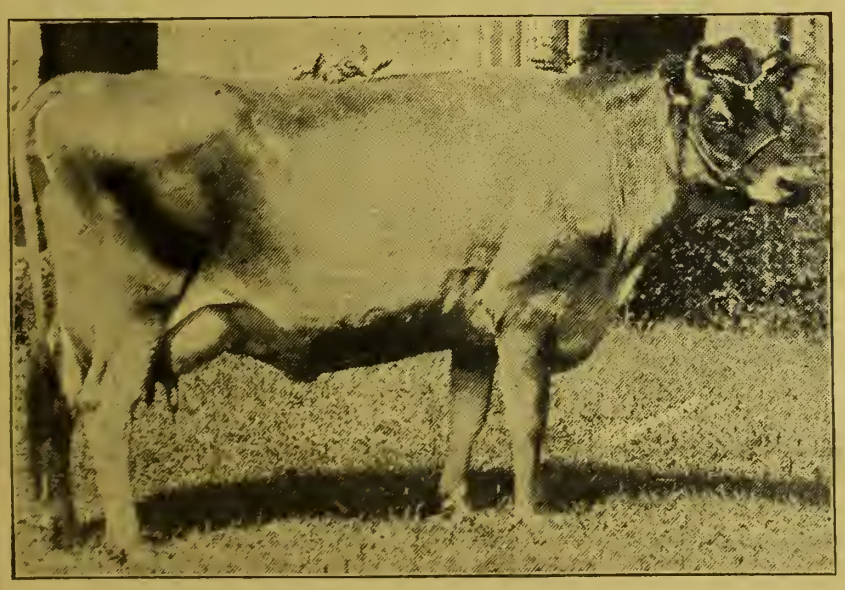
In regard to the returns from grading up cattle through the use of the pure-bred bulls of the co-operative associations, one estimate obtained from farmers in Maryland, Michigan, and Minnesota, places the increased value of the offspring in the first generation at from 30 to 80 per cent, or an average of 65 per cent. Such large profits are commonly associated by business men with the possibility of equally serious loss, but in the bull associations this does not seem to be true. It is difficult to see that any probability of loss exists. "It is true," says the article mentioned, "that some associations have disbanded, but there is no case in which any member actually lost on his investment."

Feeds Bran and Cottonseed

My cow is doing fine now. I am feeding her seven pounds of bran and three pounds of cottonseed meal daily. She is giving about thirty pounds of milk a day and has been milking ever since July 28. She gave 952 pounds of milk in April. The grass is starting now and that will help to increase the milk flow and save grain.

The banker of whom I borrowed the money things that she is making a fine record. I had to pay 10 per cent interest on my note. — LESTER KINCAID, Logan County.

A bushel of corn fed on some good pasture is worth two fed in a dry lot.



RALEIGH'S EMINENT BUTTERCUP, whose sire is Queen's Raleigh, has earned the right to the title of champion two-year-old dairy heifer of Missouri. On January 5, 1917, she completed a year's official record, producing 11,697.3 pounds of milk and 517.72 pounds of butter fat. This entitles this heifer to a Register of Merit certificate, Class AA. The requirement of the American Jersey Cattle Club for this certificate in the age group to which this heifer belongs is 258.5 pounds of butter fat. A comparison of this record with that of her mother would indicate that the sire had transmitted high production. The heifer's mother, Lady Eminent Buttercup, made her best record of 555.75 pounds of butter fat at the age of seven years. Raleigh's Eminent Buttercup is owned by Longview Farm, Lees Summit, Missouri.



Has self-centering bowl; detached spindle

Every De Laval equipped with Bell Speed-Indicator

NEW DE LAVAL
CREAM SEPARATOR

THESE are the days when you are getting *more milk in the pail,* and with butter-fat at its present high price you want to be dead sure that you are getting *all the cream out of the pail.*

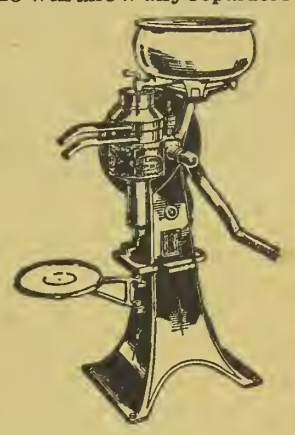
You certainly can't afford to feed butter-fat to the calves and pigs at from 30 to 40 cents a pound.

All sorts of "*claims*" are made for various cream separators, but what you are looking for is "*proof.*"

Here is the most convincing kind of proof that the De Laval is the cleanest skimming machine:

Fifteen years ago there were a dozen different makes of creamery or factory separators in use.

Today the creamerymen and large milk plants the world over use the De Laval almost exclusively. In fact, it's hard to find a large cream producer or creameryman who will allow any separator other than a De Laval in his plant, no matter what the price.



Why? Because they have found that it makes a difference of several thousand dollars a year to them whether a De Laval or some other make of machine is used. They simply can't afford to use any other machine.

This is proof of De Laval closer skimming that you can't afford to ignore. Even if you don't separate as much cream as the creameryman, you can't afford to waste it any more than he can.

Your local De Laval agent will be glad to let you try out a New De Laval on your own place. If you don't know the local agent, write to our nearest office for catalog or other information.

THE DE LAVAL SEPARATOR CO.
165 Broadway, New York 29 E. Madison St., Chicago
50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER



Raise High Priced Wheat on Fertile Canadian Soil

Canada extends to you a hearty invitation to settle on her **FREE Homestead lands of 160 acres each** or secure some of the low priced lands in **Manitoba, Saskatchewan and Alberta.** This year **wheat is higher** but **Canadian land just as cheap,** so the opportunity is more attractive than ever. Canada wants you to help **feed the world** by tilling some of her fertile soil **—land similar to that** which during many years **has averaged 20 to 45 bushels of wheat to the acre.** Think of the **money you can make** with wheat at over **$2 a bushel** and land so easy to get. Wonderful yields also of **Oats, Barley and Flax. Mixed farming** in Western Canada is **as profitable an industry as grain growing.**

The Government this year is asking farmers to put increased acreage into grain. There is now a great demand for farm laborers to replace the many young men who have volunteered for service in the war. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature as to reduced railway rates to Supt. of Immigration, Ottawa, Canada, or to

GEO. A. COOK
2012 Main St., Kansas City, Mo.
Canadian Government Agent.

It Takes Punch In the Power To Do Farm Work

TOY tractors have fooled a great many people, makers and buyers alike.

Theory won't plow a stony field or steadily drive a threshing machine. Nothing but strength, weight and power will do this kind of work.

The Nichols & Shepard Co. build *work* engines and build them so that you get *paying results* when they are at work.

Red River Special Line

Two sizes of Oil-Gas Tractors, 25-50 and 35-70 H. P., full power on kerosene.

Your neighbor is running an engine of our make that will exactly fit any need you may have. He bought it because he wanted the best and he has written to us to say that he got it. His letter is published in a little farm paper that our nearest branch house will be glad to send to you free with a complete catalog. Write for them and secure reliable home information before you buy a power outfit of any kind.

Nichols & Shepard Co.
In Continuous Business Since 1848
Builders Exclusively of Red River Special Threshers, Wind Stackers, Feeders, Steam Traction Engines and Oil-Gas Tractors
Battle Creek Michigan

MY PRICES Will Save You Money



Before you buy a cream separator (gasoline engine, manure spreader or farm tractor) be sure and get my prices—the lowest prices ever made on goods of equal quality. We sell direct to you from our great factories at wholesale. We specialize in manufacturing these lines, each article having special patented features found on no other make. They are exclusive on the Galloway, but cost you nothing extra. Cash or Time.

ACTUAL PROOF

"I like it better than one I paid $100 for. John Schrader, Corey, Pa.

"I have used three other makes. Yours beats them all, Costs n third less, skims closer and runs lighter." A. Andrews, Clinton, Oklahoma

"It skims close and runs easy, is a dandy looker. Does more than claimed for it. You saved me $50." W. M. Wickham, Flagler, Colo.



$9.90 FOR 375-LB. SIZE. OTHER SIZES IN PROPORTION

WM. GALLOWAY COMPANY
Dept. 219 Waterloo, Iowa

SELF-OILING WINDMILL

With INCLOSED MOTOR
Keeping OUT DUST and RAIN—Keeping IN OIL

SPLASH OILING SYSTEM



Constantly Flooding Every Bearing With Oil, Makes It Pump In The Lightest Breeze And Prevents Wear

OIL SUPPLY REPLENISHED ONLY ONCE A YEAR

DOUBLE GEARS—Each Carrying Half the Load
Every feature desirable in a windmill in the AUTO-OILED AERMOTOR
Gasoline Engines — Pumps — Tanks
Water Supply Goods — Steel Frame Saws
Write AERMOTOR CO. 2500 12TH ST., CHICAGO

Bale Hay Quick and Easy

The Admiral Press insures neat, fast baling. Construction simple. Quick, smooth running, dependable. Operates at low cost. Bigger capacity with less help. Run by tractor, steam or gasoline engine. Send now for our FREE catalogue. Write Today



Admiral Hay Press Co., Box 11, Kansas City, Mo.

You can't figure from high-powered vests. Many a polished hood covers a bum motor.—American Motorist.



How to Cut Sweet Clover

EXAMINATION of hundreds of acres of sweet clover in different sections of the United States during 1915 and 1916 showed that the stand on at least 50 per cent of the fields was partly or entirely killed by cutting the first crop of the second season too close to the ground. That is the report of a specialist in forage crop investigations of the U. S. Department of Agriculture, included in Farmers' Bulletin 820, "Sweet Clover: Utilization," soon to be published. To prevent the loss of stands, farmers should examine the fields carefully before mowing to determine the height at which the plants should be cut. At least one healthy bud or young branch should be left on each stub. In fact, the plants should be cut several inches above the young shoots or buds, as the stubble may die back from one to three inches if they are cut during damp or rainy weather.

Because of the difference in the growth that sweet clover makes on different types of soil and because of the difference in thickness of stands in different fields, it is impossible to state definitely the proper height to cut the first crop the second season when a second crop is to be expected. When the field contains a good stand and when the plants have made no more than a thirty-inch growth, a five- to six-inch stubble usually will be sufficient to insure a second crop. When fields contain very heavy stands—fifteen to twenty-five plants to the square foot—it may be necessary to leave an eight-inch stubble. When the plants have been permitted to make a thirty-six to forty-inch growth, a stubble ten to twelve inches high should be left. In semi-arid regions where the plants do not make as rapid growth as in humid sections, they may, as a rule, be cut somewhat closer to the ground without injury.

The proper time to cut the first crop the second season will vary in different localities, depending upon the rainfall, the temperature, and the fertility of the soil. In no event should the plants be allowed to show flower buds or become woody before mowing. On fertile, well-limed soils, in many sections, a very rapid growth is made in the spring, and often the plans will not show flower buds until about five feet high. On such soils it is essential that the first crop be cut when the plants are no more than thirty to thirty-two inches high, if hay is desired which is not stemmy, and if a second growth is to be expected. In cutting the first crop of the second season it is a good plan to use extension shoe soles on the mower so that a high stubble may be left.

It is not necessary to leave more than an ordinary stubble when cutting the sweet clover hay crop in the fall of the year of seeding. A stubble four or five inches high, however, will serve to hold drifting snow and undoubtedly will be of some help in protecting the plants from winter injury.

In some sections of the country it is difficult to cure sweet clover hay because the stand is ready to cut at a time of the year when weather conditions are likely to be unfavorable for hay making. Succulent plants like sweet clover can not be cured into hay of good quality unless excellent weather conditions prevail during the haying period. One of the most successful methods for handling sweet clover hay is to allow the plants to remain in the swath until they are well wilted or just before the leaves begin to cure. The hay should then be raked into windrows and cocked at once. The cocks should be made as high and as narrow as possible, as this will permit better ventilation. In curing, the cocks will shrink from one-third to one-half their original size. It may take ten days or two weeks to cure sweet clover by this method, but when well cured all the leaves will be intact and the hay will have an excellent color and aroma. When sweet clover is cocked at the proper time the leaves will cure flat and in such a manner that the cocks will readily shed water during heavy rains.

In stacking sweet clover, a cover should be provided either in the form of a roof, a canvas, or long green grass. A foundation of rails, posts, or boards, is desirable, as this will permit the circulation of air under the stack. No instance of spontaneous combustion in sweet clover hay have been noted, says the writer of this bulletin, but this may be due to the fact that comparatively little sweet clover hay is stored in barns. The same precautions in this regard should be taken with sweet clover hay as with red clover or alfalfa.

Farmer Doing His Part

As usual, everybody is advising the Kansas farmer, everybody is knocking because they think he is getting the big prices, when on examination they would find that the holdings of the necessaries of life are in the hands of speculators. Every man and woman, every boy and girl, upon the Kansas farms is speeding up to do his or her level best. How can you help? That is your problem. Your bit is as much a patriotic necessity as that of the man who works out in the hot sun to win the food from Mother Earth that you and countless millions must have and have soon. Who is going to demonstrate that he will not "hike" prices to make a stake, will not make food and clothes and shelter, seed and implements and money inaccessible at this time because of the exorbitant profits assessed upon it by its holders because they can? Hamans and Judases and Shylocks are to be found at all crises.

The contemptible curse of most conflicts has been that while brave men are falling for their country, over the field of battle hovers a cloud of hungry vultures fattening upon blood and flesh. So those who would, coin blood of the patriot into boodle. The strong hand of the federal government should stop the making of grain into liquor, and the speculation in foodstuffs at once. It should be an emergency war measure. In the hour of need sites for public use, railroad systems, telegraph and telephone communication, are seized and there is no criticism. These are not wasters, but ordinary agencies of public utility. Why should the waster that offers no return be exempted while people starve in war time?

Now is a good time to eliminate all unnecessary expense in any useless public service. The army of producers might be recruited from the superfluous official position holders.—ALFRED DOCKING.

Grow Sorghum for Grain

We cannot refrain from again calling attention to the possibilities of greatly increasing our grain production by growing grain sorghums. A good many farmers over the state have made marked successes in growing these crops for grain production. The trouble has been that in too many cases grain sorghums have not been given a fair chance. But in spite of the fact that they have been given such scant attention, they have made good as revenue-producing crops. These crops, including kafir, milo and feterita, are very resistant to dry weather and in most seasons will make profitable yields even though corn may be a failure in the same localities.

These grains can be used for human food. In the making of breads and puddings and mush they are fully comparable with corn in nutrient value. They have not been used for this purpose, however, very extensively in the United States, although greater interest is being taken in recent years to directing the attention of people to their value for human food. In the present emergency the chief value of the grain sorghums



Stewart Hartshorn

It Stands For All That Is Best In Shade Rollers

Only a few years ago—little more than fifty—there were no shade rollers. People *tacked* shades to the upper part of the window casing—rolled them up and tied them with cords to let the sunshine in—untied the cords and let down the shades at night! Think what it meant to go all over a house—upstairs and down—tying and untying cords!

Today we give scarcely a thought to our shade rollers—if they are Hartshorns—because they work so smoothly, so easily, so swiftly that we are never bothered by them.

Hartshorn Shade Rollers

There have been many imitations of Hartshorn Shade Rollers from time to time—but they have come and gone like all imitations. Hartshorn Rollers have lived because they have given the good service that was demanded of them. The secret of the smooth action of every Hartshorn Roller is the spring—the vital part. Every spring in Hartshorn Rollers is of finely tempered steel—made in our own special wire mills. These Rollers wear for years and save your shades.

Send today for "Shade Craft and Harmonious Decoration," our FREE book which tells you how to make your home more attractive.

Stewart Hartshorn Co.
250 Fifth Ave. New York City

Kill All Flies! They Spread Disease

Placed anywhere, Daisy Fly Killer attracts and kills all flies. Neat, clean, ornamental, convenient, and cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Ask for



Daisy Fly Killer

Sold by dealers, or 6 sent by express, prepaid, $1.00.

HAROLD SOMERS, 180 DeKalb Ave., Brooklyn, N. Y.

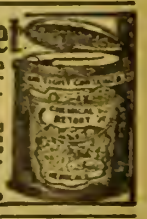
Comfort Indoor Closet

Odorless, Sanitary, Germ-proof. Can be placed anywhere in home. A guarantee of healthy, sanitary conditions.

ABOLISH OUTDOOR CLOSET

Have city conveniences. Germ-life killed instantly by chemicals. Emptied once a month. Needs no other attention. Boards of Health endorse. Write for literature. Agents wanted — exclusive territory.

COMFORT CHEMICAL CLOSET CO.
Factories Bldg. TOLEDO, OHIO



SILOS

We have in stock at our various yards quite a quantity of one-piece No. 2 Clear and Better Oregon Fir Silos, which we are closing out, and are in position to name a very low price on sizes we have in stock. If interested, write for particulars. Special prices to clubs ordering in carlots.

LA CROSSE LUMBER COMPANY
LOUISIANA, MISSOURI



MAKE YOUR BIKE A MOTORCYCLE

at a small cost by using our Attachable outfit. FITS ANY BICYCLE. Easily attached. No special tools required. Write today for bargain list and free book describing the SHAW Bicycle Motor Attachment. Motorcycles, all makes, new and second-hand, $35 and up.

FREE BOOK

SHAW MANUFACTURING CO.
Dept 140 Galesburg, Kansas

will be as feed for live stock and poultry. If used in this way they will release for use as human food large quantities of the more common food grains now fed to animals.

Because the section in which grain sorghums may be grown to best advantage is also the most important cattle-raising section in the country, growing the sorghums can be combined profitably with the growing and feeding of live stock. Most of the cattle now raised in the grain sorghum growing country are shipped to the corn belt for fattening on corn. The sorghum grains which, because of their relative newness, are more difficult to market than corn, therefore are left largely unused in the regions of production and must be held until the supplies of corn have been used up in large part, when the demand for feed grains draws them into the market. If the growers of grain sorghums will plan to carry more cattle this season and to fatten them on home-grown grain instead of shipping them to the corn belt to be finished, no difficulty will be experienced in marketing the sorghum grains. A ready market for all the meat that can be produced this year is assured.

The sorghum grains make good stock feed, having about 90 per cent the feeding value of corn. When these grains can be produced or bought for less than 90 per cent of the cost of corn, it is more profitable to feed them than to feed corn. The fattening of cattle and other stock in the grain sorghum belt is made the more profitable by the fact that this region is close to the source of cottonseed meal—one of the most nutritious protein concentrates for the feeding ration.

The third type of feed needed for the efficient fattening of stock—succulent material—may be produced by putting the grain sorghums into a silo when the grain is in the hard dough stage. This silage is as high in food value as corn silage.

Stock-raising farmers in the sorghum belt should plant a large enough acreage to supply an abundance of both grain and silage.

Sorghum Molasses Clubs

Co-operative neighborhood clubs for making sorghum molasses were quite common years ago in Missouri, Iowa, Minnesota, Wisconsin, and some other states, and such clubs are likely to be revived in these states as well as started where they have never been organized before. Kansas farmers who are interested in this subject should write the U. S. Department of Agriculture, Washington, D. C., for Farmers' Bulletin No. 477, "Sorghum Syrup Manufacture." The making of sorghum molasses for home use will help keep down the sugar bill. Small mills and evaporators for the use of those desiring to make sorghum syrup on a small scale are on the market.

Growing Sweet Potatoes

There is more than the usual interest in growing sweet potatoes this year. The sweet potato can be used as a substitute for the Irish potato and will help maintain and increase the food supply in the present crisis. The sweet potato will produce larger yields than the Irish potato. Prof. F. S. Merrill, of the agricultural college, offers the following suggestions on growing sweet potatoes:

The plants may be set out any time after the danger of frost is over, in a sandy or sandy loam soil. It is essential that the ground be in a friable condition before the plants are put out and this requires that it be thoroughly worked before planting. With the use of a lister, ridges should be thrown up eight to ten inches high, and the tops knocked off with a harrow or float.

The plants should be removed from the seed bed and set in these flattened ridges, either by hand or by machine, at a distance of fourteen to sixteen inches. In transferring the plants from the seed bed to the field, care should be taken to prevent them from drying out. The dirt should be packed firmly about the roots and a can of water poured in the hole at the time of planting.

The purpose of cultivating the sweet potato is to keep down weed growth and conserve moisture. Care should be used in cultivating to prevent breaking down of the ridges. The sides of the ridges may be cultivated with a machine, but the only satisfactory method for getting to the tops is with the hoe.

Yellow Jersey, Red Nausemond, Pride of Kansas, and Nancy Hill are varieties that have given the best yield in the state. The Southern Queen has also produced heavy yields but is poor in quality.

If suitable plants cannot be obtained, a list of responsible parties who have plants for sale will be furnished by KANSAS FARMER.

Neighborhood Co-operation

As a result of one week's schoolhouse meetings held by one of the Western Kansas district agricultural agents in the interest of increased crop acreage and co-operation, 2,000 bushels of corn, kafir, feterita, millet, and barley changed hands in the district. Through these meetings the man who needed seed was put in touch with his neighbor who had a surplus.

Keep the pigs growing, for each day passed without some gain in weight is a loss to the feeder.

TRY HOG-TONE

60 Days FREE Treatment

FOR ALL YOUR HOGS



IF I don't make your hogs make **you more money**—produce more pounds of pork for you from the same amount of feed—I don't want your money! I am giving you the same opportunity to prove this that I gave Jno. W. Crane, hog raiser near South Whitley, Indiana. He writes: "I selected four pigs out of my bunch—three were runts. I weighed them and they averaged 85 pounds. I fed them Hog-Tone for four weeks. Then sold them eight weeks from time I weighed them and they averaged 221 pounds per hog."

Mr. W. O. Gandy,
President
Avalon Farms Company

You Can't Pass This By! **Avalon Farms Hog-Tone** is the only Veterinary Remedy ever sold with a guarantee to produce a definite percentage of profit. I guarantee it to produce 400% profit on the cost of the medicine on any hogs **no matter how healthy they appear to be,** and prove it to your own satisfaction. If it doesn't do it I don't ask you to pay a cent.

I know I am safe in making this guarantee. **I know** what Hog-Tone has done and is doing for the herds of other hog raisers. I also know that the market price of hogs is going higher every day—and is **bound** to go higher from now on. There is a **serious** hog-shortage. Especially a shortage of high-grade porkers **—hogs absolutely free from worms—big hogs with sound, clean flesh!** Worms are killing off the hogs!

"More hogs may be lost from worms this year than from hog cholera, and many cases of apparent cholera are only worms," says Dr. J. T. Dinwoodie, Veterinary Specialist of the South Dakota State College. "Nearly every hog is infested with worms," declares the U. S. Dept. of Agriculture. The malignant Thorn Head Worms—Stomach Worms—Liver Worms—Lung and Bronchial Worms weaken the Hogs—affect every sow's litter—make million of hogs easy victims of cholera, scours, thumps, rheumatism, enteritis, gastritis—rob surviving hogs of nourishment their food should bring, cut down their weight and quality at marketing time. Grasp this opportunity to try

AVALON FARMS HOG-TONE

The Liquid Worm Killer and Hog Conditioner

To Treat All Your Hogs for 60 Days—FREE—At My Risk!

Avalon Farms Hog-Tone Costs Very Little

I will ship you one $1.00 bottle of Hog-Tone for each eight hogs in your herd—the day the coupon below, filled in, reaches this office. That will be sufficient to treat your hogs 60 days or more, according to size. This will mean just 12½ cents per hog for all the treatment—and that treatment is guaranteed by me to give you a 400 per cent profit over and above the cost of the Hog-Tone treatment, at marketing time. This is the same opportunity that these men grasped—and made money by doing so.

M. S. McFaddeu, Poland China Editor of Swine World (who feeds about 1000 hogs annually near Flossmoor, Illinois) advises: "I received Hog-Tone and gave it a test on five pigs. Our farm manager says that it is the best worm-expeller he ever used. **The pigs fed on Hog-Tone have made 25 per cent larger gains than those not fed on Hog-Tone."**

John Heinman, R. F. D. No. 6. Decatur, Ind., states: "I fed the Hog-Tone to a lot of hogs that had the scours. **Some of my pigs had their backs turned up like a rainbow.** In less than two weeks I could not get to the trough to feed them. I do not know exactly what the gain on this lot of hogs was, but I could see a great change in them."

Avalon Farms Hog-Tone is a highly concentrated liquid medicine FOR HOGS ONLY. It contains highly important medical ingredients which are liquids and which cannot be combined in Medicated Salts, Stock Foods or Condition Powders of any kind.

Avalon Farms Hog-Tone is safe. It is very easy to treat your hogs with Avalon Farms Hog-Tone. IT IS EASILY MIXED WITH ANY KIND OF SLOPS, WITH THE DRINKING WATER OR DAMPENED FEED. It is only given every third day for the first six weeks and after that only once a week. 100 per cent strong.

Thoroughly proved on Avalon Farms, near Fort Wayne, Indiana. Cleans out every kind of worms that infest hogs. By doing so, it gives **protection** to your hogs from easily contracting Cholera, Rheumatism, Scours, Thumps, caused by worms and indigestion. Enteritis, Indigestion and other diseases that destroy literally millions of hogs. A simply **wonderful** tonic and conditioner—gives hogs voracious appetites, aids digestion, helps them thrive, grow and put on fast increases of flesh. Makes hogs eager for their feed.

Avalon Farms Hog-Tone is the best known tonic for sows during gestation. Its use insures strong healthy pigs, It is the **reliable** worm expeller which is safe to use at this time.

Don't Send a Penny! Just Mail Me FREE Coupon

Simply tell me how many head of hogs you have—write down your name and address—and mail to me, I will immediately ship you enough **Avalon Farms Hog-Tone** to treat your hogs for 60 days! You simply pay transportation charges. Treat your hogs according to directions. If at the end of the treatment you are not **completely** satisfied—simply return the labels to me and you don't owe me a cent.

Grasp This Opportunity—Mail the Coupon to Me Today!

AVALON FARMS COMPANY, W. O. GANDY President **661 Rand McNally Bldg., Chicago**



SEND NO MONEY—TAKE NO RISK

W. O. Gandy, President, Avalon Farms Co., 661 Rand McNally Bldg., Chicago, Ill.

I have _____ hogs. Ship me immediately enough AVALON FARMS HOG-TONE to treat them for 60 days. I am to pay nothing now except transportation charges. I agree to report results to you at end of 60 days and pay for the Hog-Tone at that time if it has done all that you claim. If it does not, I will return the labels to you and you agree to cancel the charge.

Name _____

P. O. _____

R. R. No. _____ State _____

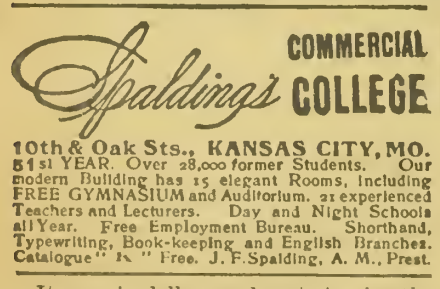
Ship to _____

Name and address of my druggist _____









It pays in dollars and cents to give the cow extra care. The cow that is kept comfortable will give the best returns.



Self-Feeders Profitable

A SELF-FEEDER like the ones used at the Kansas Experiment Station will cost $20 to $50 and will accommodate twenty hogs. Properly used a self-feeder will return a profit of $33 in 100 days. This statement is based on the results of an experiment conducted at the Kansas Experiment Station last summer and fall.

It was shown as a result of this test that the feed bill was smaller, while cents per hundredweight or 50 cents per pig, in favor of the self-fed. Average market prices of feed were used. These pigs were farrowed late. With the same kind of feeding earlier spring pigs will allow the advantage in the earlier market prices.

The details of this comparison of hand-feeding with the self-feeder are shown in the table on this page.

While the saving of labor is one of

Self-Feeder For Hogs Returns Profit

SIX PIGS FED IN EACH LOT—	LOT 1 Mixed Corn meal 70 Shorts 24 Tankage 6 Self-fed	LOT 2 Free Choice Corn meal Shorts Tankage Bone ash Self-fed	LOT 3 Mixed Corn meal 70 Shorts 24 Tankage 6 Bone ash to appetite Hand-fed twice daily	LOT 4 Mixed Corn meal 40 Shorts 48 Tankage 12 Bone ash to appetite Hand-fed twice daily
Average initial weight	48.6	49.1	47	47.5
Days to gain 150 pounds per pig	99	91	132	125
Average daily gain per pig	1.51	1.64	1.13	1.20
Feed consumed daily per pig	5.64	6.11	4.86	4.82
Feed consumed per 100 lbs. gain	373	369	428	402
Cost of feed per 100 lbs. gain	$6.04	$5.92	$6.93	$6.60

Prices of Feeds: Corn meal $1.60, Shorts $1.45, Tankage $2.55 per cwt.

labor was saved and the pigs were hurried to market.

The saving of labor and the hurrying of the pigs to market are two factors of profit which especially apply to the spring litters of pigs. The rush of summer work and a declining fall market give sufficient evidence of these facts. During the last thirty years only four exceptions to a lower market in December than in October have occurred on the Kansas City market. An average of the last five years shows a gradual decline from September until the close of the year.

In the tests referred to self-feeding and hand-feeding of pigs in the dry lot were compared. Rations of corn, shorts and tankage were fed to five lots of fifty-pound Duroc-Jersey pigs for sufficient periods of time to make an average gain of 150 pounds per pig.

In a comparison of the results of the self-fed and hand-fed lots it was found that the self-fed pigs made 25 per cent faster gains and consumed 8 per cent less feed. In other words, they made their 150 pounds gain and were ready for market thirty-two days earlier with a saving of 99 cents per head on feed alone.

These pigs were started on feed July 28. The self-fed pigs weighed 200 pounds November 1, and would have sold for $8.05 per hundredweight, while the hand-fed pigs weighed 200 pounds December 3 and would have sold for $7.80 per hundredweight—a difference of 25 the strong arguments for the self-feeder, it is very conservative to assume that in feeding two earloads of hogs—one by the self-feeder method and the other hand-fed—there would be a saving of one hour per pig in favor of the self-fed. Giving this hour a value of 16 cents and adding the 99 cents saved in feed and the 50 cents gained in market price, there results a difference of $1.65 in favor of the self-fed pig.

The average self-feeder built on the farm or offered on the market will accommodate about twenty head of hogs through a feeding period similar to the one in this experiment. With an advantage of $1.65 per head, a balance of $33 may be credited to the self-feeder above the net returns from twenty hand-fed hogs.—C. M. VESTAL, K. S. A. C.

Do not let the pigs wean themselves. Take the sow away from the pigs when they are about ten or twelve weeks old and give her next litter a fair start in life. Take the sow away from the pigs and not the pigs from the sow. In this way the pigs will be left in their accustomed lot and will be less likely to notice the change in their living conditions.

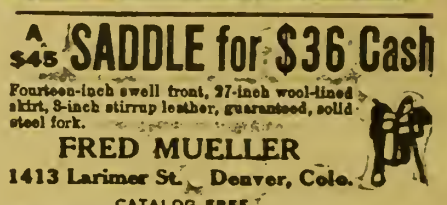
Shell the corn for the self-feeder and have a separate compartment for tankage. If the pigs are pretty small, it will be advisable to provide middlings or shorts in addition.



SELF-FEEDER IN RAPE PATCH READY FOR THE HOGS.—THIS CROP PRODUCES A LARGE AMOUNT OF VALUABLE FORAGE











There are many orchards in Kansas where demonstration work in orchard management is being done, but none are more interesting than that in charge of the Dickinson County High School, located at Chapman. This orchard has been carefully pruned under the direction of T. H. Parks, specialist in entomology in the extension division of the agricultural college, and will be sprayed four times during the season. The students of the high school are performing most of the actual work and the orchard thus becomes a class room or laboratory for training students, as well as a demonstration of proper methods in orchard management for the people of that community.



Feeding Laying Hens

IT IS too common a practice on Kansas farms to let the hens shift for themselves during the spring and summer, or, at most, to throw them a little grain. Birds fed in this way seldom give a profitable production the following fall and winter. In most cases it will be safest to feed a well balanced ration, excepting green feed, throughout the spring and summer as well as through the winter months; the amount is limited to the needs of the hens. All but the heaviest breeds will keep active, ranging for insects and tender shoots even when fed. They will, in fact, consume only so much of the ration furnished as is necessary to supplement the feed picked up. It is only stock that comes through the summer in good condition that can be expected to lay many winter eggs, because heavy egg production, and particularly winter egg production, is a severe drain on the vitality of hens.

A scratching feed composed of two of the most economical grains from Group 1 on page 11 of this circular is satisfactory. (These grains are corn, kafir, milo, oats, and wheat.) This feed should be changed as prices become extreme. A mash containing feeds in proportion similar to those below should be fed with the scratch feed:

Six pounds finely chopped corn chop, six pounds wheat bran, three pounds wheat shorts, two pounds commercial meat scrap.

If the birds have all the sour milk or buttermilk they care to drink the meat scrap may be cut to one pound. Oyster shell and grit should be kept before the birds continually.

The successful handling of hens depends as much upon how they are fed as upon what they are fed. Just as there are several good rations, so there are several routines of feeding that are equally satisfactory. The one suggested here has been used with excellent success in connection with the ration given above.

The first thing in the morning a light feed of grains is well scattered in a deep litter of straw, so that the birds will be compelled to work vigorously in scratching it out. This usually keeps the birds busy until between ten and eleven o'clock. At noon the self-feeding dry-mash hopper is opened and left open during the afternoon. If the birds are not running on pasture, as much green feed is given as they will clean up in a half hour. If mangels are used they should be split. At least two hours before sundown a liberal feed of grain is given. The birds should go to roost with full crops; therefore there is no objection to throwing down a little more grain than they will consume.

The proportion of about two pounds of scratch feed to one pound of mash should be maintained. However, when the hens are laying a large number of eggs they require more moist feed than when only a few eggs are laid. It is sometimes necessary to close the mash hopper or withhold the scratch feed in order to maintain these proportions.—Circular No. 60, Kansas Experiment Station, Manhattan.

Forcing for Egg Production

When the object in feeding hens is heavy egg production, without expectation of using the fowls for future breeders, the forcing method is adopted. By this method the hens are kept in a small yard or house, and are given a ration which is high in egg-producing elements. By this method the reproductive system is worked to its highest capacity. It is seldom that a bird will be able to stand up under such feeding conditions for more than one season. This system of forcing is followed by large commercial egg plants, the object being to get the greatest possible income from the hens in the shortest time.

The practice of the forcing method has given rise to the statement that the pullet year is the most profitable of the life of the hen. As the great majority of hens are kept on the general farms, where the production of eggs is merely a side line, forced feeding is not practical, the general plan being to allow the hens free range, and feeding them so as to produce only the normal amount of eggs. Cared for in this way, hens of the small egg breeds will produce nearly, but not quite, as many eggs the second season as the first. Those breeds which have a tendency to put on fat readily usually become unprofitable the second year.

Hens that are to be kept as breeders should never be given highly concentrated feeds. If this should be the case, the hens will not be in a good physical condition to produce the best of chicks.

Poultry Conveniences

There are many conveniences that help out in poultry raising. In many cases these appliances can be made cheaply at home. Among these helps in handling poultry, Ross M. Sherwood, of the agricultural college poultry department, mentions the supply bin for feed, which saves going to the granary each time the chickens are fed. The size depends on the number of fowls. This bin may be of metal or wood, or even a tight barrel placed on the floor or on the wall would answer the purpose.

The self-feeder is used for feeding bone, mash or charcoal. This feeder has a sloping bottom and the feed slips down as fast as it is consumed. It is well to have it on a platform two feet high.

The feeding trough is used for moist mashes. This may be made of wood or metal. Often a V-shaped trough with slats across it is used. The only objection to wooden troughs is that milk sometimes gets in the cracks and causes poisonous molds to grow.

A water fountain may be made by taking a bucket, cutting a hole near the top, and setting it upside down in a pan. The top should not be flat, so that the chickens will perch on it and contaminate the water with droppings. The pan should be on a platform so that straw will not be scratched into it.

The devices for small chicks are nearly the same, except smaller. In the self-feeder, bone is used. A netting is placed over the feeding trough to keep the chicks from scratching the feed out.

Breaking Up Broody Hens

Eliminate the expense of broody hens. Even the fowls have no right to sit and do nothing at a time when the country is facing so great a food shortage, says Ross M. Sherwood, acting head of the poultry department in the agricultural college.

He points out that the average hen lays four or five eggs a week, worth 12 to 15 cents at the present price of eggs. Hens should be "broken up" as soon as they become broody. If possible do not let them set over night, for a day saved in shutting them up may save two days of their laying period.

Broody hens should be placed in airy coops with slat bottoms and kept off the ground. Too frequently an ordinary box or tub is turned over them, and as a result they are almost as content to sit on the ground as they were on the nest.

It is a mistake to starve a broody hen. She should be well fed at this time so that she will be ready to lay when turned out. Avoid fattening the hen while breaking her up. Give a limited amount of grain and a liberal supply of milk and table scraps. Care should be taken to turn the hens out as soon as they are broken up.



The Eyes of America Turned on Her Farmers

AT last the American farmer occupies his rightful place in the esteem of the world. Manufacturers, merchants, bankers and city dwellers of all kinds heretofore have taken their food for granted and have overlooked the man behind the plow—the man who feeds them.

Conditions today are such that the *producer* of foodstuffs is recognized as the mightiest force—not only in the welfare and prosperity of the nations of the world but in the very existence of nations and their peoples.

A noticeable feature of the situation, which has shown the American farmer to be on a high moral plane as well as holding an important industrial place is the fact that he has *not* taken advantage of conditions to extort unreasonable prices from his fellow Americans. He has patriotically increased his production in order to prevent famine prices instead of keeping production down to force prices up.

He has shamed the food speculator—though unfortunately his example has not been followed by all manufacturers—particularly among the makers of so-called luxuries; though many big manufacturers in this country have followed the farmer's lead.

One of the most noticeable cases among those who have kept faith is that of the makers of Coca-Cola. In spite of the enormously high price of cane sugar—the principal ingredient of Coca-Cola—and in spite of the higher cost of its other ingredients the Coca-Cola Company have not raised the price to consumers nor lowered the quality of that delicious and refreshing beverage one iota. Like the farmers they have kept faith with the people to their own cost.

Perhaps the lessons of fair-dealing and helpfulness that the heads of that institution learned as boys on the farm (for they are products of the soil) have strengthened them to stand firm in this crisis. So let us remember that the beverage Coca-Cola, known as the National Beverage because of its great popularity, has proved itself indeed national by doing its bit to keep down the cost of living.



2 Plows

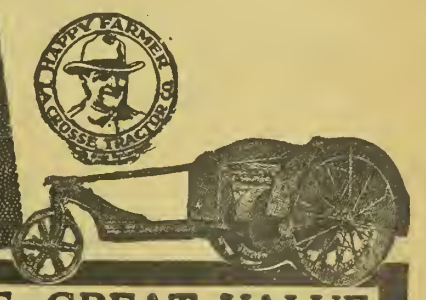


PRAIRIE DOG TRACTOR

Makes Work a Pleasure. Early plowing conserves moisture and increases crops. The greater profit will pay for a Prairie Dog Tractor. Works in any weather. Does not mind the heat—never tires. Pulls two 14-inch plows under ordinary conditions at 2½ miles per hour. 20 H-P. Wankesha Motor for belt work. Speed on high for road work, 7 to 10 miles per hour. Saves time, makes work pleasant. High quality—low price. Write for catalog and special offer to reliable farmers.

K. C. HAY PRESS CO., Kansas City, Mo.

La Crosse Happy Farmer Tractors



LOW PRICE—GREAT VALUE

So low in first cost and upkeep that any farmer can afford to buy one or more. Simple in construction—with highest quality materials. Only ⅔ the parts used by other tractors, 88% of weight on two drive wheels.

Write for Catalog La Crosse Happy Farmer Tractors are now doing great work in farmers' fields. **Model "A"** pulls 2 or 3 plows—1500 lbs. guaranteed drawbar pull—16 h. p. on all belt work—extremely light and simple. Use gasoline or kerosene. **Model "B"**—12-24 h. p. guaranteed—weighs only 3700 lbs. Many exclusive features. Burns kerosene perfectly—Hyatt Roller Bearings throughout. We have a distributor in your territory for prompt service. Write for catalog. Also get literature on the La Crosse Happy Farmer line of tractor-drawn implements.

MODEL "A" 8-16 H. P. $585.00

MODEL "B" 12-24 H. P. $735.00

LA CROSSE TRACTOR CO., Dept. 6 Minneapolis, Minn.
Live Dealer Agents Wanted

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

Pickens School of Millinery

Six weeks' training in our school will make a more efficient milliner of you than a year spent as an apprentice elsewhere, and nine weeks finishes our pupils for constructing, copying and trimming hats.

Classes beginning June 3, June 24, July 16.

WRITE FOR OUR TERMS

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WHEN YOU BUILD BUILD PERMANENTLY

The Humboldt Hollow Tile Silo or Barn will last forever. It is the last thing in Silo and Barn Construction.

Economical, Fire-Proof, Indestructible

Hollow Tile Silos will cost no more than one-piece fir stave silos. The Humboldt Tile Barn will cost very little more than a frame barn, and you have permanency. No shrinking or swelling, warping or twisting, no rotting. Needs no paint. Extremes of heat and cold, moisture or dryness will not affect this wonderful construction.

Stands Like a Rock

Hollow Tile is fire-proof because the tiles are made of shale, burned with natural gas to a temperature of 2,000 degrees.

Perfect Silo and Barn Construction

This is indestructible and is many permanent features make the Humboldt Hollow Tile Silos and Barns the cheapest that money can buy. Everlasting strength makes a lasting improvement for any farm. Our silos are tried and proven and in constant use at the Kansas Agricultural College at Manhattan, and the Oklahoma Agricultural College at Stillwater, and among hundreds of the permanent farmers and stockmen in the country. We refer you to any of them for reference on our silos.

LET US FIGURE ON BUILDING A SILO OR BARN FOR YOU

WRITE US TODAY FOR COMPLETE LITERATURE.



Tile Silo and Dairy Barn on Farm of J. W. Hamm, Humboldt, Kansas.

HUMBOLDT BRICK MANUFACTURING COMPANY, HUMBOLDT, KANS.

Makers of Brick, Drain Tile, Silos, Tile for Churches, School Houses, Store Buildings, Residences, Barns, Farm Buildings of All Kinds.

MENTION KANSAS FARMER WHEN YOU WRITE.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

In washing woolen blankets all water used should be of the same temperature and the best results will come from the use of lukewarm water. A mild white soap should be used and should be dissolved in water to which has been added a little borax—about two tablespoonfuls to a large cake of soap. The blankets should not be rubbed or twisted, but squeezed through the hands. All soap should be removed by careful rinsing through several waters and a little bluing should be added to the last rinse water. If the soap is left in the blankets they will become hard and will shrink. The wringer should be set loose for wringing the blankets. They should be hung over the line double and should not be dried in the sun nor in too cold air. Frost will shrink the fiber and sunlight will burn white wool. After drying the blankets can be made light and fluffy by gentle brushing.

State Extension Schools

Kansas communities expecting to take advantage of the state extension schools offered by the extension division of the Kansas Agricultural College for next fall and winter, should begin at once making arrangements for securing one of these schools.

Only thirty-two of the extension schools in agriculture and home economics can be held during the season 1917-18—from November 1 to March 1. A petition signed by no less than fifteen responsible citizens who promise to have an interest in the school and work for its success, and who guarantee the money necessary for local expenses, should be sent to the Extension Division, Kansas Agricultural College.

Best results are obtained in the community where all local organizations cooperate in promoting the school.

The money guaranteed by the petitioners is used for local expenses only, such as necessary supplies for use in the school work, transporting speakers and equipment from and to railroad station, and for the hotel bill of the four representatives sent from the agricultural college. Salaries of these men and women and their railroad fares are paid by the college from money appropriated for this purpose. A fund of not less than $75 must be on deposit in a local bank when the school opens, which may be drawn upon by the local committee as designated by the college representative in charge of the school. This fund usually more than takes care of the expenses of the school and any money left goes back to the committee to be used for paying premiums on grain, live stock or household products, or for prizes in contests in connection with the extension school, such as stock or grain judging, sewing, baking, etc.

This fund can be raised by sale of season tickets to the school, which should bring one dollar apiece, and by sale of tickets to adults not holding season tickets, for the two evening entertainment programs given in connection with the school.

Courses offered for men are soil fertility, farm crops, animal husbandry, dairying, horticulture and entomology, live stock sanitation and animal diseases, farm management and rural economies, any two of which will be given. There is a first year and second year course for women in foods, shelter and management, and clothing. Four instructors—two women and two men—conduct each school of five days.

Two well-lighted rooms must be provided by the community for the school.

Further information regarding these extension schools may be secured by writing the Extension Division, Kansas Agricultural College, Manhattan.

Refinishing Soft Wood Floors

The following treatment for old floors is recommended by W. H. Ball, assistant in woodwork at the Kansas Agricultural College:

"Raw linseed oil is the most satisfactory dressing for soft wood floors. It is more nearly water-proof than any other oil. Hard wood dressing should not be used.

"Clean the floor thoroughly. If it has

Young Gardener and His Equipment

FOR two years Lester McDaniel has captured about all the garden prizes offered for garden club work around Wichita. We hope boys in that section will give Lester plenty of stiff competition this year. Last year in the garden contests conducted by the Wichita Y. M. C. A. in co-operation with the United States Department of Agriculture, Lester won $49 in cash prizes on the different kinds of vegetables from his garden and in addition various merchandise prizes offered by the business men of Wichita valued at $67.40. He fairly earned the title of "Garden King" of Southern Kansas, which was given him by State Club Leader Otis E. Hall. Lester did nothing that cannot be done by other boys, and we predict that he will have to work hard to retain his laurels this year. The cut shows him with the tools he used.



been painted, a good paint remover should be used. Heat the oil not to exceed 180 degrees, and after removing from the fire add a little turpentine, not more than five per cent, which causes the oil to penetrate into the wood more readily and improves the wearing qualities. A coat of good floor wax may be applied over the oil if a polish is desired, and rubbed with a woolen cloth or weighted floor mop.

"For darkening, Van Dyke brown, burnt umber, or some other dark color may be added to the oil although the oil tends to darken the floor. A common paint brush may be used to apply the oil, and care should be taken to spread it smoothly. Do not allow the oil to puddle as it will dry on the surface and will peel off or produce glossy spots. One gallon of oil will cover from 500 to 700 square feet with one coat, depending upon the condition of the floor and the amount of wear. It is well to apply two coats in the beginning and renew with a coat once a year.

"A common method of treating old floors in bad condition is to use a good floor paint after the floor has been cleaned. A dark color such as brown, produced by burnt umber, or such neutral colors as will harmonize with the color scheme of the room should be used. It is not advisable to use a cheap varnish as it is not permanent.

"If it is desired to bring out the grain of the wood the floor should be stained the color chosen and then from two to three coats of good floor varnish should be applied. Shellac is sometimes used for the first or priming coat as the cost is from one-third to one-half that of varnish, but it is not recommended for permanent results. In no case should shellac be used exclusively on a floor as it has a tendency to scar and peel off."

By placing a tuck in the hem of a child's wash dress, it will be an easy matter to lengthen the skirt when the child has outgrown it. The tuck should be run in by hand.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 7928—Ladies' Waist: Cut in sizes 36 to 42 inches bust measure. The waist shown in the picture is a new style; the back and a front yoke are in one piece—other interesting features being a high collar wired at back and cut away at front, gathered fronts, novelty in the pearl button closing, and a fancy cuff button trimmed to which a full-length sleeve is gathered. **No. 8180—Children's Dress:** Cut in sizes 2, 4, 6 and 8 years. Any girl's enthusiasm is bound to get the better of her when mother makes her frock like this. The waist is on plain lines, has front closing and is finished at the neck with a cape collar of contrasting goods. A one-piece gathered skirt allows freedom of movement necessary for the comfort and happiness of a lively child. **No. 8169—Ladies' Russian Blouse:** Cut in sizes 34 to 42 inches bust measure. Here is style in a Russian blouse that will immediately be hailed as a triumph. It is cut with panel effect full length front and back, the upper parts of the fronts being gathered to shoulder yokes and the lower part plaited at the sides. **No. 8154—Ladies' Dress:** Cut in sizes 34 to 42 inches bust measure. With all the newest details to cause one to look at it twice, this model shows lines promising an enormous amount of comfort and telling that the dress is practical for indoors and smart enough too for street wear. A separate belt with front strip and side tabs does duty at normal waistline. **No. 8160—Ladies' Plaited Skirt:** Cut in sizes 24 to 32 inches waist measure. If interested in current styles in separate skirts, you are sure to take note of this design—a model cut in six gores and having left side front closing. Front and back are in broad panel effect and the side sections are laid in plaits. A raised waistline is used, but a separate belt with side tabs for novelty is added. **No. 8141—Ladies' Dress:** Cut in sizes 36 to 42 inches bust measure. The style of the moment is expressed by the long, loose lines of this frock—a one-piece model with left side front closing. A plait is made at each seam where the side sections are joined to back and front, with full-length panel resulting. To each side of the back the girdle of satin is stitched and brought around to tie and drape at front.

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks,** for bona fide seekers of employment on farms.

REAL ESTATE.

IF YOU WANT TO SELL OR EXCHANGE your property, write me. John J. Black, Desk C, Chippewa Falls, Wisconsin.

EIGHTY ACRES IRRIGATION LAND, San Luis Valley, Colorado, for sale. Heinsehel, Smith Center, Kansas.

FOR SALE—A FEW GOOD FARMS AND Western Kansas wheat land. Rogers Land Co., 528 East Douglas, Wichita, Kansas.

FARM AND PROPERTY WANTED EVerywhere. If you want to sell, try me. One per cent commission after sale. If you want to buy, get my Farm Journal. Hahr's Farm Agency, 800 Broad St., Newark, N. J.

HORSES AND MULES.

FOR SALE—BAY SHETLAND PONY, weight 500 pounds; buggy, harness, $75.00. John Seybold, 114 E. Eighth, Topeka.

JACK FOR SALE OR TRADE—FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

HOLSTEIN CALVES FROM TESTED dams. Blue Label Stock Farm, Route 5, Whitewater, Wisconsin.

FOR SALE—ONE REGISTERED SHORThorn bull, thirteen months. John Thorne, Kinsley, Kansas.

GUERNSEY COW COMING THREE years old, registered, well bred, good type, desirable. J. W. Marley, Oswego, Kansas.

FOR SALE—FOUR REGISTERED HOLstein male calves. One large enough for service. Also a few grade heifers. F. E. Proctor, Oswego, Kansas.

CALVES — HOLSTEINS, SHORTHORNS and Guernseys. A few specially fine ones, $12.50 to $25. For catalog write Ed Howey, South St. Paul, Minn.

REGISTERED GUERNSEY BULL calves for sale. Sire's dam has official record 613 pounds butter. R. C. Krueger, Burlington, Kansas.

FOR SALE—TWO REGISTERED GALloway bulls, also two grades, all two years old; in good breeding condition, priced cheap for quick action. J. F. Winter, Emmett, Kansas.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $23 apiece. Frank M. Hawes, Whitewater, Wis.

HOLSTEIN CALVES — TEN HEIFERS and two bulls 15-16ths pure, 4 to 6 weeks old, $18 each, crated for shipment. Also one pure-bred heifer, three months old, $75. These calves are nicely marked. Four Way Farm, Whitewater, Wis.

LUMBER.

LUMBER, MILLWORK, FENCE POSTS—Wholesale mill prices. Send carpenter's list for freight prepaid estimate. Keystone Lumber Company, Tacoma, Washington.

TREES, SEEDS AND PLANTS.

ALFALFA SEED FROM NORTHWEST Kansas, 95% pure, good germination, $5.50 per bushel. Geo. Bowman, Logan, Kansas.

WE SAVE YOU MONEY ON ALL FORage crops, seeds and seed corn. Write at once for samples and prices. Watson Bros., Seed Merchants, Milan, Missouri.

CABBAGE AND TOMATO PLANTS: Offer fine large plants and quick shipment. Our plants are growing in 3,000 towns. Tomato for canning offer Greater Baltimore and Red Rock, the variety used by Van Camp, Rider and all the Giant Canners, also Chalk's Jewel, Matchless, New Stone, Favorite, Paragon and Dwarf Champion Tree varieties. 100, 40c; 200, 70c; 500, $1.25; 1,000, $2, prepaid. Cabbage plants: Surehead, Charleston, Jersey, Winningstadt, Copenhagen, Flatdutch, Allseasons, 100, 40c; 200, 65c; 500, $1; 1,000, $1.50, prepaid. We can ship quick. Cabbage bringing $200 ton. No order too large. None too small. Ozark Seed & Plant Co., Nashville, Arkansas.

HELP WANTED.

FARMERS WANTED—$75 MONTH. MEN and women. U. S. Government jobs. War means hundreds vacancies. Common sense education sufficient. Write immediately for list positions obtainable. Franklin Institute, Dept. C-82, Rochester, New York.

DOGS.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

THRESHING MACHINES.

FOR SALE—AN AVERY GAS THRESHing and plow outfit. Address J. E. Wallace, Route 4, Abilene, Kansas.

HOGS.

CHOICE DUROC JERSEY BOAR PIGS—Farmer prices. Best of breeding. Chester McWilson, Rice, Kansas.

WANTED

WANTED — REGISTERED PERCHERON mare. Give details, description, price. Fred Perkins, Oswego, Kansas.

THE STRAY LIST.

TAKEN UP—BY ROY WEHLGEHAGEN, of Dudley Township, Haskell County, Kansas, on April 28, 1917, one stray horse, color black, age two years. Branded with an open A. And the said Roy Wehlgehagen, the taker-up, resides in Dudley Township, said county. His post office address is Satanta, Haskell County, Kansas. A. R. Henage, County Clerk.

SITUATION WANTED.

MARRIED MAN WITH WIFE AND ONE child wants steady work on farm. Address N. S., care Kansas Farmer.

Real Estate For Sale

360 ACRES CREEK BOTTOM FARM
160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; $5,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only $45 per acre.
M. T. SPONG - - FREDONIA, KAN.

30 ACRES, 2 miles business center McAlester, city 15,000. 24 a. fine black dry bottom; 12 a. cult. $50 per a., terms.
SOUTHERN REALTY CO., McAlester, Okla.

If We Could Know

At a church meeting in Cleveland, Ohio, recently, the speaker gave the replies of nineteen men to the question: "What I wish I had known before I was twenty-one years old." These are the nineteen answers:

What I was going to do for a living—what my life work would be.

That my health after thirty depended, in a large degree, on what I ate before I was twenty-one.

How to take care of my money.

The commercial asset of being neatly and sensibly dressed.

That a man's habits are mighty hard to change after he is twenty-one.

That a harvest depends upon the seed sown—wheat produces wheat, thistles bring forth thistles, ragweeds will spoil a good pasture, and wild oats once sown will surely produce all kinds of misery and unhappiness.

That things worth while require time, patience and work.

That you can't get something for nothing.

That the world would give me just about what I deserved.

That by the sweat of my brow would I earn my bread.

That a thorough education not only pays better wages than hard labor, but it brings the best of everything else.

The value of absolute truthfulness in everything.

The greatness of the opportunity of joy of serving a fellow man.—The Irish World.

That my father wasn't such an old fogy after all; if I had done as he wished I would be very much better off physically, mentally and morally.

Reliable Poultry Breeders

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

BARRED PLYMOUTH ROCKS — FARMbred beauties. Eggs for hatching, 5c each. Mrs W. C. Bocker, Solomon, Kan.

BARRED ROCK EGGS, FANCY STOCK, heavy laying strain, $4.25 per hundred. Earl Summa, Dept. G, Gentry, Missouri.

BARRED ROCKS—CHAMPION LAYERS and weighers. Eggs, fifteen, $1; hundred, $6. J. M. Jarvis, Newton, Kansas.

WHITE ROCKS, SIZE AND QUALITY, good egg strain. Eggs—fifteen, $1; fifty, $3; hundred, $5. G. M. Kretz, Clifton, Kansas.

BUFF ROCK EGGS, ONE DOLLAR PER setting; choice stock. Mrs. E. C. Hicks, Columbus, Kansas.

WHITE ROCKS — PURE-BRED FARM range choice stock. Eggs, fifteen, 75c; 100, $4. F. F. Richter, Hillsboro, Kansas.

PURE BARRED ROCK EGGS — FARM range, $1 per fifteen, $5 per hundred. Mrs. H. Buchenan, Abilene, Kansas.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

BARRED ROCKS — SEVENTY-THREE premiums. Breeders for sale. Eggs half price. Mattie A. Gillespie, Clay Center, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." Prices eggs reduced after May 10, No. 1 either mating, $2, fifteen; $3.50, thirty; $10 hundred. Mrs. Iver Christenson, Jamestown, Missouri.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, $3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

RHODE ISLAND REDS.

SINGLE COMB RED EGGS, GOOD FARM range, $4 per hundred; $1.50 per thirty. Mrs. Rosa Janzen, Box 242, Geneseo, Kansas.

ROSE COMB RHODE ISLAND REDS—Eggs, $2 per setting. Kansas state show winners. Baby chicks. Mating list. L. E. Castle, Wichita, Kansas.

DARK R. C. REDS, PURE-BRED, EXTRA fine. Eggs, $3 and $2 per fifteen; $5 per hundred. W. J. Honeyman & Sons, Hillside farm, Madison, Kansas.

FERTILITY AND SAFE ARRIVAL guaranteed on low priced eggs for hatching, from high quality, both combs, Rhode Island Reds. Fourteen years breeding. Mating list free. H. A. Sibley, Lawrence, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

ANCONAS.

S. C. ANCONA EGGS, $5 HUNDRED. Fine layers. Mrs. Will Torgeson, White City, Kansas.

SEND FOR MY "ANCONA DOPE" AT once. Tells why I quit all other breeds. It's free and worth reading. Fill orders for eggs promptly. Page's Ancona Farm, Salina, Kansas.

DUCKS AND GEESE.

BUFF DUCKS — WINNERS WITH EGG record. Eggs, $1.50 per thirteen. Mrs. J. H. Wood, Solomon, Kansas.

BABY CHICKS.

REDS, ROCKS, LEGHORNS; 12c. REquest folder. McCune Hatchery, Ottawa, Kansas.

ORPINGTONS.

FINE GOLDDUST BUFF ORPINGTONS—Eggs, $1.50 setting; $8 hundred. Prepaid. Mary E. Price, Route 7, Manhattan, Kansas.

CEDARDELL POULTRY FARM — S. C. Buff Orpingtons exclusively, bred for size, color and eggs. $1 per sixteen, $5 per hundred. Martha Brown, Parkerville, Kansas.

SEVERAL BREEDS.

BARRED AND BUFF ROCKS — SINGLE Comb White Leghorns, Fawn and Pencilled Runner Ducks. Eggs—Fifteen, $1; hundred, $5, from range flocks. J. T. Rickman, Kiowa, Kansas.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

TURKEYS.

BOURBON RED TURKEY EGGS—TWOyear-old hen, 40-pound tom. $3 setting. S. Peltier, Concordia, Kansas.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

LANGSHANS.

GET MY FREE MATING LIST OF MADison Square and Chicago prize winning Langshans. John Lovette, Mullinville, Kan.

MINORCAS.

SINGLE COMB BLACK MINORCA EGGS, $5 hundred; $1 setting. Claud Hamilton, Garnett, Kansas.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

S. C. BLACK MINORCA EGGS FOR hatching. Pen No. 1, $2; pen No. 2, $1.50 for fifteen eggs, $6 per hundred. W. F. Fulton, Waterville, Kansas.

WHITE LEGHORNS

ROSE COMB WHITE LEGHORN EGGS for hatching from full blooded birds. Satisfaction guaranteed. $4 per hundred, $7 per two hundred. Mrs. Joe Streeter, Route 5, Hamilton, Missouri.

WYANDOTTES.

WHITE WYANDOTTES — EGGS FROM choice stock, $1.80, thirty; $5, hundred. Mrs. Will Beightel, Holton, Kansas.

WHITE WYANDOTTE EGGS — STOCK from (Fishel World Best Direct) $2.50 for 48, prepaid. S. Peltier, Concordia, Kansas.

CHOICE ROSE COMB SILVER WYANdotte eggs, $1 for 15; $5 for 100. Mrs. Phillip Schuppert, Arrington, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $6. Mrs. Edwin Shuff, Plevna, Kan.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuis, Fredonia, Kansas.

IF YOU WANT THE BEST SILVER Wyandottes, Barred Rocks or White Crested Black Polish breeding stock or eggs, write to William Neiers, Box T, Cascade, Iowa.

LEGHORNS.

TIP TOP ROSE COMB BROWN LEGhorn eggs. J. E. Wright, Wilmore, Kan.

R. C. W. LEGHORN EGGS, $4 PER HUNdred. Mrs. Henry Apking, Bruning, Neb.

FOR SALE—BROWN LEGHORN HENS. E. Rathbun, Lucas, Kansas.

EGGS, EGGS FROM KEEP-LAYING strain Single Comb White Leghorns. Thol. R. Wolfe, Conway Springs, Kansas.

PURE-BRED ROSE COMB WHITE LEGhorns. Eggs for hatching; forty-five, $2; one hundred, $4. Prepaid in Kansas. G. Schmidt, Route 1, Goessel, Kansas.

S. C. BROWN LEGHORNS—HAVE BEEN raising them 21 years, the 222 to 266 egg record kind. Under hens the fertility runs 95%. Eggs—Fifteen, $1.25; 100, $5. Safe arrival guaranteed. Gorsuch, Stilwell, Kan.

PHEASANTS.

PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Booking orders. Eggs of these, $4 dozen; Golden, $5 dozen. Harper Lake Poultry Farm, Jamestown, Kansas.

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

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CLAIM SALE DATES.

Jerseys.

May 31—R. J. Linscott, Holton, Kansas.
June 26—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.

Double Standard Polled Durhams.

June 8—Ed Stegelin, Straight Creek, Kan.

Poland Chinas.

Aug. 15—H. L. Faulkner, Jamesport, Mo.
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.

At the sale of Hereford cattle held May 16 at Kentland, Indiana, by Warren T. McCray, the average for seventy-five head of Herefords was $1,750. Martin Fairfax, a bull, sold to George Fuller, of Saskatchewan, Canada, for $17,000, the top price. The top price on females was $5,000, which Frank Fox, of Indianapolis, paid for Mousel's Express. Bulls in the sale averaged $2,381 a head; cows, $1,435.

Max J. Kennedy, of Fredonia, Kansas, is the owner of one of the heavy producing herds of Holsteins in Kansas. This herd is made up of choice individuals, representatives of families backed by a long line of records. The breeding of his herd is of the best. A feature of the herd at this time is the choice lot of young stock of record breeding.

John Linn & Son, of Manhattan, Kansas, own one of the good herds of Ayrshire cattle in Kansas. They now have twenty-five cows and heifers in their herd, headed by Elizabeth's Good Gift, whose dam was the world's record cow in 1913, having made a record of 15,122 pounds milk and 526 pounds butter fat as a three-year-old. His sire's first daughters are making an average of 1,200 pounds milk and 400 pounds butter fat as two-year-olds. Lady Fearnot of Oakdale, a two-year-old cow in the herd, has a thirty-day butter fat record of fifty pounds. Euphemia of Oakdale, a mature cow, has a thirty-day butter fat record of seventy-one pounds. Alta Drummond of Oakdale, a mature cow, made a thirty-day milk record of 1,650 pounds and a butter fat record of sixty-five pounds. Susie May Pender, a three-year-old, is now milking fifty pounds per day. They have ten head on test at the present time.

Poland Chinas should be strongly represented at the fairs this fall. Fourteen thousand dollars in cash prizes, besides it is now expected that several states will be visited with "view herds," costing in the aggregate of $3,000 per head. The prize money is divided as follows: Seventeen state futurity shows, $600 per show, in the states of Ohio, Nebraska, Kansas, California, Iowa, Indiana, Illinois, Missouri, Oregon, Montana, South Dakota, Minnesota, Wisconsin, Oklahoma, Idaho, Texas, Memphis Tri-State National Swine Show; Omaha, Neb., October 3-10, 1917. Two thousand dollars in the open classes, and $1,000 in the National Round-Up Futurity. About $800 is given to pig clubs and other extension work.

Catalogs are out for Ed Stegelin's Polled Durham sale to be held at Straight Creek, Kansas, June 8. This sale will be of unusual interest to Polled Durham breeders for the reason that the famous Polled Durham bull, True Sultan, with twenty of his sons and daughters, will be included in the offering, and about the same number of cows with calves at foot or safe in calf by the great prize winner. At six different shows in 1916 True Sultan and his get were awarded 119 prizes, including twenty-five championships and grand championships. The offering includes the aged show herds, a young herd and a calf herd, all in first class condition to go on the fall show circuit.

The sale of the Benton Gabbert herd of Hereford cattle at Dearborn, Missouri, May 11, dispersed one of the oldest herds of that breed of cattle in America. The foundation of this famous herd was laid thirty-five years ago. The seventy-five head catalogued sold for an average of $525. Twelve bulls sold for an average of $622. The sixty-three females sold for an average of $505 per head. Beau Gomez, purchased by Gabbert & Son at the H. D. Cornish dispersion sale for $4,000, sold for $3,900, R. M. McNeel, of Marietta, Georgia, being the purchaser. The offering was widely distributed. A large percentage of the cattle went to breeders in Missouri, Illinois, Georgia, Kentucky, Kansas, Nebraska, Texas and Oregon.

George C. Tredick, of Kingman, Kansas, owner of the Tredico Herd of Holsteins, reports a good demand for Holsteins that are bred for production. Mr. Tredick has a line of breeding in his herd that has contributed largely to the fame of Holsteins as producers.

T. R. Maurer & Company, of Emporia, Kansas, report their Holstein herd doing well and a lively demand for high class Holsteins. This firm owne one of the good herds in Kansas. They have a line of record breeding that insures profitable Holsteins.

D. J. White, of Edgewood Farm, Clements, Kansas, reports his herd of registered Angus cattle doing fine. Mr. Clements owns one of the outstanding good Angus herds in Kansas. The popular Angus families are all represented in his herd and he is breeding the profitable type. A feature of his herd at this time is the fine lot of young stock, including a fine lot of yearling bulls.

J. P. Mast, of Scranton, Kansas, reports his Holstein herd making a good record again this year. Mr. Mast has built up one of the great producing herds in the West. His herd is drawn upon heavily for breeding stock and many good producing herds in the Southwest were started with foundation stock from this herd.

Geo. W. Ela, of Valley Falls, Kansas, one of the live boosters for Hampshire hogs in Kansas, reports his herd of pure-bred Hampshires doing fine. Mr. Ela, who is secretary of the Kansas Hampshire Breeders' Association, has recently organized a boys 'pig club of twenty members and will start them in the Hampshire business with pigs from his herd. A feature of Mr. Ela's herd at this time is the choice lot of fall boars and gilts and a very fine lot of spring pigs.

New Books

"Vegetable Growing," by Boyle, is the title of a book recently published by Lea & Fabiger, Philadelphia. It covers the whole subject of vegetable growing, both from the standpoint of home use and production on a field scale. It is a valuable book to anyone growing vegetables. Locating and planning the garden, seed supply, garden tools, insect and disease control, classification of vegetables, and vegetable storage are some of the chapter titles. The book sells for $2.25.

• • •

The Macmillan Company has just added to the Rural Science series a book entitled "The Potato," by A. W. Bilbert, professor of plant breeding at Cornell University. It is intended to give brief, practical suggestions on the growing, breeding and marketing of potatoes. It is written especially for practical men who wish concise information on potato growing but do not have the time to go through all the miscellaneous sources of information, and especially experiment station bulletins, in search for this information. This book sells for $1.50.

• • •

"A History of the Percheron Horse," by A. H. Sanders, is a new book just published by the Breeders' Gazette that should be in the hands of every breeder of Percherons. Probably no one is more competent than Mr. Sanders to prepare such a book. It includes hitherto unpublished data concerning the origin and development of the modern type of heavy draft horse, drawn from authentic documents. Mr. Sanders' own personal recollections of the American Percheron trades goes back to his boyhood, his father, James H. Sanders, having been one of the earliest introducers of Percheron blood in the country west of the Mississippi and compiler of the initial volumes of the Percheron Stud Book of America. This book is a distinct addition to the literature of the Percheron breed. It is printed on high-grade paper and contains many illustrations.

• • •

"Agricultural Entomology," by Osborn, is the title of another Lea & Fabiger publication that meets the need of students and others who wish to learn something of insect life in its relation to farm crops and live stock. It is fully illustrated and while the author has assumed that his readers will have some technical knowledge of plant and insect life, the book is of value to the general reader.

Fly Campaign in Order

From now until freezing weather comes again we should fight flies systematically. Those who have made a study of disease carriers, tell us that the fly has no equal as a germ carrier and that five hundred milion germs have been found in and on the body of one fly. This statement shows the importance of killing the first fly and every other one that makes its appearance. For every fly killed now there will be innumerable less flies later in the season.

The most effective step in a fly campaign is the destruction of their breeding places. Flies breed in filth and where there is filth flies are sure to be found in great numbers. If they remained in the filth they would not be dangerous to life, but they soon leave their early home, carrying with them much of this filth and depositing it wherever they stop,—on the food we eat, on the baby's mouth, or other places where these disease germs will thrive and do their destructive work.

Clean premises, meaning nothing left out in the open that will attract flies, is the first step in a fly campaign, and the killing of any that do come, is the next step.

The Federal Government suggests formaldehyde and sodium salicylate as the two best poisons, both being superior to arsenic. These poisons attract flies, they are convenient to handle and are not poison to children. Three teaspoonfuls of concentrated formaldehyde solution, which is commercially known as formalin, should be used to a pint of water, or three teaspoonfuls of the pure chemical sodium salicylate, which is a powder, to the same amount of water. Fill or partly fill an ordinary drinking glass with either of these solutions, place over the glass a piece of blotting paper and on top of this a saucer or small plate. Next invert the glass and plate and place a match between the glass and the blotting paper. As the solution dries out of the saucer the liquid seal is broken and more flows into the saucer or plate. By this means the blotting paper is kept continually moist.

There are many odors which are pleasing to people which are equally unpleasing to flies and these can be used in freeing the house of this pest. A little oil of lavender mixed with the same quantity of water and sprayed around the room, will drive out the flies. The odor of geranium, mignonette, heliotrope and white clover, is also disliked by flies. When using any of these an opening through which the flies can leave the room, should be left.

The mixture of cream, ground black pepper and brown sugar, is poisonous to flies. One tablespoonful of each of these, mixed in a saucer and set in a window that is left light in a darkened room, will attract the flies and kill them. Flies that are killed in the house should always be burned.

A PRIZE WINNING POLLED DURHAM SALE.

The Champion "True Sultan" And His Get

All At Auction

8 Miles North of Holton

Straight Creek, Kans., Friday, June 8

37 Females---10 Bulls

TWENTY SONS AND DAUGHTERS OF THE GRAND CHAMPION.

TWENTY COWS WITH CALVES AT FOOT OR SAFE IN CALF BY HIM.

This sale will offer to buyers an opportunity to secure either an aged show herd headed by the Champion True Sultan, or a young herd, sired by him, headed by the senior yearling, Sultan's Conqueror. All are nicely fitted and in prime condition to carry on the fall shows. The show records of this herd, during the past few years, have marked it as one of the strongest collections of hornless Shorthorns in the Middle West. The entire lot of show cattle is selling. The cows with calves at foot are in good breeding condition and merit the attention of those looking for the best.

Write today for a sale catalog. Address

ED. STEGELIN, STRAIGHT CREEK, KANSAS

Auctioneers—Col. Duncan, Col. Price and Col. McFadden.

EDGEWOOD FARM

REGISTERED ANGUS BULLS. HAVE FIFTEEN STRONG YEARLING BULLS FOR SALE.

D. J. White, Clements, Kansas

ANGUS CATTLE

Aberdeen-Angus Bargains

Fourteen richly-bred heifers, good individuals, low down, blocky, easy-feeding kind. Very best blood lines. Bargain price, $1,600 for the lot, f.o.b. Salisbury, if taken at once. Also two young bulls priced right. Thirteen years a breeder.

V. E. LAWRENCE, SALISBURY, MISSOURI

SHORTHORN CATTLE.

25 Shorthorn Bulls

Reds and roans. Pure Scotch and Scotch-topped yearling bulls at farmer prices. Farm at Pearl. Ship over Rock Island, Santa Fe, Union Pacific and Missouri Pacific. Come and see me.

C. W. TAYLOR, Abilene, Kan.

Dickinson County.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

H. M. HILL - LAFONTAINE, KANSAS

SPRING CREEK SHORTHORNS

Headed by the great sire, Orange Goods. Best families represented in herd, good individuals. Choice young stock for sale.

THOS. MURPHY & SONS, Corbin, Kansas.

TWO SHORTHORN BULLS. One herd boar. Fall gilts, bred or open. February and March pigs, pair or trio, no relation. S. C. White Leghorn eggs.

R. C. WATSON - ALTOONA, KANSAS

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.

A. L. HARRIS - OSAGE CITY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS

Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.

H. H. HOLMES, Route 28, Topeka, Kansas

DUROC JERSEYS.

MAPLEWOOD DUROCS

Fifteen serviceable boars for sale, sired by Gelmon's Good-E-Nuff. First choice, $35, f.o.b. Herington, Kansas.

MOTT & SEABORN, HERINGTON, KAN.

LONE TREE DUROC FARM

Herd Boar Graduate Prince by Graduate Col. Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.

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BERKSHIRE HOGS.

KING'S BERKSHIRES — Twenty good Berkshire fall boars. One good yearling boar. E. D. KING, Burlington, Kansas.

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BAZANT'S

Famous Spotted Poland Chinas

Two hundred March pigs for sale on approval. All to be recorded free in the S. P. C. Record Association. Average in litter, nine. Can sell boar and four gilts not related. All sired by three of the best boars in the West. Pigs out of 600 and 700-pound mature dams. I can start you in the business. Address

R. J. Bazant, Narka, Kansas

(Republic County.)

Ship over the Rock Island and Burlington Railroads.

OLD ORIGINAL SPOTTED POLANDS

Have only a few of last fall's litters left. Write your wants to

THE CEDAR ROW STOCK FARM

A. S. Alexander, Prop. R. 2. Burlington, Kan.

PROFITABLE TYPE POLANDS

Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.

L. C. WALBRIDGE - RUSSELL, KANSAS

POLAND CHINA HOGS

150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.

V. O. JOHNSON - AULNE, KANSAS

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

POLAND CHINA BOARS

Twelve September boars, large husky fellows ready for service. Sired by Big Bob King. Write at once.

DR. J. H. LOMAX

Station D St. Joseph, Missouri

BIG-TYPE POLANDS AND DUROCS

Booking orders for weaning time. Pigs, $25 each; trios, $50. Will make 700 to 1,000-pound hogs. Two hundred to select from. Top breeding.

O. W. LONG, Route 3, Maitland, Missouri.

Langford's Spotted Polands. Gilts bred for fall farrow. Future herd boars. Satisfaction guaranteed. T. T. LANGFORD & SONS, Jamesport, Missouri

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HARRY SPURLING OF TAYLORVILLE, ILLINOIS,

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Starts on a trip west, May 21. Write at once to home address. Letters will be forwarded. All work guaranteed.

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HOLSTEIN CATTLE.

MAURER'S HOLSTEIN FARM

Is offering a number of choice young pure-bred cows with good A. R. O. records; also yearlings and heifer calves and a select lot of young bull calves with world's record backing. Write for pedigrees and bargain prices. Also grade cows, heifers and heifer calves.

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PECK'S HOLSTEINS We have a choice lot of extra large high-grade Holsteins, including fresh cows, heavy springing cows and heifers, and young calves. Registered bulls. Come and see our herd. We meet you at train and guarantee satisfaction.



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Purebred Registered

HOLSTEIN CATTLE

All records for butterfat production in 365 days, not only Holstein-Friesian but those of all other breeds, were broken in 1916 by the registered pure-bred Holstein cow, Duchess Skylark Ormsby 124514, when she produced 27,761 pounds of milk containing 1,205.09 pounds of butterfat. The test was made under the supervision of the Minnesota Agricultural College, thirteen different supervisors being employed. This wonderful cow freshened at the age of 3 years and 3 days. Holstein cows as a rule milk longer and produce much larger quantities of milk than any other breed, a fact that has made them the choice of progressive dairymen everywhere.

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A. R. O. dams. A tested bull. One cow even made it 12 months after calving.

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Route 2 Kingman, Kansas

GREENSWARD HOLSTEINS.

Choice bull calves, heifers, cows. Registered and best breeding. Herd tuberculin tested. We are breeders, not dealers.

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Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

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RED POLLED CATTLE.

Mahlon Groenmiller, Pomona, Kansas.

JERSEY CATTLE.

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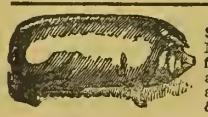
CHESTER WHITE HOGS

CHESTER WHITE Cholera Immune Gilts, bred to farrow in June, July and August. The good kind. For price, breeding, etc., write Emil Youngberg, Route 3, Essex, Iowa



FOR SALE

Spring Pigs in Pairs and Trios Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

PURE-BRED O. I. C. PIGS, April 3 Farrow. Boars, $15.00.

JOE FOX - - GREELEY, KANSAS

POLLED DURHAM CATTLE.

FOR SALE—Two red and white bull calves, 10 months old, sired by Chief, a son of True Sultan. Priced to sell.

D. C. VAN NICE - RICHLAND, KANSAS

(On Mo. Pac. Ry., 17 miles S. E. of Topeka)

AYRSHIRE CATTLE.

RIVERSIDE AYRSHIRES

Most profitable dairy cow. Herd headed by a son of August Lassie, the 4-year-old champion. Young animals, both sexes, for sale. J. F. Converse & Co., Woodville, N. Y.

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Three choice bull calves for sale. Their dams are on A. R. test. Write for particulars. Visitors always welcome.

JOHN LINN & SON, MANHATTAN, KAN.

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere. Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON

Live Stock Auctioneer

Write for terms and date. Clarksdale, Mo.

HORSES AND MULES.



PERCHERONS, BELGIANS, SHIRES. Ten stallions ready for heavy stand; also yearlings and twos. Young fillies, also mares with colt by side and bred again. All registered. One hundred individuals of first rank for sale.

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A few choice young springers, also some high class young bulls. If you want record breeding, we will be pleased to have you inspect our offering.

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120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

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Contains powdered gentian root, sulphur of iron, bi-carbonate of soda, sulphur, carbonized peet, quassia, charcoal and pure dairy salt. These medicines are as carefully compounded as a physician's prescription, according to a formula scientifically worked out by chemists of the highest standing.

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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 22. TOPEKA, KANSAS, JUNE 2, 1917. Established 1863. $1 a Year

HORSES REQUIRED FOR ARMY

War Makes Heavy Demand on Horse Stock of Country

THE passage of the selective draft measure by Congress makes certain the immediate preparation and equipment of an army of at least a million men in 1917. All preparations are being made for a war that will last three years, for regardless of what civilians may think, army officials do not expect an early ending to the war into which the United States has been drawn.

The quartermaster's department of the United States Army has for the past two weeks been working on plans for purchasing 250,000 horses within the next sixty days. He has been in consultation with horse dealers in all parts of the country. It is generally understood that when the United States Government begins to purchase horses it will act as agent for the French, British and Italian governments.

This is no small task which faces the quartermaster's department of our army. Horsemen over the country have been asked whether it was possible to secure this number of horses ranging in age from six to eight years, excluding mares, in sixty days. They have rather generally been advising that it cannot be done, especially as it has been stated that the specifications would be rigid. Some of the men have reported that even if the age limit was put down to five years and mares included it would take more than sixty days to secure the number desired. Of course it is very important that the Government leave the mares in the country for reproduction purposes. The Allies have already made heavy drafts on our horse stock and it would seem that every effort possible should be made to increase the production of horses in the near future.

After discussing a number of different plans for getting the horses together, the plan finally settled upon, which may be subject to some alteration, is to divide the country into five zones. Contracts will be let at specified prices, the contractor giving a bond for 5 per cent of the total amount to furnish his complement in the sixty days. It is not likely that the entire 250,000 head will be placed under contract at the beginning, and each contract will be cleaned up before the next is let. Present indications are that all the details of this buying campaign will be worked out so that the contracts will be let early in June.

Probably few people realize the large number of horses and mules it takes to equip a modern army. Wayne Dinsmore, secretary of the Percheron Society of America, recently took the pains to investigate the exact requirements of cavalry, infantry, and artillery regiments in horses and mules, and was informed by the War Department, Washington, D. C., that the requirements for the cavalry regiment are 1,541 horses, 152 draft mules, 29 pack mules, 6 riding mules; the infantry regiment 69 riding horses, 112 draft mules, 25 pack mules, and 6 riding mules, and the artillery regiment 1,097 horses, 88 draft mules, and 4 riding mules. It should be borne in mind that these are minimum requirements and do not take into account transportation trains required to forward supplies from terminal points to field bases. In other words, the number of animals specified above refers only to those actually needed with the troops.

THE MINIMUM REQUIREMENTS of a cavalry regiment are 1,541 horses, 152 draft mules, 29 pack mules, and 6 riding mules.

THE INFANTRY REGIMENT requires 69 riding horses, 112 draft mules, 25 pack mules, and 6 riding mules.

AN ARTILLERY REGIMENT'S minimum requirements are 1,097 horses, 88 draft mules, and 4 riding mules.

FIRST MILLION MEN under arms will probably consist of 500 infantry regiments, 125 artillery regiments, and 100 cavalry regiments.

TO EQUIP THIS ARMY of a million men will require as a minimum 325,625 horses and 100,700 mules.

The war strength of a regiment of infantry is approximately 1,500 men; of a regiment of cavalry, approximately 1,300 men; of a regiment of artillery consisting of six batteries of four guns each, approximately 1,146 men. While definite information as to the proportion of infantry, cavalry, and artillery to be included in the new army is not yet forthcoming, it is generally understood among army officials that an artillery battery of four guns will be allowed for each 1,000 infantry. It seems probable therefore that the first one million men placed under arms by the United States will be composed of 500 regiments of infantry totaling 750,000 men, 125 regiments of artillery totaling 143,250 men, and 100 regiments of cavalry totaling 130,000 men, making a grand total of a little over one million men. The proportion of artillery certainly will not be less, and may be more, as actual warfare on European battlefields has demonstrated that overwhelming superiority in the artillery branch of the service is essential to efficient operation by the infantry.

It may be argued that there is no probability that the United States will prepare 100 regiments of cavalry, but in view of the danger from the Mexican situation, it appears to be the belief of well informed army officers that at least that many cavalry regiments will be provided for in this year's mobilization.

To equip 500 regiments of infantry will require 34,500 riding horses, 56,000 draft mules, 12,500 pack mules, and 3,000 riding mules. 125 regiments of artillery will require 137,025 horses, 10,000 draft mules, and 500 riding mules. The equipment of 100 regiments of cavalry will necessitate 154,100 horses, 15,200 draft mules, 2,900 pack mules, and 600 riding mules. The total number therefore required for the equipment of 500 regiments of infantry, 125 of artillery, and 100 of cavalry, will amount to 325,625 horses and 100,700 mules.

Mr. Dinsmore calls attention to the fact that the army has at present only 70,000 head of horses and mules. This means that approximately 350,000 head of horses and mules must be bought within the next six months. It must not be forgotten that the allied nations are still in the market, and will continue to be. Their need for horses and mules is as great as for guns and ammunition; indeed, even more so, because they can manufacture the guns and ammunition in their own countries, but their resources in horses and mules have already been exhausted, and the United States is the only source from which they can obtain additional supplies. 853,116 head of horses and 289,062 head of mules have been exported, practically all of them for war purposes, during the 30 months ending March 1, 1917. In spite of the shortage of ships, 40,000 head of horses and mules were shipped in January, 1917, and more than 27,000 head in February, 1917.

Recent accounts from the battlefront relating the loss of hundreds of pieces of artillery by the Germans in recent operations state that the loss of these pieces was due principally to the lack of artillery horses.

It is fortunate that the United States is well supplied with both horses and mules at the present time, but it is incumbent upon us, if we are to maintain our resources so as to effectually back up our armies and maintain maximum production on our farms, to see that every good mare is bred to a first class stallion this season, and that every effort is made to save the foals that will be coming within the next six weeks. The war may yet be decided by the number of horses available to the respective belligerents, for on the far flung battle lines and in the reserve made up of our farm forces, the horse is the most important single factor aside from man.



KANSAS-BRED COLTS IN WINTER QUARTERS.—THEY HAVE BEEN WELL FED AND ARE GROWING INTO MONEY

Live Stock Insurance

Farm animals are so high in price that live stock insurance is becoming a matter of much importance. It is by no means a new idea. The Holstein-Friesian World in a recent issue states that many of the breeders who are keeping high class stock do not pretend for a moment to leave this stock uninsured. They feel that the amount of money that is invested makes it hazardous for it to be unprotected against possible loss.

The life insurance business from the human standpoint is thoroughly worthy and heartily endorsed, but life insurance from the standpoint of dairy cattle is a thing of a little narrower scope and while as mentioned above it is not new, it is far less generally understood. To the established breeder it is a recognized necessity, but it is not to the established breeder who is wise along this line that we are writing particularly, but rather to the young man who has invested in his first few registered dairy cattle. A well developed, well cared for normal dairy cow is usually a very healthy creature, but she is just as susceptible to accident as an animal of less value, and therefore it is imperative that the man who is willing to invest in such stock should guard his investment in every legitimate way. Live stock insurance is one of the safest of these.

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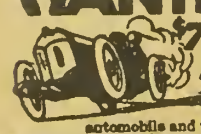

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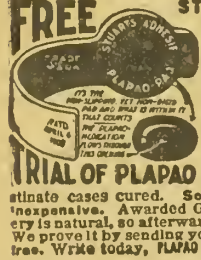

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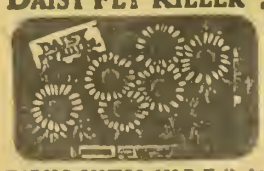

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

FARMERS generally are not very enthusiastic about employing high school boys for farm work. Farming is really a highly specialized occupation—a great deal more so than it used to be when less use was made of complicated machinery. Owing to the great scarcity of labor which exists, we may be compelled, however, to put up with such labor as boys can perform. The engineering division of the agricultural college is now trying out a plan for training high school boys of the towns so that they may know better how to handle such equipment as is used on the farms. There are hundreds of high school boys in the state old enough to do farm work if they but knew how. It is the plan to instruct these boys in practical farm work. The Manhattan boys are to receive first instruction and thirty have thus far signed up for the work.

Land has been obtained where actual operations will be carried on. Instruction is to be given with all the more common machines. These machines are to be furnished by the department of farm machinery. The boys will be taught how to harness and handle horses, operate machines, and do other farm work. Those who have had experience with motor cars will receive instruction in the operation of tractors.

Keep Tractor Repairs on Hand

It is important that the tractor be repaired quickly so as to reduce the amount of time lost to the minimum. In order to do this spare parts that are likely to cause trouble should be kept on hand at all times.

During harvest time it is of the greatest importance to keep the outfit running as nearly continuously as possible. It is a serious waste of time to be compelled to make a trip to town for some little repair that might just as well have been on hand. The beginner may not be able to determine what parts are most likely to need replacing, but after having had some experience the tractor user will soon learn what parts wear the most.

W. H. Sanders, of the agricultural college, suggests that it is a good plan to overhaul the tractor at least once a week, and every three days if run continuously day and night. To delay this overhauling a day might easily result in some parts breaking and thus causing a greater loss of time than that required to regularly overhaul the outfit.

Type of Tractor

We are frequently asked as to the type of tractor that is likely to eventually become standard. It is generally recognized that there has been quite an evolution in the development of tractor designs. W. H. Sanders, instructor in farm motors at the agricultural college, answers a correspondent as follows on this point:

"You ask my opinion as to which of the following types of tractors will in the course of time become standard in the evolution of the tractor industry: four wheels with all driving, four wheels with two driving, three wheels with two driving, three wheels with one driving, and the two-wheeled type with both wheels driving.

"I have no conclusive evidence at hand that any one of the above named types will become standard. I would rather expect that there will be a legitimate field for all of them. The field of a tractor is not limited to plowing and belt work. It is limited in scope only by the ingenuity of the operator in adapting it to the various kinds of work at hand. Viewed from that angle, it would seem to me that each of these different types may be even further adapted to its special field, as for example a three-wheeled type for side hill plowing, cultivation, etc., where it is possible to adjust one wheel to extremes of leveling.

"One must not overlook the possibilities of the endless belt or track-laying type of tractor. For certain field conditions this type of drive wheel will work when other types will not."

Using Low Grade Fuel

There is now a great demand for engines that will burn kerosene and low-grade distillate. In order to do this efficiently it is necessary to have a carbureter which will deliver to the manifold a thoroughly saturated charge having the proper amount of air fuel for various velocities. The manifold must be capable of carrying this charge without changing the proportions of the mixture and deliver it to the combustion space.

To overcome the losses in temperature due to vaporization and expansion it is necessary to increase the temperature of the intake air. There is a tendency to deposit fuel particles along the sides and bottom of the passages, which results in an impoverished mixture. And to overcome this, heat must be applied to these surfaces. It is also a good plan to apply a limited amount of heat to the fuel supply so as to raise its temperature slightly above its vaporization point.

Abreast of the Times

"There can't be any question that times have changed very materially when you see the Anti-Horse-Thief Association, one of the strong organizations of the Middle West that almost ruined the ancient profession of horse stealing, keeping up with the times by becoming also the Anti-Auto-Thief Association," remarks The Commentator in the current issue of American Motorist.

"Of course, in these days of parity between potatoes, onions, cabbages, gold, silver and precious stones, the wealth-gorged farmer is so motorized that he

The new owner of the flivver always refers to it as "the car."

Checking a Skid

When you are driving an automobile and it begins to skid, the skidding will be checked if you will immediately turn the steering wheel in the direction you are skidding. A car skids when there is a momentum tending to turn it about the center of gravity. When the forces about the center of gravity are balanced, the car will not skid.—The American Boy.



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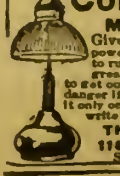

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GRANGE PICNIC AT MANHATTAN

One of the big Grange events of the year in Kansas will be the annual picnic and farm meeting of the Manhattan Grange, which will be held on the agronomy farm of the agricultural college June 6. Holding this summer meeting on the college farm started as a local affair of the Manhattan Grange, but it is now a meeting attended by Granges for miles around. Last year ten auto loads came from a single local Grange in Clay County.

The invitations being sent out this year are to all Granges within fifty miles of Manhattan and to any others who may care to come. The residence on the agronomy farm has a fine lawn and here the visiting Grangers with their well-filled baskets will gather for the picnic dinner, which is always a most enjoyable occasion at every summer Grange meeting.

State Master B. Needham, of Lane, ex-State Master R. Reardon, of McLouth, and State Chaplain Mrs. Mabel Pomeroy, of Holton, will be present and take part in the program which will follow the dinner. Dr. H. J. Waters, Dean W. M. Jardine of the agricultural college, and W. R. Yenawine, Master of the local Grange, will also give addresses. Prof. L. E. Call will describe in detail the experimental work being done and with the help of his assistants will conduct an inspection trip over the farm. No one can fully realize the value and importance of the experimental work being carried on without making a visit of this kind to the station farm.

A lecture and canning demonstration will be given for the women in attendance. Canning and preserving food products is a subject of unusual interest this year.

We hope all Grangers among our readers will mark this date on their calendars and plan to attend this meeting to which the Manhattan Grange has so cordially invited them.

* * *

BUY A LIBERTY BOND

Never in the history of this nation has it been necessary for the Government to spend such enormous sums of money as it is being called on to spend in financing the war into which we have been drawn. The Government has just two methods of raising money. One is by taxation. The other is by the sale of bonds, which is simply a method of borrowing money. Liberty Loan Bonds is the name applied by Secretary McAdoo to the bond issue which is now being offered to the American people.

Congress has authorized a loan of five billion dollars. This seems an enormous sum, but in view of the fact that the estimated wealth of the United States with its population of over one hundred million is 220 billions of dollars, it will be seen that the loan is but a small fraction of the loans that have been made by the European nations in this war. The United States is borrowing less than three per cent of its wealth.

United States Government bonds are the safest investments in the world. If a bond of this Government is not safe, then no property in the United States is safe. If the United States cannot pay its bonds, it is not likely that it will be able to protect its citizens in their other rights.

In his recent visit to Kansas, Secretary McAdoo emphasized the patriotic feature of investment in these bonds and urged that everyone who could afford to buy a bond even of as low a denomination as $50 should do so. He said that the least that we could do as patriotic citizens was to furnish our Government with money in abundance so that our boys who go to fight for their country may be given the best possible facilities for making their sacrifice effective. He pointed out that in purchasing such a bond the investor is lending his money to his Government—to his country—to prosecute a great war, and this gives the investment a dignity that the ordinary investment does not possess. The uses to which this money is to be put appeal more or less to the American heart. Subscribers to Liberty Loan bonds become as it were charter members of a society to maintain American honor and to maintain democracy here and in other parts of the world. Honor and interest, patriotism and business judgment all argue the wisdom of an investment in Liberty Loan bonds.

* * *

FOOD COMMISSIONER APPOINTED

Herbert Hoover as food commissioner, with a council of men who have demonstrated their executive ability to assist him, will handle the matter of food administration in this country during the war. Mr. Hoover serves without pay. He has already done a work as head of the Belgian Relief Commission that has commanded world-wide attention. There has been some disposition to saddle the administration of food matters onto the Department of Agriculture, which is already overburdened in handling the many emergency problems arising as a result of the war. Furthermore, the Department is not organized to do the work expected of a food commissioner. Secretary Houston from the beginning has urged that his department be relieved of this burden.

President Wilson's views on the subject of emergency food regulation appear on page five of this issue. Some may object to this giving of such autocratic power to one man or even a commission of men, but this war is not a pink tea affair and no one realizes more fully its seriousness nor the importance of conserving our food supply than Herbert Hoover.

Mr. Hoover is popularly rated as a millionaire, and can afford to give of his high-class ability in working out the food situation. We hope our readers will carefully study the President's statement. We feel that some have been unnecessarily alarmed for fear that the Government idea is to seek power to fix minimum rates on food products in order to deprive the producer of his just profits.

* * *

BUYING HORSES FOR THE ARMY

The War Department has adopted rather novel plans for buying the horses needed. These plans are referred to on the first page of this issue. The Government is undoubtedly counting on the patriotism of producers and dealers in supplying the horses and mules needed. Higher prices than ever before offered will be paid and the War Department is taking the public into its confidence and announcing the prices for the different classes of animals needed.

The first bids will be opened June 7. Dealers in the different zones who contract to supply a definite number of animals at the advertised prices can have no positive means of knowing whether they can get this stock at such prices as will allow a sufficient margin to cover the necessary expense of assembling and the possible losses from rejected animals. It remains to be seen whether the plans proposed will be successful or not.

Dairy Club Proves Worth

THE Kansas Farmer Dairy Club has fully come up to the expectations of those who planned it and who have co-operated with the boys and girls in carrying on its work. Not a single member has made a failure unless through some uncontrollable accident. Accurate records have been kept so there is no guesswork in checking up the achievements of club members as their year's work draws to a close. The final results cannot be announced nor the prizes awarded until all the members have completed their year's records. Some began in April and others were beginning from time to time up to September 1, 1916. Just to illustrate how quickly a good milk cow properly handled can pay for herself, we give below in condensed form a report of what some of the members have accomplished.

One member finished paying for his $125 cow in ten months, after deducting the cost of her feed, and had a balance of $3.85 in the bank. Another finished paying for his $130 cow in nine months, from the profits of selling milk over and above the cost of feed. He has purchased a second cow, has the grade heifer calf now almost a year old, and his cow has just recently dropped him another heifer calf and starts this second lactation period giving over fifty pounds of milk daily.

Another member—a girl—lacks only a few dollars of having her $85 cow paid for from the sale of her product. This cow has recently dropped a second heifer calf and the girl has been offered $125 for the yearling heifer and the young calf.

Another girl purchased a cow for $80 and in seven months had made the last payment on her note. She had sold $50.55 worth of cream and in addition had sold the calf for $30.

A thirteen-year-old boy who purchased a $300 pure-bred cow made his final payment on his note in seven months and twenty days from the time his record began and had in addition a credit of $15.59 at the bank. He sold his pure-bred calf for $150 and applied this on his note. Another member paid for a $65 cow from the sale of her milk only in eleven months from the time his record started. He also has two heifer calves.

This club is the first of its kind ever conducted, as far as we know, and we feel much gratified over the splendid achievements of the club members. A second club is now being enrolled and a number of members have already purchased their cows and begun their year's records. It has been through the co-operation of the bankers of the state that this club work has been made possible, and they are even more generous in financing the membership of the club now being enrolled.

BREED GOOD MARES

Horses as well as men are required to successfully prosecute the war. On another page of this issue are given the minimum requirements of horses and mules to equip the first installment of the army to be raised and put in the field during the next few months. Over a million horses have been sold to the Allies since the war began.

Under the existing conditions we do not see how there can possibly be any surplus of horses at the present time. In addition to the heavy buying of the Allies, feed has been scarce and many who ordinarily plan to produce a few horses each year have let their mares go without breeding and in all probability have disposed of all the stock they could spare. It takes five years to breed horses and bring them up to the point where they can be put on the market. It seems almost certain that there will be a serious shortage of horse stock in four or five years from the present time. The horses that have gone for war purposes were of good ages. The older animals would not be accepted, so that undoubtedly much of the stock left is too old to be useful much longer either for breeding or for work.

Men who know how and have been willing to pay some special attention to the details of raising colts have been able to make their horse power not only pay for itself, but also return good profits on the investment. In a most interesting letter written to Wayne Dinsmore of the Percheron Society, an Illinois farmer says that a neighbor asked him how he had managed to get out of debt so soon. They had started about the same time and paid about the same price for their land. The neighbor for the past three years had barely been able to keep up his interest. The successful man in explaining his prosperity said: "My old mares have made me more money than I ever supposed they would. You remember I paid $500 for Lucy about ten years ago and you laughed at me when you heard what I had done. I sold her the other day for $420. She is past fifteen years of age, has foaled twelve colts, raised eleven of them, and is in foal again. I have sold eight of her colts for something like $5,000. She has worked every year, is still sound, and looks as though she was good for several years yet. The mate to this mare, an eight-year-old, I sold last fall for $485 because I had more horses than I wanted to keep over winter. * * * You have worked as hard as I have, but we haven't handled the horse problem alike. I understand you sold a four-year-old gelding the other day to a horse buyer for $140. You haven't paid much attention to raising colts, but have worked your teams mighty hard trying to raise big crops. Had you given your teams better care and made an earnest effort to have every mare raise a colt from a good draft stallion, I am sure you would not have had such a struggle clearing your debt. You have one consolation, however, and that is that you are not the only one who has made the same mistake."

Wide use is being made of tractors on many of the farms of Kansas. On nearly every farm there is a large amount of work requiring engine power, but they cannot displace horses in the near future. The demands for more power are so great that for some time to come the tractor will be simply taking care of existing deficiencies. There is hardly a farm in the state that is not considerably short of the power that could be used to good advantage.

We do not see how a man can go wrong in breeding good mares to pure-bred draft stallions of good conformation and free from transmissible unsoundness of all kinds.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

A READER from Anderson County writes that he has failed to get a stand on about half of his corn acreage. He is unable to decide whether it would be better to replant with some early variety of corn providing he can get the seed, or to plant this field to kafir.

We believe that it is advisable to plant kafir. On the upland at least in this section of the state it is the wiser plan to put in every year at least half as much kafir as corn and on some upland farms it would be better to grow even a larger proportion of kafir. The kafir can be planted later than corn and in average years will produce a larger yield of grain if given as good care and cultivation as is commonly given corn.

The kafir is not injured seriously by periods of dry, hot weather, such as would absolutely ruin a crop of corn in so far as grain is concerned. The kafir will grow on thinner soil and during these dry periods such as are almost sure to come it simply stands still and when the rains come goes ahead and finishes its growth.

Plant good tested seed, preferably of the black-hulled white variety, for this section of the state, and do not plant it too thick if the crop is to be grown for grain.

Kafir will yield more silage than corn in most sections of the state and the silage is just as good and some think even better than average corn silage.

Can Renter Afford Silo

Prof. O. E. Reed was asked recently if a man on a rented farm could afford to put up a silo at his own expense. "A renter who is in the business of milking cows," said Professor Reed, "cannot afford to be without a silo." We believe Professor Reed is absolutely right in this statement and especially under present conditions when prices of grains and concentrated feed are almost prohibitive. If the owner of the farm will not build a silo for the renter who is trying to handle milk cows, the renter can put up some temporary type of silo and take it down and move it when he leaves the place. He would of course have to go to the expense of putting in the foundation and stand the cost of the removal, but where a good herd of cows is being kept a silo will not infrequently pay for itself in one year's use. Probably in many cases a renter could sell a silo to his successor when he left the farm.

Probably the greatest drawback to the renter putting up a silo is the lack of capital. Owing to this fact, he must as a rule depend upon the very cheapest type of silo that can be built. In sections where the pit silo can be safely used this furnishes a means of having silage at a very nominal expense. A good pit silo can be made for $35 or $40 in actual cash outlay.

Applying Lime to Soil

We were present at a farm meeting in Allen County recently which was attended by over a hundred people. At this meeting Prof. L. E. Call was asked when was the best time to apply lime for alfalfa and how much. It had been shown experimentally on the farm where the meeting was held that the application of lime is almost essential to the successful growing of alfalfa on most upland soils in that section. The questioner asked especially if it would be of any value to spread lime on a light stand of alfalfa which he had seeded last year. Professor Call's answer was that lime, to be of the greatest advantage in getting a good stand of alfalfa and maintaining it, should be applied some time in advance of seeding. In getting ready for the sowing of alfalfa in the fall, which as a rule is the most satisfactory time to sow in that section, Professor Call advised that the land be plowed early in summer and kept clean by surface cultivation and that about two tons of crushed limestone to the acre be spread on the surface and harrowed in during the summer.

Professor Call is so thoroughly convinced of the necessity for using lime on much of the soil that has heretofore not grown alfalfa successfully that he has taken up with the different railroad companies the matter of securing more favorable freight rates on lime shipments. The railroad freight men have conferred and the proposition to put into operation a special rate has been practically agreed to and there remains only the working out of the necessary details of putting this rate into operation. In the course of a few months we hope to be able to report that the railroad companies will be ready to haul crushed limestone at the special rate agreed upon.

J. T. Tredway, president of the State Board of Agriculture, who was present at this meeting, asked if there was any advantage in using burnt lime. The reply was that it depended considerably on the distance the farm was from the railroad and the kind of roads over which the lime would have to be hauled. A thousand pounds of burnt lime to the acre would be enough and where there was a long haul over bad roads it might be a decided advantage to use this kind of lime in preference to the crushed limestone even at a much higher price.



GUERNSEY cattle are not very well known in Kansas, but are increasing in popularity wherever introduced. The bull and four heifers shown in the illustration are owned by the Kansas State Agricultural College. The cattle form the nucleus of a model herd of Guernsey cattle. The bull—Langworthy Benefactor, a yearling—is one of the best bred Guernseys in the world, having been purchased recently from the Langwater farms in North Easton, Mass. The first seven dams averaged 810 pounds of butter a year—the first fifteen averaged 790 pounds. Two of the heifers are from the Island of Guernsey and two from England. This small group of cattle represents the best Guernsey blood that has been brought into the state.

Kind of Silo to Build

While visiting on some of the farms in Eastern Kansas recently we were asked what kind of silo is the best to build. There is really just one answer to a question of this kind, and that is to build as good a silo as you can afford. There are so many kinds of silos to select from that one can build to suit his pocketbook. We were told by County Agent F. J. Robbins, who only recently began work in Franklin County, that there was a great deal of talk about putting up cheap wooden silos made by setting up two-by-four studding in a circle and nailing two thicknesses of resawed fencing boards on the inside with a layer of tar paper in between. The resawed boards are less than half an inch thick and can easily be bent to fit the curve. It was figured that a hundred-ton silo could be built for $165. This is a good cheap silo, and, while not in the same class for permanence with silos made of full length Oregon fir staves, tile, concrete, or steel, it is a silo that will give good satisfaction if carefully built, and the man who needs to conserve his feed and cannot put up a more expensive silo should by all means build one of cheaper type.

In building one of these cheaper types of silos, be sure that you observe in the construction the prime essential of a successful silo — the total exclusion of the air from the contents.

Sudan Hay for Horses

R. W., Saline County, asks if Sudan grass hay is a good hay for horses. He has never grown the crop, but will plan to grow some if it can be used successfully in feeding horses.

Sudan hay is proving of exceptional value as a horse hay. It cures bright and free from dust and is eaten with a keen relish and without waste. Prairie hay is getting more scarce each year and Sudan hay will undoubtedly be used more and more as a roughage for horses. It combines well with alfalfa hay. It requires considerable skill to feed work horses on alfalfa hay exclusively, and it is our opinion that even on farms where plenty of alfalfa is grown it will pay to grow some Sudan grass and cure it carefully for the horses.

At the Hays Experiment Station Sudan grass has been tested out experimentally in the feeding of the horses and mules and the common practice at this station and also at Manhattan is to feed the farm work teams Sudan grass hay as a part of their roughage ration.

In a recent issue of the Industrialist it is stated that Sudan grass is adapted to practically all types of soil in the state except those very wet and poorly drained. It can be grown profitably in parts of the state where the rainfall is too light for any crop other than a sorghum to succeed.

Sudan grass, which belongs to the sorghum family, is adapted to the same conditions as kafir, milo, or feterita. Sudan grass will make two to three cuttings of hay. If pastured, it will give good grazing throughout the season.

Two methods of planting are used. One is that of planting in cultivated rows and the other sowing with a broadcast seeder or drilling with a grain drill. If the seed is planted in rows two to four pounds to the acre is used, but when drilled or sown broadcast fifteen to twenty-five pounds to the acre is required. Drilling or broadcasting is the better way to plant this crop if it is to be used for pasture or hay.

As a pasture crop Sudan grass is just coming into popularity. It will pasture more stock to the acre than native grass. The feeding value of Sudan grass is not equal to that of alfalfa, but is much higher than that of prairie grass.

Poisoning of cattle from Sudan grass is rare. A large acreage was pastured in 1916 but only two cases of poisoning were reported in the United States.

As a hay crop Sudan grass is excelled only by a leguminous crop such as alfalfa or clover. In a good season three cuttings can be had, yielding together two to four tons to an acre.

Some farmers sow Sudan grass around the alfalfa field in places where the alfalfa has failed to make a stand. The grass can be cut every time the alfalfa is cut, and gives good hay.

Paralysis of Pigs

W. A. S., Crawford County, writes that he has some pigs that seem weak in the back and hips. They fall from one side to the other as they walk, and in a week or so from the time they get that way they die. They eat and drink well most of the time. There are no worms in the stomach, kidneys, or intestines. These pigs are still with the sows and are on pasture. They are being fed corn and skim milk.

We referred this inquiry to Dr. R. R. Dykstra of the agricultural college. His answer follows:

"It is frequently very difficult to state the exact cause of paralysis of the hind parts in hogs. In some forms of hog cholera paralysis is one of the first symptoms. In such cases the young pigs would be affected first, as older ones are more or less resistant.

"In order to decide whether they may not have cholera, I would suggest that you have a post mortem conducted on one of the animals, that has been affected for the longest time, by a competent graduate veterinarian.

"Paralysis may also be caused by tuberculosis of the spinal cord, which causes pressure on the spinal cord resulting in loss of control of the hind limbs. There is no cure for this condition and it may be positively diagnosed by using the intradermal tuberculin test on the animal's ear.

"There is a disease known as 'rickets,' a bone disease in which there is a deficiency of lime salts, causing a softening of the bones to which young pigs are very susceptible, which also causes paralysis of the hind parts. Treatment of this latter condition consists in giving a nourishing diet and at the same time administering a teaspoonful of Fowler's solution for each hundred pounds weight once daily.

"If the Fowler's solution does not produce results in the course of a week or two, you might try the following combination: Calcium phosphate, 1 dram; fluid extract of nux vomica, 20 drops; cod liver oil, 2 drams. This mixture is sufficient for one hundred pounds weight.

"In still other cases weakness of the hind parts may be caused by the presence of a small worm in the kidneys or in the fat surrounding the kidneys. There is no known cure for this condition, but it may be prevented by changing the hogs from one pasture to another quite frequently, being sure that the pastures are dry and not low or swampy. The hogs that are affected seldom recover, though they remain otherwise quite healthy.

"A very extensive investigation regarding the nature of this disease recently conducted has demonstrated that in the large majority of cases pigs affected with paralysis of the hind parts have a broken-down or degenerated condition of the nerves that control the muscles of the hind legs. While it is possible that this is not always the case, still on account of the fact that it was so universally found, we are forced to come to the conclusion that paralysis of the hind parts in pigs is in most instances incurable. The cause of this breaking down of the nervous system is not known and, therefore, intelligent curative treatment cannot be recommended. Preventive treatment is also somewhat vague, but the recommendations are to separate the diseased from the healthy pigs, to disinfect all quarters, and to avoid using affected pigs or pigs closely related to them for breeding purposes as there is some chance that the condition may be a hereditary one.

"It is sometimes claimed that paralysis of the hind parts may be due to an excessive corn diet."

Working Colts

By proper management those who raise draft horses can make the two and three-year colts at least pay for their keep. The big well-grown draft colt can do a great deal of farm work if carefully handled. Care should be taken, however, not to overwork them at first. There is danger of sweeney, broken wind, and other serious troubles which could easily injure the horse permanently. Colts are frequently injured by inexperienced drivers who try to do too much when starting to work with them. They seem to think that because the colt is large he can do as much work as a mature horse.

By giving the colt light work at first and not working him too steadily he can be hardened gradually. There should be a period of preparation before putting the colt to work. Liberal grain feeding should begin a few weeks before the work begins. A three-year-old colt handled in this manner, after a few weeks of preparatory work will be able to do considerable work on the average farm. It is a good plan, however, to give the colt a day of rest occasionally.

At the head of all the sciences and arts, at the head of civilization and progress, stands—not militarism, the science that kills, not commerce, the art that accumulates wealth—but agriculture, the mother of all industry, and the maintainer of human life.—Garfield.

Emergency Food Regulations

IT HAS been announced that Herbert Hoover is to be food commissioner for this country during the progress of the war. He serves as a volunteer, receiving no pay for his services. It is highly important that we all understand the necessity for giving the President such powers as are provided for in the measures now before Congress. The following statement from President Wilson clearly sets forth the conditions that must be met and explains the powers he has asked of Congress to deal with the food situation:

"It is very desirable, in order to prevent misunderstandings or alarms and to assure co-operation in a vital matter, that the country should understand exactly the scope and purpose of the very great powers which I have thought it necessary in the circumstances to ask the Congress to put in my hands with regard to our food supplies. Those powers are very great indeed, but they are no greater than it has proved necessary to lodge in the other Governments which are conducting this momentous war, and their object is stimulation and conservation, not arbitrary restraint or injurious interference with the normal processes of production. They are intended to benefit and assist the farmer and all those who play a legitimate part in the preparation, distribution, and marketing of foodstuffs.

DIVISION OF WORK

"It is proposed to draw a sharp line of distinction between the normal activities of the Government represented in the Department of Agriculture in reference to food production, conservation, and marketing on the one hand and the emergency activities necessitated by the war in reference to the regulation of food distribution and consumption on the other.

"All measures intended directly to extend the normal activities of the Department of Agriculture in reference to the production, conservation, and the marketing of farm crops will be administered as in normal times through that department, and the powers asked for over distribution and consumption over exports, imports, prices, purchase, and requisition of commodities, storing, and the like which may require regulation during the war will be placed in the hands of a commissioner of food administration appointed by the President and directly responsible to him.

OBJECTS SOUGHT TO BE SERVED

"The objects sought to be served by the legislation asked for are: Full inquiry into the existing available stocks of foodstuffs and into the costs and practices of the various food producing and distributing trades; the prevention of all unwarranted hoarding of every kind and of the control of foodstuffs by persons who are not in any legitimate sense producers, dealers, or traders; the requisitioning when necessary for the public use of food supplies and of the equipment necessary for handling them properly; the licensing of wholesome and legitimate mixtures and milling percentages; and the prohibition of the unnecessary or wasteful use of foods. Authority is asked also to establish prices, but not in order to limit the profits of the farmers, but only to guarantee to them when necessary a minimum price which will insure them a profit where they are asked to attempt new crops and to secure the consumer against extortion by breaking up corners and attempts at speculation when they occur by fixing temporarily a reasonable price at which middlemen must sell.

MR. HOOVER TO HEAD TASK

"I have asked Mr. Herbert Hoover to undertake this all-important task of food administration. He has expressed his willingness to do so on condition that he is to receive no payment for his services and that the whole of the force under him, exclusive of clerical assistance, shall be employed as far as possible upon the same volunteer basis. He has expressed his confidence that this difficult matter of food administration can be successfully accomplished through the voluntary co-operation and direction of legitimate distributers of foodstuffs and with the help of the women of the country.

"Although it is absolutely necessary that unquestionable powers shall be placed in my hands in order to insure the success of this administration of the food supplies of the country, I am confident that the exercise of those powers will be necessary only in the few cases where some small and selfish minority proves unwilling to put the Nation's interests above personal advantage and that the whole country will heartily support Mr. Hoover's efforts by supplying the necessary volunteer agencies throughout the country for the intelligent control of food consumption and securing the co-operation of the most capable leaders of the very interests most directly affected, that the exercise of the powers deputed to him will rest very successfully upon the good will and co-operation of the people themselves, and that the ordinary economic machinery of the country will be left substantially undisturbed.

ONLY TO MEET EMERGENCY

"The proposed food administration is intended, of course, only to meet a manifest emergency and to continue only while the war lasts. Since it will be composed for the most part of volunteers, there need be no fear of the possibility of a permanent bureaucracy arising out of it. All control of consumption will disappear when the emergency has passed. It is with that object in view that the administration considers it to be of pre-eminent importance that the existing associations of producers and distributers of foodstuffs should be mobilized and made use of on a volunteer basis. The successful conduct of the projected food administration by such means will be the finest possible demonstration of the willingness, the ability, and the efficiency of democracy, and of its justified reliance upon the freedom of individual initiative. The last thing that any American could contemplate with equanimity would be the introduction of anything resembling Prussian autocracy into the food control in this country.

"It is of vital interest and importance to every man who produces food and to every man who takes part in its distribution that these policies thus liberally administered should succeed and succeed altogether. It is only in that way that we can prove it to be absolutely unnecessary to resort to the rigorous and drastic measures which have proved to be necessary in some of the European countries."

Secretary Houston has been of the opinion from the outset that special emergency powers for the regulation and consumption during the war should be vested in the President, and that these powers should not be exercised by the Department of Agriculture but by an emergency agency. He has also entertained the hope that Mr. Herbert C. Hoover, especially because of his familiarity with international food conditions, might be designated by the President to discharge these powers during the war. He was greatly pleased that the President has concluded the matter and very much hopes that the necessary powers will be quickly conferred by Congress.

More Self-Feeder Tests

Experimental tests all seem to point to the economy of the self-feeder for fattening hogs. A report has recently been made by the Missouri Experiment Station covering tests that were conducted in 1914, 1915 and 1916.

The conclusions drawn from the experiments are:

Fattening hogs fed with a self-feeder gain more rapidly than when hand-fed in the usual manner.

There is no difference in the economy of gain which can be accredited to the method of feeding. This statement applies only to the amount of feed necessary to produce a given amount of pork. If the self-feeder decreases the amount of labor involved, then it becomes a factor in cheapening the cost of production.

When each feed is placed in a separate feeder the hogs will choose the different feeds, so that the gain will be both rapid and relatively economical. This will perhaps be true only when each feed is supplied in abundance. For example, if the feeds used were corn and tankage and the self-feeder containing corn was allowed to become empty, the hogs would no doubt eat more tankage than it would be profitable to feed them.

On account of the greatly increased interest in canning, cans are sure to become scarcer and higher in price as the season advances.

A call to the colors in this war is a call to get busy where you are—especially on roads.

We Need Your Help In a Critical Time

KANSAS FARMER READERS CAN BE OF GREAT HELP TO THEIR FAVORITE FARM PAPER NOW

KANSAS FARMER comes to you through the mails. It is distributed under the jurisdiction of the Post Office Department, which has made some new rulings which the publishers of KANSAS FARMER must observe in respect to the procuring and continuation of subscriptions. During these critical times the rulings may be changed at any time, at the option of the Post Office Department.

The Postmaster General has made a ruling which makes it necessary that certain classes of subscriptions may not be carried after expiration. It has always been customary and permissable for the publisher to carry, at his option, subscriptions for a short time after they expire, in order that the subscriber might have an opportunity to renew his subscription and thus prevent his missing any copies of the publication.

The new rule, however, requires that this practice must be stopped.

We feel that you want KANSAS FARMER, because it is strictly a Kansas paper and is striving to help you in your work, and you certainly do not want to miss the good things that this old paper carries each week for the betterment of farm conditions. We do not want to discontinue your paper. We are very anxious to retain every one of our subscribers. In order to do so, we must urge that you send us your renewal subscription at once.

Here are four distinct offers which we submit to you. We will greatly appreciate your acceptance of any of them:

1. May we immediately have your renewal for one year at $1.00?

2. If you send us $2.00, we will renew your subscription for three years—a saving of $1.00.

3. If you will send us the subscription of two of your neighbors for one year for $1.00 each—$2.00 in all—we will renew your own subscription one year without additional charge in appreciation of this service rendered.

4. If you will send us the subscriptions of four of your neighbors at $1.00 each—$4.00 in all—we will extend your subscription for a period of three years without additional charge.

We have provided a special blank below to be used in sending in your renewal subscription or the subscriptions of your neighbors. May we again urge you to co-operate with us by accepting one of the offers provided?

Special Club Subscription Blank

KANSAS FARMER, Topeka, Kansas.

I enclose $.....for.....subscriptions to KANSAS FARMER for one year each. For this service I am to receive KANSAS FARMER for { 1 year / 3 years } without additional charge.

Name .....

Address .....

Name .....

Address .....

Name .....

Address .....

Name .....

Address .....

Special Renewal Blank

(To be used in case Club Offer is not accepted.)

KANSAS FARMER, Topeka, Kansas.

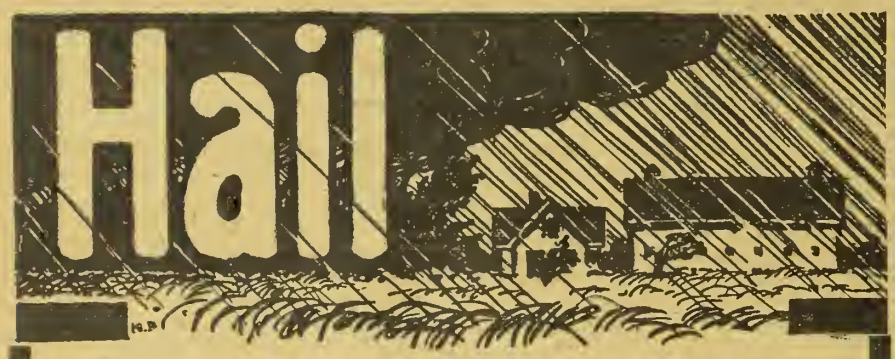
Enclosed please find { $1.00 / $2.00 } to pay for my renewal to KANSAS FARMER for { 1 year / 3 years } as per offer above.

Name .....

Post Office .....

R. F. D..... Box..... State.....





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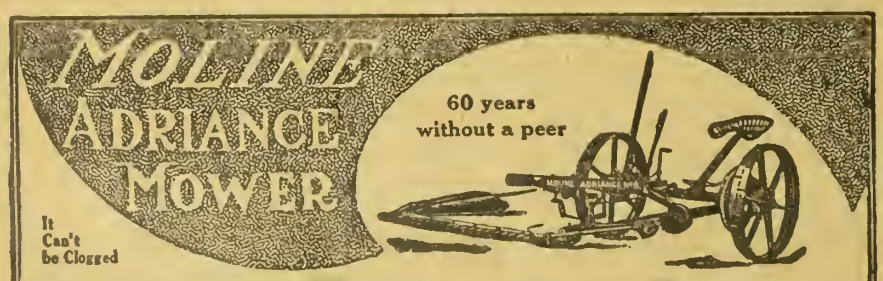

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Kansas Farmer Dairy Club

Report on Dairy Meetings

IN A recent issue of KANSAS FARMER you asked what rate of interest we are paying on our notes. My note is bearing 8 per cent. The payments endorsed on the back of my note look rather small compared with those given in a recent issue of KANSAS FARMER, but selling whole milk is undoubtedly more profitable than selling cream.

You will perhaps recall that I wrote you some few months ago about attending a cow meeting. These meetings were held at different school houses over the country all winter and were for the purpose of getting farmers interested in the dairy business. As a result several herds of dairy cattle have been placed on farms in this vicinity and work on the condensery at Garnett has already begun.

It has been some time since I received my prize for the milk sent to Manhattan in February, during Farm and Home Week. I took down with measles shortly after Farm and Home Week at Manhattan and was obliged to miss two weeks of school. Since then I have been so busy with back work and daily lessons that I neglected writing you.

I visited the dairy train and found the lectures very instructive. I do not believe their Holstein is as large as mine, but she is a heavier producer.

We have fed the last of our silage and I have turned my cow on grass now. She is gaining in milk. Would you advise feeding the same amount of concentrates after pasture is better? I still keep clover hay before her. Last week I paid $3.20 for corn chop, $2.85 for oil meal and $2.10 for bran. This seems quite expensive, but I do not want her to go down on her milk flow.

I will not be able to pay for my cow in a year's time from the sale of cream alone, but have had three parties looking at the calf and if I can sell him I will have a little to my credit. The calf was eight months old May 4 and weighed 600 pounds. He is doing nicely.

I am anxious to enter the advanced class, but I will be eighteen my next birthday, November 5. Will I be eligible? If so, I will take the matter up with our banker and try to persuade him to loan me enough money to purchase a better cow.—THERESA O'MARA, Anderson County.

We will not bar any members of the first Kansas Farmer Dairy Club from the advanced class because they have passed their eighteenth birthday during the year. We have so written Theresa O'Mara, and if there are any other members who are now eighteen we hope this notice will come to their attention so they will not consider themselves out of the second year's work on account of age.

There may be others who are concerned as to whether they should continue feeding the same grain rations after the cows go on pasture. Grain is so very high in price that we believe it advisable to economize as much as possible. If the pasture is good it will be possible in most cases to reduce the grain without causing the cows to fall off much, if any, in milk flow. It would be a good plan to give them some clover or alfalfa hay in addition, or silage if there is any left. It takes feed to make milk, and a heavy-producing cow will fall off in milk flow if the feed is not supplied in abundance.

Selling Butterfat

A number of the dairy club members are selling whole milk. This of course is possible only where there is a market near at hand. Some have worked up a private trade and others have turned their milk over to their fathers who had milk routes. The members who have sold whole milk have done exceptionally well, but the whole milk business is but a small part of the dairying of Kansas.

You who are selling butterfat may feel that you are handicapped because you are not so situated as to be able to sell whole milk. There is just a shade of regret on that one point in the letter from Theresa O'Mara printed in this issue. You who are selling butterfat are learning that phase of the dairy business which in the long run will be most satisfactory under average farm conditions. Dairying is a part of general farming and the selling of cream or butterfat fits into farming much better than selling whole milk. It is one of the most profitable means of converting farm-grown feeds into cash.

The most profitable type of dairying for Kansas consists in milking as many good cows as can conveniently be handled with the labor at hand. Skim milk is a most valuable feed and is no small source of profit when fed to calves and pigs. The seller of whole milk is barred from this source of profit and quite often even finds it difficult to properly raise the heifer calves.

Selling milk from one cow has brought in good returns and the boys and girls having the advantage of a market for their milk have been able to make large payments on their notes. It should not be assumed, however, for this reason that producing and selling whole milk is the kind of dairying most profitable to follow when the business is taken up as a permanent occupation.

At the recent meeting of the Kansas State Dairy Association held in Topeka the men selling milk discussed at considerable length the high cost of production and the expense of marketing. They pointed out that present prices for milk were not in proportion to the present cost of feed. Some were even seriously considering going out of the dairy business because they had figured out that they were selling milk at a loss. On the other hand, men who were milking cows as a part of their general farming, selling the butterfat and feeding the skim milk to their calves and pigs, had no complaints to make. They were perhaps finding it advisable to change somewhat their methods of feeding, getting along with smaller amounts of expensive concentrates, but were making some profit from the butterfat they sold in connection with the profit received from using the skim milk as feed for their calves and pigs. One such dairyman stated in the meeting that he had figured out that his cows were paying him $20 a ton for the alfalfa hay grown on his farm.

No matter how you are disposing of your product, the official records of the dairy club work are figured on a butterfat basis, each member being given credit for the butterfat produced. In valuing this butterfat the average Elgin price is used for each month's production, and the feeds eaten by the cows are charged at a uniform price. There will be no inequality in comparing the various records, for all are figured on exactly the same basis.

Farm Boy Cavaliers

We have just received the following most interesting letter from Paul Studdard, of Leavenworth County:

"I am writing to tell you the news about the Farm Boy Cavaliers. I received an achievement badge in pig raising and I believe I am the first Cavalier in Kansas to receive an achievement badge. I expect to get another soon in farm accounts. I started it the first of July, 1916, and will finish it July 1, 1917.

"Here is an achievement that ought to interest dairy club members. It consists in getting a quality test of at least 93 per cent. Keep three quarts of milk sweet ten days without heating it or using preservatives. I have tried this one already, but couldn't make it. All the achievements have something to do with farm work. It is interesting work after you get started.

"I organized our troop and bought three pigs for $9 to feed my surplus milk to. I kept records on them six months, got a badge, sold two of them for $30, made a payment on my cow, and turned over the other one to my father to pay for the feed, which came to $9. I sold my pigs before I got the badge. I went the old saying one better—I killed three birds with one stone. I fed my surplus milk, received a badge, and made a payment on my cow. There is also a division for girls. Our troop is not doing much at present, as we are waiting for the new manuals.

"I would like to see every member of the dairy club a member of the Farm Boy Cavaliers."

The Farm Boy Cavalier organization was planned by Prof. D. D. Mayne of the School of Agriculture, University of Wisconsin. We told about it in KANSAS

FARMER about a year ago and Paul Studdard, whose letter is given above, immediately organized a troop.

Any four farm boys may form a troop. They select a leader and assistant leader, a secretary, and a treasurer. They take the pledge of the order, and sign the roll, giving their post office addresses. A copy of the roll will then be sent to the secretary of the Farm Boy Cavaliers, School of Agriculture, University Farm, St. Paul, Minn.

Boys entering the organization will take the rank of page. No one will be accepted who cannot ride a horse at a gallop, and no one under the age of 12. A page may become an esquire by being able to repeat the pledge and the twelve principles of the order, by earning at least five achievement badges, and by having not less than $50 on deposit in his own name in some bank, or invested in some farm project.

The Cavaliers' pledge reads: "I pledge my word of honor that I will do my best to serve my God, my country and all persons who need my service; that I will keep myself clean in body and in mind and that I will observe the principles of the Farm Boy Cavaliers."

The Cavaliers' twelve principles are service, preparedness, personal honor, obedience, loyalty, kindness and charity, courtesy, courage, industry, thrift, cleanliness and reverence.

Achievement badges are won by work in alfalfa or clover growing, applied chemistry, automobile operation, barley growing, barnyard sanitation, bee culture, beef-calf breeding, bird study, blacksmithing, butter-making, canning, carpentry, cement construction, civic effort, corn growing, entomology, farm accounting, forestry, harness mending, milk production, painting, photography, plant diseases, plowing, poultry raising, and similar farm activities.

The activities of the Boy Cavaliers, however, are not confined to farm projects such as have been named. Certain public services will be required such as regularly patrolling roads, serving as fire wardens, dragging roads, planting shade trees, protecting the country against disease-bearing insects, extirpating roadside weeds, and serving as mounted escorts in public processions.

All inquiries regarding the organization should be addressed to Professor Mayne at St. Paul, Minn.

Dairy Club Prizes

The following prizes are offered for work in the Kansas Farmer Dairy Club:

Beatrice Creamery Company, hinge-door silo.

R. J. Linscott, Holton, Kansas, pure-bred Jersey bull calf.

Empire Cream Separator Company, cream separator.

Beatrice Creamery Company, cream separator.

Hinman Milking Machine Company, two-unit milking machine.

Hunt-Helm-Ferris Company, complete cow stall.

N. A. Kennady Supply Company, twelve-bottle Babcock milk tester.

In our May 20, 1916, issue, KANSAS FARMER offered the following special prizes:

To the member who wrote us oftenest telling of the interesting things that happen in connection with the club work and things learned from it, and who sent us the best pictures, we offered $3 and one year's subscription to KANSAS FARMER. To the one ranking second, $2 and a year's subscription to the paper; third, $1 and a year's subscription; fourth and fifth, one year's subscription each.

Care of Milk

Milk is a food product and must be cared for as such. Its value as food is very largely dependent upon the care it receives after it is drawn from the cow. The cow may be depended upon to do her share in helping out on the world's food supply, but the care and preservation of milk is as essential as its production. It is valueless, both to the producer and the consumer, if it sours before it can be used.

To make milk safe it is necessary to prevent disease germs from getting into it, therefore the cows should be kept healthful. It is also important that the men who work with the cows be healthy and that pure water from a protected well or spring be used. Further precautions are the use of clean utensils, keeping the cows clean, and using partly covered pails in milking.

Keeping milk sweet is entirely a matter of cleanliness and temperature regulation. Cows free from manure and dirt especially in the region of the udder and flanks; utensils that are carefully cleansed, scalded or dried; and careful protection of the milk from flies and dirt after production, will prevent the entrance of bacteria into milk.

The milk sours as a result of the rapid increase and development of the bacteria which get into it in the process of handling. It is impossible to prevent some of these organisms from getting into milk. Bacteria cannot reproduce fast enough to sour milk in twenty-four hours if it is kept below a temperature of 55 degrees F. Therefore, milk should be cooled as soon after production as possible. The easiest and most practical plan of cooling is to sink the cans to the level of the milk in a tub or running spring of cold water and to stir the milk frequently for five or ten minutes until cool. It should be held at or below 55 degrees F. if possible until used. The same methods are effective in keeping cream. It is impossible to make good butter from poor cream.

The essentials for keeping up the quality of milk and cream might be summed up as follows: Healthy cows and men, clean cows and men, clean cans and pails, covered milking pails, and finally cooling the milk or cream to the temperature of cold well water within an hour after it is drawn and holding it at as low a temperature as possible until delivered.

Cutting down hauling time is one way to get more time for greater crop production.

The easiest time to kill weeds is just as they begin to start. Therefore, start the garden hoe and the cultivator early.



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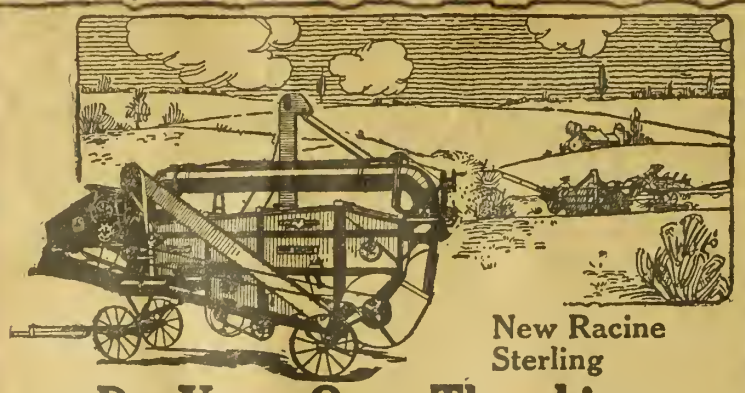

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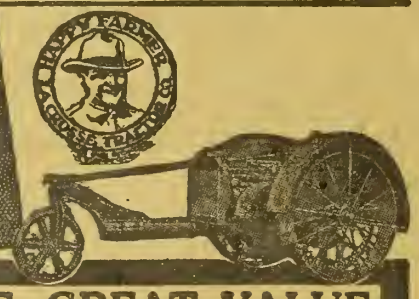

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Making Money Dairying

THE dairy cow is one of the great conservers of human food. It would be a real calamity to have any reduction take place in the dairy business of Kansas. The milking of cows has always made money for those who have given it a reasonable amount of care and attention. There are over a million cows of dairy breeding in Kansas at the present time. The increase during the past two or three years has been fully 50 per cent. There has been an unprecedented demand for milk cows and large numbers have been shipped in from other states.

In spite of the increase in dairying in Kansas as indicated by the strong demand for dairy cows, there was a strong note of pessimism at the recent auxiliary meeting of the Kansas State Dairy Association held in Topeka May 19. This seemed to hinge around the excessively high price of grain and other concentrates fed to dairy cattle. Men who had gone to the expense of equipping themselves with modern barns, sanitary milk rooms, and other equipment necessary to the production and delivery of clean, safe milk, seem to feel that they are hard hit by the excessive price of feed and the ruinous competition of the hand-to-mouth dairymen who generally have the most meager equipment and often have little realization of what it means to produce and deliver milk of high quality. It seems impossible to raise the price of good milk to the consumer because of this sort of competition.

Some few have been able to solve this problem by creating such a demand for the milk bearing their trade mark that they have been able to receive remunerative prices in spite of the high prices of feed and the necessity for meeting the sort of competition referred to above. J. W. Bigger, of Topeka, who gave an address at the recent meeting on the subject of Milking Cows for Profit, is an example of those who have been able to do this. Mr. Bigger is recognized by those who know him and his methods as being one of the best practical dairymen in the state, and in making this statement Mrs. Bigger should be included, for their success has been the result of team work in which Mrs. Bigger has carried her full share of the responsibility and work.

Their success in the whole milk business can perhaps be attributed to the fact that they have learned how to produce a maximum flow of milk year in and year out and have so handled their product that their cap on a bottle is accepted as a positive guarantee of its quality.

On the occasion of the dairymen's meeting an automobile trip was made to a number of the dairy farms around Topeka. No place visited by the members of the state organization created a more profound impression than the little forty-acre farm conducted by Mr. and Mrs. Bigger. It was evident to all that it was a thoroughly business proposition. There is nothing fancy about the cows. They are not even all of one breed or color. The man who knows dairy cows, however, could not fail to observe that they were one and all the kind that have the capacity to stow away a lot of feed and turn it into milk.

The feeding methods practiced are such as take the fullest advantage of this capacity of the cows for converting feed into milk. We have visited this farm a good many times, and we never saw a really hungry cow on the place. It takes feed to make milk, and these cows always have the raw materials of milk-making supplied them in abundance and in the most palatable form. They do not have pasture during any season of the year owing to the small size of the farm and the large number of cows kept. Through most of the summer season green alfalfa is fed as a soiling crop. Mr. Bigger's skill as a feeder is evidenced by the fact that he has never lost a cow from bloat. He feeds the alfalfa in cement troughs. A part of the yard is paved with cement in order to keep the cows out of the mud during wet weather. They are fed this green alfalfa three and four times a day. This frequent feeding is probably the secret of their freedom from serious bloat. The cows are never allowed to get ravenously hungry. Cows in that condition are almost certain to bloat if fed green alfalfa as is done on this farm, or allowed to graze it.

The barn is thoroughly modern. A fourteen-foot concrete silo stands on one side and a glazed tile silo twelve feet in diameter on the other. This tile silo is used for summer feeding.

The milk is cared for in a convenient, well equipped milk house. On one corner of the forty there is a small creek and on this is located an ice house. Ice is put up every season and used in the large refrigerator which is built in the milk house. The milk is bottled and capped with the trade-mark cap of the farm and sold wholesale to one of the large grocers of Topeka for eight cents a quart. At the time the out-of-town dairymen visited the Bigger farm the herd in milk—thirty-four head in number—were producing about ninety-five gallons of milk daily. There are dairymen producing good milk who are retailing it at ten cents a quart both in Topeka and in other cities in Kansas, but eight cents a quart wholesale is better than twelve cents retail. The many annoyances and expenses of retailing milk are avoided by having a wholesale market. A great many reforms might be brought about in the methods being followed in delivering market milk to city trade. These were discussed at considerable length at the dairymen's meeting.

For a good many years no heifers were developed on the Bigger farm. The acreage was too small. Mr. Bigger knows a good cow and seldom is fooled when it comes to buying animals to keep up his herd, but each year it becomes more difficult to pick up good cows and finally a farm near by was bought and on this farm, operated by a son-in-law, it is possible to grow and develop dairy heifers which can be added to the herd to take the place of cows



MODERN BARN ON FORTY-ACRE DAIRY FARM OF J. W. BIGGER, TOPEKA.—FARM AND ALL IMPROVEMENTS PAID FOR FROM PROFITS OF DAIRYING

culled out for various reasons. A pure-bred sire is now used and the heifer calves from the best cows are saved. This spring another eighty acres of land across the road from the original forty has been purchased at a price of $9,500.

Mr. and Mrs. Bigger went heavily in debt for the first forty acres some twelve or fifteen years ago, and everything they have has come from the profits of milking cows. The cows have not only made them a comfortable living, but have paid for the original forty, the barns, silos, and other equipment. In making these successes they have done a lot of hard work, but no great successes have been made in any business without persistent application.

The forty or fifty dairymen who visited Mr. Bigger's place took the greatest interest in what they saw. Judging from the number of questions they asked both Mr. and Mrs. Bigger while looking the place over and studying the methods, they must have seen many things that suggested helpful ideas to them. Those in charge of the trip had trouble in getting the crowd away from this place and started on to the next.

We hope many of the dairymen who visited Mr. Bigger's place and heard him explain his methods will be encouraged by his success. There should be no backward steps in dairying in this state.

New Remedy for Calf Scours

It is generally understood that preventative measures are the best remedies for calf scours, which causes considerable trouble to some dairymen in raising calves on skim milk. The most important preventative measures are to guard against overfeeding, feed at regular periods, be sure the milk is at the proper temperature at feeding time, keep the pails and other utensils in which the skim milk for the calves is kept thoroughly clean and sterile, and also keep the pens and stalls clean.

There are two entirely distinct troubles, both of which have the symptoms of scours. One is from navel infection at time of birth and the other is from indigestion. If a calf becomes sick within a few days after birth and dies within a day or two, the case is probably navel infection. This trouble is often called white scours because the passages from the animals are generally white.

Indigestion is the cause of common scours. This generally occurs when the calf is from two weeks to a month old. Prevention is the best remedy. The common causes of indigestion are overfeeding, feeding milk cold or sour, feeding sweet milk one meal and sour the next, and dirty pails, troughs or stalls.

Each calf should be watched carefully. At the first sign of foul-smelling dung, its source should be determined, as this is one of the first indications of indigestion. The amount of milk fed should be cut to one-half the usual amount and a dose of one ounce of castor oil in milk, followed by the formalin treatment, is advisable. The formalin treatment consists in giving one tablespoonful of formalin solution, made by adding one-half ounce of formalin to 15½ ounces of water, in each pint of milk fed. The amount of milk fed may be gradually brought back to normal after a day or two.

Many feeders have obtained good results from the use of blood meal as a means of correcting a condition of scours. Where the case is mild a teaspoonful of the dried blood is added to the milk at each meal.

Developing Dairy Heifers

An experiment that is expected to prove of inestimable value in the development of the dairy industry in Kansas is being conducted at the agricultural college under the direction of O. E. Reed, professor of dairy husbandry. Its purpose is to determine the feeds that will tend towards the perfect physical development of heifers and the production of a maximum amount of milk at the lowest possible cost.

The tendency on the part of the average dairyman is to breed early and underfeed, and because of this fact the dairy cattle do not attain full size. The best producers of any breed are those which have been fully developed to the breed standard.

The experiment in question was started two years ago. Twenty-four grade Holstein heifers—all related—were fed on skim milk up to 6 months of age. Since that six heifers have been fed on alfalfa hay and silage, and 12 on alfalfa hay, silage, and grain.

The heifers are bred to freshen at 30 months, with the exception of those in half the lot, which are fed grain as well as alfalfa hay and silage. These are bred to calf at two years. Professor Reed expects to find out whether or not cows getting the grain will develope sufficiently and give enough extra milk if allowed to calf six months earlier to pay for the extra feed they will receive. The experiment will be continued until the cows are 6 or 7 years old. By that time the department will have records on at least three milking periods.

Two of the heifers have already freshened. One of these, which is fed on alfalfa hay alone, is giving thirty pounds of milk a day and producing it at a low cost. She is eating forty to forty-five pounds of hay a day. The ordinary amount consumed is fifteen to twenty pounds a day. The other heifer that has freshened is fed alfalfa, silage, and grain. It is producing thirty pounds of milk, eating twelve pounds of hay, thirty pounds of silage, and seven pounds of grain.

The cattle in the experiment are weighed every month, and their measurements taken.

Missouri Cow Makes Record

Carlotta Campus Girl, a pure-bred Holstein four-year-old cow, bred and owned by the University of Missouri College of Agriculture, has recently established a new mark for four-year-old cows in Missouri. She produced 99.9 pounds of milk February 7, 1917, and thereby obtained the state record for cows of her age and the second highest Missouri record for cows of all ages.

Missouri Chief Josephine was the granddam of Carlotta Campus Girl and was the one cow in the state to beat this record. She produced 110.2 pounds of milk in one day and holds the highest one-day record of cows of all ages in Missouri. She also was owned by the University of Missouri.

Missouri Chief Josephine also holds the year record of milk production for cows of all ages in Missouri, having produced 26,861 pounds in 365 days. Her granddaughter, Carlotta Campus Girl, made the highest record for milk in Missouri for two-year-olds by giving 15,725 pounds of milk when she was two years old.

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60 Days FREE Treatment

FOR ALL YOUR HOGS



IF I don't make your hogs make **you more money**—produce more pounds of pork for you from the same amount of feed—I don't want your money! I am giving you the same opportunity to prove this that I gave Jno. W. Crane, hog raiser near South Whitley, Indiana. He writes: "I selected four pigs out of my bunch—three were runts. I weighed them and they averaged 85 pounds. I fed them Hog-Tone for four weeks. Then sold them eight weeks from time I weighed them and they averaged 221 pounds per hog."

Mr. W. O. Gandy,
President
Avalon Farms Company

You Can't Pass This By! **Avalon Farms Hog-Tone** is the only Veterinary Remedy ever sold with a guarantee to produce a definite percentage of profit. I guarantee it to produce 400% profit on the cost of the medicine on any hogs **no matter how healthy they appear to be,** and prove it to your own satisfaction. If it doesn't do it I don't ask you to pay a cent.

I know I am safe in making this guarantee. **I know** what Hog-Tone has done and is doing for the herds of other hog raisers. I also know that the market price of hogs is going higher every day—and is **bound** to go higher from now on. There is a **serious** hog-shortage. Especially a shortage of high-grade porkers **—hogs absolutely free from worms—big hogs with sound, clean flesh!** Worms are killing off the hogs!

"More hogs may be lost from worms this year than from hog cholera, and many cases of apparent cholera are only worms," says Dr. J. T. Dinwoodie, Veterinary Specialist of the South Dakota State College. "Nearly every hog is infested with worms," declares the U. S. Dept. of Agriculture. The malignant Thorn Head Worms — Stomach Worms — Liver Worms — Lung and Bronchial Worms weaken the Hogs—affect every sow's litter—make million of hogs easy victims of cholera, scours, thumps, rheumatism, enteritis, gastritis—rob surviving hogs of nourishment their food should bring, cut down their weight and quality at marketing time. Grasp this opportunity to try

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The Liquid Worm Killer and Hog Conditioner
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I will ship you one $1.00 bottle of Hog-Tone for each eight hogs in your herd—the day the coupon below, filled in, reaches this office. That will be sufficient to treat your hogs 60 days or more, according to size. This will mean just 12½ cents per hog for all the treatment—and that treatment is guaranteed by me to give you a 400 per cent profit over and above the cost of the Hog-Tone treatment, at marketing time. This is the same opportunity that these men grasped—and made money by doing so.

M. S. McFadden, Poland China Editor of Swine World (who feeds about 1000 hogs annually near Flossmoor, Illinois) advises: "I received Hog-Tone and gave it a test on five pigs. Our farm manager says that it is the best worm-expeller he ever used. **The pigs fed on Hog-Tone have made 25 per cent larger gains than those not fed on Hog-Tone."**

John Heinman, R. F. D. No. 5, Decatur, Ind., states: "I fed the Hog-Tone to a lot of hogs that had the scours. **Some of my pigs had their backs turned up like a rainbow.** In less than two weeks I could not get to the trough to feed them. I do not know exactly what the gain on this lot of hogs was, but I could see a great change in them."

Avalon Farms Hog-Tone is a highly concentrated liquid medicine FOR HOGS ONLY. It contains highly important medical ingredients which are liquids and which cannot be combined in Medicated Salts, Stock Foods or Condition Powders of any kind.

Avalon Farms Hog-Tone is safe. It is very easy to treat your hogs with Avalon Farms Hog-Tone. IT IS EASILY MIXED WITH ANY KIND OF SLOPS, WITH THE DRINKING WATER OR DAMPENED FEED. It is only given every third day for the first six weeks and after that only once a week. 100 per cent strong.

Thoroughly proved on Avalon Farms, near Fort Wayne, Indiana. Cleans out every kind of worms that infest hogs. By doing so, it gives **protection** to your hogs from easily contracting Cholera, Rheumatism, Scours, Thumps, caused by worms and indigestion. Enteritis, Indigestion and other diseases that destroy literally millions of hogs. A simply **wonderful** tonic and conditioner—gives hogs voracious appetites, aids digestion, helps them thrive, grow and put on fast increases of flesh. Makes hogs eager for their feed.

Avalon Farms Hog-Tone is the best known tonic for sows during gestation. Its use insures strong healthy pigs. It is the **reliable** worm expeller which is safe to use at this time.

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Simply tell me how many head of hogs you have—write down your name and address—and mail to me. I will immediately ship you enough **Avalon Farms Hog-Tone** to treat your hogs for 60 days! You simply pay transportation charges. Treat your hogs according to directions. If at the end of the treatment you are not **completely** satisfied—simply return the labels to me and you don't owe me a cent.

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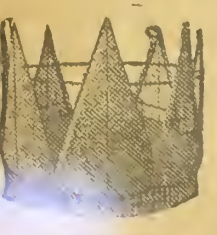

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WHEN SILO IS NEEDED

A GOOD many farmers are asking whether they should build silos or not. In our opinion the only solution to the problem of overcoming the high cost of feed is to build a silo. If ever there was a time when a silo was needed on the live stock farm, it is now. Grain and concentrated feeds of all kinds are so high in price that they cannot be profitably fed. Dairymen are especially concerned, for a milk cow cannot return any profit on a mere maintenance ration. It requires an abundance of palatable feed to make milk.

Under present conditions it is of the greatest importance that the roughage part of the ration be supplied in abundance, be palatable, and rich in nutrient material. Milk must be produced from rough feed as fully as possible. The dairyman who has plenty of good silage and alfalfa hay can get along with a minimum of grain and produce milk and cream at a profit. With present feed prices dairymen have no recourse but to adopt this system of feeding.

At the recent meeting of the Kansas State Dairy Association held in Topeka, the cost of milk production under present conditions was a much discussed topic. William Newlin, of Hutchinson, president of this organization, who is a successful dairy farmer, said in his opening address that it was up to the dairyman to feed his cows in the cheapest way possible, that unless he was able to cut down his feed cost he would have to go out of business. He pointed out that the cheapest way possible to feed a dairy herd was to make silage of everything on the farm that could be harvested and used for that purpose. Much low grade feed goes to waste every year because as ordinarily stored it is unpalatable and when fed to stock cannot do more than become a maintenance ration. As silage it becomes a productive feed. Mr. Newlin also urged that alfalfa, which is such a fine supplement to silage, be protected from injury by rain. He said it did not look good to him to see such a valuable feed as alfalfa piled up and left out in the open to be reduced in feeding value by exposure to the elements. We believe Mr. Newlin's advice to use greater efforts to preserve in palatable form all the low grade feed grown is the only means of reducing the cost of feeding live stock under present conditions. J. L. Nickolay, of Osage County, who handles pure-bred dairy cattle, said he was making alfalfa worth $20 a ton by feeding it to his cows and selling the cream produced, using the skim milk for feeding calves and pigs. Such testimony goes to prove the possibility of securing profitable returns from feeding the right combination of roughage to milk cows.

In spite of the wonderful possibilities of the silo in making low grade feeds return a profit, there are sections of the state where a good many men who built silos a few years ago are dissatisfied and are "knocking" on the silo. We have taken the trouble to investigate a good many of these knocks. The trouble with these men is that they were not equipped to use silage. KANSAS FARMER has always pointed out this danger in all the boosting we have done for the building of silos. Silage cannot be sold on the market like wheat or corn. There is just one way to make it return a profit, and that is to feed it to good live stock. Men who were induced to buy silos before they were ready to use the silage found that they could not sell it to their neighbors, although occasionally a man was able to sell the contents of a silo to some neighbor who was short of feed and made a good profit by so doing. We have always endeavored to point out that the real place of the silo is in increasing the feeding value of the crops grown. In order to do this there must be stock to eat the silage. There is no place for a silo on a farm where grain farming predominates, where the fodder is wasted and straw stacks are allowed to rot down in fields or are burned. On farms well stocked with good animals, where everything that grows finds mouths ready to consume it and ever demanding more, the silo is an investment that will often pay for itself in a single year's use. The cost of producing meat and milk can be reduced to a minimum where silage is properly used. By growing corn, cane, or kafir for silage, and alfalfa, clover, sweet clover or other legumes to balance the ration, the live stock capacity of a farm can often be doubled and with profit to the owner.

Plant Kafir for Grain

Many are wondering just how late kafir can be planted with the expectation of having it mature. It is not yet too late over most of the state for kafir planting. The best results in growing kafir usually follow planting it from one to three weeks later than corn is commonly planted. For western and northwestern sections where the growing season is much shorter, the earlier maturing strains must be used, and where the season is not long enough for kafir to mature the grain to plant is dwarf milo or feterita.

G. E. Thompson of the extension division of the agricultural college urges the importance of giving kafir a fair chance. Mr. Thompson has had much experience with the grain sorghums and states that it does not pay to "hog in" kafir or any other of the sorghum crops. One of the reasons grain sorghums have not made greater progress than they have is the tendency to give them much poorer conditions as to seed bed preparation and cultivation than are given corn.

If the ground has been given careful preparation before the seed is planted it requires much less cultivation later. In Central and Western Kansas listing is probably the most satisfactory method of planting kafir. Farther east and especially on wet, heavy soils, surface planting will give the best results.

The rate of planting is a most important point in growing kafir for grain. Mr. Thompson has figured out that if a four-ounce head is produced every ten inches in rows three and a half feet apart the yield will be approximately sixty-three bushels per acre. For the growing of grain this is thick enough to



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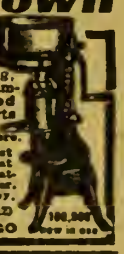

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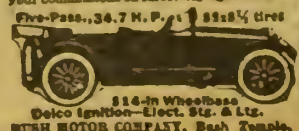

BUSH MOTOR COMPANY, Bush Temple, Chicago, Illinois

plant kafir. Planting one seed every ten inches is at the rate of one-half pound to the acre. Of course kafir seed does not by any means all germinate, and it would not be safe to plant as small a quantity as this as a rule. These figures, however, are suggestive as indicating how much too thick we commonly plant kafir. The exact rate will depend upon the per cent of the seed which is sure to germinate and also the condition of the seed bed.

It might be interesting to those who are debating whether to plant more kafir to have brought to mind the fact that up to the recent advances in corn due to war conditions kafir has outsold corn on the market during the past year. The difference has been as great as from thirty to sixty cents a hundred in favor of kafir. It is also a rather suggestive fact that 700 million people depend upon grains of the sorghum family as their staple cereal. These people depend on the grain sorghums for every purpose for which we use wheat in the United States. In other words, grain of the sorghums is their staff of life. In spite of our great production of wheat in this country there are probably more acres that can be used to grow grain sorgbums successfully than will grow wheat. The value of these grains for human food is scarcely even considered in this country, although the subject is being studied and at the present time one railroad company operating through the state of Kansas serves kafir pancakes to its diners.

Insects Cause Heavy Losses

We do not realize the enormous extent of the toll we pay to injurious insects each year. This tax would be even greater were it not for the careful investigation of the experiment stations and the United States Department of Agriculture. As a result of these studies valuable methods of control have been worked out and can be put into operation on the farms, doing much to check and in some cases even eliminate insect damage. The results of such work were shown in a large way by the checking of the grassboppers in 1914 through organizing the farmers of thirteen counties in Western Kansas in the summer of 1913.

George A. Dean, professor of entomology at the agricultural college, has estimated that the Kansas feed bill for insects in 1916 was forty million dollars. In other words, had the crops destroyed by pests last season been marketed, the proceeds would have been sufficient to build seven permanent sixteen-foot roads across Kansas from east to west.

"Damage by the Hessian fly in 1916 is estimated at fourteen million dollars, as compared with sixteen million dollars in 1915," said Professor Dean. "While the corn-ear worm annually causes a loss of from five to seven million dollars' worth of corn, the destruction was not so great in 1916 because of shortage of crops caused by dry weather.

"Due to the wet season of 1915, practically no injury was done by the chinch bug in 1916, but in 1913 and 1914—both dry years—fifteen million dollars worth of crops were destroyed and considerable damage was done in the spring of 1915."

The green bug, which causes the loss of at least five million dollars in 1907, pointed out Professor Dean, was not a serious menace again until 1916, when the damage to Kansas and Oklahoma crops, according to government statistics, was approximately six million dollars. Crop destruction by grasshoppers amounted to millions in 1913, and a similar repetition threatened in 1914 was controlled by prompt co-operation of the Kansas Experiment Station and the farmers following the loss in 1913.

Fruit insects destroyed 20 per cent of the entire fruit crop and the garden insects 15 per cent of the garden crop in 1916. This waste of from twenty-five to forty million dollars in Kansas each year, believes Professor Dean, might be lowered to four or five million dollars, or even less, were proper methods of control generally adopted. These methods usually increase the yield of crops as well as destroy insects.

Death of Prominent Granger

The Patrons of Husbandry in Kansas, and especially Jackson County members, have met with a great loss in the death of Brother Harry Stine. He will be remembered by members of the order all over Kansas, as he was a delegate to the State Grange at Ottawa in 1915 and also to the State Grange at Independence in 1916, where he served on some very important committees.

He was one of the leading factors in the organization of the Jackson County Pomona Grange, in which he was always an energetic worker. He was especially interested in co-operation, and to him more than to any other one man Jackson County owes its success in a co-operative way.

At the time of his death he was president of the Jackson County Co-operative Association, and when he realized that he was about to be called from his labors on earth, he called in his friends and associates and planned for the future of the organization.

His genial smile, cheerful words, and hopeful outlook on life will be greatly missed by all his co-workers. His life should be measured by deeds rather than by years, for he was taken in the prime of life, but he had accomplished much in the time allotted to him. He has left us a heritage of efficiency, enthusiasm, and brotherly love that will endure throughout the years.—MRS. MABEL POMEROY, Chaplain Kansas State Grange.

Western Kansas Letter

We have just received a most interesting letter from W. A. Boys, the district agricultural agent having headquarters at Hays. This letter was not written for publication, but we feel sure our Western Kansas readers will be much interested in what Mr. Boys has to say. His district includes the Union Pacific territory west of Russell and Osborne counties. It comprises the counties of Ellis, Rooks, Graham, Trego, Gove, Logan, Wallace, and the greater part of Sheridan. This is a large territory and Mr. Boys cannot visit the different sections very frequently, but he has just completed a trip covering the whole district and in writing of this trip has the following to say:

"I find that farmers are generally doing their best to put out a large acreage of spring crops. Much more barley than usual has been seeded and the early-seeded barley is up and looking fine.

"There will be more corn planted this spring than any other crop. The acreage on individual farms will usually range from 100 to 1,000. I think there is a tendency to put out a larger acreage than can be well tended. I expect to see considerable weedy corn and especially if we happen to have some wet weather after cultivating time. I have been advising that they put out to rowed crops only what they can reasonably expect to take care of under normal conditions, and then fallow the idle ground for wheat. I think we ought to prepare some for next year's crop as well as to produce a large amount this season. The cost of seed wheat is going to limit the acreage of wheat. Fallow ground will require less seed than stubble ground and for this reason will be a factor worth considering.

"In the last three tiers of counties in the west end of the district I find the grain sorghums are more popular than corn and there will be a considerable acreage of these crops.

"I hardly think I would advise farmers to grow sorgbums in wide rows with the idea of seeding to wheat in the fall. This of course would be much better than growing these crops in the ordinary rows, but practically every farmer is putting out some corn and this ground will be much better than any sorghum ground for wheat. Considerable ground is being planted to corn with the idea of preparing the fields for wheat as much as the expectation of getting a corn crop. If corn is raised they will be that much ahead. Wide spacing of corn will give better yields in dry years than the regular spaced corn. I had a test of this in 1914 in which the wide spaced corn made nine busbels per acre more corn than the regular spaced corn under the same conditions. I think there is little doubt that the same thing will be true of the grain sorghums, but I have not been able to get a test of this yet."

Eradication of Sweet Clover

Some farmers hesitate to plant sweet clover on their farms for fear they will have difficulty in eradicating it when the fields are planted to other crops. The results obtained annually by hundreds of farmers are sufficient proof that there is no foundation for such fear; in fact, farmers are experiencing much difficulty in cutting the first crop the second season so high that the plants will not be killed. The new crop of sweet clover, unlike that of red clover and alfalfa, must come from the buds left on the stubble, so when the plants are cut below these buds they will be killed. As sweet clover is a biennial, the plants die as soon as the seed crop is produced.

When the first year's growth of sweet clover is to be turned under for green manure it is recommended that the field be plowed after the plants have made some growth the following spring rather than in the fall of the year of seeding. When the first year's growth is plowed under the same fall many of the plants will not be entirely covered, and these will make a vigorous growth the following spring. When the plowing is delayed until the plants have made some growth the following spring no trouble will be experienced in eradicating them.

Sorghums for Silage

There can be no question as to the value of the various sorghums for silage. The dairy committee of the Kansas Council of Defense has just called special attention to this point and also emphasizes in its report the importance of planning for silage in feeding dairy cattle.

Experimental work in the last few years has shown that corn is a little better for silage, ton for ton, than are the sorgbum crops, but when the yield is considered the sorghum crops are found much better than the corn. In co-operative work conducted on farms in Eastern Kansas during the past three years it has been found that Kansas Orange cane has given a yield of 13.5 tons of silage per acre; kafir, 9.1 tons; corn only 7.5 tons. This is the result of fifteen tests.

The average silo in Kansas has a capacity of about 125 tons. Only 9.5 acres of sweet sorghum or cane will be required to fill a silo of this size, while 16.5 acres of corn would be needed. The average silo can be filled with fourteen acres of kafir.

An invasion by insects or by plant disease may be stopped if reported promptly and before the invaders have a chance to get a foothold in the crop-producing areas. For this reason, it is important to report to the Experiment Station, as a special war measure, any signs of the presence of insects or plant diseases.

To know the tricks of the enemy is half the battle. Know the insects and diseases which attack your vegetables and you will know how to fight them.

Everybody believes in exercise, but not when it is associated with roadside repairs to a refractory motor.—American Motorist.

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809 KANSAS AVENUE TOPEKA, KANSAS

WE NEED YOUR HELP

WE FEEL confident that there are thousands of KANSAS FARMER readers who will gladly respond to our appeal for help in the emergency now facing us. You do not want us to cut your name from our list, but by neglecting from day to day to send in your renewal you are seriously embarrassing us and causing us much unnecessary expense.

We are now confronted with a new order from the Post Office Department compelling us to stop sending KANSAS FARMER to a large number of our subscribers who are in arrears. We have in the past been allowed to give you several months in which to renew. The Post Office Department now says it will not carry at the second-class rate papers to those who are not paid up, and its word goes. We have no further recourse but to meet these requirements.

It has ever been the policy of KANSAS FARMER to keep close to the grass roots and under no circumstances to permit other than genuinely helpful material to appear in its columns. We, who are responsible for it editorially, have had real farm experience and keep in such intimate touch with farm conditions that we are able to give you the practical farm viewpoint of whatever appears.

In making this personal appeal to you we feel sure we can count on your loyalty to the cause which KANSAS FARMER represents. You can help us so easily and, what is more, we are going to make it financially worth your while to renew at once and send us in addition the renewals of your friends and neighbors.

You will find the date to which your subscription is paid on the label of the paper you are now reading. Turn to it now while it is fresh in your mind and register a vow to respond to this appeal for your help and co-operation. On page five you will find our special renewal and club offer. It is worth a careful reading, as it will save you money.

Do not fail us in this emergency. We need your help.

T. A. BORMAN, President and Editor.
G. C. WHEELER, Associate Editor.
W. J. CODY, Secretary-Treasurer.
C. C. YOUNGGREEN, General Manager.

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We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Rice Instead of Potatoes

Have you ever tried serving rice in the place of potatoes? If not, it should be given a trial, as it is a valuable source of starch and not so expensive as potatoes. Rice served on the plate, with gravy, is delicious and very acceptably takes the place of potatoes.

New Kansas Bulletins

Two very useful bulletins have just been issued by the division of extension of the Kansas Agricultural College.

"Canning instructions" is the title of one of these bulletins. This is a compilation of many valuable recipes for the canning of fruits and vegetables according to the new methods which have proven so successful. An explanation of each of the methods is given, also a canning time table for all fruits and vegetables common to the different sections of this state. Every Kansas housewife should have a copy of this bulletin. It is being distributed by the Kansas State Council of Defense, also.

Those who have been and will be responsible for classifying agricultural fairs will appreciate the value of the bulletin entitled "Classification at Agricultural Fairs." The material for this bulletin has been carefully worked out and it was designed as a handbook for those having local agricultural fairs in charge.

Both of these bulletins will be sent free by the agricultural college to those asking for them.

Canning Beets

The canning of beets is a simple process. Grade them for size, color, and degree of ripeness. Wash thoroughly and scald in boiling water to loosen the skin. Pack whole or cut in sections or cubes, as desired. Add boiling hot water and one level teaspoonful of salt to the quart. Place rubbers and tops in position. Partially seal, but not tight. Sterilize ninety minutes in a hot water bath outfit, seventy-five minutes in water seal outfit, sixty minutes in steam pressure outfit under five pounds of steam, or thirty-five minutes in aluminum pressure cooker under twenty pounds of steam.

Beets are not exceptionally high in food value but may be used extensively to add succulence to the diet and stimulate the appetite. The mineral matter contained is of much value in building up the system.

Beets may be used to advantage for food any time after they have reached the size of English walnuts. The tops make appetizing greens, while the beet itself is excellent for canning or serving with butter, salt and pepper.

Glenwood Club Recognized

The Glenwood Canning Club, of Leavenworth County, has at least won recognition and may yet be awarded national honors for 1916 club work. O. H. Benson, of the U. S. Department of Agriculture, has just given out the following encouragement:

"We are ready to report that the champion mother-daughter club in the United States is the Glenwood Club of Leavenworth County, Kansas, but we are not quite ready to report that this is the best club when all projects are taken into consideration. It is the most effectual mother-daughter home canning club in the United States, from the standpoint of home canning achievement, community effort and community work."

Thousands of corn clubs, pig clubs, canning clubs, and other agricultural clubs conducted co-operatively by the Department of Agriculture and the agricultural colleges in the many states, competed for this honor. The Glenwood club of twenty-nine teams canned about ten thousand quarts of fruits, vegetables and meat during the year, and in addition did much constructive community work.

Much credit is due the members of this club and also Otis E. Hall, the state club leader for Kansas, for the accomplishments of this club during the past year. The work that was done last year in the Glenwood community is the kind that would make any community a better place in which to live. This club stands for neighborliness, co-operation, and the saving of all surplus vegetables and fruits.

Mother-daughter canning clubs are very popular in Kansas this year, many being added to the list every day. Through this means we can help materially in carrying out the national program for food conservation.

If you are interested in organizing a club of this kind in your community, you should write Otis E. Hall at the Kansas Agricultural College, Manhattan, for plans.

How We Can Help

The present wheat prospects for the United States indicate a yield that will not supply our own average demand, and yet this country is expected to furnish the Allies 250 to 300 million bushels of wheat this year. How can we do it?

This can be done if we will only awaken to the situation and feel our own responsibility in this crisis. Those who have studied the conditions and possibilities tell us that if every American family will substitute corn bread or other bread once a day in place of wheat bread, this will release enough wheat for us to do our share in furnishing wheat to the Allies. If we have the true spirit of patriotism this will not be a hard thing to do.

It is hard for us to realize that we are facing a food shortage, for as yet we have not felt it, but we should heed the warnings of those who are studying the conditions affecting our food supply. If we do not, we may feel this shortage to a far greater extent than would be necessary with economical use of foodstuffs from this time on. Even though, as families, we do grow enough wheat to supply all our needs, and more, too, this is no reason for our turning a listless ear to those who are trying to conserve the nation's supply. It is not the duty of any one section to help make up this shortage, but it is the duty of every individual to do all he can, and each one who shirks this duty is increasing the burden of another and is not a patriotic citizen.

The present offers an unusual opportunity to housewives to show their skill in management and every one who rises to the occasion and does her best, is a true patriot. Let us not forget the corn-bread-once-a-day suggestion.

Girls' Vocational Conference

It would be hard to recall a meeting in which greater interest was shown than in the vocational conference for high school girls held at the Kansas Agricultural College recently under the direction of the extension division. This was the first conference of its kind held in the state, but it probably will not be the last one. Twenty-two delegates—seniors in high schools—were in attendance. This is not a large number, and yet when it is remembered that these twenty-two girls came from almost as many counties and will upon their return pass along to their classmates the impressions gained at this meeting and the helpful ideas of the many opportunities for usefulness open to women, it is easy to realize the possible scope of the influence of the meeting.

It is rather significant that this first vocational conference for girls should follow the first national election in which Kansas women had a part, but we feel sure there was no thought of the connection of the two events in the minds of those who planned the meeting. Their thought was of the benefits to be derived from coming together and talking about the opportunities offered women in the business world, and the help such discussion would be in choosing a vocation, regardless of our new political rights. Women figured promi-

nently in business long before we were recognized politically, and each year the need for efficiency grows greater if we would succeed in proportion to our opportunities.

The subjects discussed at the conference were the girl as stenographer and secretary, newspaper work for women, training for social service, music as a profession, physical education, the nurse and her opportunities, the woman physician, agriculture for women, how home economics may prepare a girl to make her living, the teacher of home economics, the dietitian, costume designing, the art supervisor, institutional management, and industrial conditions in New York.

At the end of each talk the girls were invited to ask questions, and the way in which they responded was an indication of their deep interest. All the girls attended every session and all used notebooks freely.

It was our privilege to attend this conference and as a result of little talks with a number of the girls we are of the opinion that there is a great need for showing our girls the different lines of work in which they can be useful and can show their ability, that they may choose vocations instead of feeling that the business world is not just the right place for them.

The girl who enters the business world need not be unfitted for that greatest of women's callings—home-making. It was not the thought of those who planned the conference to lead away from the home, but to show the avenues for usefulness for those years between school days and the time when the girls enter homes of their own. In these days many girls feel they must be earning their way, and if allowed to choose the way in which they can do it, and then are prepared for that line of work, it will be more satisfying to them, which means that they will be more efficient.—JANETTE LONG.

Many of us have food prejudices for which we cannot account. We think we do not like food that we have never tasted. Or, perhaps the only time we tasted it, it had not been cooked properly, and for which we made no allowance. At present we are called upon to forget these prejudices and to practice economy in our eating in order that we may have a part in the food-saving campaign. In our eating we should supply the needs of our bodies rather than our wants.

Radish tops make very good greens. They have a flavor that is different from that of other greens.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8153—Girls' Russian Blouse Dress: Cut in sizes 8, 10, 12 and 14 years. One look at this design makes it clear to us why the fancy of fickle fashion is securely anchored in the Russian blouse—a most satisfying style for the growing girl. The blouse of this model slips on over the head, has the loveliest cuff for a long or short sleeve, and the prettiest belt to make pockets cling for effectiveness. **No. 8163—Ladies' Overblouse:** Cut in sizes 34 to 44 inches bust measure. The overblouse that is talked about as fashion's newest offering—and a garment that will have many uses during the season—is shown by this drawing. It is made to slip on over the head and can be cut in either of two outlines at front lower edge; in two points like a vest, or in one, as pictured. **No. 8147—Girl's Dress:** Cut in sizes 6 to 12 years. Yokes and plaited effects in a dress for a young miss always draw praise, and in the frock pictured these features are expressed in a way to suit any girlish fancy. The waist fronts are gathered with plenty of fullness and joined to the yoke; the back shows similar treatment. At normal waistline a belt of material conceals the joining of a one-piece skirt which has the plaits arranged to give panel front. **No. 8176—Ladies' Dress:** Cut in sizes 36 to 42 inches bust measure. Good style and becoming grace and expressed with just the right degree of smartness in this model. With rever fronts of contrasting goods, the waist shows a surplice vest that matches a collar which may be in round or pointed outline. A two-gore skirt, with a plait in each side of the front gore, joins the waist at regulation line. **No. 8168—Ladies' Gathered Skirt:** Cut in sizes 24 to 32 inches waist measure. If you want a choice model in a separate skirt, here's an opportunity you can't afford to overlook. The garment is cut in four gores and gathered on a raised waistline; a plait at each side of the front and back produces the "lines" that are registered as the season's smartest. The double belt and trimming pockets at the sides are personal matters for you to decide upon. **No. 8149—Ladies' Apron:** Cut in sizes 36 and 40 inches bust measure.

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks,** for bona fide seekers of employment on farms.

HELP WANTED.

THOUSANDS GOVERNMENT JOBS OPEN to farmers, $75 month. Write for free list of positions. Franklin Institute, Dept. D-82, Rochester, New York.

REAL ESTATE.

IF YOU WANT TO SELL OR EXCHANGE your property, write me. John J. Black, Desk C, Chippewa Falls, Wisconsin.

WANTED—TO HEAR FROM OWNER OF good farm for sale. State cash price and description. D. F. Bush, Minneapolis, Minn.

BUYERS, SEE THESE BARGAINS BEfore you buy. Farms, businesses any kind, anywhere. Send for free magazine. Western Sales Agency, Minneapolis, Minn.

FARM AND PROPERTY WANTED EVerywhere. If you want to sell, try me. One per cent commission after sale. If you want to buy, get my Farm Journal. Hahr's Farm Agency, 800 Broad St., Newark, N. J.

HORSES AND MULES.

JACK FOR SALE OR TRADE—FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

HOLSTEIN CALVES FROM TESTED dams. Blue Label Stock Farm, Route 5, Whitewater, Wisconsin.

FOR SALE—ONE REGISTERED SHORThorn bull, thirteen months. John Thorne, Kinsley, Kansas.

GUERNSEY COW COMING THREE years old, registered, well bred, good type, desirable. J. W. Marley, Oswego, Kansas.

FOR SALE—FOUR REGISTERED HOLstein male calves. One large enough for service. Also a few grade heifers. F. E. Proctor, Oswego, Kansas.

CALVES — HOLSTEINS, SHORTHORNS and Guernseys. A few specially fine ones, $12.50 to $25. For catalog write Ed Howey, South St. Paul, Minn.

FOR SALE—TWO REGISTERED GALloway bulls, also two grades, all two years old; in good breeding condition, priced cheap for quick action. J. F. Winter, Emmett, Kansas.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $23 apiece. Frank M. Hawes, Whitewater, Wis.

FOR SALE — VERY CHOICE HIGHgrade Holstein calves, either sex, three to six weeks old, at $20 per head, crated for shipment. Or if you want dairy cattle of any age, I will buy them at a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

LICE ON CHICKENS

IT IS LICE THAT KILLS THE LITTLE chickens. I make a lice powder that I will guarantee to take every louse off of little chickens in one minute or your money back. Two 50-cent boxes sent express prepaid for $1. This ad will appear only once. The Pruitt Remedy Co., Hays, Kansas.

TREES, SEEDS AND PLANTS.

SWEET POTATO PLANTS.—CAN'T FILL any more orders until June the tenth, only one kind, Nancy Hall, yellowest, sweetest and earliest. Made 100 bushels per acre season 1916, July 15 setting. Price, 30c per hundred; $2.25 per thousand, delivered. W. D. Hayman, Stillwater, Oklahoma.

DOGS.

AIRDALE—THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

SITUATION WANTED.

MARRIED MAN WITH WIFE AND ONE child wants steady work on farm. Address N. S., care Kansas Farmer.

SINGLE MAN WANTS FARM WORK. Age 25, Christian, do not use tobacco or booze, good references. Some experience. H. Barr, 1424 Wyandotte, Kansas City, Mo.

WANTED—STEADY WORK ON FARM by young married man. Experienced farmer and stockman. Can handle dairy herd. Address Walter B. Polley, St. Charles, Missouri.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

HIGHEST GRADE WAGONS

CLOSING OUT SALE OF 3 AND 3¼-INCH farm wagon gears. Complete with gear brakes, double trees, etc. All new and in A-1 condition. Snap. Lock Box 10, Station A, Kansas City, Missouri.

HOGS.

DUROC BOARS—TWO SPLENDID FALL boars, ready for service. B. R. Anderson, Route 7, McPherson, Kansas.

Real Estate For Sale

360 ACRES CREEK BOTTOM FARM
160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; $5,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only $45 per acre.
M. T. SPONG - - FREDONIA, KAN.

WANTED

To trade first-class farm in Iowa or Minnesota for high-class herd of Shorthorns or Herefords. Nothing but top quality cattle considered. Give complete information concerning herd in first letter. Will give complete description of property and location of same in reply.
AMOS BURHANS - - Waterloo, Iowa

600 ACRES, 2½ mi. city 4,000, this county, $4 per a. Some terms. Pasture and fruit land. 8 mi. splendid oil well. No leases. Guarantee to lease it 50c per acre.
SOUTHERN REALTY CO., McAlester, Okla.

Government Red Sail Fruit Land can be located on Desert Act near Delta under newly completed irrigation system. Easy payments. **Thompson, 515 Denham Bldg., Denver, Colo.**

200-ACRE FARM, one mile railroad station; 40 acres alfalfa, 58 acres corn, 10 acres timbes, remainder pasture. Family orchard, light improvements. Splendid water. Sacrifice price. Come at once. Write for list of farm bargains, clover, wheat, alfalfa, corn land. **MANSFIELD BROS., Ottawa, Kansas.**

FARM AND HERD.

The "Review and Album" of the 1916 International Live Stock Exposition has just been published. This is a complete history of the show and includes a fine lot of pictures of the various exhibits shown. It is a book that will greatly interest breeders of pure-bred live stock and many others. A copy of it can be secured by sending fifty cents to the International Live Stock Exposition, Union Stock Yards, Chicago.

Only a few bulls out of many thousands have dams who hold any world's record. The bulls whose sire's dams hold world records are not at all plenty. But the chance of combining the two, and finding a bull whose dam and sire's dam have both held world records, is scarcely worth figuring. Yet that is the distinction that H. B. Cowles sets out for Walker Copia Champion, senior bull in the Braeburn Holstein herd.

R. J. Bazant, of Narka, Kansas, owner of one of the choice herds of Spotted Poland Chinas now assembled, reports his 200 spring pigs growing out fine. He also reports a heavy demand for breeding stock and is booking orders rapidly for spring pigs. Many of the orders are for pairs and trios. Mr. Bazant is using three boars in his herd that are among the best Spotted Poland China sires now in service, and in addition to the 200 spring pigs he has a very fine lot of fall gilts sired by these great boars. The sows in his herd are remarkable for their size and quality.

C. M. Albright, of Overbrook, Kansas, owner of one of the outstanding herds of Polled Durham cattle in Kansas, reports his herd doing well. By careful mating for years Mr. Albright has succeeded in building up a herd of the beefy type that are the profitable kind on the farm. The breeding of his herd is the best of the breed and he has a great lot of individuals. A feature of the herd at this time is the choice lot of young stock, including young bulls by a goon son of Roan Hero.

F. W. Walmer, of Whitewater, Wisconsin, owner of Way Side Stock Farm and herds of Holstein and Guernsey cattle, reports a good demand for high-class dairy cattle. Way Side Farm has supplied dairymen and farmers in the Southwest with a large number of Holsteins and Guernseys during the past year.

H. W. Estes, of Sitka, Kansas, reports his Shorthorn herd doing well. Mr. Estes has succeeded in building up a herd of richly bred ideal type Shorthorns. The blood lines in his herd are the best of the breed. A feature of his herd at this time is a select lot of young bulls ranging in age from two years down to six months.

Ray C. Judd, of St. Charles, Illinois, who owns good herds of registered and high grade Holstein cattle, reports a good demand for high class Holsteins. His specialty is Holsteins that are producers, and many of the good producing herds now assembled were started with foundation stock from his herd.

R. P. Wells, of Formoso, Kansas, owner of one of the select herds of Duroc Jerseys in this state, has saved forty head of extra good spring pigs that are growing out fine. These pigs were all sired by Highland Cherry King 204165, one of the good Duroc sires now in service. Among the dams are such sows as Golden Promise, Professor's Belle, Golden Fancy and Model Lady.

Reliable Poultry Breeders

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

BARRED ROCK EGGS, FANCY STOCK, heavy laying strain, $4.25 per hundred. Esrl Summa, Dept. G, Gentry, Missouri.

WHITE ROCKS, SIZE AND QUALITY, good egg strain. Eggs—fifteen, $1; fifty, $3; hundred, $5. G. M. Kretz, Clifton, Kansas.

BUFF ROCK EGGS, ONE DOLLAR PER setting; choice stock. Mrs. E. C. Hicks, Columbus, Kansas.

PURE BARRED ROCK EGGS — FARM range, $1 per fifteen, $5 per hundred. Mrs. H. Buchenan, Abilene, Kansas.

BARRED ROCK EGGS FOR HATCHING. Eighty-seven premiums. A. G. Hammond, Vinland, Kansas.

BARRED ROCKS — SEVENTY-THREE premiums. Breeders for sale. Eggs half price. Mattie A. Gillespie, Clay Center, Kansas.

BEAUTIFUL IMPERIAL "RINGLETS." Prices eggs reduced after May 10. No. 1 either mating, $2, fifteen; $3.50, thirty; $10 hundred. Mrs. Iver Christenson, Jamestown, Missouri.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, $3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

RHODE ISLAND REDS.

SINGLE COMB RED EGGS, GOOD FARM range, $4 per hundred; $1.50 per thirty. Mrs. Rosa Janzen, Box 242, Geneseo, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

ANCONAS.

S. C. ANCONA EGGS, $5 HUNDRED. Fine layers. Mrs. Will Torgeson, White City, Kansas.

ORPINGTONS.

FINE GOLDDUST BUFF ORPINGTONS—Eggs, $1.50 setting; $8 hundred. Prepaid. Mary E. Price, Route 7, Manhattan, Kansas.

CEDARDELL POULTRY FARM — S. C. Buff Orpingtons exclusively, bred for size, color and eggs. $1 per sixteen, $5 per hundred. Martha Brown, Parkerville, Kansas.

SEVERAL BREEDS.

BARRED AND BUFF ROCKS — SINGLE Comb White Leghorns. Fawn and Pencilled Runner Ducks. Eggs—Fifteen, $1; hundred, $5, from range flocks. J. T. Rickman, Kiowa, Kansas.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

FOR SALE. EGGS—EGGS FROM PURE-breds, and cockerels, turkeys, geese, eight kinds of ducks, pearl and white guineas, bantams, Barred, White and Buff Rocks, Rhode Island Reds, Houdans, Hamburgs, Games, Langshans, Minorcas, Brahmas, Cochins, Buff and White Orpingtons, Buff and Silver Laced Wyandottes, Leghorns, Hares, Rabbits, Guinea Pigs, Dogs, Fancy Pigeons. Write wants. Free circular. D. L. Bruen, Platte Center, Neb.

BABY CHICKS.

REDS, ROCKS, LEGHORNS; 12c. REquest folder. McCune Hatchery, Ottawa, Kansas.

MINORCAS.

SINGLE COMB BLACK MINORCA EGGS, $5 hundred; $1 setting. Claud Hamilton, Garnett, Kansas.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

WYANDOTTES.

WHITE WYANDOTTES — EGGS FROM choice stock, $1.80, thirty; $5, hundred. Mrs. Will Beightel, Holton, Kansas.

WHITE WYANDOTTE EGGS — STOCK from (Fisbel World Best Direct) $2.50 for 48, prepaid. S. Peltier, Concordia, Kansas.

CHOICE ROSE COMB SILVER WYANdotte eggs, $1 for 15; $5 for 100. Mrs. Phillip Schuppert, Arrington, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs—Fifteen, $1.50; fifty, $3.50; hundred, $6. Mrs. Edwin Shuff, Plevna, Kan.

WHITE WYANDOTTE EGGS, ONE DOLlar for fifteen. Four-fifty per hundred. Geo. Tuis, Fredonia, Kansas.

IF YOU WANT THE BEST SILVER Wyandottes, Barred Rocks or White Crested Black Polish breeding stock or eggs, write to William Neiers, Box T, Cascade, Iowa.

LEGHORNS.

TIP TOP ROSE COMB BROWN LEGhorn eggs. J. E. Wright, Wilmore, Kan.

SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

EGGS, EGGS FROM KEEN-LAYING strain Single Comb White Leghorns. Thos. R. Wolfe, Conway Springs, Kansas.

PURE-BRED ROSE COMB WHITE LEGhorns. Eggs for hatching; forty-five, $2; one hundred, $4. Prepaid in Kansas. G. Schmidt, Route 1, Goessel, Kansas.

S. C. BROWN LEGHORNS—HAVE BEEN raising them 21 years, the 222 to 266 egg record kind. Under hens the fertility runs 95%. Eggs—Fifteen, $1.25; 100, $5. Safe arrival guaranteed. Gorsuch, Stilwell, Kan.

TURKEYS.

BOURBON RED TURKEY EGGS—TWOyear-old hen, 40-pound tom. $3 setting. S. Peltier, Concordia, Kansas.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

BRAHMAS.

HIGH SCORING LIGHT BRAHMA EGGS $1.00 per fifteen, parcel post prepaid. Geo. Pratt, Route 2, Topeka, Kansas.

PHEASANTS.

PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Try them. Eggs from these, $4 dozen; 24 for $7. Harper Lake Poultry Farm, Jamestown, Kansas.

DUCKS AND GEESE.

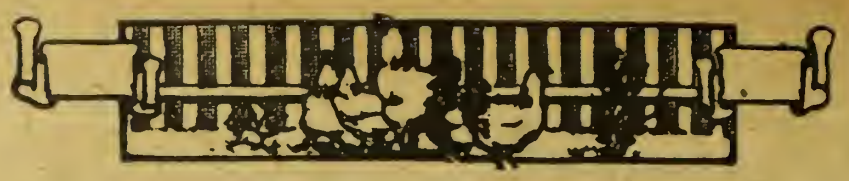
BUFF DUCK EGGS, DOZEN $1. ROBERT Webster, Canton, Kansas.

H. H. Holmes, of Topeka, Kansas, owner of the famous Alysdale herd of Scotch Shorthorns, reports a fine lot of spring calves coming along in fine condition. Mr. Holmes owns one of the good show herds of Kansas, headed by the great show bull, Prince Valentine 4th and Clipper Brawith. The herd cows are from some of the best families of Scotch cattle, representing the Orange Blossoms, Butterflys, Queen of Beautys and Violets. A strong feature of the herd at this time is a choice lot of young stock bulls ready for service.



This beautiful home and four lots on Topeka Avenue for sale, or will exchange for good farm land in Eastern Kansas.

O. W. DEVINE, 201 Topeka Avenue, TOPEKA, KANSAS



Wheatless Egg-Laying Ration

WHEAT is one of the best of chicken feeds, but it is too high in price at the present time to use as a feed for hens. In view of this fact, it will be interesting to learn that on the United States Department of Agriculture experiment farm excellent egg-laying results were secured with a wheatless ration. Thirty Leghorn pullets to which this ration has been fed for a year and a half produced an average of 147.3 eggs per hen for the pullet year. This compares favorably with egg yields secured on other rations containing wheat and therefore more expensive. This pen, moreover, during the first sixteen weeks of its second year has averaged 28.5 eggs per hen, 17.5 eggs per hen being produced in March.

The same wheatless ration has been fed since last November to a pen of Buff Orpington pullets which have laid fifty-three eggs per hen in twenty weeks, and hold the highest egg record of any of the large feeding pens of pullets at the farm this year. Two other pens, however, are less than one egg per hen behind this pen.

The ration used was as follows: Scratch mixture — Two pounds cracked corn, one pound oats. Dry mash—Three pounds corn meal, one pound beef scrap.

The scratch mixture was fed sparingly so that the hens ate about equal parts of this mixture and of the dry mash. The total grain consumption of feed for the year was fifty-two pounds, of which twenty-six pounds was scratch mixture. Throughout the year it took 4.6 pounds of feed to produce a dozen eggs.

This scratch mixture, with wheat $2.57, cracked corn $1.35, and oats 70 cents per bushel, is 49 cents per hundred pounds cheaper than the regular mixture of equal parts cracked corn, wheat, and oats. Another mash which is slightly cheaper than this one is made of 4 per cent each bran and middlings, 26 per cent beef scrap, and 66 per cent corn meal.

If the wheat is omitted from the ration it is very essential to feed a considerable proportion of beef scrap in the mash, but with present prices beef scrap is one of the cheapest poultry feeds, considering its high protein content.

These experiments prove that wheat is not essential in an egg-laying ration and that excellent results can be secured by using corn and oats as a scratch mixture, provided this is fed with a good mash containing 25 per cent beef scrap.

Sell Roosters

At the end of the breeding season a great many of the roosters should go to market. May 28 to June 2 has been designated as "swat the rooster week" in Kansas. A great saving would be brought about if only infertile eggs were produced during the summer season and the only way to insure this is to market, kill, or confine all the males. Nearly all the enormous annual loss due to infertile eggs can be eliminated if the roosters are removed from the flocks.

Rooster week offers an excellent chance for the co-operation of merchants and farmers. Several dealers have already promised a premium to every farmer who will agree to sell every rooster. This will mean increased profit through the sale of eggs in hot weather.

Why Eggs Are High

Statistics gathered by H. H. Johnson, of the M. M. Johnson Company at Clay Center, Nebraska, help somewhat in understanding the situation which has kept up the price of poultry and eggs.

Out of 5,298 reports covering flocks on farms and in small towns all over the country, Mr. Johnson found that the average flock of hens at the present time is 107. A similar canvass was made in 1914, the results showing that the average flock in that year was 146. This reduction in the size of the average flock is undoubtedly the principal reason that poultry and egg prices are high, and it is likely that eggs the coming fall and winter will be higher in price than they were last year.

Manipulation has probably done something to effect prices, but in the case of eggs the principal reason is the reduced supply. People generally have neglected to keep up their flocks. If in reducing flocks they were decreased only by disposing of the non-producing fowls, the egg production would remain normal. Mr. Johnson found in his investigations that people have simply sold off a part of the flock without making any particular selection of the unproductive stock.

Capons to the Rescue

Make capons of the young roosters, thus doubling the pounds of market poultry and increasing its quality. Market it next February and March, when there is no other supply of fresh poultry available. This is one of the suggestions of the Poultry Committee of the State Council of Defense. This result can be accomplished at a profit to the poultry raiser besides supplying the consumer with a strictly fresh high-quality product at a time when no other can be had.

Ordinarily the young roosters are put on the market during the hot months of the year when there is an abundance of poultry for sale at comparatively low prices. By caponizing them they will make a profitable growth every day up to February or March, when they can be sold at good prices. They can be profitably carried even a month or two longer if desired.

Half the chickens hatched, or nearly so, will be male birds. Sold in the ordinary way this half of all our poultry will reach the markets during the hot months of July, August and September. It will be too hot to put them in cold storage at that time. Held as roosters they soon become staggy and tough and will not be worth much on the market and must then be sold at a loss. If all are forced on the market, or any considerable part of them, at the tender, acceptable frying stage in July and August, the price is bound to go away down and they must be sold at a loss.

The most expensive, risky part of the poultry business is to raise the chicks to the two-pound frying size. The only practical way to save the male half of our flocks so that they will be fit and available for food when needed is to make capons of them. This should be done when they are from six to eight weeks old, or when they weigh a pound and a half to two pounds, which should be between the ages given. Any time between these ages and weights will be all right.

It is these young males that spoil the egg crop. Caponize them. Market only infertile eggs and get more for them, and at the same time make the capons the most profitable part of the poultry business.

The committee referred to above has a list of 30,000 poultry raisers who made capons during the past two years. No matter where you may live, there is almost sure to be someone in your neighborhood who knows how to make capons. They will probably be glad to show you how it is done. The Poultry Committee of the State Council of Defense will be glad to refer you to the nearest person who is familiar with the process of caponizing. Address State Council of Defense, Topeka, Kansas.

Canning outfits should be put in operation without delay. Rhubarb, asparagus and greens are now ready for use. All of these will taste good next winter, and surplus quantities should not be wasted. Full instructions for the canning of these vegetables will be furnished on request by the division of extension in the Kansas Agricultural College.

Ed Beavers, of Junction City, Kansas, has succeeded in building up a herd of Poland Chinas that for breeding and type are among the outstanding herds now assembled. This year ten sows raised seventy-eight pigs. Some of these boars were sired by Kansas Giant, he by The Giant, a boar weighing 1,135 pounds; others by a good son of the 1,125-pound Big Timm and out of Expansion bred sows. Mr. Beavers also has a good herd of Hereford cattle and has saved a fine lot of spring calves this year.

A PRIZE WINNING POLLED DURHAM SALE.

The Champion "True Sultan" And His Get

All At Auction

8 Miles North of Holton

Straight Creek, Kans., Friday, June 8

37 Females---10 Bulls

TWENTY SONS AND DAUGHTERS OF THE GRAND CHAMPION.

TWENTY COWS WITH CALVES AT FOOT OR SAFE IN CALF BY HIM.

This sale will offer to buyers an opportunity to secure either an aged show herd headed by the Champion True Sultan, or a young herd, sired by him, headed by the senior yearling, Sultan's Conqueror. All are nicely fitted and in prime condition to carry on the fall shows. The show records of this herd, during the past few years, have marked it as one of the strongest collections of hornless Shorthorns in the Middle West. The entire lot of show cattle is selling. The cows with calves at foot are in good breeding condition and merit the attention of those looking for the best.

Write today for a sale catalog. Address

ED. STEGELIN, STRAIGHT CREEK, KANSAS

Auctioneers—Col. Duncan, Col. Price and Col. McFadden.

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REGISTERED ANGUS BULLS. HAVE FIFTEEN STRONG YEARLING BULLS FOR SALE.

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15 Shorthorn Bulls

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Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

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Headed by the great sire, Orange Goods. Best families represented in herd, good individuals. Choice young stock for sale.

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TWO SHORTHORN BULLS. One herd boar. Fall gilts, bred or open. February and March pigs, pair or trio, no relation. S. C. White Leghorn eggs.

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A few good cows and heifers for sale, also choice bull calves. Come and see my herd.

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Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.

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FARM AND HERD.

Dr. J. H. Lomax, of St. Joseph, Missouri, has announced a sale of Jersey cattle to be held June 26 at his farm near Leona, Kansas. The sale will be under the management of B. C. Settles, of Palmyra, Missouri, the well known Jersey sales manager. Fifty head of choice Jerseys will be catalogued and the offering will be representative of the producing families of the breed.

Inquiries for catalogs indicate that Ed Stegelin's Polled Durham sale to be held at Straight Creek, Kansas, June 8, will be one of the big events in sale circles this season. An offering including the great prize winning bull, True Sultan, and twenty of his sons and daughters, will attract Polled Durham breeders from many states. The addition of Mr. Stegelin's show herd to the offering makes it doubly attractive.

W. W. Otey & Sons, of Winfield, Kansas, are practical farmers and stockmen. Their specialty is alfalfa, dairy cattle and Duroc Jersey swine. Mr. Otey is one of the good boosters for Durocs. He has shown a number of champions at our state fairs and has sold stock to found herds in a dozen states. The herd sows are a fine lot and represent most all the popular families. The herd boars now used are Hercules by Crimson Wonder 4th out of a Good E Nuff Again King dam. This hog in his two-year-old form will now weigh 750 pounds, just in breeding condition. If properly fitted he will be a close candidate for the champion aged boar at our fall fairs this year. Hercules is assisted in the herd by All Col. by Perfect Col. 2d and out of a B. & C.'s Col. dam. This hog is probably one of the most intensely bred Col. hogs living, and a proven sire of the show yard type. Otey & Sons have saved sixty-five head of spring pigs that are splendid prospects.

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Big-type Poland Chinas, as good as grows. You prove it at my expense. Breeding stock for sale at all times.

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Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

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Twenty-five choice spring boar pigs sired by Caldwell's Big Bob, Big Hadley Jr., King Price Wonder, Columbus Defender, Big Bob Wonder and Fessey's Tim. Some fine prospects and priced reasonable. Immune.

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Good stretchy Poland China spring boars, sired by Kansas Giant by the 1,135-pound The Giant. Others by a good son of the 1,125-pound Big Tim, out of Expansion sows. Choice, $25.

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Choice Fall Gilts Out of Big Mature Sows. Two hundred March pigs for sale on approval. All to be recorded free in the S. P. C. Record Association. Average in litter, nine. Can sell boar and four gilts not related. Sired by three of the best boars in the West. I can start you in the business.

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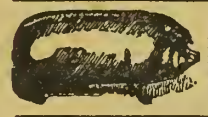

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Spring Pigs in Pairs and Trios Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

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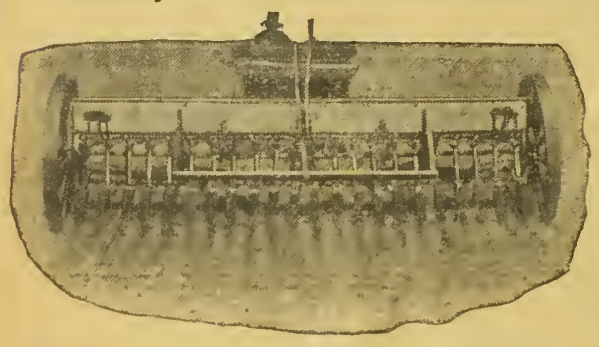

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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 23. TOPEKA, KANSAS, JUNE 9, 1917. Established 1863. $1 a Year

ALFALFA ON UPLAND

Lime, Barnyard Manure and Drainage Important Factors in Growing Crop

"IT IS no use trying to grow alfalfa on the upland in this section," said A. M. Dunlap of Allen County when Prof. L. E. Call of the agricultural college proposed making some alfalfa-growing tests on his farm three years ago. "Perhaps not," replied Professor Call, "but we would like to make some careful tests, trying different methods of treatment on different plots, and then we will know." Plans were made and the proposed experiments were started the summer of 1914.

On May 23 a meeting was held on this farm attended by over a hundred people and the results secured and the methods followed were studied with unusual interest by those present. After seeing the plots in the field, no one could doubt the possibility of growing alfalfa profitably on the upland soils of this section.

It might be stated in explanation that through the co-operation of such public-spirited farmers as Mr. Dunlap, farm experiments or demonstrations of various kinds are being conducted by our experiment station all over the state. These co-operative tests, or demonstrations, are a most valuable feature of the work of the station. After such tests have been conducted for a few years, Director Jardine or others of the experimental force can answer many questions without even visiting the farm or studying conditions. A man in Cherokee County may write asking if alfalfa can be successfully grown on his farm or whether commercial fertilizer will pay, and if so what kind. If he locates his farm accurately, reference to the soil survey map of the county and the results of the farm co-operative tests that have been made will enable the experiment station man to give the required information in reply. In only a few counties of the state, however, have accurate soil surveys been made, and until this is done it will be difficult to supply accurate information in reply to such questions without visiting the farm and studying conditions.

On Mr. Dunlap's farm a number of valuable tests are being conducted, but the most striking of these in the results so far obtained is the alfalfa-growing test. In this section of the state alfalfa is easily grown on the well-drained bottom land and Mr. Dunlap had good alfalfa on his bottom land, but was very skeptical as to the possibilities of growing it on the upland portion of his farm.

The soil upon which the attempt to grow alfalfa was made was that formed from interbedded sandstone and shale, and is a very common type in that section. A series of uniform plots were laid out and across one end of these plots two lines of tile were laid in advance of the seeding. This made it possible to study the effect of drainage on all the different plots.

In preparing for the alfalfa, one plot was left without lime, manure, or fertilizer of any kind. The treated plots were as follows: One was given an application of crushed limestone at the rate of three thousand pounds to the acre. On another, barnyard manure at the rate of ten tons to the acre was applied, and on another both manure and lime. Two plots were treated with commercial fertilizer, one having an application of acid phosphate at the rate of 250 pounds to the acre and muriate of potash at the rate of fifty pounds to the acre, and in addition lime. The other plot was given the acid phosphate and lime. The manure and lime were applied before seeding only, but the commercial fertilizers were applied each season in the amounts given.

Before going to the field, Professors Call and Cunningham explained the purposes of the trials and emphasized the need for learning how to successfully grow the various legumes and other forage crops. The audience had gathered on the beautiful lawn in front of the Dunlap farmhouse and were seated under the shade of trees planted by Mr. Dunlap's father when he first came to Kansas.

A chart was tacked on the side of the house showing how the yields of corn in Allen County had steadily decreased. The average yield for the period 1876 to 1880 was thirty-five bushels to the acre. During the next five-year period it dropped to thirty-three bushels. During the period 1886 to 1890 it was but twenty-three bushels, and in each five-year period the yield of corn per acre has steadily decreased, being only eighteen bushels per acre for the period 1912 to 1916.

It was pointed out that in the farming operations of this county the acreage of corn planted had not varied much since 1893. The acreage of wheat grown has fluctuated, probably due to the periodic chinch bug infestation. Forage sorghums have greatly increased in acreage since 1893. The total acreage of alfalfa in 1893 was given as twenty-seven. It is now almost four thousand, but with all the increase in legumes and grasses—such crops as might be called soil-improving crops—the total acreage grown in Allen County at the present time is only a little over thirteen thousand.

In order to build up depleted soil and establish a more enduring system of farming which must include greater live stock production, Professor Call stated that the proportion of soil-improving crops to such cash crops as corn and wheat should be one to four. He ventured to predict that this county would be growing fifteen thousand acres of alfalfa within the next five or ten years. It did not seem by any means impossible that this prediction would come true after studying the figures on the chart, showing what the treated plots of alfalfa had produced on this farm.

Figures are always dry and uninteresting and apt to be forgotten. It is the actual inspection of the results in a field that carries conviction, and that is the most valuable feature of such meetings as were held on the Dunlap farm. After seeing the splendid growth of alfalfa that had been secured, many will carry with them in detail the methods which made this yield possible.

Anxious as the visitors were to get out in the field and see the alfalfa, they paid close attention while the tabulated results were given. During the two years of 1915 and 1916 the untreated plot yielded a total of 3,208 pounds of hay. It was badly mixed with weeds and grass and this year the plot is practically taken with grass and weeds of various kinds. The limed plot produced during the two years 4,765 pounds of hay, or an increase over the untreated of 1,557 pounds. The plot manured and not limed produced 6,280 pounds of hay in the two years, or an increase of 3,072 pounds. On the plot given manure and lime the total yield of hay for the two years was 7,571 pounds, or an increase of 4,363 pounds—136 per cent. The acid phosphate and lime plot produced 5,893 pounds of hay, or an increase of 2,685 pounds. The plot treated with acid phosphate, potash, and lime, yielded 6,099 pounds of hay, or an increase of 2,891 pounds.

The cuts on this page are from photographs taken at this meeting and show the growth of the crop. It is very difficult, however, to get much idea from the pictures as to the vigor and thickness of the alfalfa growing on the treated plots.

It was very easy to note the location of the tile drains across the ends of the plots. The alfalfa had made the strongest and most vigorous growth directly over the tile in all the plots. The total production of hay on the undrained portion of the plots for the two years was 5,564 pounds, and on the drained portion 6,406 pounds, or a difference of 842 pounds in favor of drainage. It was stated that on much of the soil of this type drainage would pay, although on this particular farm it did not seem to be absolutely necessary to the successful growing of alfalfa. The important treatment was the application of manure and lime. Where alfalfa has never been grown, inoculation may be necessary. On this farm the soil was inoculated from the spreading of manure from stock fed alfalfa grown on the bottom land.

Where no manure can be obtained, the use of the commercial fertilizers would make it possible to get alfalfa started and make it a profitable crop. The results on this farm, however, indicate that it is not profitable to use potash, since it increased the yield but slightly.

We noticed on another portion of this farm the effect of lime on red clover. Some rotation trials are being made in which the crops grown are oats, clover, and corn. The beneficial effect of liming was as noticeable on the clover as on the alfalfa. It is evident that large use of lime can be made in this part of the state, and we were much gratified to learn that the matter had been brought to the attention of the railroad companies and that they are likely to put into effect in the near future a special rate on crushed limestone so that farmers can afford to ship it in where it cannot be obtained locally.

Through this section there are red limestone soils which will grow alfalfa successfully without treatment. In driving to Colony following this meeting we noticed a number of fields of such land that might well have been in alfalfa instead of corn or other crops. The black limestone soils are quite often too poorly drained to grow alfalfa successfully without the laying of tile.



VISITING FARMERS QUESTIONING PROF. L. E. CALL ABOUT THE GROWING OF ALFALFA ON THE DUNLAP FARM

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

THE United States Army has what is believed to be the first complete unit of horseless artillery created. It is possible that tractors and motors to a considerable extent will replace horses and mules in moving ordnance, although at the present time animals are absolutely essential in handling light field artillery. What is being done in the United States along this line is set forth in the following statement authorized by the War Department:

The problem of eliminating the horse entirely from the work of dragging guns to the front is one on which both European and American engineers were working for years before the outbreak of the great war. Successful experiments by the government authorities now seem to promise an early substitution of the machine for the horse in handling nearly all forms of ordnance.

The experimentation was carried on first with various types of tractors under the direction of the Field Artillery Board at Fort Sill, Oklahoma, and by the Ordnance Department of the Army at Rock Island Arsenal, followed later at Fort Bliss, Texas, with a completely equipped battery. The work has been in charge of Maj. Lucian B. Moody. The tractor standards committee of the Society of Automobile Engineers was enlisted at the outbreak of the war and has been actively co-operating in the study of the problem.

"The success of the experiments at Fort Sill justify us in believing that the motorization of most medium caliber guns which have previously been horse-drawn will come in the near future," Major Moody says. "The large howitzer types are sure to be motorized. The motorization of the light types, such as the French 75's, will have to wait for the development of tractors capable of developing a combination of speed for emergencies and pulling power in mud equal to that of horses. This probably will not come immediately, but we shall continue our experimentation with the light types."

European armies have already reduced greatly the number of horses in artillery use, but it has not proved possible so far to eliminate them in hauling certain of the smaller and medium type of ordnance because of the lack of a proper tractor combination of speed and power. The big creeping type tractors capable of handling the heaviest guns which have so far been used in Europe have been unable to meet the demand for making the occasional bursts of speed necessary for getting the light field guns into position and using the minimum of space which conditions on the firing line frequently make vital.

The new creeping or self-track-laying type of small or medium size developed by the American Army is built without the steering arrangement in front, and while possessing relatively as much power as the type now used in Europe is at the same time capable of turning within its own length by simply reversing or stopping one of the creeper drivers while the other side continues to move ahead. The development in this type in tractors powerful enough to haul the heaviest guns will make them entirely available for making the sharp turns and corners and fitting into the inconvenient spaces for which horses have so far had to be used at the very front. The experiments have proceeded far enough to justify plans for the successive motorization of all American artillery units except the smallest calibers required to move at very high speed over bad ground.

The new developments in ordnance traction make up another phase of the valuable experience the American Army gained on the Mexican border, as they are a direct outgrowth of experiments in hauling field guns with American tractors made at that time.

The reasons making it highly desirable to substitute the tractor for the horse in all ordnance traction are both scientific and humane. From a scientific and military standpoint the tractor is much more efficient than the horse. It lasts longer, is capable of performing more work in a day, and costs less for repairs and fuel than the expense of upkeep of the horse. A tractor can, if necessary, be used twenty-four hours in a day, while the horse has to stop for rest, sleep, and feeding, and can seldom be worked more than ten or twelve hours per day at the best. Repairs on tractors even at the front are usually comparatively brief tasks, unless the machine is completely destroyed by shell fire, while horses are continually liable not only to wounds but to disease and injury from exposure and lack of proper care under field conditions. The care of machines, as compared with that which horses must have, is negligible, while the bulky food supply for horses is always a difficult problem.

The humane reasons are equally obvious. The life of the artillery horse at the front is not only brief but often one full of agony. It is seldom possible to give the animals anything like proper shelter and care, and their usual lot is quick death by disease if they are not killed off by shell fire.

Draft of Plow Varies

Many who are interested in tractors do not understand exactly what is meant by drawbar pull. The tractor manufacturer finds by means of a dynamometer, which is nothing more than a spring scale of large capacity, the number of pounds his tractor will pull at the drawbar under normal conditions. This amount expressed in terms of mechanical horsepower establishes the drawbar rating of his tractor. It would be better if this rating were always expressed in pounds, and there is a movement under way to bring about this method of expressing the drawbar pull of tractors instead of using the horse power rating.

Bearing the point in mind that a tractor can pull a certain number of pounds at the drawbar, soil conditions found on different farms that the number of plows a tractor will pull varies with the kind of soil. By tests it has been found that the draft per square inch of furrow cross section varies in different soils as follows:

In sandy soil, two to three pounds per square inch; in corn stubble, three pounds per square inch; in wheat stubble, four pounds per square inch; in bluegrass sod, six pounds per square inch; in clover sod, seven pounds per square inch; in clay soil, eight pounds per square inch; in prairie soil, fifteen pounds per square inch; in gumbo soil, twenty pounds per square inch.

From the above it can be readily seen how foolish it would be for a tractor company to guarantee its tractors to pull the same number of plows "anywhere."

What the tractor buyer should do always is to match up his soil conditions with the drawbar pull of the tractors he has under consideration and calculate definitely how many plows he can expect the tractor to pull in his soil, and at the depth he wishes to plow.

To figure the number of plow bottoms with the above table is simple. Suppose a man is considering the purchase of an 8-16 tractor, which has a drawbar rating of 1,500 pounds at a two-mile speed. Suppose the most difficult plowing this man would ever have upon his farm is in clover sod, which requires a draft of seven pounds per square inch in furrow cross section. Plowing six inches deep, a 14-inch plow bottom has a total of eighty-four square inches, and at seven pounds per square inch the total pull required for a plow bottom is 588 pounds. Dividing the drawbar pull of the tractor, or 1,500 pounds, by 588 pounds, we find that this tractor will pull approximately 2.5 plow bottoms.

According to the above calculations, this 8-16 tractor can safely be depended upon to pull two 14-inch plows in clover sod of average soil texture.



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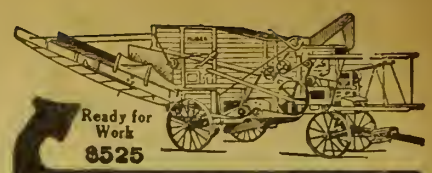

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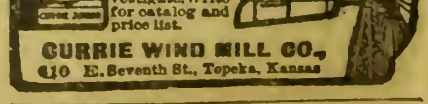

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A SUCCESSFUL MEETING

The report on the results of the cattle feeding experiments conducted at the Kansas Experiment Station during the past winter was the central feature of the cattlemen's meeting held in Manhattan June 1. Owing to the steady downpour of rain it was impossible to visit the farm and feed lots as planned, and a great many were prevented from attending because the roads were impassable for automobiles. In spite of these unfavorable conditions, however, there was a large attendance. If the weather had been favorable, the old chapel room in which the program was given would not have held the audience.

In introducing W. A. Cochel, head of the animal husbandry department, who explained the experiment and gave the results, President Waters called attention to the fact that during the last five years eighty-five per cent of the graduates of this department had gone back to the farm. He attributed this to the influence of the men in the agricultural division of the college.

Six years ago the live stock holdings of the college had an inventory value of fifty thousand dollars. This spring the inventory showed the institution to own live stock valued at $300,000. This includes the stock owned at the branch station. It was also pointed out that much of this live stock had been bred and developed by the college. Aside from one stallion, the college has not paid more than $500 for any animal it owns, and last year the average price received for bull calves sold was more than $500. There now stand at the head of herds in half a dozen agricultural colleges of the United States sires which were bred and produced by the Kansas institution. The animal husbandry department has sold during the past two years, stock to more than half the states of the Union.

The annual cattlemen's meeting is serving a most important purpose in making the work of the Experiment Station real. Those who visit the college at this time and see with their own eyes what has been accomplished, take with them the lessons taught and turn them to practical account on their own farms.

For the first time in the history of experimental cattle feeding, the results obtained have come from feeding cattle whose dams have been grown under experimental conditions so that an accurate record of the cost of producing them has been obtained.

In the test just closed six lots of steers were fed, there being fourteen head in each lot. The cows from which these calves were produced cost thirty dollars a head at weaning time in the fall of 1913. A year later they weighed 642 pounds and had cost $51.60 a head. Two years later they weighed 928 pounds and had cost $70.97 each. They were bred in the spring of 1915 and produced the calves which were used for the feeding tests when thirty-six months of age and weighing 928 pounds. The total cost of maintenance from the fall after they were bred until the calves were weaned was $22.14 a head. With an 80 per cent calf crop the average cost of these calves at weaning time was $27.61. These figures are based upon the cost of feeds, interest on investment, taxes, labor charges, and the ordinary losses.

In estimating the value of feeds it was put in at market prices at the time fed. A considerable quantity of the material used would have been wasted if the cattle had not been used for its marketing. The cattle in this way furnished a market not only for the farm products but also for all the products produced in connection with the usual systems of grain farming in Kansas.

A detailed report of the results of the test will be given in our next issue. The program as a whole was a most profitable one. We hope to be able to give in part at least some of the addresses.

JERSEY BREEDERS ORGANIZE

The Kansas Jersey Breeders' Association was organized at Holton, May 30, with a charter membership of over a hundred. This is another forward step in the development of the dairy interests in Kansas. While this organization is especially designed to promote the Jersey breed, its avowed purpose is to exert its influence in promoting dairying as a farm industry. This is a common platform upon which the members of all dairy breed organizations can meet and through such co-operative effort the dairy business of the state can be greatly improved.

The organization took place following a banquet given by the Holton Business Men's Association. This was a most enjoyable occasion. Over two hundred Jersey breeders and others interested in the cause of dairying were present. Some most interesting and instructive talks were made following the dinner.

The officers elected were as follows: President, D. A. Kramer, Washington; vice-president, E. V. Fitts, Paola; secretary-treasurer, J. A. Porter, Mayetta. A vice president will be elected for each county in the state.

The forming of this association adds another link to the organized forces banded together in Kansas to work for more and better dairying. We have reached the point in our dairy development where increased attention should be given to improved dairy methods. Such organizations can serve a most useful purpose in directing the attention of the dairymen of Kansas along these lines.

MILO FOR LATE PLANTING

It is safe to plant dwarf milo as late as June 15 to 20. Both milo and feterita are earlier in maturity than kafir and for grain should be planted in preference to kafir at this late date or in the extreme western or northwestern parts of the state where the frosts come early. All these grains can be used as substitutes for corn in feeding stock. During recent years new uses have developed for the grain sorghums, namely, the making of alcohol and yeast.

The grain of the white seeded varieties of grain sorghums can be used as human food. It makes a meal very similar to corn meal, which can be used in the same way either alone or mixed with wheat flour. Kafir grain will pop like popcorn. Since the grain sorghums can be used as food both by man and animals, there should not be the slightest difficulty in finding a market for all that can be grown this year.

These crops all make excellent silage, and kafir has a high fodder value cured dry, even when it is grown to produce grain. The stalks and leaves of milo and feterita ripen and dry earlier than the grain and they have less fodder value when the grain is fully ripe.

BUSINESS AS USUAL

We are being warned by one group in this country that "business as usual" must be our program. Another group is preaching an almost hysterical economy. As the business of the country is adjusting itself to a war basis it is becoming more and more apparent that there should be a proper balance maintained between these two extreme views. Economy carried to extremes will react and harm a great many people. On the other hand there can be no question as to the need for economizing in food. This does not mean hoarding food as some are inclined to do. Buying and storing ten sacks of flour where but two are needed saves nothing, in fact may result in waste and is sure to decrease the available supply.

Conservation of our food supply means using food properly with the least possible waste and not taking available food supplies out of use. The extent to which we should economize after seeing that we are not carelessly wasting food of any kind is an open question. If we follow the rule of cutting out expenses which we should have cut out even with the country at peace, we will not go far wrong. It is the dollar in circulation that keeps business active.

OVERSTOCKING WITH PROVISIONS

People who lay in large supplies of flour, meal, breakfast foods, and other similar products for fear of having to pay higher prices later may not find the practice very economical in the long run. Such hoarding of food supplies is sure to temporarily affect the market and mill products, dried fruits, and many other foods commonly purchased and stored are very apt to become infested with worms of various kinds. These worms are the larvæ of different species of beetles and moths that always are more or less common in the pantry, flour chest, cabinet, or other places where food products are stored. The housewife must wage a continual warfare against these pests. There is always danger that flour and other food products stored in quantities will become wormy in spite of the efforts put fourth to destroy sources of infection.

The sorghum crops will again come to the rescue in Western Kansas. They are the surest crops to grow on the abandoned wheat land. Dwarf milo or feterita will produce grain under the most adverse conditions. Kafir of early-maturing strains will mature over most of Western Kansas, and as forage crops almost any of the sorghums can be grown with almost positive assurance of success. A seed exchange is being conducted by the Hays Experiment Station to help those who wish to secure seed of adapted varieties. A bulletin entitled "A Cash Crop Which Grows After Wheat Fails" can be secured by addressing Charles R. Weeks, Superintendent Fort Hays Experiment Station, Hays, Kansas.

Fifty-five new members joined the farm bureau of Jewell County in one week. This bureau has been organized and doing active work for three years. The rapid addition of new members is evidence of the value placed on the bureau by farmers of the county.

Plan for plenty of feed for the cows for next winter. Feed the springers and dry cows to get them in the best possible condition, so they will be able to do a big year's work.

The dairy cow is the most efficient producer of animal food. Hence it is all the more important that the dairymen be alive to their opportunity for service. Greater consumption of dairy products will lower the "high cost of living." We should do all we can to stimulate the use of dairy products, and, with growing production, keep pace with the growing demand.

FARM DEMONSTRATION MEETING

On the title page of this issue is an account of a meeting held on a farm in Allen County. A. M. Dunlap, the owner of this farm, is co-operating with the Experiment station in making trials of different cropping methods. We considered it a rare privilege to be able to attend a meeting of this kind.

We feel that Mr. Dunlap and other farmers who are co-operating with the experiment station deserve a great deal of credit for what they are doing. As a result of such community meetings where tests of this kind have been made the farming methods of the whole neighborhood are sure to be improved. Those who are actually tilling the soil have too often looked upon the work of the experiment station as something remote and not applicable to their conditions. Tests of the kind here conducted followed by the calling together of the people to study the results makes the work of the station real.

This meeting was attended by ex-Congressman Charles F. Scott, of Iola, who was reared on a farm in this immediate neighborhood; J. T. Tredway, of LaHarpe, president of the State Board of Agriculture; E. J. Macy, county agent of Montgomery County, and F. J. Robbins, county agent of Franklin County. Mr. Scott presided at the meeting, and by way of introduction recounted some of the agricultural history of the county and especially emphasized the possibilities of making a much wider use of the grain sorghums. Mr. Scott, who is a member of the State Council of Defense, called attention to the fact that people generally have little appreciation of the value of these grains as human food. He urged that greater consideration be given to the growing of grain sorghums and the using of these crops both as human food and as feed for live stock.

We felt very much at home in studying the conditions on this farm. The writer grew up on a farm in an adjoining county and struggling with the problem of trying to grow alfalfa on upland soil was one of the experiences through which we passed. It is a most wonderful crop and the acreage devoted to it can be profitably increased on many Eastern Kansas farms.

FARMERS' UNION PICNIC

The Farmers' Union of Riley County and the unions of adjoining counties are to hold a picnic meeting at the agronomy farm at the Agricultural College, Manhattan, on Friday, June 15. The college and experiment station authorities are the hosts and will do all in their power to make the visit pleasant and profitable. All union members are invited to bring their families and lunch baskets. They will sit down to a picnic dinner on the lawn of the college farmhouse. Following the dinner will be a short program. Talks will be made by Maurice McAuliffe, president of the State Farmers' Union, and several other members of the union. President H. J. Waters, Director Jardine, and others of the college and station staff will speak.

A canning demonstration will be given at the farmhouse for the benefit of the women. The men will be taken on a trip over the experiment station farm.

We hope this will become an annual event. The Farmers' Union is a most powerful organization and its members are all vitally interested in the work of the experiment station. It is only by studying this work closely that its full value is appreciated. We have marked this date on our calendar and plan to be present.

THE FARM SHEEP BUSINESS

Mutton and Wool Production Requires Minimum of Grain Feeding

By F. R. Marshall, Bureau of Animal Industry, Washington, D. C.

UNTIL two years ago the raising of sheep either on farms or on the range was quite an uncertain business. Partly owing to periods of lack of confidence occasioned by tariff manipulations the supplies of western sheep fluctuated widely. The outlet for lambs or mutton was quite limited and there were frequent periods of ruinous prices. During the time referred to there were usually liberal supplies of wool that could be imported from abroad and wool prices were just as changeable as those for sheep.

These past turmoils of the sheep raiser are no cause for discouragement for either ranchmen or farmers at present. The world's supply of wool has ceased to increase while the consumption is steadily growing. This condition was evidenced even before the war, as the American wool clip of 1914 was handled at materially higher prices than the 1913 clip. There is the best of assurance of strong future wool values and some authorities predict phenomenal prices. This does not justify engaging in sheep raising on the wool basis, but does add a considerable certainty to the business, because wool and lamb production can not be separated. The certain prospect of high and steadier values for meat give the same assurance of steadiness to the sheep business as is in prospect for the raisers of cattle and hogs. Since lamb became high in price it has greatly increased in popularity and there can be no doubt that the meat trade will handle all the production of the next few years without difficulty.

The discouraging statistics of earlier sheep raising which are quoted by some pessimists during recent months have no relation to the present condition. Those statistics relate almost entirely to sheep kept for wool production with very little regard to the production of meat. We now have a new economic situation, one that requires the use of sheep on most farms in order to keep down the operating costs and to insure the maximum returns. While the type of sheep which we must now begin to raise will be primarily a mutton or rather a lamb-producing sheep, the wool question will continue to be an important one and can be well attended to without detriment to the other function. While authorities differ as to the possibility of dual-purpose types in cattle, there is no room for a difference of opinion as to a practical and profitable combination of wool and mutton production in the same animal.

ECONOMIC ADVANTAGES OF SHEEP

Now that we are assured a fair and steady outlet for sheep products, we are for the first time ready to determine just what relation the farm flock should bear to the other stock on the farm and under what conditions sheep should or should not be kept. Unfortunately our understanding of this class of stock is far behind our information regarding the economic production of beef and pork. The situation is comparatively new and the experiment stations have not had the opportunity to determine the most profitable lines of operation as they have done so notably in the other classes of stock.

One of the main economic features of sheep in which they differ from other farm stock is in their producing marketable products with a minimum of grain. The lamb which the market most appreciates these days carries a much smaller development of fat than do steers or hogs. A ewe can be well kept throughout the year and her lambs marketed in good condition with a maximum use of seventy-five pounds of grain. Lambs go to market before weaning and most of their growth is produced by the milk of the ewes. By feeding the older animals, a larger proportion of roughage and pasture is utilized. No other stock can make such quick or valuable returns from pasture or other grazing crops as do sheep. This fact suggests the keeping of sheep on farms not well adapted to the production of grain. It also calls for the use of parts of other farms as a means of soil improvement and production of a marketable crop without the use of high-priced grains.

A second important economic feature of sheep is the quickness of returns. Lambs can and should be marketed within ten months after the ewes are bred. This feature is an important item of security in the commercial side of the farm business.

The labor requirements in connection with sheep adapt them to a place in systems of mixed stock farming. The labor of feeding and caring for a flock of ewes is comparatively light labor and can well be done by boys of the family. It is attractive to them when they are given a fair interest in the returns and if a boy who is well instructed and directed in the raising of sheep there is no better training for developing powers of observation and for efficiency in live stock farming. The main part of the labor with sheep is at lambing time, though frequent and constant attention is necessary through the year. The lambing season can and should be arranged to come before the pressure of other work in the spring. Both the wool and lamb crops are marketed before harvest time and the ewes require a minimum of attention while other farm work is more pressing. In these times of high-priced farm labor regard must also be had for the fact that by the use of forages sheep can harvest their own crops and for the further fact that as gleaners and weed destroyers a flock of ewes replaces a great deal of hand or horse labor that would otherwise be required in keeping grain fields and pastures clean.

DIFFICULTIES TO BE MET

During the period of uncertainty and pessimism regarding farm sheep, which period is now ended, many excuses and explanations were offered for the small interest in farm flocks. The fact was that the business lacked the proper incentive of good prices. It is true that the dog problem requires careful consideration by the sheep farmer. With a general desire to keep sheep there is now less difficulty in enlisting the support of a majority of farmers in a county for the enforcement of adequate dog laws. In fact the changed attitude of the farmers themselves will of itself to a large extent be sufficient to reduce the number of dogs and to control the actions of the remainder.

Stomach worms and other parasites have been held up as the "hoodoo" of the sheep business. Any difficulty is insurmountable to the man who does not understand it. Stomach worms are likely to trouble sheep in any part of the country. They can be treated satisfactorily if taken in time, but the most profitable method of raising lambs avoids this trouble almost entirely. To any one who understands sheep and the handling of them the question of parasites is no more difficult or discouraging than hog cholera or the diseases of cattle.

The only serious difficulty to be met in the development of our farm sheep husbandry lies in the scarcity of men who understand sheep and are ready to set the example for their neighborhoods as to the best methods of handling them. The difficulty is only temporary in character.

RETURNS FROM FARM FLOCKS

On a conservative basis of nine cents a pound for lambs the gross returns from a well managed farm flock can safely be placed at $10 per ewe each year. The portion of this which is net profit depends entirely upon the methods employed for computing costs. Because of this it is difficult and unsatisfactory to attempt to compare net returns from sheep and other classes of stock. When the needs of the flock are understood and properly attended to, the profits from the use of land for sheep raising can be made equal to those obtained from the raising of other stock. The keeping of 500 ewes on a good quarter-section farm is entirely practical. A net income of $5,000 may not be as large as can be obtained from other stock, but when the advantage to the land and the economy in labor are considered it becomes apparent that sheep are not especially more profitable or less profitable than cattle or hogs.

The main consideration is the way they are handled, and to those who prefer sheep raising or whose farm and labor conditions are better for sheep than for stock requiring a larger use of grain, there is abundant opportunity for satisfactory outcome with this kind of farming.

PROFITABLE TYPE OF SHEEP

The first consideration in the farm flock of the future is the production of lambs. In most cases, and in most sections, the greatest economy of production will require the marketing of lambs before weaning at from four to five months of age and from sixty-five to eighty pounds. The market does not require a high development of fat on these lambs, but they must be well bred and well cared for to sell satisfactorily at this age. The larger breeds of sheep may make the weight mentioned at weaning time but are not likely to have the market finish of the "Down" breeds. Considering the requirements of the lamb market it would seem that Shropshires, Hampshires, Oxfords, Dorsets, and in some cases Southdowns, will need to be used chiefly in the profitable farm flocks of the future. Each breed has its peculiar adaptabilities to be taken into account in planning the system of raising to secure the greatest margin of profit. The hothouse lamb business is not likely to prove practical for many farmers. In fact the summer and fall prices of lambs have been maintained at such high levels during the past two seasons that the extra difficulty of raising the winter lamb is not likely to be offset by its value except by those who are specialists in that line of business.

In any system of mutton production the value of the fleece must be kept strongly in mind. The amount of wool carried by the market lamb is a considerable factor in determining its price and the value of the breeding ewe's fleece is a very important consideration. Mutton sheep breeders are already responding to the new condition by giving greater attention to character and quality of fleece. There need be no sacrifice of mutton conformation or of capacity for rapid growth in keeping the wool side of the flock at a high standard.

SYSTEMS OF PRODUCTION

Methods of handling flocks necessarily vary in different sections. For the most of the middle western farm country the market requirements and the health of the flock make it desirable that lambs be dropped in February or March and marketed in June or July. The ewes must be fed during these months in any event and the labor of attending to the lambing and giving the lambs a good start can well be done at that time of year. With alfalfa hay and silage and a small grain ration ewes can be made to milk well enough to give the lambs an excellent start before being turned out to pasture.

While grain feed for lambs at this time is not essential, it will be found that there is no place on the farm where a small grain ration can be used to secure such large returns as can be secured from giving lambs one or two months old a chance to eat what grain they will take. This method gives the lambs a good start and safeguards against danger from stomach worms during the early part of the summer. They are marketed before the worst part of the season and the question of parasites is not nearly so serious in the case of the breeding ewes as it is with lambs.

Permanent grass pastures can be used to good advantage for ewes nursing lambs, but there is always a serious danger of their becoming infected with stomach worms after a few seasons' use. It is possible to divide grass pastures in a way to prevent the lambs going over the same ground at too close intervals in spring or the flock can be pastured first on fall grains and later on early seedings of oats and peas, and in some cases rape can be started early enough to be of use to the lambs before they are marketed.

As lambs are marketed ewes can be returned to the grass pastures if necessary, or used in stubble fields or cattle pastures to good advantage.

PROFITABLE SIZE OF FLOCK

The small flock of ten or twenty ewes so often recommended for killing weeds and picking up waste grain is a snare and a delusion. The theory of this commonly offered advice is excellent, but in practice it falls down. It is this kind of a flock that is most frequently attacked by dogs, because their relation to the farm income is so small that often no one knows or cares very much just where they are or how they are getting along. The University of Illinois recommends one ewe to each two acres on farms on which all classes of stock are kept and eighty head as the minimum flock that can be economically handled. The amount of sheds and racks, and the labor required for this number is not very much more than for a flock of twenty head and the size of the business commands the respect and study necessary to insure the use of the best methods.

On land that is most valuable for pasture and not adapted for grain raising, farmers who understand the business can do well by specializing in sheep raising. Even on good grain producing land the economical distribution of labor, farm risks, and different classes of crops makes a good flock of ewes a necessity. This is more especially true now than formerly because of the uncertainty of more satisfactory returns



GROUP OF EWES AND LAMBS ON FARM OF A. M. DUNLAP, ALLEN COUNTY

for lambs and wool. In many of the states there has been a strong movement toward the establishment of new flocks during the past season. The question has already been raised as to the danger of over-production. With the existing popularity of lambs in the butchers' stalls and the curtailment of meat diet that has already taken place in many families in this country, there is abundant outlet for an increased production of meat so long as that production can be marketed at a price that the consumer can afford to pay. Lamb and mutton can be produced at a low cost and in many cases the adding of a flock of ewes to the farm will materially assist in lowering the cost and thereby increase the profits from the other stock.

It is significant to note the relation of sheep to cattle on the farms of England and Scotland. While not equal in average fertility to soils of the middle west, these countries show a system that has developed into a paramount one and which there best adjusts the matter of soil fertility, use of labor, cropping and profits. The larger farms have the highest proportion of cropped land and carry the most stock per acre. In England and Wales the number of ewes to each breeding cow is three, on the medium-sized farms, and seven on the largest holdings. In Scotland the farms of from fifty to 300 acres have four ewes per cow, while the largest farms with a larger proportion of crop land have thirteen ewes to a cow. These figures need not necessarily be expected to apply here, but they certainly teach that with older and better worked out farming systems and with the more stable conditions of the future, we will evidently increase the number and size of our farm flocks. The safe and profitable time to develop this branch of animal husbandry has arrived.

Baby Beef Production

The demand for small, high-quality cuts of meat and the increased cost of producing beef have combined to foster the rapid growth of the baby beef industry. Baby beeves may be described as well-fattened, finished animals, weighing from 900 to 1,200 pounds and marketed when between fourteen and twenty months old. It takes less food to produce a pound of flesh with them than with mature cattle, they sell as high as the best of other fat cattle, and markets for baby beeves have been very stable during the last ten years. The young heifers sell as well as the steers, and the returns from the money invested in the production of such cattle come quicker. On the other hand, it takes more experience to succeed with baby beeves than with mature cattle, a better grade of stock is required, and farm roughage can not be substituted for grain to the same extent.

In a new publication of the United States Department of Agriculture, devoted to this subject, Farmers' Bulletin 811, it is pointed out that the first necessity for the production of baby beef is a herd that has at least a fair amount of beef blood. The cows need not be pure-breds, but they should have at least two or three crosses of such blood in them. A preponderance of dairy blood will not give profitable results. The cows should, however, produce enough milk to keep the calves well and growing without much additional feed.

A good bull will do much to offset defects in the cow herd. A good beef form and a strong tendency toward earliness of maturity are essentials; the owner's success, in fact, depends to a great extent upon the bull's ability to transmit the latter characteristic to his offspring. Money spent in acquiring a bull that will do this is likely to prove a good investment, for the whole baby beef industry depends upon speed in finishing the animals for market.

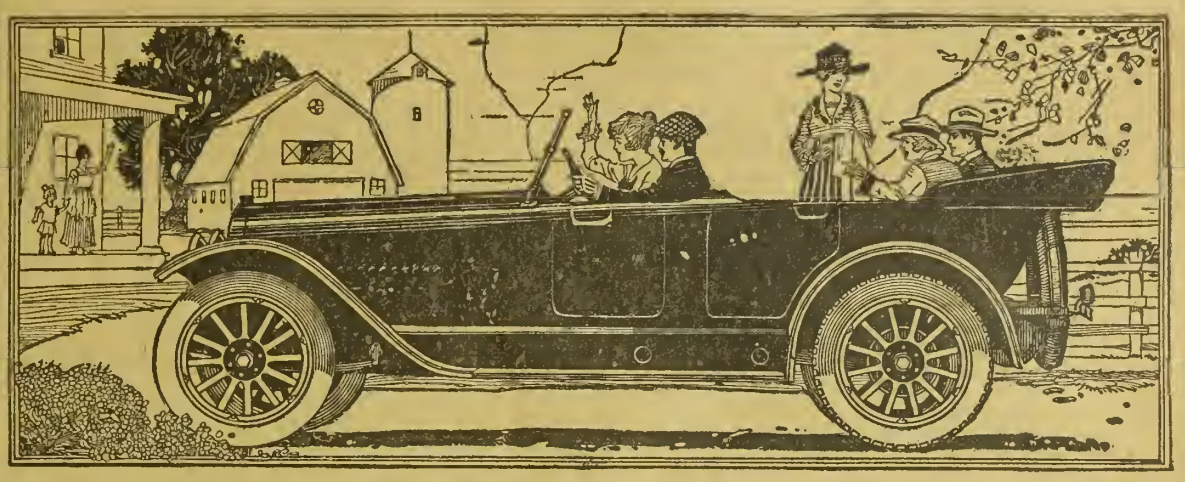
It is desirable to have a herd at least large enough to produce a carload of calves a year. Shipping in carload lots is usually the only economical way of getting stock to market, from twenty to twenty-seven baby beeves constituting a carload. Such allowance must, of course, be made for loss and for calves that are not suited for treatment as baby beef. Since a well-matured bull can easily take care of fifty or sixty cows, the bull charge per calf also will be greater when the breeding herd is small. On the other hand, great care must be taken not to crowd the pastures. Good bluegrass or clover should carry from fifty to a hundred cows on a hundred acres, other pastures from fifty to as low as five. The amount of available roughage is another important factor in determining the size of the breeding herd. Roughage should form the basal portion of the ration for the cows. It can not be bought with profit at the prevailing prices and no more cows should be kept, therefore, than the farmer can feed with home-grown roughage.

The feeding of the calves intended for market depends on a number of factors such as the season of the year they are dropped, whether or not any other use is made of the mother's milk before weaning, and the age at which it is planned to sell the beeves. Suggestive rations in which these points are considered are given in the bulletin already mentioned. These are made up of corn, cottonseed meal, corn silage, clover hay and oat straw. If barley, milo, kafir, or similar grains are substituted for corn, somewhat larger quantities should be used. Linseed meal may be used instead of cottonseed meal and if neither of these is available, a high-grade leguminous hay should be used for roughage.

Rape Good Feed for Hogs

Rape is a most valuable forage for hogs. It furnishes a palatable, nutritious feed throughout the season if not pastured too closely. In an experiment at the Ohio Experiment Station lasting 119 days this crop had a value, as forage for hogs, of $77.87 an acre in replacing concentrates in the ration, corn being valued at $1.12 a bushel and tankage at $60 a ton. In addition to this pasture the hogs received a daily ration amounting to 2.8 percent of their live weight.

The crop may be seeded from April to the middle of July, either broadcasted or drilled solid or in rows 24 to 28 inches apart. Five to eight pounds of seed are needed to broadcast an acre, and from two to three pounds if the rape is to be grown in rows. On good soil and with early cultivation the crop is ready to be pastured in six to ten weeks from planting.



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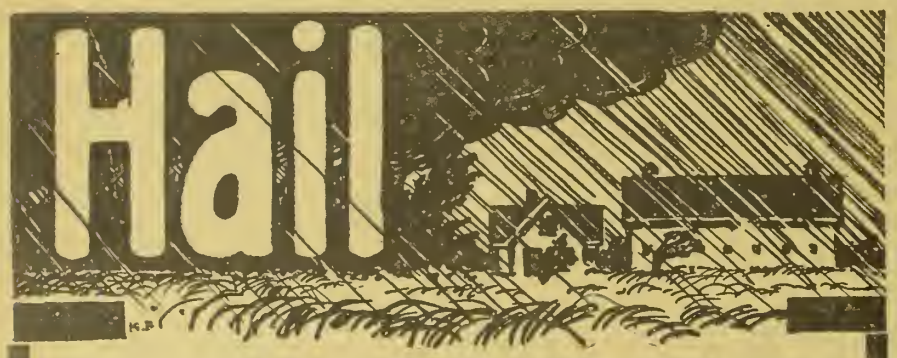

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Kansas Farmer Dairy Club

Has Fifty-Pound Cow

A LITTLE over a year ago we helped Harvey Russell's father select a cow for Harvey to use in the Dairy Club work. Harvey had been corresponding with a man in Shawnee County about a cow, and his father, who had business in Wichita, was sufficiently interested to make a special trip to Topeka to see this cow. He asked the writer to go with him and we found the cow a very desirable animal and advised the purchase. This cow had all the indications of large capacity for milk production, and when we learned that she did not give over thirty-six pounds a day when fresh we were very much disappointed. She had recently been shipped from Wisconsin, however, and was not in the best condition. It was a long, hard trip from Topeka to Scott City, and that did not improve her condition. Harvey has given her the best of care during the past year and was especially careful to feed her well during the time she was dry. She has recently freshened the second time and Harvey writes as follows:

"My cow freshened the morning of

Open Letter to Club Members

I AM SURE from the enthusiastic letters you write us that you are glad you joined the Kansas Farmer Dairy Club. I have met and talked with quite a good many members of the club, and wish I might meet all. I regret that I cannot write a personal letter to each and every one of you. As the year's work draws to a close, you are beginning to appreciate more fully what it means to milk a good dairy cow and dispose of her product. Many of you as a result of your work now own a cow or have her so nearly paid for that you can begin to see the end. Some not only have the original cow paid for, but one or more heifer calves.

In addition to earning a cow, you have learned a good many valuable lessons since you began the Dairy Club work. It is no small matter to keep accurate milk and feed records for a year so you can know exactly what your cow is producing, how much she has eaten, and what it has cost. Every one of you has kept such records and as a result can figure out exactly what a gallon of milk or a pound of butterfat has cost. This is one of the most important lessons in the dairy business. Those who have learned well this lesson have accomplished something well worth while. I feel sure that you who later take up dairying as a business will conduct it in a businesslike manner and will not handle a herd of cows without knowing positively that every cow is producing at a profit.

You have also learned how to feed and care for a milk cow so she will do her best. A good many have thought that all there was to success in dairying was to buy some cows of dairy breeding and begin to milk them. This is a mistake. A knowledge of how to feed and care for dairy cows is of the greatest importance. There are farmers in Kansas who have been very much disappointed because they failed to make greater successes in the dairy business, and the principal reason was that they did not know how to feed and care for their cows so as to give them a fair show.

I know you have had discouragements, and difficulties of various kinds have arisen in your work. These, however, have only tested your determination and your ability to overcome those things which have seemed to stand in the way of your success. You are having to pay exceptionally high prices for concentrated feeds, but you are also getting high prices for the butterfat you sell. The fact that grains and such feeds as you buy have been high in price has compelled you to pay more attention to using the farm feeds to the best possible advantage. After all the biggest opportunity dairying offers is that of converting into a finished product the various feeds, such as alfalfa and silage—feeds produced on the farm.

Even though you have had to pay high prices for some of the feeds you used, you have not been working in the dark as does the dairyman who keeps no record of his milk production or the feed eaten by his cows. You can figure out at any time just what your butterfat is costing, and you will find that even though feed is high you can afford to feed a good cow well. There is little profit in trying to handle a good dairy cow by giving her only a limited amount of feed. To produce milk to her fullest capacity she must have good, palatable feed, in abundance, and it has been your problem to study her needs and her appetite and see that she gets this feed. In looking over dairy cow records—not only those of the club members, but records in general—I have noticed that it is nearly always the cow that has a big feed bill charged against her that makes the most profit. Of course it would be very unbusinesslike to have a big feed bill charged to a cow without also having accurate figures on what she is eating and the amount of milk and butterfat she is returning for the feed consumed. You are all keeping accurate records and need not fear a big feed bill if these records show a good profit is being made over and above the cost of the feed.

I hope you consult frequently with the man who loaned you the money to buy your cow. It is worth a great deal to have the friendship and confidence of business men. You may have your cow almost paid for by this time, but the banker will still be interested in you and will be glad to have you talk with him about your work. It is a part of his business to be thoroughly familiar with what his customers are doing. The ability to gain the confidence of business men so that you can obtain money to use for productive purposes will mean a great deal in helping you to make a success of whatever business you may take up in later life.—G. C. WHEELER.

April 15. She had a fine heifer calf. It is sure nice and fat. I think Daisy is doing pretty well. She has given fifty pounds of milk for the last two days. If I can get her up to fifty-four pounds it will be fifty per cent better than she did on her best day last year, and I think that she will do it all right.

"I had to go fifteen miles south of town for my last load of hay. The pastures are getting pretty good so I won't need any more hay until they begin to cut the new alfalfa.

"I am going to start to run a Nilson tractor the last part of this week.

"What shall I do about my milk test? I did not send it in this month because Daisy freshened on the fifteenth and I did not think the milk would be good for a test.

"I would like to join the advanced class of the dairy club the first of June if it would be all right to start with Daisy then."

Cow Has Heifer Calf

My cow freshened April 17, 1917. She had a fine, dark red heifer calf weighing about a hundred pounds. My cow sure is a dandy. She paid for herself with interest on note in nine months and left me a profit of ten dollars in that time. I paid ten per cent interest on the note.—LELA MAE HAYNES, Rawlins County.

The members of the Dairy Club seem to be especially favored in getting heifer calves.

Dairymen who try to start a dairy herd by using one or two good cows as foundation stock are always disappointed when their cows present them with male calves.

Several of the cows belonging to Dairy Club members have dropped a second heifer calf since the work of the club began. These members will have dairy herds almost before they know it. Because of the possibility of starting a herd from a single cow, we would urge the importance of getting as good a producer as possible. A number have found as a result of the record work that the cows being milked are not as profitable as they should be.

Keeping books on a dairy cow is a profitable business and few dairymen make any great successes without production records.

Cost of Milk

A detailed study of the cost of producing milk on four farms, recently conducted by the United States Department of Agriculture, leads to the conclusions that on those farms feed accounts for one-half or more of the total cost, the remaining charges being divided about equally between labor and other items, such as shelter, use of equipment, use of bull, interest, depreciation, and overhead. The conclusions are based upon an exhaustive analysis of the business of the four farms, each of which is representative of a type of dairying. While the actual costs on the farms, as elsewhere, vary from year to year, the ratio between each item and the total remained nearly uniform when the same system of management was followed. It is believed, therefore, that milk producers throughout the country will find valuable suggestions in the report of this study, just published as Bulletin 501 of the Department of Agriculture, and entitled "The Cost of Producing Milk on Four Dairy Farms Located in Wisconsin, Michigan, Pennsylvania, and North Carolina," by Morton O. Cooper and C. M. Bennett.

The fact that the cost of feed is shown to be at least one-half of the total cost of producing milk on the farms is cited as evidence that the feed item is of great importance to the dairyman who seeks to reduce the cost of production. It is pointed out, however, that the greatest economy of production is not always attained by cutting down the feed cost, and that sometimes it is necessary to increase the feed bills in order to increase profits.

The question of feed supply is held to be one for individual solution. "Just how near the specialized dairyman should come to growing all the feed required by his dairy herd is a question of individual business management. One man may find it more profitable to grow all the feed required, while another may increase his profits by supplementing the income from cows with crop sales and purchase part of the feed. In a few localities in the United States crops may be selected that will not only yield a product for which there is a ready sale at good prices but which also leave on the farm much feedable material. Sweet corn is an example of this type."

It is pointed out that when this practice of supplementing the dairy business with the production of cash crops is feasible, it is often good business for the dairyman to sell crops and buy concentrates, and that "if by the growing of a cash crop it is possible from the net receipts of one acre to buy a quantity of concentrates equivalent to that which could be raised on one and a half or two acres, it would be folly to grow the concentrates."

In a discussion of the dairy labor problem, special attention is directed to a system of winter dairying practiced on one of the four farms, where profitable employment for labor was offered at a season when otherwise there would be little to do and yet summer work on crops was not interrupted.

Of particular interest to the dairyman who is considering the question of building up his herd is the fact that though it was found to cost more to keep the cow that gives a high yield than one that gives a low yield, the unit cost of the milk produced fell in all cases as the production per cow rose. Of perhaps greater interest to the average dairyman, however, is the further fact that "the decrease in the cost of milk per pound was much greater in the step from the poor cow to the cow of fair quality than in the step from the fairly efficient cow to the good cow or the exceptional cow." This fact is cited as evidence that the first step in building up a poor dairy herd (that is, replacing scrubs with grades) is not merely the easiest step, but also the one which promises the most for a given expenditure of money and labor.

Treating Cows for Bloat

The most careful men cannot avoid having occasional cases of bloat, and those who habitually let stock graze on alfalfa or clover are sure to have considerable trouble and probably lose animals. When animals are bloated it has been found that moving them around and compelling them to exercise affords some relief. A dose of formalin, three tablespoonfuls for a mature steer or one-fourth this amount for a calf, is a remedy that has a specific effect in checking the formation of gas in the paunch. The formalin should be diluted in a half pint of water. Some run a piece of smooth rubber hose down the throat into the paunch and thus permit the gas to escape. Another remedy is a small teacupful of kerosene mixed with a half pint of sweet milk. Some add a small amount of turpentine to this mixture.

If the animal is so far gone as to stagger and be almost ready to fall when discovered, puncturing the paunch is about the only measure that will save it. This puncture should be made just below and in front of the hip bone, the proper location being about six inches from the bone measured in the direction of the lower point of the shoulder. It is always best to use the trocar and canula, but in an emergency when these instruments are not at hand a large-bladed pocket knife may be used. This remedy should always be considered as a last resort, since the wound will heal slowly and the stomach contents may be forced out into the abdominal cavity and cause infection.

A precaution to observe in allowing stock to graze on alfalfa or feeding them green alfalfa is to always keep them well filled. It is the very hungry animal that bloats. If they are always supplied with other feed before they are allowed to get to the green alfalfa or clover, there is much less danger of their eating enough to cause trouble.

W. J. Sayre, of Chase County, maintains a small breeding herd of Shorthorn cows from which he sells each year as beef the entire calf crop with the exception of a few of the heifers. Six years out of seven he has topped the Kansas City market with these calves.

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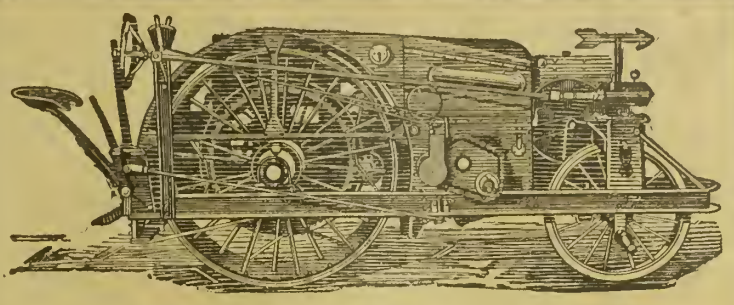

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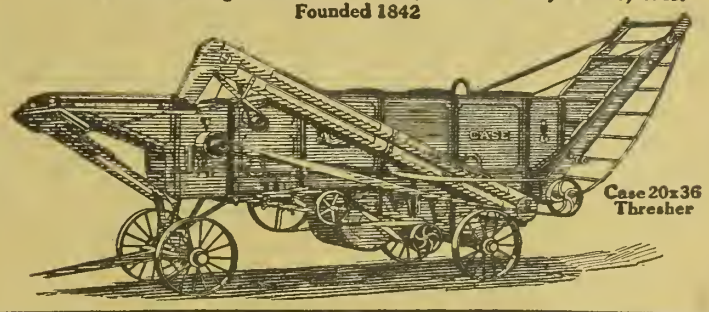

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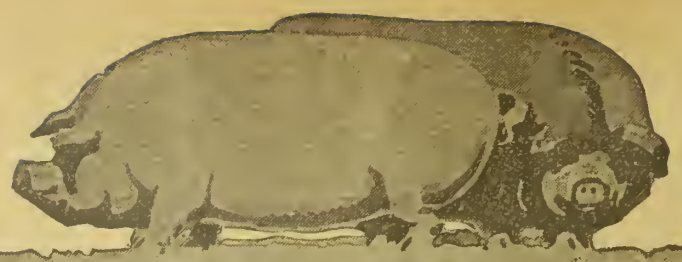

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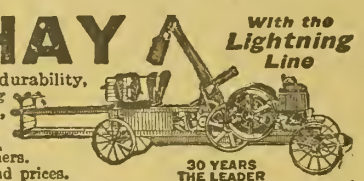

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SHOULD HE RE-PLANT?

SUBSCRIBER E. B. G., Chase County, writes relative to his efforts to secure a stand of kafir. He says: "I have been reading your article, 'Plant Sorghums Thin,' several times now as we are trying to get a stand of kafir. We thoroughly prepared our ground, plowed and harrowed all of it at least once and part of it we also disked and harrowed again and then planted with a corn planter, using about a bushel of seed for fifteen acres. The seed was hand-picked, threshed by hand and then cleaned with a good fanning mill. The planter did not do satisfactory work, dropping from three to six grains within a few inches and then leaving spaces of from twelve to eighteen inches without any seed. Measuring off a space of thirty feet it looks as if there was an average of a plant to every six inches, but put in irregularly as above stated. What do you think about letting such a stand go, or would you replant? I cannot see how to change the planter to make it put it in any better. I could change the sprocket on which the chain works and shorten the spaces perhaps four inches, but that would also increase the number of thick places so there would be a plant at least every five inches on an average.

"I have two other strong objections to replanting, if there is a chance that the present stand will do. First, I have no more of the hand-picked seed, and would have to take machine-threshed seed, which would not be nearly so good as the hand-picked. Second, there is the danger of the next planting not maturing before frost. The latter objection, though, I do not consider serious as yet. It is planted on good bottom land that has been in alfalfa within the past four or five years.

"You speak about heads weighing four ounces. Would it be safe to count on that being the average weight of the whole field, or would they have to be pretty carefully selected to weigh that? Please send me your 'Sorghums: Sure Money Crops,' and I will remit for same."

We heartily endorse the methods followed by our correspondent in saving and caring for his kafir seed. If every farmer attempting to grow kafir would follow this plan in selecting his seed and preparing it for planting, there would be a great improvement in this crop. There is probably no one thing that is doing more to prevent the grain sorghums from giving better results than neglect to pay proper attention to seed selection.

We would advise letting the present stand go. Having to use ordinary machine-threshed seed if the field is replanted is a serious objection. The plants already started from the carefully selected seed are sure to be better than plants started from ordinary seed. Even though such seed has sufficient vitality to germinate, much of it will produce weak plants that will make slow, puny growth.

A four-ounce head of kafir is not a large head by any means. O. W. Prather, of Jewell County, who is quoted in "Sorghums: Sure Money Crops," wrote in 1912 that his kafir that year made an average yield of sixty bushels to the acre on thin upland and that it was as good in 1911. He stated that the average weight of a field-cured head was one-half pound.

Our correspondent refers to one of the serious needs of the grain sorghum grower, and that is a planter that will put the seed in the ground as it should be planted. When a man knows he has good seed, carefully selected and handled as in this case, it is discouraging to be compelled to use a planter that is so poorly adapted to the work of planting the seed at the proper rate. This is a problem for the manufacturers of planting machinery to work out.

Large or Small Farm

Farming is a business and has its overhead expenses the same as any other business. Many who have had no experience in farming do not seem to realize this fact. The impression too often prevails that anyone can farm and that the reason greater successes are not made is that not enough labor is put in on a given amount of land. We believe the American farmer to be the best farmer in the world, although it is true that in acre yields farmers of other countries have done much better than the farmers of this country.

In taking up the farming business, careful consideration must be given to the size of the farm operated. In a recent issue the Iowa Agriculturist pointed out that as a result of the distribution of misinformation by "would-be agricultural reformers," the idea has been firmly implanted in the minds of many that the surest and easiest way to wealth and happiness is to be found in the proper cultivation of a few acres of land. Poets have aided this throng of so-called reformers by putting into verse the delights of a "little farm well tilled." Yet, in spite of the poetical sentiment attached to "Three Acres and Liberty," conclusive investigation has shown that economical production of crops, so essential in making the farm business a success, is very seldom possible on the small farm.

Economical producing of crops on the small farm is prevented by the decreased efficiency obtained from the use of labor, improved farm machinery, capital and economy in buying and selling. It has been found that many farm operations require two men, no matter how small the farm. As a farm must have at least 150 acres to justify the employment of an additional man by the year, small farms either suffer from a scarcity of labor when it is needed or the wasteful use of it when sufficient is kept to accomplish certain necessary operations. The same principle applies to the use of horse labor, as three or four mules or horses are the smallest number that can be used efficiently with modern machinery. On the small farm it is usually impossible to keep this number busy. Taking up each of the factors of production, we find economical handling is very difficult on the farm of less than 100 acres.

The argument is then advanced that yields to the acre are less on the larger farms. While this is true applied to very large farms, a comparison of small farms and good sized ones has shown little difference in yield. The advantage in yield to be obtained by the cultivation of a few acres is more than counterbalanced by the increased cost of producing the crop.

In the past the Belgian farmer produced two or three times as much on an acre as did the farmer of this country. However, the farmer in the United States received six or seven times as much per man. Which is to be preferred? Undoubtedly from the standpoint of the individual farmer's welfare, the small farm is a delusion to be avoided. The general farmer cultivating a few acres will very likely have a small income, narrow viewpoint and a great loss in productive power to the man. There may be more poetry attached to the "small farm well tilled," but there is a better living in the large farm well managed.

Cultivation of Corn

Every good corn grower knows that cultivation is of the greatest importance in the early growth of the crop. Corn cannot compete with weeds and grass, and there is nothing more discouraging to the corn grower than to have weather conditions so unfavorable as to prevent proper cultivation, thus giving the weeds and grass a start. This is one reason

why many prefer to delay the planting so that they can kill one or two crops of weeds before the seed is put into the ground. It can be done very rapidly before the corn is planted, and even after the corn is up and when the weeds and grass are just starting the harrow can often be used to good advantage both with listed and with surface-planted corn. A large acreage can be covered quickly with the harrow and if the ground is right and the sun is shining, nearly all the weeds just starting on the surface will be killed. It is not always safe to harrow corn just as it is coming through the ground. After it is two or three inches high there is very little danger of injuring the crop.

We now have lister cultivators that are admirably adapted to doing effective work in cultivating listed corn. Ordinarily these are used twice, once with the disks set to throw the soil away from the corn and once with the disks set so as to throw it toward the row. At this second cultivation the result to be accomplished is the complete covering of all the small weeds in the row. Weeds which escape cultivation are usually too well established to be destroyed later with any form of cultivator.

Shovel cultivators are commonly used with good success after corn is too large to harrow or after the lister furrows have been worked down with the lister cultivator. There can be no set rule as to the number of cultivations to give. It almost entirely depends on the character of the soil, the rainfall, and the weed growth. The primary purpose of all cultivation is to keep the crop free from weeds so the plants will have full use of the moisture and plant food available.

From three to six cultivations are as many as are usually practical. If the soil is in good tilth and reasonably free from weeds, little is gained by cultivating the crop after "laying by" time. Stirring the ground too frequently when it is dry may even do harm. The ideal condition is to keep the surface broken up into a mulch two or three inches deep, this mulch being composed of small lumps of soil mixed with small granules but not containing much fine dust.

Nearly all corn growers agree that the later cultivations should be shallow, as the roots of the crop will be seriously injured by deep cultivation. The time to do the deep stirring of the ground between the rows is while the corn is small. Getting the best of the weeds early in the season is always the aim of the most successful growers of corn, and what is true of corn is true of kafir and others of the grain sorghums.

No Improvement in Wheat

The condition of wheat in Kansas has not improved during the past month, according to the report issued last week by the State Board of agriculture. This report is based on the conditions existing May 19. According to the estimate of the various reporters, the prospective yield of winter wheat in Kansas this year will be 40 million bushels, or an average of about ten bushels an acre for the acreage of growing wheat reported a month ago. This estimate is approximately 16 per cent less than the state's crop of wheat last year.

Wheat acreage figures of this year are, of course, subject to revision later, when the official returns from assessors are received from all counties. Of the twenty-two counties thus far heard from assessors' returns show an acreage 12.5 per cent greater than was reported by the Board's correspondents last fall. Should this ratio be maintained in the other eighty-three counties, the official assessors' returns will show an acreage larger than any ever devoted to a single crop in Kansas, surpassing even the acreage of 9,448,000 sown in the fall of 1914.

In several of the west central counties wheat that was reported as alive a month ago has perished since. Where the prospect was the most promising in April, principally in the counties of the eastern third of the state south of the Kansas River and in some of the important wheat counties of the south central section, the wheat has deteriorated more or less during the past month.

From present reports it would appear that upwards of 50 per cent of the Kansas wheat crop this year will be in the counties of the central and south central portion of the state, including the counties of Sumner, Harper, Reno, McPherson, Kingman, Sedgwick, Pratt, Stafford, Rice, Ford, Barber, Kiowa, Comanche, Harvey, Marion, and Cowley.

Little insect damage is reported. Hessian fly has been observed in a few localities in the central part of the state and some chinch bugs are present in the eastern and southeastern counties.

The Board's report indicates that there will probably be as much as nine million acres of corn planted in Kansas this year. On the date the correspondents reported, 84.2 per cent of this probable acreage had been planted. This is a somewhat larger percentage than was reported a year ago on the same date, when the total acreage of corn planted was somewhat less than seven million acres. While the weather conditions have not been especially favorable for the growth of the corn, favorable reports are made as to the condition of the crop in the principal corn growing sections, the soil conditions being especially favorable.

The condition of oats this year, of which crop one and three-fourths million acres was planted, is over 8 per cent higher than the condition reported a year ago. The general condition of this crop seems most promising in the greater portion of the state, the percentages ranging from 75 in Sumner and Sedgwick counties to 94 in Republic and Marshall.

It is estimated that approximately 500,000 acres have been sown to barley, or an increase of about 21 per cent over that of last year. The larger increases in acreage are reported in the north central and western counties, where wheat sown last fall was largely winter killed. The condition of the barley is estimated at 87 per cent, the most promising outlook existing in the northwest. Returns indicate that fourteen counties in the western third of the state have 70 per cent of the total barley acreage.

The pastures and meadows of the state are reported to be in good condition in all sections except the north central part of the state. Alfalfa has made a good growth and the first cutting is being harvested in many counties.

Milking Machine Experience

We use a Sharples milker and have used it about a year. We have two single units. I like the single units best because you can milk each cow separately and keep a record. I also think it is much easier to use the single unit, but of course this is something for everyone to decide for himself.

As to the time saved with the milker, I can take the two units and three buckets and milk our twenty-five cows at least as fast as three good hand milkers could do this work. The cows soon become used to the milker and they like it better than hand milking because the work is done faster and the same every time. The milk flow is also increased by the milker. We haven't had any trouble with spoiled udders caused by the use of the machine.

The milker is by far more sanitary than hand milking, as not a particle of dust can get into the milk. The machine is not hard to operate. With a little practice you can go right along, and by studying the directions it is easy to remedy anything that might go wrong with it.

The milker is not so hard to keep clean. As soon as we finish milking we draw a bucket of water through the teat all the milk. Then we wash the outside thoroughly and wash out the teat cups and hose with a brush, which isn't much of a job as the hose is only about two feet long. These are then put into a tub of fresh water where they are left until the next milking. This water should be changed at least once a day in the summer time. A disinfectant should be used in the water and each milker company recommends some particular kind. This treatment keeps the milker clean and sweet.

In operating a milker you should be sure there are no air leaks in the air line.

Regarding the number of cows one should have before he can afford a milking machine, I would say that a herd of ten cows justifies the use of a milker.—D. C. KNOUSE, Brown County.

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Free Choice Fails on Alfalfa

IN THE "free choice" system of feeding pigs the feeds are placed separately in the different compartments of the self-feeder and the pigs balance their own rations. In the experiments conducted last summer and fall at the Kansas Experiment Station the free choice feeding in the dry lot was profitable as compared with self-feeding a mixture of the same feeds. On alfalfa pasture, however, it is doubtful whether the free choice system will give as good results as self-feeding the mixture. Results to this effect were secured in the extensive hog-feeding experiment referred to above. One of the objects of the experiment was to test the efficiency of the free choice system of feeding pigs under different conditions.

In this experiment twenty-four fifty-pound Duroc Jersey pigs were divided into four lots of six each and started on the experiment July 28. Two of the lots were fed on alfalfa pasture and the other two in dry lots. The rations fed are shown in the table on this page. The table also gives the detailed results of the test.

It will be noted that the free choice pigs in the dry lot made their average gain of 150 pounds at a cost of eighteen cents less per pig than the dry lot pigs fed the mixed ration. There was also a saving of eight days' time, the pigs in this lot making the 150 pounds of gain that many days earlier than did the pigs in the lot fed the mixed ration. This increased their selling value, due to the fact that on an average the market prices in the fall decline as the season progresses.

The results secured in the alfalfa pasture lots show a reverse of those in the dry lots. Evidently the pig's appetite is not the most efficient guide for balancing his ration when full-fed on alfalfa pasture. His appetite for alfalfa seems to dull his instinct as a dietitian when helping himself at the self-feeder. He naturally has a pig's appetite for corn and when this is satisfied on top of a good feed of alfalfa there isn't much room left for shorts and tankage. He leaves the feeder for a rest in the shade and before he gets to the feeder again he has done some grazing on the way. Not enough tankage is consumed to balance properly his ration and as a result his gains are more costly and he gets to market behind the pig which was forced to eat shorts and tankage with the corn. This, however, cannot be considered conclusive evidence of the relative values of the two methods of self-feeding on alfalfa pasture, as it is the result of only one trial, but it may be taken in the light of circumstantial evidence for the present time.—C. M. VESTAL, Kansas Agricultural College.

Hampshire Breeders Meet

On June 16 the breeders of pure-bred horses, cattle, swine and sheep of Northwest Kansas will be the guests of the Valley Falls, Kansas, Commercial Club, at a picnic to be held at Valley Falls on that date. The Kansas Hampshire Swine Breeders' Association will hold its summer meeting there on that date. Meetings will also be held by the Valley Falls Fair Association and by the Hampshire Pig Club organized by George W. Ela, of Valley Falls. An interesting and instructive program is being prepared and will be carried out in the forenoon. A big picnic dinner with barbecued Hampshire will be served. In the afternoon the various breeders' associations will hold their meetings and special programs for these meetings will be carried out. Prominent speakers will be on the program and it will be one of the interesting breeders' meetings that will be held this season. George W. Ela, Fount Hurst, and James Mitchell compose the executive committee in charge of the arrangements in conjunction with the Valley Falls Commercial Club.

Get Rid of Slackers

Every dairy herd contains "slackers," and it is important that they be located as soon as possible and treated as they deserve. The most effective way to accomplish this is through membership in a cow testing association. To cull wisely, it is absolutely necessary to know just what each cow is producing in terms of butterfat or milk. Where it is impossible to secure this information through membership in a cow testing association, the dairyman can weigh and test his milk himself, or at least weigh it often enough to be able to make fairly accurate estimates of what his cows are producing.

This getting rid of boarders is even more important at the present time, since feed is abnormally high and the cow that cannot produce enough milk and butterfat to pay some profit over and above the cost of feed is a losing proposition. The feed such animals consume had better be saved and fed to cows that can economically turn it into human food.

In culling animals from the herd, however, it is important at the present time that no mistakes be made. No cow should be sent to the block that is capable of producing at a reasonable profit. The dairy cow produces one of our nation's most important foods, and every profitable cow should be kept at the job. It would be a mistake to sell for meat a dairy animal that could supply many times her meat value in milk.

The matter of keeping production records is always important, but it has never been of greater importance than at the present time. This is one way of cutting down the cost of producing dairy products. In many herds the margin of profit could be widened by carefully culling out the animals that are barely paying their way or perhaps being kept at an actual loss.

Permitting bad roads to bar progress is poor patriotism.

Self-feeding Mixed Ration Versus "Free Choice" Self-Feeding

SIX PIGS FED IN EACH LOT.	DRY LOT		PASTURE	
	LOT 1 Mixed Corn Meal 70 Shorts 24 Tankage 6 Self-fed	LOT 2 Free Choice Corn Meal Shorts Tankage Bone Ash Self-fed	LOT 3 Free Choice Corn Meal Shorts Tankage Bone Ash Self-fed Alfalfa Past.	LOT 4 Mixed Corn Mean 80 Shorts 16 Tankage 4 Self-fed Alfalfa Past.
Average initial weight	48.6	49.1	48	48
Days to gain 150 pounds per pig	99	91	98	89
Average daily gain per pig	1.51	1.64	1.53	1.68
Concentrates consumed daily per pig	5.64	6.11	5.36	5.75
Concentrates consumed per 100 lbs. gain	373	369	350	342
Cost of concentrates per 100 pounds gain	$6.04	$5.92	$5.56	$5.51

PRICES OF FEEDS: Corn meal $1.60, Shorts $1.45, Tankage $2.55.



Help
For Hens and Chicks

Right now in midsummer all fowls are liable to be infested with lice. Day and night the torture goes on. Hens stop laying, chicks do not grow. Lice positively kill millions of chicks. Here's the way to help your fowls and chicks. Sprinkle

Dr. Hess Instant Louse Killer

into hens' feathers, about roosts and houses. Put it into the dust bath, both hens and chicks will work it all through the feathers, bringing the Louse Killer right home to the lice. You can do your poultry no better service. Don't neglect them.

Also destroys bugs on cucumber, squash and melon vines, cabbage worms, slugs on rose bushes. Sold in sifting-top cans.

Price, 1 lb. 25c; 3 lbs. 60c (except in Canada)

DR. HESS & CLARK, Ashland, Ohio

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the same as power manufacturing increases factory output. It enables one man to do work of three. Result: timely plowing, better start for crop, proper cultivation, tilling of more acres and a quicker, fuller harvest. The ever-ready power plant for all farm purposes is the

PLOW BOY $995

10-20 All-Standard Kerosene Tractor average farm size—built right and priced right—a success everywhere used. Easy to operate, low fuel and upkeep cost. Plow Man 13-30 at $1,155 is more powerful tractor. Write for book on Power Farming and details of our All-Standard construction.

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51st YEAR. Over 28,000 former Students. Our modern Building has 15 elegant Rooms, including FREE GYMNASIUM and Auditorium. 21 experienced Teachers and Lecturers. Day and Night Schools all Year. Free Employment Bureau. Shorthand, Typewriting, Book-keeping and English Branches. Catalogue "K" Free. J. F. Spalding, A. M., Prest.



Patriotism From Poultry

If the poultry and eggs produced in Missouri and Kansas could be increased by one-half during the next few months, this increase would keep over 100,000 soldiers at the front. In this period of shortage and high prices of food products, this increase would supply food, clothing and the necessities of life for over 300,000 hungry people. See what it would mean if all states would make a huge proportional increase in their poultry products.

This is an hour when poultry raising combines patriotism and profit. Every poultryman has a duty to perform in the present crisis. The nation has called you. Every egg laid and every vigorous chicken, if intelligently produced, means victory for our flag and profit for the producer. The $700,000,000 worth of table scraps which have been annually dumped into the American garbage can, and the inestimable waste in the shape of worms, insects, grains and grasses can be turned into gold and grub. If every poultry raiser will strive to do just a little bit better than he has done in previous years, he will add just that much to his own profits, will hasten peace and will satisfy a hungry world.

The American Poultry Association, through its president, E. E. Richards, called a meeting of prominent poultrymen, who recently assembled at Chicago. This was one of the wisest things ever done in the history of the Association. It called to the attention of the nation the fact that poultrymen are awake, that they represent an industry which can mature and produce meat in the shape of poultry and eggs in less time than any other kind of live stock. The nation begins to realize more than ever before that poultry raising is a vital and important business and not a plaything. Every prominent official—President, Secretary of Agriculture, Speaker of the House, and all Governors—have not failed to include poultry in the list of the products which they have mentioned in urging an increase. At this meeting James W. Bell, of Chicago, was made chairman of the publicity committee. Since that time headquarters have been established in Chicago with Theodore Hewes, of Indianapolis, in charge. They ask that 100,000,000 more pounds of poultry be produced in 1917 than in previous years.

The patriotic character of the movement, as well as the question of profit for the present and future, should insure the co-operation and backing of all who are interested in the industry. Money is needed in order to do this work well. This is your opportunity and mine to get this industry before the people as it has never been presented before, and if you cannot contribute but little, it is your duty to do that much. Such an act on your part would not only be an act of patriotism, but it would be a good business move as well, because it is certain to result in a greater impetus and growth to the business.

There are other things which all poultry raisers should seriously consider and which mean much to themselves and to the nation just at this time. They are in part as follows:

Hatch well into June this year. Many of the prize winners at our best shows are June-hatched birds. Keep your incubators going until you have reached your full capacity.

If you don't hatch throughout the season, begin hatching again in September and October. You will find that chicks hatched in those months are easily raised, feather out before winter, and make great layers, beginning in the early spring. In the northern states you can hatch in August.

Don't dispose of your breeding stock so closely that you will be crippled next season. Better keep the best of them for winter layers, or for breeders another season.

At the present prices of meat, broilers can be produced profitably throughout the year. The pullets from each hatch can be saved for layers.

Better caponize a lot of cockerels. They grow rapidly and put on fat and flesh at as little cost as most any other kind of poultry. Keep them out on range until toward winter and they can make most of their own living.

Hatch and raise ducks for quick money. Find a good market before attempting this on a large scale. Ducks can be hatched late and they mature for market very quickly. They are not so subject to diseases as other poultry. Once hatched, they are easily raised, and they do not require expensive housing or fencing.

Don't abandon plans for any poultry shows which you had in view. Local, county and state associations should endeavor to make their shows larger and better than ever this year. Nothing would injure the industry more than a lack of interest in this line.

Continue your advertising campaign and keep your name and your birds before the public. To drop out now would mean loss of prestige and future business.

Fight lice, mites and disease. Use good common sense and correct methods, and this crisis, instead of being an injury to the industry, will put the poultry business on a firmer basis than ever. —T. E. QUISENBERRY, Leavenworth.

The use of a self-feeder will help in the labor problem, but a self-feeder needs replenishing just the same as the feed bin.

Home Canning Outfits

Be Patriotic! Be Economical! You can be of great help to the country by doing your share toward conserving all food stuffs. Eliminate all waste. You can be economical, reduce the high cost of living and provide for the future welfare of yourself and family by storing surplus foods. Don't delay. Write today and investigate the Butler Home Canning Cookers.



Practical They are just the thing for home use. Cook quicker, better, with less trouble than old style methods. Adapted to all fruits and vegetables. Cooked products have better color, flavor and shape, being cooked whole in the jar or can.

Economical Butler Cookers are strong, yet light in weight and easy to handle. Substantial enough to last for years. The low price for which you can get these great cookers and the wonderful work they do make them almost a necessity for every household.

Steam or Hot Water Bath Methods. Write today for free descriptive literature giving full information about different styles. Present prices not guaranteed. Steel market uncertain. Don't delay. Write today. Do your patriotic duty and help conserve the food supply.

BUTLER MFG. CO.
687 Butler Bldg., Kansas City, Mo.
Steel Tanks, Grain Bins, Truck Bodies, Barn Ventilators, Culverts, Etc.

Help Conserve the Nation's Food Stuffs

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160 ACRE FARMS IN WESTERN CANADA FREE



Canada's Liberal Offer of Wheat Land to Settlers

is open to you—to every farmer or farmer's son who is anxious to establish for himself a happy home and prosperity. Canada's hearty invitation this year is more attractive than ever. Wheat is much higher but her fertile farm land just as cheap, and in the provinces of Manitoba, Saskatchewan and Alberta

160 Acre Homesteads Are Actually Free to Settlers and Other Land Sold at from $15 to $20 Per Acre

The great demand for Canadian Wheat will keep up the price. Where a farmer can get over $2 for wheat and raise 20 to 45 bushels to the acre he **is bound to make money**—that's what you can expect in Western Canada. Wonderful yields also of **Oats, Barley and Flax. Mixed Farming** in Western Canada is fully as profitable an industry as grain raising.

The excellent grasses, full of nutrition, are the only food required or beef or dairy purposes. Good schools, churches, markets convenient, climate excellent. There is now an unusual demand for farm laborers to replace the many young men who have volunteered for service in the war. Write for literature and particulars as to reduced railway rates to Supt. of Immigration, Ottawa, Can., or to

GEO. A. COOK
2012 Main St., Kansas City, Mo.

Canadian Gov't Agt.



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YOU can buy a Liberty Bond of $50, $100, $500, $1,000 or more

YOU pay in installments.

REMEMBER—Uncle Sam cannot even start to win this war unless he borrows this $2,000,000,000 from the people of America.

REMEMBER—You are not GIVING this money. You are LENDING it, SAVING it. It is going to WORK for you and bring you in an INCOME of 3½ per cent a year. And be paid back to you by YOUR GOVERNMENT.

REMEMBER—Liberty Bonds are the safest bonds on earth. Back of them is all the strength, power and wealth of the United States, the richest nation in the world.

Buy Your Bonds Now!

Fill out this Coupon and take it or mail it to any bank.

I wish to buy $_____ of Liberty Bonds.

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Six weeks' training in our school will make a more efficient milliner of you than a year spent as an apprentice elsewhere, and nine weeks finishes our pupils for constructing, copying and trimming hats.

Classes beginning June 3, June 24, July 16.

WRITE FOR OUR TERMS

Pickens School of Millinery

809 KANSAS AVENUE TOPEKA, KANSAS

WE NEED YOUR HELP

WE FEEL confident that there are thousands of KANSAS FARMER readers who will gladly respond to our appeal for help in the emergency now facing us. You do not want us to cut your name from our list, but by neglecting from day to day to send in your renewal you are seriously embarrassing us and causing us much unnecessary expense.

We are now confronted with a new order from the Post Office Department compelling us to stop sending KANSAS FARMER to a large number of our subscribers who are in arrears. We have in the past been allowed to give you several months in which to renew. The Post Office Department now says it will not carry at the second-class rate papers to those who are not paid up, and its word goes. We have no further recourse but to meet these requirements.

It has ever been the policy of KANSAS FARMER to keep close to the grass roots and under no circumstances to permit other than genuinely helpful material to appear in its columns. We, who are responsible for it editorially, have had real farm experience and keep in such intimate touch with farm conditions that we are able to give you the practical farm viewpoint of whatever appears.

In making this personal appeal to you we feel sure we can count on your loyalty to the cause which KANSAS FARMER represents. You can help us so easily and, what is more, we are going to make it financially worth your while to renew at once and send us in addition the renewals of your friends and neighbors.

You will find the date to which your subscription is paid on the label of the paper you are now reading. Turn to it now while it is fresh in your mind and register a vow to respond to this appeal for your help and co-operation. On page five you will find our special renewal and club offer. It is worth a careful reading, as it will save you money.

Do not fail us in this emergency. We need your help.

T. A. BORMAN, President and Editor.
G. C. WHEELER, Associate Editor.
W. J. CODY, Secretary-Treasurer.
C. C. YOUNGGREEN, General Manager.

Will Your Subscription Expire In June?

We have several thousand subscriptions expiring in June It would be a saving of much time to us and avoid missing copies by the subscriber if the renewal could reach us before the expiration. The best way to do is to send in $2 when you renew and have your subscription paid three years in advance.

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Soot and ash-covered parts of the furnace should be cleaned thoroughly at the end of the firing season. It is well to keep the furnace doors open during the summer and if necessary a little unslaked lime in a bucket or box should be set in the bowl after the cleaning has been done. This care will prevent deterioration and the furnace will be ready for use next fall.

Food Study Valuable

In order that the meals for the family may be planned wisely and well, at least some knowledge of the value of the different kinds of food and their functions in repairing waste and supplying energy in the body is necessary.

The following substances are required for keeping the body in a healthful condition: Mineral substances, supplied by fruits and vegetables. Milk supplies a mineral substance needed particularly by children. Protein, as found in meat and meat substitutes such as milk, cheese, eggs, beans, peas, and nuts. Starch, supplied by the use of all cereals, and potatoes. Sugar, which may be taken into the body as sugar, or in the form of syrup, honey, or other sweets. Fat, as supplied by the use of butter, oil, fat meats, lard, or cream. In addition the body needs bulk to keep the machinery in good working order. Flavorings are useful because they make the food more palatable, which is necessary for the best results. Certain other substances, not finally classed as yet, have been found valuable in promoting health and growth in children. It is known that these are present in milk, meat, fruits, vegetables, and eggs.

For most housewives it would be a burden to figure out the exact amount of each of these substances she is giving each member of her family daily. This is not necessary as the body is made in such way that it will store a surplus of any one substance and draw upon this surplus when needed. However, a surplus of any one substance should not be taken into the body continually, as this would result in undermining some part of the body. This can be guarded against by the thoughtful housewife. The family's health and appearance are a good index to the wholesomeness of the diet.

Two evils in eating habits which should be closely guarded against are food preference and prejudice. Every member of the family should learn to like all wholesome foods and should eat them in quantities sufficient to supply his bodily needs.

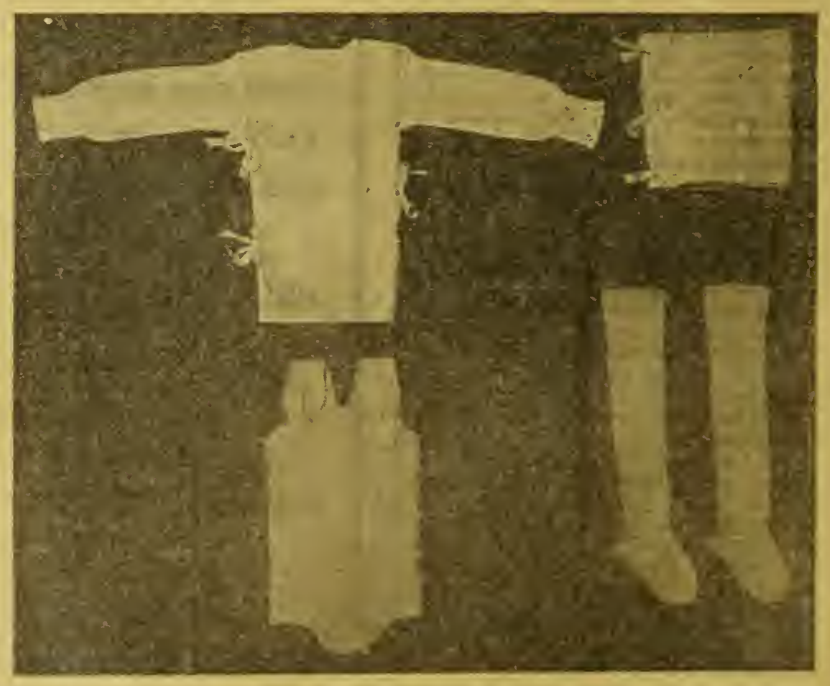
The housewife will find it not only interesting but valuable to her to know something about the composition of foods and their uses to the body. One of the shortest and most readable treatises on this subject that has come to our attention recently is Farmers' Bulletin No. 808 of the Federal Department of Agriculture, entitled "How to Select Foods." In the thirteen pages of this bulletin, to which we have referred before in these columns, will be found much usable information on food values. A study of this bulletin will enable the housewife to feed her family knowingly and it is not unlikely that it will help her to provide the needed food more economically.

Sign Your Inquiries

All questions submitted to the Home Department will receive careful attention, but we have a general rule that inquiries must be signed. This is not for the purpose of using the names in the paper, but simply as an evidence of good faith. A reader signing initials only asked recently about canning asparagus. A bulletin referred to in the Home Department of June 3 issue, which bulletin can be procured from the Extension Division of the Agricultural College at Manhattan, or the State Council of Defense, Topeka, will supply this information and also complete instructions for canning and preserving all kinds of fruit and vegetables.

Fun With a Vacuum

For this stunt you will need a burnt-out incandescent light bulb. The spur of glass on the big end is hollow. While



SOME OF BABY'S EARLY NEEDS—THE ABDOMINAL BAND GOING ONCE AND A HALF AROUND AND TYING AT THE SIDE, THE SMOOTH-FITTING SHIRT THAT DOES NOT WRINKLE, THE WARM STOCKINGS, AND THE KNITTED BAND WITH SHOULDER STRAPS FOR USE AFTER SECOND MONTH

your hold that part under the hottest water in which you can keep your hands, carefully file off the point of the bulb. When the water reaches the hollow part it will enter the bulb and immediately begin to boil. This is because the extremely rarified atmosphere inside lowers the boiling point to the temperature of the water. As soon as the space is filled with steam, the boiling ceases.

Still keeping the opening under water, or closing it securely with one moistened finger, hold the bulb under a stream of cold water. The water will begin to boil again immediately, because the cold water condenses the steam, and so leaves a partial vacuum.

If you close the opening securely with sealing wax when the bulb is about one-fifth full of water, you will have a very novel toy. As soon as the bulb has cooled you will have an apparatus similar to what is called in physics a water hammer. When the bulb is inverted, the water will be sent to the other end with a sharp click.—The American Boy.

Bread-Crumbed Noodles

The real name for this dish is "spatzle." Make the noodles as usual and cook in boiling water that has been salted. Brown bread crumbs in butter in a frying pan. When the noodles are cooked, lift out of the kettle with a perforated spoon or drain in colander, then place in dish and put the browned bread crumbs over them.

This is a Swabian dish and is to the German what macaroni is to the Italian.

A Handy Candlestick

An ingenious method of using a candlestick in the cellar, instead of the untidy method of sticking the burning candle to a shelf or ledge by melted wax, is to screw the candle into a heavy burr. Such an improvised candlestick prevents upsetting, and the candle can burn down and out without danger of fire.—The American Boy.

A nation is as weak as its roads.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8113—Ladies' Waist: Cut in sizes 36 to 42 inches bust measure. Real art shows in the design of this waist. It is a back-buttoned model, cut with drop shoulder yokes and having the upper edges of the fronts and back gathered where the yokes join. The roll collar with side flare, dainty tucker, and crown cuffs are of contrasting goods to match the yokes. **No. 8109—Kazywrap:** Cut in sizes ½, 1, 2 and 3 years. Just what many mothers have been wishing for—a kozywrap, so that Baby Bunting can sleep out of doors and defy Jack Frost. The body of this kozywrap is in one piece; the back extends over the front and buttons to it, protecting the feet, and a tab attached to the lower part of the sleeve and buttoned up on the arm protects the hands. **No. 7748—Ladies' Waist:** Cut in sizes 36 to 42 inches bust measure. This simple blouse, gathered at the shoulders, is made attractive by the use of two materials. The upper section is given a shield-shaped front below revers that are in contrasting goods, in harmony with the collar. **No. 8134—Ladies' Dress:** Cut in sizes 36, 38 and 40 inches bust measure. In the popular straight-line effect, with the front in panel form, diversity of style is produced in this model by adding side peplums. The dress has back closing with small buttons close together, button and loop decoration at front and embroidery on the peplums. **No. 8121—Girls' Dress:** Cut in sizes 6 to 14 years. Of course, the collar of this dress is a big feature, for it is stylish and of particularly becoming cut, but there are other attractions. The frock is made with a body lining and has the waist fullness gathered at the lower edge so that it blouses over the two-piece gathered skirt. **No. 8100—Ladies' Dress:** Cut in sizes 36 to 42 inches bust measure. Oddly but beautifully styled, this long-waisted dress with a two-piece gathered skirt shows one of the most successful in long-waisted effects. Although the basque is hinted at with the seamed body part, the Moyen-age effect is truly interpreted.

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement here reaches over 60,000 farmers for 5 cents a word per week. No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms, always cash with order.

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

HELP WANTED.

THOUSANDS GOVERNMENT JOBS OPEN to farmers, $75 month. Write for free list of positions. Franklin Institute, Dept. D-82, Rochester, New York.

REAL ESTATE.

IF YOU WANT TO SELL OR EXCHANGE your property, write me. John J. Black, Desk C, Chippewa Falls, Wisconsin.

HORSES AND MULES.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

HOLSTEIN CALVES FROM TESTED dams. Blue Label Stock Farm, Route 5, Whitewater, Wisconsin.

GUERNSEY COW COMING THREE years old, registered, well bred, good type, desirable. J. W. Marley, Oswego, Kansas.

FOR SALE — ONE THREE-YEAR-OLD registered Guernsey bull, well marked and a good breeder. G. D. Glidden & Sons, Homewood, Kansas.

THREE YOUNG, REGISTERED, BRED Red Poll females, two bull calves and one yearling bull. Tuberculin tested. Henry Murr, Tonganoxie, Kansas.

SOME GOOD SHORTHORN BULLS FROM eleven to twenty-three months, sired by Shilo Boy and backed by Silk Goods. Paul Cashatt, Oskaloosa, Kansas.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $25 apiece. Frank M. Hawes, Whitewater, Wis.

FOR SALE — VERY CHOICE HIGH-grade Holstein calves, either sex, three to six weeks old, at $20 per head, crated for shipment. Or if you want dairy cattle of any age, I will buy them at a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

LICE ON CHICKENS

IT IS LICE THAT KILLS THE LITTLE chickens. I make a lice powder that I will guarantee to take every louse off of little chickens in one minute or your money back. Two 50-cent boxes sent express prepaid for $1. This ad will appear only once. The Pruitt Remedy Co., Hays, Kansas.

DOGS.

FOR SALE—THREE-FOURTHS COLLIE and fourth Mountain Shepherd puppies, prices $3 and $5. Earl Phillips, Route 9, Box 80, Emporia, Kansas.

FOR SALE—TWO BLOODHOUND PUPS three months old. Can furnish as good pedigrees as any in United States. Wm. Byerley, Onaga, Kansas.

AIRDALE — THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

SITUATION WANTED.

SINGLE MAN WANTS FARM WORK. Age 25, Christian, do not use tobacco or booze, good references. Some experience. H. Barr, 1424 Wyandotte, Kansas City, Mo.

THE STRAY LIST.

TAKEN UP—BY E. H. WALKER, RESIDing two miles north and three miles west of Anthony, Harper County, Kansas, May 27, 1917, one dark red Durham bull. No marks or brands. Appraised at $50. C. E. Kennedy, County Clerk, Harper County.

FARM AND HERD.

Fred B. Caldwell, of Howard, Kansas, is one of the progressive farmers and breeders of Elk County. He has just returned from Iowa, where he purchased fifty head of the best Poland China sows he could find for sale, and will breed them to Caldwell's Big Bob for fall litters. The show record of

Real Estate For Sale

360 ACRES CREEK BOTTOM FARM
160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; $5,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only $45 per acre.
M. T. SPONG - - FREDONIA, KAN.

WANTED

To trade first-class farm in Iowa or Minnesota for high-class herd of Shorthorns or Herefords. Nothing but top quality cattle considered. Give complete information concerning herd in first letter. Will give complete description of property and location of same in reply.
AMOS BURHANS - - Waterloo, Iowa

Government Red Sail Fruit Land can be located on Desert Act near Delia under newly completed irrigation system. Easy payments. **Thompson, 515 Denham Bldg., Denver, Colo.**

Wheat and Stock Ranch
320 Acres, All Tillable, Dark Loam,
On main auto, mail and telephone routes. House, barn, stable, sheds, garage, well, wind mill. All fenced. 140 acres cultivated. Near best town in Eastern Colorado. $15.00 per acre.
Walker Glaister, Denver, Colo.
24 East Fourteenth Street

FOR INSIDE INFORMATION on oil lands or poultry and vegetable tracts, write **SOUTHERN REALTY CO., McAlester, Okla.**

Caldwell's Big Bob has increased the demand for sows bred to him to such an extent that Mr. Caldwell has found that in order to supply the demand he would be compelled to buy from fifty to seventy-five head and breed for fall litters. He is also fitting a show herd and after the breeding season Caldwell's Big Bob will be fitted for the aged boar class. He now weighs in breeding condition 960 pounds, and would carry 200 pounds more flesh.

T. F. Danner, of Winfield, Kansas, is one of the successful Duroc breeders in Kansas. His herd sows are from the Good Enuff Again King blood lines and the herd boar now used is Gano Pride 2d by the great Gano Pride. Gano Pride 2d's dam was Bell Vera by old Graduate Col. Most Duroc breeders know that Graduate Col. was one of the leading Duroc boars of the Southwest and it was this hog that placed the Royal Scion farm on the map for famous Durocs. Good Enuff Again King was bred and owned by W. W. Otey and was made grand champion at the Kansas State Fair, and this great show hog was the sire of the herd sows used in starting Mr. Danner's herd. The herd now numbers about eighty head and a feature at this time is fifty head of March and April spring pigs that are coming along in good condition.

D. H. Stiles, of Garnett, Kansas, is the owner of a good herd of registered Holsteins. His herd carries the best blood lines of the Holstein breed. He has the breeding that is backed by production records. He also has a fine lot of high grades that are bred for production and are the kind that are profitable.

David Ballantyne & Son, of Herington, Kansas, are the owners of one of the oldest herds of Shorthorn cattle in Kansas. Mr. Ballantyne has been breeding Shorthorn cattle for over forty years on the same farm. They have sold cattle to start herds as far west as California, Oregon and Washington. A number of valuable herd bulls have been used in the herd that have left a splendid class of females of the right sort. Such bulls as Marshall Abbotsburn by Young Abbotsburn and out of Mary Abbotsburn 7th, one of the greatest show cows in America; Goldfinch 115705 out of 3d Linwood Wood Golden Drop from the late Col. Harris' herd at Linwood, Kansas. Others used were Collynie Pride by Imported Collynie, Dexter by Imported Scottish Chief. They have sixty-five head in their herd and a fine lot of spring calves.

Bert E. Hodson, of Ashland, Kansas, is building up a choice herd of Poland Chinas. He bought the top sows in several of the leading Poland China sales last spring. Mr. Hodson owns a 500-acre wheat and alfalfa farm adjoining the town of Ashland and five miles out from the city owns 160 acres of hog farm, all fenced and well equipped for hogs. A new barn has just been completed and a new residence and new hog house are now under construction. The farm is well supplied with water and alfalfa grows abundantly. The herd is headed by a massive two-year-old hog, McGath's Big Orphan by Big Orphan. The writer had the pleasure of weighing this hog and he tipped the scale beam at 945 pounds just past two years old. He is not fat, but will be fitted and showed at the fall fairs weighing 1,100 pounds or better. A feature of the herd at this time is the twenty-five spring boar pigs that are herd header prospects, sired by the following noted boars: Caldwell's Big Bob, Smooth Columbus, Big Hadley Junior, King Price Wonder, Columbus Defender, Big Bob Wonder and Fessey's Tim, and out of the best herd sows on the farm.

Reliable Poultry Breeders

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

PURE BARRED ROCK EGGS — FARM range, $1 per fifteen, $5 per hundred. Mrs. H. Buchenan, Abilene, Kansas.

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BEAUTIFUL IMPERIAL "RINGLETS." Prices eggs reduced after May 10, No. 1 either mating, $2, fifteen; $3.50, thirty; $10 hundred. Mrs. Iver Christenson, Jamestown, Kansas.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, $3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

RHODE ISLAND REDS.

SINGLE COMB RED EGGS, GOOD FARM range, $4 per hundred; $1.50 per thirty. Mrs. Rosa Janzen, Box 242, Geneseo, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

SEVERAL BREEDS.

BUFF DUCKS—DARK CORNISH CHICKens. Sunnyslope Farm, Stillwater, Okla.

BARRED AND BUFF ROCKS — SINGLE Comb White Leghorns. Fawn and Pencilled Runner Ducks. Eggs—Fifteen, $1; hundred, $5, from range flocks. J. T. Rickman, Kiowa, Kansas.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

BRAHMAS.

HIGH SCORING LIGHT BRAHMA EGGS $1.00 per fifteen, parcel post prepaid. Geo. Pratt, Route 2, Topeka, Kansas.

PHEASANTS.

PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Try them. Eggs from these, $4 dozen; 24 for $7. Harper Lake Poultry Farm, Jamestown, Kansas.

DUCKS AND GEESE.

BUFF DUCK EGGS, DOZEN $1. ROBERT Webster, Canton, Kansas.

MINORCAS.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

WYANDOTTES.

WHITE WYANDOTTE EGGS — STOCK from (Fishel World Best Direct) $2.50 for 48, prepaid. S. Peltier, Concordia, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs reduced to fifteen, $1; fifty, $2.75; hundred, $5. Mrs. Edwin Shuff, Plevna, Kansas.

IF YOU WANT THE BEST SILVER Wyandottes, Barred Rocks or White Crested Black Polish breeding stock or eggs, write to William Nelers, Box T, Cascade, Iowa.

LEGHORNS.

PURE-BRED SINGLE COMB WHITE Leghorn eggs, 100, $5. Chas. McFadden, Morland, Kansas.

S. C. BROWN LEGHORNS—HAVE BEEN raising them 21 years, the 222 to 266 egg record kind. Under hens the fertility runs 95%. Eggs—Fifteen, $1.25; 100, $5. Safe arrival guaranteed. Gorsuch, Stilwell, Kan.

TURKEYS.

BOURBON RED TURKEY EGGS—TWOyear-old hen, 40-pound tom. $3 setting. S. Peltier, Concordia, Kansas.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

FARM AND HERD.

H. E. Anderson, owner of Clover Valley Holstein Farm, Whitewater, Wisconsin, reports his herd making a good record this year. Mr. Anderson owns a very large herd of registered Holsteins. He has record breeding and at present he is breeding purebreds exclusively. He reports a very heavy demand from Kansas and the Southwest for high-class Holsteins.

F. B. Wempe, of Frankfort, Kansas, owner of one of the good herds of pure-bred Hampshire hogs in Kansas, reports that he has saved a large number of spring pigs and they are growing out fine. These pigs were sired by a great son of Paulsen's Model, one of the great sires of the breed. Sows by this $800 boar averaged more than $200 in Mr. Paulsen's sale. Other pigs in Mr. Wempe's herd were sired by Gano's Model by Manley's Duke, junior champion boar at the San Francisco Exposition. Mr. Wempe also has a fine lot of fall boars and gilts in his herd.

Walter B. Brown, of Perry, Kansas, owner of one of the outstanding herds of Poland Chinas, has announced October 17 as the date of his annual fall sale. This year Mr. Brown saved fifty head of spring pigs sired by such boars as Miami Chief, now at the head of his herd and one of the great breeding boars now in service. Of the spring litters sired by this boar there was only one with less than ten pigs, and they numbered as high as fourteen to the litter. In addition to the pigs sired by this boar there will be litters sired by Model Big Bone, the $1,500 boar; King Joe, the highest priced big-type boar ever sold at public auction; Iowa King, grand champion of Missouri in 1915 and a noted son of the grand champion Long Big Bone. Mr. Brown is one of the progressive breeders and he develops his young Polands along lines that insure profitable breeding stock.



This beautiful home and four lots on Topeka Avenue for sale, or will exchange for good farm land in Eastern Kansas.

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G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

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CLAIM SALE DATES.

Jerseys.
June 26—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.

Double Standard Polled Durhams.
June 8—Ed Stegelin, Stralght Creek, Kan.

Shorthorns.
June 22—Park E. Salter, Wichita, Kansas. Sale at farm.

Poland Chinas.
Aug. 15—H. L. Faulkner, Jamesport, Mo.
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Oct. 17—Walter B. Brown, Perry, Kansas.

The dispersion sale of Jersey cattle held by R. J. Linscott, of Holton, Kansas, on May 31, was attended by Jersey breeders from a number of states. The 110 head sold for $23,060, or an average of $210; 118 head sold for $23,225, average $196. These figures include a number of calves only a few days old, all sold separately.

H. W. Haynes, of Grantville, Kansas, who owns one of the outstanding herds of O. I. C. hogs in Kansas, reports his herd doing well and the young stock growing out fine. By years of careful mating Mr. Haynes has developed a herd of O. I. C. hogs of remarkably good type. He has the combination of size and quality so much desired for profitable feeders. He has the best blood lines of the breed and at this time the choice lot of spring pigs is an outstanding feature of his herd. He also has a very choice lot of gilts bred for fall litters.

James W. Magee, of Magee's Dairy, Chanute, Kansas, and owner of one of the heavy producing herds of Holsteins in this state, reports his herd making a fine record this year. This is one of the Holstein herds that is noted for consistent production since its foundation. It is also one of the large herds in Kansas.

John D. Henry, of Lecompton, Kansas, reports his herd of big-type Polands doing fine. Mr. Henry owns one of the choice strictly big-type herds in this state. This year he has saved fifty head of big high-quality pigs sired by such boars as Mammoth Orange, King Price, a half brother to the $1,250 King Joe, and Big Wonder, a 600-pound yearling by Big Bob.

Park E. Salter, Wichita, Kansas, has announced a public sale of fifty head of imported Canada Shorthorn cows and heifers at his farm near Augusta, Kansas, on Friday, June 22. Mr. Salter now owns 200 head of breeding Shorthorns and is selling an offering of breeding cows that will do a lot of good in other herds for foundation stock.

Catalogs are out for the Jersey sale to be held by Dr. J. H. Lomax, St. Joseph, Mo. The sale will be held at his farm near Leona, Kansas, and will be under the managementn of B. C. Settles, of Palmyra, Mo. Doctor Lomax has selected fifty head of choice Jerseys for this sale. His herd is one of the heavy producing herds of Jerseys now assembled and he has catalogued an offering of producers backed by breeding and a long line of records.

H. H. Hoffman, of Abilene, Kansas, reports his herd of pure-bred Ayrshires doing fine. Mr. Hoffman commenced breeding Ayrshires five years ago. His first herd bull was from the Kansas Agricultural College herd at Manhattan. Later he dispersed his grades and purchased a herd of registered cows, all backed by records, and he now has a heavy producing herd of this excellent breed of dairy cattle. Mr. Hoffman has found the Ayrshires consistent producers with very ordinary care and they have proven very profitable on his farm even under unfavorable conditions. He has a fine line of record breeding in his herd and a feature of the herd at this time is the choice lot of cows and heifers bred to his good herd bull to freshen in October.

HAMPSHIRE HOGS

High Quality Hampshires Sold on Approval. Fall boars and gilts; weanling pigs, either sex, not related, by a son of Paulsen's Model. **F. B. Wempe, Frankfort, Kansas.**

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

SMITH'S HAMPSHIRES
Bred gilts and choice boars, October farrow. Prize winning breeding. Also herd boar, priced to sell. **S. E. SMITH Lyons, Kansas.**

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Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere. Write for date. CLAY CENTER, KANSAS

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Write for terms and date. Clarksdale, Mo.

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15 Shorthorn Bulls
Reds and roans. Pure Scotch and Scotch-topped yearling bulls, 10 to 18 months old, at farmer prices. Farm at Pearl. Ship over Rock Island, Santa Fe, Union Pacific and Missouri Pacific. Come and see me.
C. W. TAYLOR, Abilene, Kan.
Dickinson County.

Sycamore Springs Shorthorns
Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

SPRING CREEK SHORTHORNS
Headed by the great sire, Orange Goods. Best families represented in herd, good individuals. Choice young stock for sale.
THOS. MURPHY & SONS, Corbin, Kansas.

TWO SHORTHORN BULLS. One herd boar. Fall gilts, bred or open. February and March pigs, pair or trio, no relation. S. C. White Leghorn eggs.
R. C. WATSON - ALTOONA, KANSAS

Sunflower Herd of Shorthorns
A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

SHORTHORN BULLS
A two-year-old herd bull, dark red, fine individual. Also six-months-old bulls for sale.
H. W. ESTES, SITKA, CLARK CO., KAN.

ANGUS CATTLE

Aberdeen-Angus Bargains
Fourteen richly-bred heifers, good individuals, low down, blocky, easy-feeding kind. Very best blood lines. Bargain price, $1,600 for the lot, f.o.b. Salisbury, if taken at once. Also two young bulls priced right. Thirteen years a breeder.
V. E. LAWRENCE, SALISBURY, MISSOURI

GALLOWAY CATTLE.

GALLOWAY BULLS
SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

POLAND CHINAS

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

TOWNVIEW HERD BOARS
Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. **CHAS. E. GREENE, Peabody, Kan.**

Langford's Spotted Polands. Gilts bred for fall farrow. Future herd boars. Satisfaction guaranteed. **T. T. LANGFORD & SONS, Jamesport, Missouri**

POLAND CHINA BOARS
Twenty-five choice spring boar pigs sired by Caldwell's Big Bob, Big Hadley Jr., King Price Wonder, Columbus Defender, Big Bob Wonder and Fessey's Tim. Some fine prospects and priced reasonable. Immune.
BERT E. HODSON, ASHLAND, KANSAS.

BEAVER'S POLANDS
Good stretchy Poland China spring boars, sired by Kansas Giant by the 1,135-pound The Giant. Others by a good son of the 1,125-pound Big Tim, out of Expansion sows. Choice, $25.
ED BEAVERS
Route 2 Junction City, Kansas

Bazant's Famous Spotted Polands
Choice Fall Gilts Out of Big Mature Sows. Two hundred March pigs for sale on approval. All to be recorded free in the S. P. C. Record Association. Average in litter, nine. Can sell boar and four gilts not related. Sired by three of the best boars in the West. I can start you in the business.
R. J. Bazant, Narka, Kansas
(Republic County.)
Ship over the Rock Island and Burlington Railroads

OLD ORIGINAL SPOTTED POLANDS
Have only a few of last fall's litters left. Write your wants to
THE CEDAR ROW STOCK FARM
A. S. Alexander, Prop. R. 2, Burlington, Kan.

Henry's Big-Type Polands
Spring pigs, either sex. June delivery. Sired by Mammoth Orange, King Price Wonder, Big Wonder. Choice of lot, $35. Trio, $100. Others $25. First check, first choice.
JOHN D. HENRY, LECOMPTON, KANSAS

Park Place Shorthorn Sale

At Farm Friday, June 22, 1917

50 - Head Imported Cows and Heifers - 50



The cows are the large type, imported from Canada, and will be bred to my three great herd bulls. I am selecting this offering from my herd of over two hundred head, and they are a splendid lot of foundation cattle for parties wanting new blood or starting herds.

Sale will be held at farm near Augusta, Kansas, fifteen miles east of Wichita, Kansas. Nicely illustrated catalogs are ready to mail out. Write

PARK E. SALTER, - WICHITA, KANS.

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SHE'S THE MONEY COW

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OWNED BY J. H. LOMAX

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At the farm, on Grand Island Railroad, 28 miles from St. Joseph, Mo. Popular sires and best blood lines.

This is one of the best herds in the West, and the quality is unusually good. Heavy milking cows and many promising young things.

Write today for catalogue, mailed only on request, to

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REGISTERED ANGUS BULLS. HAVE FIFTEEN STRONG YEARLING BULLS FOR SALE.

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Fifteen serviceable boars for sale, sired by Geimon's Good-E-Nuff. First choice, $35, f.o.b. Herington, Kansas.

MOTT & SEABORN, HERINGTON, KAN.

LONE TREE DUROC FARM

Herd Boar Graduate Prince by Graduate Col. Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.

GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNE DUROC-JERSEYS

Forty-five head spring boars and gilts, March and April farrow, by Gano Pride 2d by Gano Pride, out of a Graduate Col. sow. Herd sows best of breeding. Write for prices. **T. F. DANNER, Winfield, Kansas.**

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Most profitable dairy cow. Herd headed by a son of August Lassie, the 4-year-old champion. Young animals, both sexes, for sale. **J. F. Converse & Co., Woodville, N. Y.**

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For Sale—Heavy producing registered Ayrshire cows and heifers, bred to freshen in October. Also a few young bulls.

H. H. HOFFMAN - ABILENE, KANSAS

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Three choice bull calves for sale. Their dams are on A. R. test. Write for particulars. Visitors always welcome.

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HOLSTEIN CATTLE.

MAURER'S HOLSTEIN FARM

Is offering a number of choice young pure-bred cows with good A. R. O. records; also yearlings and heifer calves and a select lot of young bull calves with world's record backing. Write for pedigrees and bargain prices. Also grade cows, heifers and heifer calves.

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No culls. No seconds.

REGISTERED COWS, HEIFERS AND BULLS.

Nice lot of grade cows and heifers.

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On account of being overstocked, am forced to reduce by dairy herd. I will sell your choice of

My Entire Holstein Herd

consisting of

35 High-Grade Heavy-Producing Cows, 8 Registered Cows, mostly with A. R. O. records; 50 high-grade two-year-old Heifers safe in calf and due to freshen this fall; 40 choice Yearling Heifers, and 15 highly-bred Heifer Calves from three weeks to three months old; three registered Bulls from one to five months old.

Entire herd is growthy, beautifully marked and of splendid dairy type; are healthy, vigorous, and persistent producers.

Emperor Segis Del Korndyke 167620, one of the best sons of King Segis Pontiac, heads my herd.

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A. R. O. dams. A tested bull. One cow even made it 12 months after calving.

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Choice bull calves, heifers, cows. Registered and best breeding. Herd tuberculin tested. We are breeders, not dealers.

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Spring Pigs in Pairs and Trios Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. **COLEMAN & CRUM, Danville, Kansas.**

O. I. C. SPRING PIGS, BOTH SEXES.

Bred gilts.

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FOR SALE—Two red and white bull calves, 10 months old, sired by Chief, a son of True Sultan. Priced to sell.

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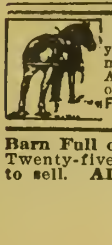

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Just above Kansas City

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. **AL. E. SMITH, Lawrence, Kansas.**



Purebred Registered

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A Holstein owner knows that he holds as an asset something more than size, weight, individuality, breeding and the highest standard of productiveness. He knows that he is a partner, directly and indirectly, in all of the progressive efforts of the Holstein-Friesian Association, and also in its financial soundness and mighty prestige. He benefits from its annual prize offerings of $22,500, and its yearly educational publicity campaign costing $25,000. The official records of its Advanced Registry Office establish for his cows positive and relatively high market values. Since 1908 the average auction price of Holsteins has increased to $255 per head. There's big money in the big "Black and White" Holsteins.

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Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

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CEDAR LANE HOLSTEIN HERD

We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.

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High Grade Holstein Calves 12 heifers 15-16 pure bred, 4 to 6 weeks old, beautifully marked, $20 each. Safe delivery and satisfaction guaranteed.

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Braeburn Holsteins Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.

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Holstein and Guernsey Calves—Both sexes, 5 weeks old, nicely marked, fawn and white, black and white, mostly 15-16ths. $25 each, crated for shipment. Satisfaction guaranteed.

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Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

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Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.

W. C. SCHROEDER - WEST BEND, WIS.

Shady Brook Holsteins

A few choice young springers, also some high class young bulls. If you want record breeding we will be pleased to have you inspect our offering.

M. E. MOORE & CO. - CAMERON, MO.

HIGH GRADE HOLSTEIN CALVES

Five to six weeks old, nearly pure, well marked, $20, express paid.

COLD SPRINGS FARM, Whitewater, Wis.

HOLSTEINS

Registered and high grades, cows and heifers. The milky strain, service bulls, carloads or less. High grade heifer calves, $18 each, crated. Write me. I have what you want.

RAY C. JUDD - ST. CHARLES, ILL.

JERSEY CATTLE.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. BERRY & SON, Jewell City, Kansas

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

REDMAN & SON - TIPTON, MISSOURI

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. **Maxwell's Jersey Dairy, Route 2, Topeka, Kan.**



B. A. Fuller
Pres.

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NEIGHBORS—land owners—all who are after money from the soil, **Get My Special Offer Now.** I'll show you how to snake out the stumps. My book is full of live information. 25 years' experience boiled down. The plain unvarnished truth set forth in a plain, simple way. There is money in it for you. **Read the truth.**

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King of the Stump Fields—A New Record-Smashing Offer for You Now

Let's talk horse sense and get on the right track. Write to me. I want to tell you how to make your acres produce double profits.

Hercules is the King of all Stump Pullers and always has been king.

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The first to introduce the grooved device that all others have had to copy.

The first to introduce the double safety catch.

First real triple power puller.

First and still the largest selling Portable Puller.

Get the book. Read our extraordinary proposition. The Hercules is the puller that has the single, double and triple power features, giving you three machines in one. One man with a team can handle it and move it from place to place. No heavy lifting. It is the real One-Man Puller.

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30 Days' Free Trial

so you can see how **powerful** it is and how **easy it works.** I want you to **know** for yourself that the all-steel construction means 60 per cent less weight and 400 per cent greater strength than cast-iron or "semi-steel." Besides that, I want to save you big money on the cost. I'm making you a brand new offer now.

Unlimited Guarantee

I mean that. When you buy a Hercules I don't fuss or quibble with you. I make a signed and sealed guarantee to you that has no limit of time to it. I can do this because the Hercules is so extraordinarily strong and well built that no job is too tough for it. Write and see.

Bateman's New Special Reheat Treatment Steel in Every New HERCULES

Read about it in a special circular just issued. It has enabled us to make the broadest, most amazing guarantee ever heard of. Again the Hercules has smashed all records.

Get My Special Offer Now

If I get one of my new Hercules Machines in each locality, more will surely follow because of Hercules quality and efficiency—that's my experience. So I can easily afford to sacrifice my profit on the first machine in each locality. Take advantage of the big profit and big saving opportunity **now.**

Send for Free Book and Special Proposition That Explains My Unlimited Guarantee—This Free Book Tells All

Just simply send your name and address on the coupon or on a postal so I can send you the convincing facts about the superiority and efficiency and value of this wonderful new Hercules Stump Puller.

Only 1000 of these machines will be sold at this remarkable introductory price, so get your name in now.

My new book is a beauty. See the real pictures of big stumps it has pulled out like you would pull weeds.

Read the many interesting letters from farmers, lumbermen and land promoters. Stumps, stumps, stumps, pulled out quick, making fortunes for owners of Hercules Stump Pullers.

I want you to know the facts. Just mail coupon or postal **now.** I'll send the book and price by return mail. I'll tell you the best crops to raise on virgin land where stumps were before.

I simply want to get my free book to you at once, so that you can read the remarkable facts about the Hercules All-Steel Triple Power Stump Puller and how it does such splendid work, making big profits for owners everywhere.



Mail Me the Coupon or Postal Right Now

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Mr. B. A. Fuller, President Hercules Mfg. Co.
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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 24. TOPEKA, KANSAS, JUNE 16, 1917. Established 1863. $1 a Year

SWEET CLOVER LOT WINS

Brown Alfalfa Hay Equals Hay Cured in Good Condition

THE once despised weed, sweet clover, has become a valuable feed crop. In the cattle feeding test at the Kansas Experiment Station the lot fed hay made from sweet clover was ahead in point of profit on the day the cattlemen met in Manhattan. Prof. W. A. Cochel explained the details of the experiment and presented the figures giving results. He stated that the calves used were the first crop from a group of heifers owned by the station. These heifers had been purchased as calves, costing at weaning time $30 a head. At the time the calves used in this test were dropped they had cost $70.97 each and weighed 928 pounds.

During the summer of 1916 these calves were on very short pasture, hence the average weight of 340 pounds is decidedly below what is usually expected. The fire which destroyed the feeding sheds early in the spring caused a decided setback so that the average gains are not up to those which are usually made.

The table of lot four is self-explanatory. During the first three months of the feeding period the grain ration was limited to the same quantity in each lot. After this each group was fed according to appetite. Cottonseed meal was fed during the first three months and linseed meal during the last three months of the experiment. Feeds are charged at the average market prices during the time the experiment was in progress. As a considerable quantity of the feed was produced on the college farm and a still larger quantity purchased before the advance in values, the profits indicated represent less than half the actual profits to the institution.

The most rapid gains were made in the lot which was fed on ground barley. There was little difference either in the cost of gain or in the profits secured from feeding alfalfa hay that is cured in good condition as compared with the ordinary brown or stack-burned alfalfa.

Lot 28 fed on sweet clover hay returned the greatest profit of any of the lots. This was due to the fact that the sweet clover used was of the finest quality and cured in excellent condition, being as good sweet clover hay as it is possible to obtain. The alfalfa would grade as standard alfalfa on the market.

The addition of silage to the rations which were used proved to be advantageous in increasing the profits and the finish of the cattle.

Black alfalfa used in the last lot was stacked immediately after the mower, the outside of the stack being green, then a strip of moldy material followed by very brown alfalfa almost in the form of silage, while the center of the stack was completely charred. This feed is charged at $5 a ton because of the large amount of moisture it contained. The results indicate that it is not a profitable method of curing alfalfa for feeding to beef cattle.

This experiment continued for six months, a sufficient period of time to determine the comparative value of feeds, which was the purpose of the experiment. The yearlings, however, were not finished, but will require from six to eight weeks more of full feeding in order to make them prime.

No credit is given to the various lots for the amount of pork produced in connection with the feeding of the cattle, although hogs were in the lots at all times to prevent waste. No credit is given to the value of the manure which was produced in connection with the feeding operations. These two sources of profit are over and above those indicated in the table.

In this experiment the average profit secured by the farmer in the growing of crops is charged against the cattle. The feeder's profit is the only one under consideration. In practice it is found that the chief profit which comes to the cattle feeder who is also a land owner is due to the increase in the yield of crops per acre and in the maintenance of the fertility of the soil.

The cattle have done their share when they pay for themselves and the feed consumed. Any additional profit secured is due to the ability of the feeder and to his judgment in making use of favorable opportunities for the purchase of feed and putting into practice the best information which he can secure in the growing of crops for cattle-feeding purposes.

Silage from Corn Fodder

A question came up at the recent auxiliary meeting of the Kansas State Dairy Association as to whether silage could be made profitably from corn after the grain had been harvested. The idea seemed to be that when corn is so high in price and so much in demand for human food, some way should be worked out whereby the forage part of the crop could be utilized as silage and the grain marketed separately.

No one should expect to take from a silo more feed value than was put into it, and silage from which the grain had been removed would not be as rich in feeding nutrients as silage from a crop cut at the proper time and containing three or four bushels of grain to the ton. The silo, however, is essentially a means of getting a larger return from the forage part of the crop, and under present price conditions this is a pertinent question.

Some cattlemen who have been short on roughage have found that they can make dry fodder go much farther by refilling their silos during the winter with shocked corn, supplying enough water as the cut fodder runs into the silo to make it pack solidly. Prof. O. E. Reed stated at the meeting referred to above that experiments were being conducted to determine the practicability of harvesting the ears of corn and then storing the forage part of the crop as silage. Under present conditions it is quite possible that this may be a desirable thing to do.

We will keep in touch with the results of the experimental work and report to our readers later in the season on how best to handle the crop if it is found feasible to make silage from corn after the ears have been removed.



CATTLE ON ADAMS & ROBERTS' RANCH, PLAINS, KANSAS.—MOTHERS OF STEERS FED PAST SEASON AT KANSAS EXPERIMENT STATION PURCHASED AS CALVES FROM THIS HERD

Your Ford Car



Why it should be lubricated with Gargoyle Mobiloil "E"

In lubricating Ford Cars, there are eight vital considerations. Each one must be met if the engine is to deliver its full power and be free from undue heat and wear.

These factors are:

(1) **Speed, Bore** and **Stroke.** Under the hood you have a small, high-speed engine. The Ford speed conditions demand oil of a different body from that demanded by low-speed conditions. The body of Gargoyle Mobiloil "E" meets this Ford need with scientific exactness.

(2) **Piston Clearance.** The Ford pistons are closely fitted. Each piston has two upper rings and one lower ring and an oil groove. The lower ring tends to prevent a surplus of oil working into the combustion chamber, while the oil groove insures proper lubrication of the wrist-pin. Engineering tests show that the body of Gargoyle Mobiloil "E" forms the correct film for the Ford piston clearance.

(3) **Lubricating System.** The oil is supplied to the forward end of the crank case and flows back to the fly wheel compartment which acts as an oil reservoir, the lower portion of the fly-wheel being submerged below the oil level.

The fly-wheel in revolving, picks up the oil which is thrown by the centrifugal force of the revolving fly-wheel into the catch-basin, from where it is led by ¼" copper piping to the timing gears and then to the oil splash trough under the front cylinder.

From the front splash trough the oil overflows into the second splash trough; from the second splash trough into the third splash trough. From the third splash trough the oil returns to the oil reservoir in the fly-wheel compartment, whence it is again circulated.

Gargoyle Mobiloil "E" has the scientifically correct body to properly distribute to all friction surfaces.

(4) **Cooling.** The Ford engine is water-cooled by the thermo-syphon system, and is equipped with two forward speeds. The continued use of low gear often causes over-heating. For full protection, oil should be used which distributes freely to the heated frictional surfaces, as Gargoyle Mobiloil "E" does.

(5) **Ignition.** The Ford system of ignition is by low-tension magneto, located in the fly-wheel, employing a four-unit coil of the vibrator type. Gargoyle Mobiloil "E" will burn cleanly from ignition points—a most important consideration.

(6) **Bearings.** The Ford bearings are of the two-bolt type, brass with Babbitt lining, closely fitted. The correct body of Gargoyle Mobiloil "E" enables it to properly reach all parts of the closely-fitted bearings.

(7) **Carbon Deposit.** To insure the least carbon under all conditions, an oil should be used whose only deposit will be of a dry, non-adhesive character—easily and naturally expelled through the exhaust. Gargoyle Mobiloil "E", if the proper level is maintained, will deposit little, if any, carbon in a Ford engine.

(8) **Extreme Weather Conditions.** On hot Summer days you will sometimes see Fords running under over-heated conditions, often due to faulty lubrication. Ford owners, who use Gargoyle Mobiloil "E" are free from this trouble, owing to the ability of the oil to absorb and radiate heat. On cold Winter days oil is required of a fluidity which enables it to meet low-temperature conditions and permit ease in cranking the engine. Gargoyle Mobiloil "E" completely fills these requirements.

We guarantee Gargoyle Mobiloil "E" to be fully up to the high standard demanded of all Gargoyle products. It easily reaches all friction surfaces and gives thorough protection after distribution.

GARGOYLE

Mobiloils

A grade for each type of motor

In buying Gargoyle Mobiloil "E" from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. If the dealer has not Gargoyle Mobiloil "E", kindly write our nearest branch, giving dealer's name and address.

YOUR TRACTOR

also may be lubricated efficiently with Gargoyle Mobiloils. On request we will mail you a separate Chart specifying the correct grade for each make and model of tractor.

VACUUM OIL COMPANY, Rochester, N.Y., U.S.A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world.

Domestic Branches: Detroit, Boston, New York, Philadelphia, Kansas City, Kan., Indianapolis, Minneapolis, Pittsburgh, Chicago, Des Moines

The Farm Implement Situation

OUR government is making strong appeals along the line of keeping our food production up to the maximum. The American farmer has been able to take the important place he holds in food production because of his large use of machinery of all kinds. The implement and machinery business has a most vital relation to agriculture. If anything should happen to seriously reduce the supply of agricultural machinery available it would certainly tend to reduce our capacity for food production.

The National Implement and Vehicle Association, which is an organization of the manufacturers of farm operating equipment, is endeavoring to impress upon the authorities at Washington the importance of permitting the companies manufacturing such equipment to have ample supplies of raw materials. This apparently is not an instance of an industry asking to be preferred over another, for these manufacturers have already offered their plants to the Government to be used as directed. It would seem in the present emergency that they can render a larger service by being permitted to turn out the tools required for agricultural production instead of using their plants entirely for the making of munitions or other war equipment.

The following extracts from a statement recently issued by the above mentioned organization gives some light on the situation and should be of much more than passing interest to those engaged in crop production.

The statement is made that since the Government has furnished figures to show what our food reserves are, in the raw state, as coming from the farm, it has had no difficulty in securing co-operation from all classes in urging everywhere increased planting and making it clear that labor in connection with agriculture at this time is as truly a patriotic service as going to the battle-front.

Strange as it may seem, however, only passing interest has been taken in the supply and efficiency of tools and equipment in the hands of the farmers at this time with which the work must be done. The farm equipment industry, which is one of the largest single lines of manufacture in the country, has for years kept pace with the demand, and competition has so quickened the wits of these manufacturers that today this industry leads the world in producing not only the greatest volume but the most labor-saving machinery found anywhere throughout the world.

It is now nearly three years since the war began, and by investigation it has been found that in many instances the farmer's operating equipment is more nearly worn out than ever before, and much of that which is still serviceable is of a character that does not economize in labor as do the more modern and up-to-date kinds. Our Allies passed through an experience which we could profit by, for in response to the alarm of war, the demand for munitions seemed paramount, and it was nearly a year before they realized that the food problem was the greatest they had to contend with and they then began a hasty scramble to rearrange their plans and systems to meet it. The time lost by this delay has not only proven serious but undoubtedly would have been vital if we had not joined with them in the struggle.

In order to do our part satisfactorily we shall have to move rapidly, for agriculture, unlike manufacturing, is seasonable and, as with time and tide, waits for no man. The manufacturers of implements and farm machinery have suffered serious delays in securing materials during the past three years, owing to the congestion of orders at the mills and in transportation, therefore the production has been below normal. This year these delays have been greater than ever before and had it not been for some of the railroads placing agricultural implements on the preferred list where embargoes existed, considerable of the country would have been without adequate equipment to put in this year's crop.

It is fortunate that the manufacturers have had the capacity to meet the demands upon them up to this time, but they are now confronted with a most serious condition in looking forward to the manufacture of implements for use this fall and next spring, because of our Government requiring extraordinary amounts of material for war purposes, which naturally must be given precedence over all ordinary demands.

Plowing in the Southwest for fall will follow the June wheat harvest and will gradually progress with the season to all other territory. Consequently the manufacturer must order his materials now and have assurance of deliveries, or it will be impossible for him to plan his production intelligently. If tillage implements are not provided when needed, the passing of the season renders them useless until the proper time again arrives and in this respect the situation with these manufacturers is different than that of most other lines.

Efforts have been made to bring these important facts before those in whose hands rests the matter of determining the proper apportionment of materials to those industries which should have preference for the protection of our food supplies and the welfare of the people in general. It is hoped that the seriousness of the situation will be so realized that early action will be taken to prefer the necessary materials and labor used in the construction of labor-saving equipment, and further that the shipments of this material, not only in the raw state but when completed, will be permitted to move to its destination quickly and without any unnecessary delay.

It is hoped, therefore, that the seriousness of the situation may arouse general interest in this contingency and that all who are disposed to do their bit may see here an opportunity for rendering help. Our farmers, our business men, our agricultural colleges, and all organizations who realize the importance of increasing food supplies, may with propriety write to our constituted authorities relative to this matter, until by reason of volume of interest, steps may be taken which will provide the desired relief.

A short time since we did not consider that this was our war, but today it is generally realized as our greatest responsibility and that we must move and move quickly.

Kerosene for Motor

E. R. N., Marion County, writes as follows: "I have been told that kerosene will not work efficiently in a high speed tractor motor. The tractor which I have in mind has a speed of about 1,800 revolutions per minute. Would you advise one to buy a tractor with such a motor? Also is the splash system of lubrication sufficient to adequately lubricate a kerosene engine on a tractor either at low or high speed?"

In reply to this inquiry, W. H. Sanders, instructor in farm motors at the Agricultural College, states that he has observed engines operating perfectly on kerosene at a speed of a thousand revolutions per minute. He says: "Most men fail in their efforts to operate engines on kerosene because they do not know how. With proper carburetion, an engine designed to meet kerosene conditions should operate at the speed mentioned.

"It is better to use some additional help to insure proper lubrication. Most engines using kerosene do not burn all the fuel. The residue thins the lubricating oil on the walls of the cylinder and eventually finds its way to the crank case, thinning the oil there and rendering it useless. It is a good plan to remove all such oil at regular intervals, and to put in a fresh supply."

A Tip to Auto Owners

Automobile owners should allow as much cold air as possible to enter the carbureter nowadays. In the winter time it was necessary to draw the air around the exhaust pipe and also have the carbureter bowl heated. It is now economy either to allow cold air to enter the carbureter or to remove the carbureter heater. This will give the engine more power because the cool gas will cause a higher pressure in the cylinder when it is ignited.

Cylinder oil for the gas engine must be of the best quality and highest grade to get the best results from the tractor. A cheap low-grade oil will cause frequent stops and delays and will seriously interfere with the efficiency of the engine.

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Subscription Price, $1.00 Per Year

HORSES FOR THE ARMY

In our issue of June 2 we called attention to the plans of the Government for buying the horses needed for the army. The country had been divided into zones and dealers had been asked to submit bids for furnishing horses of the different classes. These bids were to have been opened June 7. The following animals had been asked for in the first proposal: Twenty-one hundred cavalry horses at $180 a head; 1,500 light artillery horses at $195 a head; 924 siege artillery horses at $235 a head; 364 wheel mules at $235 a head; 364 lead mules at $190 a head; 144 pack and riding mules at $165 a head.

Without giving any reasons, the War Department suddenly cancelled these orders. The plan had been criticised by some horse dealers who claimed that it would not work. It met with more favor from producers because the prices to be paid were openly stated.

The sudden change of plans leads to considerable speculation as to just how the army will obtain the horses and mules required. In spite of the remarkable development of the tractor and its wide use in war, horses and mules are required in large numbers. Horsemen all over the country will be much interested in the report brought from France by Col. Henry J. Reilly, a regular army officer who went to France in February for the Chicago Tribune and while there gave special attention to the place horses were taking in modern warfare. Colonel Reilly has recently been made colonel of the First Regiment of Illinois Cavalry. In his report he says:

"There seems to be a rapidly increasing opinion that the day of the horse in war has passed. The nearly three years of warfare in Europe has shown this to be an entirely erroneous idea. On the eastern, or Rissian-Roumanian front, where there are few good roads—in other words where the road conditions are somewhat similar to those which ordinarily obtain in the United States—the horse has not only held his own for the mounted service such as the cavalry and artillery, but also for supply purposes. Again and again the armies operating on this front have found the arrival of supplies and ammunition dependent upon the use of horse transport. Even on the western front where the road system is probably the best in the world, mechanical traction has not been able to displace the horse. In general, it might be said that the line between mechanical and horse traction on a battlefield is the extreme limit of the enemies' artillery fire when any heavy action is going on. The horse is used on the battlefield and the mechanical traction in rear of it. Of course during calm periods, mechanical traction is used along the rear part of the battlefield. There are various reasons for this division. Probably the main one is that batteries frequently must be placed and supplied in positions some distance from a road. Often the country to be traversed is so rough that a tractor cannot get over it. If the army is operating on conquered ground, this ground generally is so cut up with old trenches and shell holes that horse traction only is practicable. Frequently the mud is so deep that mechanical traction is helpless. In many cases the situation is such that no wheeled carriages of any kind can move. In such cases pack animals have to be used.

"So well are these conditions recognized that in spite of the tremendous weights of heavy artillery material and the slowness and difficulty of moving them by horse traction, it is considered that only half the heavy batteries should have mechanical traction. The remainder are horsed and thus the means is always available to move the batteries, no matter what the difficulties. Therefore, in general it may be said that an army must still have animals for all its cavalry, the usefulness of which is far from disappearing; it must have horses for all its light field artillery, half its heavy field artillery, and all its regimental and divisional supply trains. Incidentally every regiment of infantry must have several hundred of horses and mules. The more the question is examined, the more two facts stand out. The first is that certain work in modern warfare can only be done by horses. The second is that the number of horses needed by armies which are counted by millions, must be counted by the hundred thousands."

KANSAS BREEDERS' DIRECTORY

The Kansas State Board of Agriculture is preparing a complete directory of the breeders of pure-bred live stock in the state. Last year the preliminary steps were taken toward getting the necessary information. The assessors turned in with their reports the number and kind of pure-bred stock kept by every man they assessed. The names of 10,000 breeders have been obtained in this way. In order to verify this information and give opportunity for the making of such corrections as may be necessary, return postal cards have been sent to all these breeders.

There are doubtless some breeders in the state who have not received cards. We hope that every breeder will take special pains to see that his name gets on this list. A complete breeders' directory will be greatly appreciated by all interested in improved live stock. We are glad our State Board of Agriculture has seen fit to take up this piece of constructive work. If you have not received a card, send in a report at once to Secretary J. C. Mohler, Topeka, Kansas, giving the number, sex, and breed of registered animals you own.

CURING ALFALFA HAY

It takes dry air and sunshine to cure alfalfa hay properly. When cut a ton of green alfalfa contains in the neighborhood of fifteen hundred pounds of water. Before it can be stored as hay, fully four-fifths of this must be evaporated. While it takes the right kind of weather to cure hay, it is well to understand some of the principles which govern the rapid removal of water from the stems and leaves of the plant.

When the plants are alive and growing they give off moisture constantly through the pores of the leaves. When the plants are cut this process continues, the water in the plant passing off through the pores of the leaves. The stems of alfalfa contain much more water than the leaves, but because they do not have pores they cannot give off this moisture rapidly except by passing it through the pores of the leaves. One might think that alfalfa would cure more quickly by letting it lie exposed in the swath to hot sunshine. The leaves, however, cease to pump the moisture from the stems when they become dry and brittle. Exposure to the sun in the swath may dry the leaves quickly but leave the stems full of moisture. After the leaves become dry and brittle the moisture in the stems can get out very slowly and it is not at all uncommon to have hay apparently cured but having so much juice in the stems that it can be wrung out by twisting a wisp of hay in the hands.

This may seem rather theoretical, but in spite of the uncertainties of the weather, it is a good plan to have a system in hay making and work to it as nearly as possible. A full knowledge of the theory of evaporation will help in working out a plan. The important point in this plan is to try to keep the leaves in condition to help in removing moisture from the stems as long as possible. Curing in the windrow furthers this object. In a light, fluffy windrow such as is left by a side-delivery rake, alfalfa will cure more rapidly than if left flat in the swath. This method of curing also helps to retain the leaves, which are the most valuable part of the hay.

Where a large amount of alfalfa must be handled, it is almost necessary to employ all the labor-saving machinery possible such as hay loaders, slings, forks, stackers, etc.

Good hay weather is none too plentiful and it is always important to have the work progress as rapidly as possible when conditions are favorable. With plenty of the right kind of equipment, hay making can be pushed along when the weather is right. It should always be remembered that hay is more apt to be injured by moisture that is on it than moisture that is in it. It should not be raked or stacked when there is any dew or rain on it.

THE COLLEGE COMMENCEMENT

The Agricultural College closes another year of most successful work next week. Thursday, June 21, is Commencement Day. The commencement address will be given by Dr. W. O. Thompson, for more than twenty years president of the Ohio State University. For the past eight years he has been president of Miami University. Doctor Thompson is widely known as an educator and speaker. The Right Reverend James Wise, Bishop of Kansas, Episcopal Church, will deliver the baccalaureate sermon on Sunday, June 17. His subject will be "The Foundations of Life."

Probably for the first time in the history of the institution the military band will be absent Commencement week. It is stated in the daily papers that this band has been selected for service in France at the base hospitals. It left for Philadelphia this week. While en route it led a marine recruiting campaign on the streets of St. Louis. The band consists of twenty-eight members, every one a native-born Kansan. It will be the first contingent of military musicians to reach France from the United States. This fine musical organization has always been a most important feature of the Commencement exercises and will be greatly missed this year.

On every hand dairymen and other producers of live stock and live stock products are asking how to get around the excessively high cost of feeds of all kinds. It seems to us that there is just one answer to this question, and that is to build a silo. If there ever was a time when all the crops grown should be preserved so as to be consumed with maximum results, it is the present. There is not a farmer in Kansas who cannot grow a silage crop of some kind. The sorghums are as well adapted to making silage as corn, and in the western part of our state pit silos can be made by those who cannot afford to put up a more expensive kind. It is a part of preparedness to make provision to feed all our stock as cheaply as possible next winter.

NEW BOARD NAMED

Dr. Wilbur N. Mason, president of Baker University; E. W. Hoch, former governor of Kansas, and Charles W. Greene, former mayor of Kansas City, Kansas, have been appointed as members of the new Board of Administration by Governor Capper. The governor of the state is an ex-officio member of this board. The law creating this board was passed at the last session of our legislature. It will have the largest responsibilities of any board ever named in the state. On July I it will take charge of the work done by the present Board of Administration, the Board of Control, and the Board of Corrections. All the educational, penal, and charitable institutions of the state will be under its supervision. The board will employ a business manager or purchasing agent for the various institutions.

Doctor Mason has been president of Baker University for the past six years and has become widely and favorably known as an educator. He holds degrees from a number of the leading universities of the country. Ex-Governor Hoch is one of the best known men in Kansas. He has lived in the state more than forty years, most of which time he has been editor and publisher of the Marion Record. He has twice been a member of the legislature and from 1905 to 1909 was governor of Kansas. He was appointed on the Board of Administration by Governor Hodges, and was reappointed by Governor Capper. He has thus served on this board from the time of its establishment until it has been superseded by the present board. Mr. Greene is one of the successful business men of Kansas City. He has always been active in promoting the best interests of the city and for several years was its mayor.

How to Make Prime Hay is the subject of a twenty-page bulletin just issued by the Emerson-Brantingham Company, of Rockport, Illinois. This bulletin is attractively illustrated and gives the most up-to-date methods of handling hay. One of the big problems of the farm in Kansas is to handle the successive crops of alfalfa. Haying on the Kansas alfalfa farm is an almost continuous performance. The work must proceed rapidly and large use must be made of modern labor-saving machinery. Prof. A. M. Ten Eyck, who is the author of this treatise on hay making, will be remembered for his work as head of the Agronomy Department of our Agricultural College for several years and as superintendent of the Fort Hays Branch Experiment Station. This bulletin will be sent to any farmer sufficiently interested to write for it.

GRADUATING CLASS BUYS BONDS

Instead of placing a class memorial on the campus as has been the practice for several years, the class graduating from the Kansas State Agricultural College next week has spent $300 in the purchase of Liberty Loan Bonds. This action was taken at a most enthusiastic class meeting and is substantial evidence of the patriotism of these young people who go out from this institution this year.

This bond purchase does not mean that the class will not have a permanent memorial. When normal conditions have been restored it is their purpose to sell the bonds and use the proceeds in purchasing some suitable memorial to be placed on the campus. Some sort of temporary memorial—possibly a bronze or copper plate—will be placed in Anderson Hall.

FINANCING THE CATTLEMAN

Logical Place to Procure Money for Handling Cattle is From Local Bank

By P. W. GOEBEL, President
American Bankers' Association

Before Annual Cattlemen's Meeting
Kansas Experiment Station



THESE HEIFER CALVES FED AT KANSAS EXPERIMENT STATION WINTER OF 1913-'14.—THE RATION WAS SILAGE AND STRAW AND A POUND DAILY PER HEAD OF COTTONSEED MEAL.—AFTER DEVELOPMENT AT FORT HAYS BRANCH STATION THEY BECAME DAMS OF STEERS FED THE PAST WINTER AT MANHATTAN

TO MY mind cattle raising is the greatest industry in the country and affords the best security on which to base paper if it is done rightly and by the right kind of eattlemen.

In order to make the financing of the eattlemen legitimate and successful, you must be able to analyze your operations the same as is done in any other line of business. In order to do that, you must get away from commission agencies in making loans. I am not objecting to the commission on buying and selling cattle, but it ought not to enter into the consideration of making a loan. A cattle loan ought to be made by people or banks who know the cattle business and whose capital is large enough so that they can carry the loan to the maturity of the stock and not merely to the maturity of the loan. There is no trouble about financing the cattleman who understands his business, who has a reasonable margin in his business, and who has demonstrated that he knows how to handle cattle. There is a great differenee in cattlemen. There are those who spring up over night. It is too complicated a business to go into in that way.

CONSIDERATIONS IN PLACING LOAN

The first thing the bank is going to consider in placing a loan is the question of honesty. The second is the question of ability to handle cattle so as to get the best results from every pound of feed that is put into them. The next will be consideration of the economy with which the applicant for credit conducts his business, and the last perhaps the amount of property he has outside of the stuff upon which the loan is to be based. You cannot expect to get the best rate of interest and have the assurance that the loan will be carried to the maturity of the stock rather than the maturity of the loan unless you can demonstrate that you are all right in the above mentioned particulars. The time has gone by when men who know nothing of the handling of cattle could be persuaded by commission men to go into the cattle business and depend upon the market next fall to pay. Once in a while that works, but more often it does not work.

Cattlemen are themselves responsible for some of their troubles.

Competition among buyers is not as keen as it is among you cattlemen when you come to buy your stockers and feeders. I believe in competition, but I do not believe in reckless or destructive competition.

I have been in the banking business for thirty-six years. I have made a specialty of loaning money to cattlemen and have loaned a good many million dollars to them, but I have never lost a dollar when I came in direct contact with the man using the money. I have loaned a lot through bankers and brokers. The amount lost where I took paper from local bankers that I knew personally has been small, so small as to be almost negligible. I have lost considerable money, however, on paper I took through brokerage firms, principally because this paper is usually of men who could not get security in their own home towns.

Loans to cattlemen should be made through the local bank or through a large central bank that is big enough to keep local inspectors in the territory in which they are loaning money. Cattle are the best security in the world. The Federal Reserve banks give special consideration to cattle paper. They are allowed to rediscount all agricultural paper on a six months basis. Commercial paper is restricted to three months.

INDUSTRY TOO MUCH IN SPOTS

The cattle industry of this state is carried on too much in spots. In nearly every township in the state there are a few men who are handling cattle. These men buy the stock produced in their local communities and feed it out. The business becomes to a certain extent speculative. What we need to make the cattle business a thorough sueeess is to have enough cattle on every quarter section to consume the feed raised there. It is also highly desirable that every man mature his cattle for market if possible. We should get out of the notion of selling the ealves and after a while we will get out of the notion of trying to buy ealves unless for breeding purposes. There should by all means be some community arrangement whereby the very best of sires could be used to produce the stock on the smaller farms. If this could be done there would be a marvelous improvement in the character of the stock in the course of ten or fifteen years. With every man handling a certain amount of cattle, it would be an easy matter for the local banks to handle the loans without outside help.

Cattle loans should not be made for more than six to nine months at a time because there are a good many things that can happen to a herd of cattle in that time. Money has been too easy on steers. This has made speculation possible. The cattleman figured that when he could get money for a lower rate of interest he could afford to bid higher on the cattle. Quite often he failed to take into consideration the fact that the difference in interest might not amount to more than fifty cents on the steer, whereas the increase in the price he was offering might amount to as much as six or seven dollars.

MORE ORDERLY MARKETING

Co-operation among men in growing cattle along the line of more orderly marketing must be taken into consideration to make the business more stable. I have always gone on the theory that the world consumes about so much food each month of the year and that about so much should be marketed each month. This would result in a more uniform price both for the producer and to the consumer. This reform in the marketing of stock should take place at its origin. This would be a restriction on the food speculator. When we have done this financing of the cattle, business will be easier and the interest rates lower. Interest rates have been almost too low. A rate of four per cent encourages speculation. The normal rate on commercial paper at the present time is five per cent.

I have been asked to state my opinion as to whether interest rates will be higher during the war. I see no reason why they should be. Of course they have been abnormally low, in fact too low because this permits speculation. I do not believe the rate will be much higher, because practically all of the Government loan must be spent in this country.

LOAN COMPANIES DANGEROUS

One of the worst things for the cattle industry and the financing of cattlemen is the large number of cattle loan companies that have sprung up in the last few years. Some of these with a capital of but $25,000 have floated three million in loans. When you make a cattle loan from such a company with but $25.000 capital, you must make up your mind that you will have to pay this note the day it is due. They are conducting the business of floating these enormous loans simply from the standpoint of the commissions they are able to make.

GET MONEY FROM LOCAL BANK

The logical place to get your cattle loan is at home where the people know you and know your business methods. If you are doing too large a business for the bank at home to handle the loan you wish to make, you should go direct to some large city bank with a plain statement of your business and the methods you are following. Do not go to the commission men. The only warning I would give would be to carefully avoid the danger of getting more money than you need.

There is scarcely a farmer in Kansas that cannot handle eight to twelve head of cattle in the feed lot or in the pasture and do well with them. There are quite a good many that can take care of a carload of cattle and do well with them. There are but few farmers, however, that can feed and handle twelve to fifteen carloads of cattle and make money. By this I mean that men who can borrow a hundred thousand to two hundred thousand dollars, put it into cattle, and make a profit, are mighty scarce. The average man is able to handle a small retail business. It is only exceptional men who have the requisite ability to carry on business on a wholesale scale. For this reason, as well as for others I have mentioned, we should get into the cattle business on the basis of smaller units. We must break up the big herds and produce our cattle in these smaller units because the great majority of men can only handle these smaller units and but few can handle the larger ones.

There has never been any serious trouble in handling the loans of cattlemen, and there will be none, but the business would be conducted much better if it were not so irregular. Too often cattlemen have jumped from one bank to another. It is my advise to select a good, reliable bank, and stay with it.

Cattle Feeding Experiment

DECEMBER 1, 1916, TO MAY 30, 1917.

	LOT 24	LOT 25	LOT 26	LOT 27	LOT 28	LOT 29
Initial weight	338.6 lbs.	342.1 lbs.	334.5 lbs.	334.7 lbs.	342.6 lbs.	338.6 lbs.
Final weight	719.9	682.4	688.3	684.8	698.8	600.7
Total gain	381.3	340.3	353.8	350.1	356.2	262.1
Average daily gain	2.12	1.89	1.96	1.94	1.97	1.45
Average daily ration:						
Grain	7.32	6.63	7.39	7.39	7.38	6.65
Oil meal	1.32	1.19	.49	.49	.49	.49
Hay	4.05	4.05	7.82	7.82	7.32	14.45
Silage	7.75	7.75	...	...	...	...
Cost of feed per day	$ .24	$ .202	$ .216	$ .216	$ .212	$ .18
Cost of 100 pounds gain	11.34	10.68	11.01	11.10	10.71	12.36
Cost of feed per steer	43.20	36.36	38.88	38.88	38.16	32.40
Initial cost of steer at $8.50	28.78	29.07	28.43	28.45	29.12	28.78
Total cost of steer	71.98	65.43	67.31	67.33	67.28	61.18
Final cost per cwt.	10.01	9.59	9.77	9.83	9.62	10.18
Final value per cwt.	10.20	10.35	10.25	10.35	10.50	9.60
Final value of steer	73.43	70.63	70.55	70.88	73.37	57.67
Profit per steer	1.45	5.20	3.24	3.55	6.09	—3.51

Lot 24 was fed a ration of ground barley, oil meal, alfalfa hay (brown), and silage.
Lot 25 was fed a ration of shelled corn, oil meal, alfalfa hay (brown), and silage.
Lot 26 was fed a ration of shelled corn, oil meal, and alfalfa hay (good color).
Lot 27 was fed a ration of shelled corn, oil meal, and alfalfa hay (brown).
Lot 28 was fed a ration of shelled corn, oil meal, and sweet clover hay.
Lot 29 was fed a ration of shelled corn, oil meal, and alfalfa (black).

Fourteen steers in each lot. They were fed 180 days. Alfalfa hay used in Lots 24, 25 and 27 was brown (stack burnt) and medium coarse; that used in Lot 26 was of good color, same quality otherwise. Sweet clover hay used in Lot 28 was the first year's growth, very fine quality and excellent color. Black alfalfa used in Lot 29 was stacked immediately after cutting without being cured. Cottonseed meal used the first three months, linseed meal used the last three months.

Prices used for feeds: Corn, $1.12 per bushel; barley, $1.06 per bushel; alfalfa hay, $15 per ton; sweet clover hay, $15 per ton; black alfalfa, $5 per ton; silage, $5 per ton; linseed and cottonseed meal, $45 per ton.

Says a motor traffic magistrate: "Automobiles are ferocious animals." Bet he caught his judicial finger between the chain and the sprocket teeth, and forthwith imagined the darn thing had bitten him.—American Motorist.

Time spent in destroying flies or their breeding places is well spent.

Avoid Misuse of Resources

WASTE, if not a sin, is not far out of that class. And waste is not only the wanton destruction of property, the dissipation of money, the impairment of values—these are dictionary definitions—but in its broadest sense, waste is misdirected energy, misuse of resources and absence of common sense.

Common sense is the greatest gift of the human race and, as such, bears a direct relation to waste, perhaps its greatest curse. When common sense ceases, waste begins.

If ever a time existed when a country should avoid the sin of waste, of misdirected energy, of misuse of resources, and should use common sense, that time now has arrived in our country. We have the energy—let us see that it is not misdirected; we have the resources—let us see that they are not misused; we have the common sense—let us see that it is our guide. We of the business world have work to do as great in its effect on the safety and welfare of the present and future generations as that of our army and navy, whatever they may be called upon to do. Their conduct will be governed largely by events of the future. Our course lies clearly before us now.

During the last two years our country has been the supply house of the world. It has had more business than it could take care of. Labor has been insufficient and inefficient, car supply inadequate, materials scarce, railroads congested. As a result, factories have been unable to turn out their products in quantities to meet the demand. This condition still exists and likely will continue for some time to come—at least until war ceases and the commerce of the world is able to return to a normal basis.

Solution of the problem lies in the elimination of waste, direct and indirect. Surely our people in this time of stress will avoid direct waste—destruction, dissipation, impairment. But they must go further and substitute common sense for indirect waste—misdirected energy and misuse of resources. Everything we do, everything we produce—our labor, our materials and the means of transporting them—must be directed along productive lines.

What are productive lines? It is easy at this critical time to determine the relative importance of a canning factory preparing food, and a piano factory. One is a necessity, the other a luxury. If there is a shortage of labor and materials in a certain town and two factories—one for the preparation of food and the other for the manufacture of a luxury—want to build additions, into which should the available supply of labor and materials go?

Each business man in his own community can direct his own and the energy and resources of others along productive lines. It is certain that in this country this year there will not be enough labor and materials to supply the demand. Therefore, each must be diverted into proper channels that will permit of the prosecution of work that for the national welfare must be done, while that which is unnecessary at this critical time in our affairs should be delayed. There is need for team work and the display of common sense on the part of all of us.

Government needs, of course, come first—particularly those of a national defense character. These include the building of fortifications, the manufacture of munitions in both raw and completed states, the growth and preparation of foodstuffs and in general everything that the federal government requires to continue its existence in a time of peril.

After urgent needs of the government, both direct and indirect, it is necessary in carrying on our work only to differentiate between necessities and luxuries. The latter to a large extent include comforts as well—and practically everything that is not properly classed as a luxury or a comfort is a necessity at this time. It is easy when the supply of labor, materials and cars is not enough to go round, to recognize the importance of providing facilities for turning out and transporting farm products, food stuffs, clothing, motor trucks, cement, steel, paper, etc., rather than flowers, jewelry, musical instruments, etc.

Let us see to it that our energies, in the form of labor, and our resources, in the form of materials and the railroad facilities used to transport them, are diverted into the right channels. Proper selection of these channels may be left to our common sense.—B. F. AFFLECK, President Universal Portland Cement Co.

Drainage Increases Production

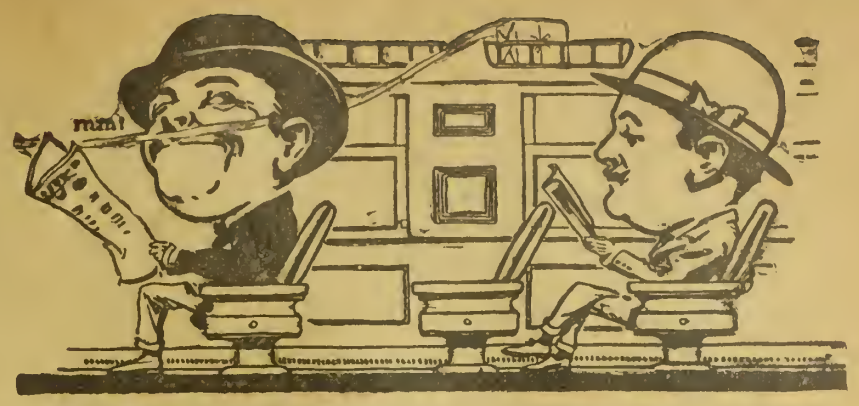
On practically every farm in Eastern Kansas there is some land that needs drainage. On many of these farms these patches of poorly drained land are of almost no value for production purposes. These idle acres reduce the average production of the whole farm. It takes more time and labor to farm around them than would be required to cultivate them. At tax-paying time the undrained acre must be paid for at the same rate as the productive acre. It is the opinion of the writer that no greater value could come from any one source than from properly tile-draining a farm. Money invested in tiling properly laid is sure to return good dividends.

There are a number of well established facts with reference to the advantages of draining that might well be considered. Properly drained land will produce better yields both in wet and in dry seasons. Frequently the soil of poorly drained land becomes hard and bakes. As a result of proper drainage the character of such soil may be so changed through the removal of the surplus water and aeration as to become highly productive. Soggy, seepy lands upon which crops cannot be grown at all can be brought into a high state of cultivation by tiling. Tile drainage will pay not only on bottom lands but also on the uplands. No investment made will bring a higher rate of interest or more certain returns than money put into tiling where needed.

Tile draining the wet land increases the value of the entire farm. The land owner need not have a large amount of cash in order to make this improvement in his farm. Money invested in tiling becomes productive capital and as a rule there will be little difficulty in financing a drainage project. The success of such improvements depends to a very large extent upon proper planning. Guesswork will not produce satisfactory results. An engineer who understands planning and constructing a system of farm drainage should be consulted. Each farm is a problem in itself and the wise course for the land owner to take is to secure the practical assistance of a man who knows how to handle the situation.

One of the drawbacks to drainage work has been that land owners generally are not willing to pay the engineer for his knowledge and experience. Many are inclined to follow their own judgment in planning their work, and trust entirely too much to luck. Tile that has been laid by such methods is far from satisfactory, and the verdict goes out that tiling is a failure.

When we wish safe advice in the matter of law, we consult a lawyer, but when in need of advice in an engineering matter such as laying out a drainage system, the man who has lived upon a piece of land for a good many years too frequently considers his personal observations to be all that is necessary in laying out the work. Laying out drainage systems is a matter of careful calculation and each case is different. In planning for suitable drainage, the experienced engineer takes into consideration rainfall, the character of the soil, the slope of the land, extremes of temperature, and many other things that the land owner overlooks entirely. All of these are essential to the best results. It has taken the engineer years of study and hard work to acquire his professional knowledge, and when the land owner is willing to pay a reasonable amount for his services both will be profited. The drainage systems put in under proper supervision will work and the result will be better production of crops and a reduction in the erosion which is carrying away the cream of our soil.—V. R. PARKHURST, Shawnee Co.



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"Your Nose Knows"

Fragrance is the essence of coffee. It's the *fragrance* that makes it appeal to you. It's the *pure fragrance* of a good tobacco, likewise, which guarantees a personal smoke satisfaction. Your sense of *fragrance* is a sure guide. Trust it—"Your Nose Knows."

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Help Conserve the Nation's Food Stuffs

Kinds of Sweet Clover

Two kinds of sweet clover are commonly grown—the white and the yellow. The white is considered to have the greatest value both for hay and pasture. It grows larger than the yellow and is more leafy. The seed of the white sweet clover is of a bright olive green color and about the same size as alfalfa seed. The seed of the yellow sweet clover is much the same size, shape and color, except that under the microscope it has a mottled appearance not unlike a turkey egg.

Many country merchants complain that they handle eggs at a loss during the summer months. If they will refuse to buy any but infertile eggs, this loss need not occur. Of course they will occasionally be imposed on, but the great majority of farmers are honest and would not claim their eggs were infertile when they were not.



Stretch of Concrete on the Ohio River Road near Parkersburg, W. Va. Built in 1915 under the direction of Burdett Woodyard, Engineer.

The Farmer Can Pull Himself Out of the Mud

FARMERS know the value of permanent roads in their communities. They can get them if they act along the following definite lines:

1. All main highways should be built of concrete to withstand motor car traffic.

2. It is far better to lay out and build at once a system of concrete roads than to build a few scattered miles every year between stretches of mud.

3. It is better to raise a lot of money by a good roads bond issue and build right, than to spend each year the road funds on hand in temporary construction.

4. Concrete is as desirable for roads as for other important structures; and it is the least expensive permanent road material.

Some farmers may not like a bond issue. They do not realize that a very few cents a year per acre is enough to pay off the bonds and all interest.

In Illinois it has been figured out by the State Highway Commissioners that a system of four thousand miles of permanent roads would tax farm land less than three cents per acre per year for twenty years. That's nothing. The whole four thousand miles can be built at once and make a tremendous saving in annual upkeep.

The farmer should act. He can spread information among his neighbors, he can talk to his road officials, influence his lawmakers to pass a good roads bond issue; and he can vote for it.

This Association can give you reliable information about the cost of building concrete roads and how to go about it. Write for Bulletin No. 136.

PORTLAND CEMENT ASSOCIATION

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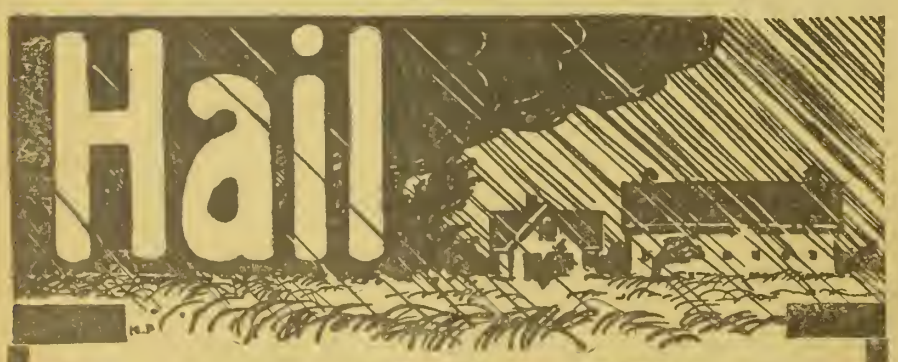
CONCRETE FOR PERMANENCE



ARE YOUR CROPS PROTECTED?

You know the deadly work of hail. Within a few hours all your crops can be destroyed. Your income is gone. Your labor is wasted.

What a sense of security you have when your crops are protected against hail in a safe and conservative company. Don't risk another day, but insure now in a company whose officers are bonded to the State of Kansas for $50,000.

THIS IS THE COMPANY

that first put the insurance in force from the moment the application was signed and the premium paid. Always has adjusted all losses, no matter how small. We ask for your application on our past record. Don't wait for the storm, but write us for full particulars or see our agent before you insure your grain.

THE GRAIN GROWERS HAIL INSURANCE COMPANY

Elmer F. Bagley, Secretary, Topeka, Kansas.

Kansas Farmer Dairy Club

Clean Milk in Summer

YOU cannot call yourself a successful dairyman until you have learned how to produce clean milk. Dirty milk is not fit for human food. No one likes to drink milk in which particles of dirt are found in the bottom of the glass. Dirty milk always sours more quickly and it quite often has other bad flavors. These bad flavors and the souring are caused by bacteria, which are tiny organisms too small to see with the naked eye. They are everywhere present. Every particle of dirt has upon it large numbers of these tiny organisms.

Most of the bacteria which gets into the milk come from dirt on the cow which gets in while you are milking. Bacteria also get into the milk from the utensils, such as cans, pails, strainers, coolers, and separators which have not been properly cleaned. In the winter when your cows get very dirty from confinement in the barn it is very difficult to keep dirt from getting into the milk while you are milking. In the summer, however, they are on pasture and are easily kept clean, so you will not have much trouble from dirt on the cows. During the summer, however, you will have a great deal more trouble from bacteria getting into the milk because of dirty utensils.

Trained bacteriologists have learned how to count the bacteria. A bacteriologist is a man or woman who has spent a great deal of time studying these tiny organisms with a microscope. In a count of bacteria recently made from some of the rinsing water left in an eight-gallon can which had been washed twelve hours before, more than three billion bacteria were found. If eight gallons of milk had been placed in this can there would have been enough bacteria when they were all mixed through the milk so that nearly one hundred thousand would have been found in a cubic centimeter. A centimeter is about two-fifths of an inch, and a cubic centimeter represents the quantity of milk that would be contained in a little square box that measures two-fifths of an inch each way. This can had been carefully rinsed and left covered in a room where the temperature was about 70 degrees Fahrenheit. In another experiment made during the winter when the temperature was less than 50 degrees in the room where the can was left, the rinse water in a can treated in the same way contained about three million bacteria. This would have meant that every cubic centimeter of milk in the can would have had about one hundred bacteria. Another can was carefully rinsed, then heated on the inside with steam, and set right side up with the cover off until dry. The bacteriologist found only two houndred thousand bacteria in this can. This number would have been enough so that each cubic centimeter of milk in the can would have contained but seven.

This sort of an experiment shows that in caring for dairy utensils, especially in warm weather, it is very important to have them dried thoroughly after cleaning. Bacteria cannot live without food, and their food in a milk can or pail consists of particles of the milk sticking to the tin or in the cracks and crevices of the can or pail. Careful cleaning removes all this food and then if steam is turned into the can it will kill a good many of the bacteria and will make the can or pail so hot that it will dry quickly. Treated in this way there will be practically no more bacteria in the can twelve hours after it is washed than five minutes after.

Dairy utensils should never be dried with a cloth. The right way is to heat them after they are washed clean in very hot water or steam, so they will dry themselves. The important points in keeping dairy utensils clean are to rinse them in lukewarm water as soon after they are used as possible, next wash in hot water containing some washing powder which will remove grease. Then rinse in clean, hot water, and if possible turn a jet of live steam into the can or pail for a few seconds. Carefully drain any surplus moisture and set the utensils right side up until all the moisture evaporates and they are thoroughly dry. They can then be turned unside down and set on a shelf or other clean place.

In this issue there is an article about a home-made sterilizer for steaming the milk pails and cans after they have been washed. This is an inexpensive device and can easily be made by a tinner. It can be used on the kitchen stove or on a gasoline or oil stove. Be sure to read this article. You can get a copy of Farmers' Bulletin 748, which tells all about how to make this sterilizer, by writing to the Department of Agriculture, Washington, D. C.

Cooling milk or cream quickly and keeping it cool is another important point and in another article we will tell how to do this on the farm and why it is necessary.

Cow Pays Out

My cow did pretty well this month, although she did not have any feed but pasture.

I have only fifty-one cents left to pay, including calf money, which of course does not count on the contest.

Please send me two milk record cards and one feed card, as I did not have enough.—EVERETT ZIRKLE, Shawnee Co.

Another Closes Record

The end of May finishes my year in the Dairy Club. I have $9.44 yet to pay on my cow, counting interest. I can pay the rest in a month and a half. I will send my note showing the payments I have made then.

How soon do you want the story of my work in the Dairy Club?—CARY BURTON, Butler County.

Writing a story of the year's work is a part of the contest and we will soon furnish all club members with some suggestions that will help them in doing this. We are looking forward to a fine lot of stories from the boys and girls who compete in the year's work.

Club Member in Tornado

My cow is dry now and the records I send this month will be the last ones. I have paid my note for the cow, which was $107.50, and the interest, $5.39. The milk I sold from my cow amounted to $85 and her calf brought $10, making $95. I earned the rest.

I am glad to say my cow came safely through the terrible storm we had here, although two of our cows were killed, all of our outbuildings were destroyed, and our house was badly damaged. But we are thankful that we are all alive. My records will not be very neat because I have had scarcely time to make them out.

I expect to join the Advanced Dairy Club if I can find a cow. Good cows are very scarce. I wish all Dairy Club members success.—MAX HOLLISTER, Harvey County.

It is not necessary to get another cow to enter the advanced class of the Dairy Club. You can use the cow you now have, simply starting another year's record some time before October 1. Of course if the first year's records show that the cow is not very profitable, it would be good business to dispose of her and get a better one. Some have already sold the cow used in the first year's work because they have learned from their records that she was not good enough to keep longer.

A milk condensery will be operating in Garnett, Kansas, by August 1. A building is being erected 30 x 88 feet, 16 feet high, constructed of brick and concrete. It is being built by the Crescent Creamery Company of Kansas City. The plant will have a daily capacity of 25,000 pounds of milk, the investment to be $15,000. As a result of this condensery being put in at Garnett there has been a great deal of interest taken in developing dairy farming for that section. A good many dairy cows have been brought in during the past few months.

HOME-MADE STERILIZER

DURING the summer season it is very important to thoroughly sterilize all utensils used for milk. A great many people cannot afford to have a specially equipped milk house or milk room. The dairy division of the United States Department of Agriculture has worked out plans for making a very efficient home-made steam sterilizer. We described and illustrated this sterilizer last year, but for the benefit of many who may have overlooked it at that time, and also for the many new subscribers, we reproduce the illustration in this issue.

The federal department has just announced that it will demonstrate the use of this sterilizer in various parts of the United States this season. More than twenty of the outfits have been prepared for this work and already the health authorities in 150 cities have asked the department to send these outfits for local demonstration.

The outfits, which cost not over $15 and can be made by any local tinsmith, when placed on a range or a two-burner oil stove, generate steam enough to kill the bacteria in milk cans, pails, strainer cloths, and separator parts. At the same time the device removes foul odors, leaves the utensils dry as well as sterilized, and adds materially to their life. The sterilization of milk utensils is of importance to the dairyman who wishes to produce a good-flavored milk which will not sour readily. This is shown by the fact that milk cans, washed in the ordinary way, may harbor billions of bacteria, and milk contained in these cans is sure to have a high bacterial count, which tends to affect not only its keeping quality but its flavor as well. Other experiments show conclusively that milk which starts in sterilized utensils has a much better chance of reaching market in good condition than milk which has been handled in utensils that simply have been washed in the ordinary way.

The effectiveness of this home-made sterilizer has been fully proved both in the laboratory and on the farm. In one experiment ten gallons of fresh milk were divided into two parts. Five gallons passed through a separator into a five-gallon can, both utensils washed in the ordinary way, showed at the end of an hour 1,880,000 bacteria per cubic centimeter. The other five gallons, passed through a separator into a can, after both utensils had been washed and sterilized by means of the home-made sterilizer, showed only 24,000 bacteria per cubic centimeter.

The making of this sterilizer is fully described in Farmers' Bulletin No. 748 which can be obtained on application to the Department of Agriculture, Washington, D. C.

Bull Associations

Seventy-six dollars represents the average dairyman's investment in bulls. This is the statement made by dairy investigators in the Federal Department of Agriculture. Two-thirds of this money can readily be saved and better bulls obtained by joining a bull association. Through this co-operative organization dairymen can save money, make their enterprise more efficient, and obtain better-bred cows, capable of producing more milk. In this way community breeding is established, constructive breeding is encouraged, bulls are used to their full capacity, good bulls are kept and used as long as fit for service, and contagious disease is successfully controlled.

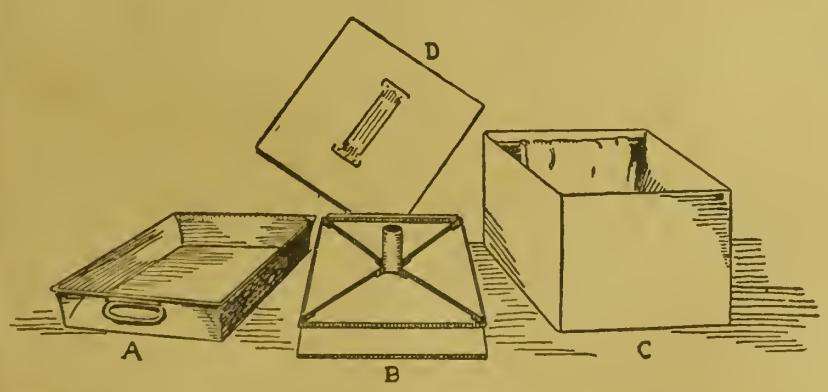
The typical co-operative bull association, composed of from ten to fifty farmers, jointly owns five bulls, divides its territory into five blocks, and assigns a bull to each block. From thirty to eighty cows are owned by the farmers in each block and the bull is kept on some farm conveniently situated. Thus a co-operative bull association is an organization of farmers for the joint ownership, use, and exchange of high-class, pure-bred bulls. In addition, it stimulates the careful selection of cows and calves, introduces better methods of feeding, helps its members market dairy stock, and in other ways assists in lifting the dairy business to a higher level.

A bull association reduces the number of bulls to the minimum, because one bull serves several small herds. This means that for the same or less money much better bulls can be owned, and as the number is smaller the cost of "keep" is consequently reduced. The original investment per member in bulls under this plan ranges from $20 to $90, covering a period of ten years. Good, pure-bred bulls, therefore, are brought within the reach of any farmer, no matter how small his herd. In fact, it is less expensive than to own a scrub bull.

While few farmers can afford a $1,000 bull, every farmer can own a share in one. Such a bull, wisely used, will pay for himself several times over in the first generation of his offspring. In fact, the first seven daughters of one association bull showed an average butterfat production of 116 pounds more than their dams. At the price of 30 cents a pound for butterfat, the seven daughters of Bull No. 1 will earn in four years' time $500 more than their dams. It is only when the lifetime production records of all his daughters are computed and compared with those of their dams that the full value of a pure-bred bull's services to one generation can be known. In addition, his influence on the herd will be noticeable for many generations. This illustrates the great value of a good bull. The damage done by an inferior bull may be equally great. No other argument should be necessary to convince every owner of dairy cows that he ought to join a bull association.

Cattle breeding is especially adapted to co-operative effort, and its greatest development will come through community breeding. A bull association encourages the keeping of only one breed of cattle on the farms of its members, and the establishment of that breed in the community. Breeders will realize that buyers visit districts where large numbers of the type of cattle they seek can be found.

When the association is composed of five or six breeding blocks, all its good bulls are used to their full capacity and kept as long as fit for service. Advancing the bull to the next block at the end of two years does not eliminate him, but makes it possible to avoid inbreeding.



PARTS of home-made sterilizer. A, Roasting pan; B, Insulated cover, consisting of sheet of asbestos board between sheets of galvanized iron (is fitted with steam pipe 1½ inches in diameter and top has flanges to raise cans and upturned edges to catch condensed steam); C, Galvanized iron bottomless box; D, Cover to box. This is placed over steam pipe and used to scald strainer cloths. To use sterilizer, place over fire with about an inch of water in pan and fit lid. When steam is escaping, invert pails or cans over pipe and leave for five minutes.



Turn That Manure Crop Into Gold—Cash at Harvest Time—Farm Products Will Be Just as High This Fall!

Right now—this summer—is the time to top dress your crops. Get that big manure pile out on the land where every load spread means many more dollars for you in the great fall harvest. Spread your manure crop on your next year's corn land. Put a golden manure dressing over your winter wheat. Cover your valuable oats and make them still more valuable. Every pile of manure is in reality a pile of gold. Farm products are going higher and higher in price. The bigger and better your crop—the bigger and better your profits.

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Get My Low Patriotic Price!

This of all times is the time to use a spreader. A top dressing now means bigger crops this fall when prices will be higher than ever. And then all farm products will be at a premium. The men and the women on the farm must do their share for the nation. I am doing mine by naming you a low Patriotic Price that will help you in doing your bit for the country. It means

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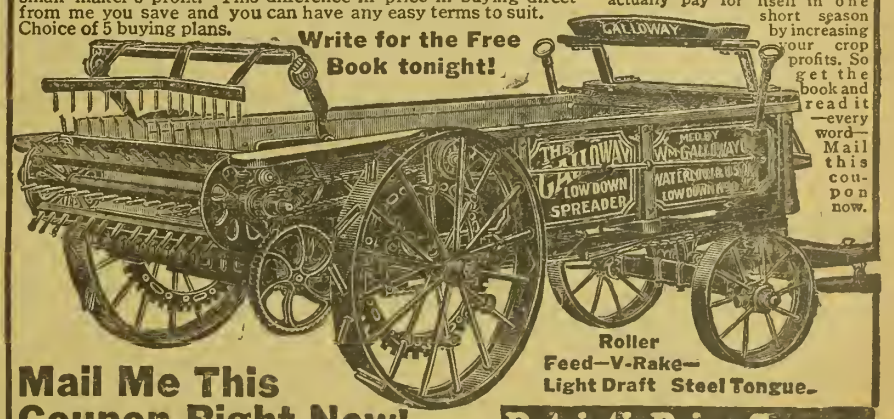

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WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER



Destroying Field Bindweed

WE HAVE just received a sample of weed from S. K., Nemaha County. He says: "I have three patches in one of my fields and would kindly ask you to give me the name and tell me how to kill them, if you know of any way. They look a good deal like morning glory, but are finer, very thick, and have deep white roots. Can raise good wheat there, but they smother out corn. Have plowed them deep three times one fall without effect on them. Last fall after harvest I plowed them and put salt in every furrow quite thick, but it does not seem to have hurt them much. I put a straw stack on one patch and last summer some of them came up through four feet of straw.

"I would be very thankful to you if you would tell me of some way to get rid of them."

This weed is known as the field bindweed. In a circular on this weed prepared by Prof. H. F. Roberts, of the Kansas Experiment Station, it is stated that it is the worst weed in the temperate zone and the one most difficult to eradicate. Its roots penetrate the ground to a depth of from four to ten feet and form a dense network through the soil, far below the reach of any plow. Shoots of the hindweed come to the surface which start from roots lying as deep as two feet below the surface. It is this enormous root system, drawing as it does large quantities of water from the soil, that makes it almost impossible to raise crops on bindweed land. It is also impossible to prevent the growth and spread of the roots so long as any green tops are left growing above the ground.

When left to itself this weed spreads very rapidly—as much as ten feet in a season. Unless very radical and prompt measures are adopted for its eradication it is only a question of time before it will take an entire field.

Attempts have been made to eradicate it by cropping systems combined with clean cultivation. It was found that the weed would even smother out a thick stand of cane. If the plants could be kept cut off continuously below the surface of the ground it probably could be eradicated in the course of time. From a practical standpoint, however, this method is almost impossible to carry out. Another method suggested is to keep a drove of hogs closely confined to the bindweed land. This likewise is not always practical.

Applications of large quantities of salt seem to be the only sure method of destroying it. In the experiments at the Dodge City branch experiment station when the weed was treated with five tons of salt to the acre, five per cent of the plants survived. Where the salt was applied at the rate of ten tons to the acre, only one per cent of the bindweed plants remained. An application of fifteen tons of salt to the acre destroyed the roots of all the plants to a depth of eighteen acres. The cost of the salt used here was four dollars a ton delivered. It came from Hutchinson.

Martin G. Miller, a farmer near Russell, Kansas, has had some experience with this weed. It got started on his farms and was rapidly becoming a serious menace. He wrote as follows to J. C. Mohler, Secretary of the State Board of Agriculture:

"We tried various methods of eradication. Throughout one summer we plowed the patches regularly, but the more we plowed the thicker the weeds grew. Rotation with cultivated crops likewise failed. Plowing through the patches only spread this noxious plant. Hogs pastured on the hindweed removed the surface vegetation and pulled out some of the roots, but the following spring the bindweeds appeared again and flourished in increasing numbers. Sheep also were of no value in killing this weed.

"In the fall of 1911 we bought two carloads of salt and spread it on land affected with bindweed, as an experiment. The results proved so satisfactory that during the past three years we have scattered about 1,500 tons of salt on bindweed patches. The salt used for this purpose is called 'Crushed Rock Salt No. 4.' It was shipped from Kanopolis, Kansas, and is now quoted at $2 per ton f.o.b. Kanopolis.

"The following methods were used: During the summer when the weeds were visible we located the extreme limits of the patches, marking them with a plowed furrow. Early the following spring the surface of the ground was cleared of all grass and weeds, and salt was applied by broadcasting directly from the wagon with flat shovels. Wheat drills do not completely cover the ground, and manure spreaders are not properly built for the handling of fine salt. The salt was applied at the rate of twenty-three tons per acre, making a uniform layer over the entire area of at least three-eighths of an inch in thickness. Some seem to think that a smaller amount of salt is adequate, but I have realized from experience that it pays to put on a sufficient amount the first time and avoid repetition of the operation. I prefer to allow the salt to remain undisturbed on the ground until the third year. I then fertilize and plow deeply.

"The number of years required for salted ground to return to a productive condition depends upon the amount of salt used, the amount of moisture received, the artificial means used to restore it (such as fertilizers), and the method of cultivation. The ground salted in 1911 grew a fair crop of wheat in 1915, and a good crop in 1916. To me the question of how many years before the ground will return to its former condition is of minor importance, for ground covered with bindweeds is wholly worthless, and the danger of the spreading hindweeds permanently ruining the surrounding land is so great that it is necessary to adopt drastic measures.

"To the man who is at present unable to salt all the bindweeds on his farm, I have this suggestion to make: That he purchase enough salt to cover a strip about ten feet wide around the extreme edge of each patch, so that the roots of the pest cannot spread over more land. The patch inside the circle should then be plowed regularly so that the flowers cannot mature and the vines develop seeds. This will act as a check to the weed, but the ultimate purpose should be to use salt over the entire patch."

Kafir Seed Bed Preparation

There may be some of our readers who will of necessity be compelled to plant grain sorghums as late as the latter part of June. For such the methods practiced by a KANSAS FARMER reader in Chase County will be of interest. He states that his experience with a field of kafir last year leads him to believe that a good deal can be done toward growing a crop before it is planted. He says:

"We got the ground ready for planting this field of kafir by plowing and harrowing. Before we could plant it there came a very heavy rain that beat the ground down hard. As soon as we could get on the field we disked and harrowed it. Just as we were about ready to plant we had another hard downpour. We again disked and harrowed and the greater part of the land got a third cultivation with the disk and harrow before we got it planted late in June. The crop was killed by frost September 29, before it was quite mature. One of my neighbors, who is a very practical farmer, said, 'It never stopped growing.'"



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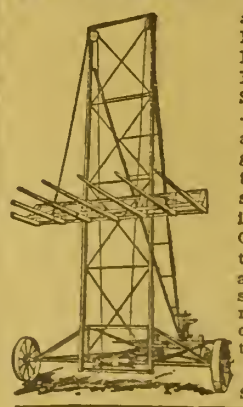

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WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

The Government rainfall record for this section is kept on this farm. The monthly precipitation for the spring months up to the time the crop was planted was as follows: April 3.44 inches, May 6.88 inches, June 7.62 inches. After the kafir was planted there were two light rains in June amounting to .89 of an inch. In July but .07 inch of rain fell. During August the total for the month was 3.75 inches. On the second day of August 2.02 inches fell in a very short time. Considerably less rain falling more slowly would have done a great deal more good than did this downpour. In September up to the time of the frost September 29, 1.94 inches of rain fell. The total rainfall on this kafir from planting time until the frost struck it was only 6.65 inches.

In ordinary seasons it would have fully matured. Our correspondent states that ten days of good growing weather would have matured the crop. The average date for the first killing frost in this section is October 15. This is the average for a long period and we can ordinarily count on having until about the middle of October to mature a grain sorghum crop.

The careful tillage which this field received following the heavy rains of the spring probably saved much of the moisture so the crop was able to draw on it during the period of short rainfall and thus continue its rapid growth. This tillage also favored the development of plenty of abailable plant food, which also tended to force rapid growth. Those who plant kafir late can well afford to take a few days' extra time to get the seed bed in the best possible condition.

Farmers and Liberty Loan

One aspect of the Liberty Loan of 1917 that the farmers of America may well consider is that a very great portion of the money raised by the bond issue will come directly into the pockets of the farmers of the nation.

All of the money advanced to our allies will be expended in the United States and as they are making all of their own munitions practically all of the money advanced them will be spent for products of the farms—for cotton and clothing and high explosives, wool for clothing, and leather for shoes; but by far the greater part of the money loaned our allies will be expended here for food products.

In a few months the United States will have under arms 1,200,000 men and 500,000 reserves in training; so including the navy there will be 2,000,000 men that our Government will feed and clothe. This will make the United States Government by far the largest single customer the farmers of America have.

The Secretary of the Treasury is employing such methods in handling the loan that no community will be denuded of money by reason of Liberty Loan Bond purchases. The money will be left in local banks and as the Government purchases food and supplies the money raised by the bond issue will pass back into the pockets of the people.

The farmers of the country should subscribe liberally to the Liberty Loan Bonds. They get the safest investment in the world and their money supplies their best customer the funds to purchase their products. This is political economy the wisdom of which is plain to everyone.

English Air Fighter's Story

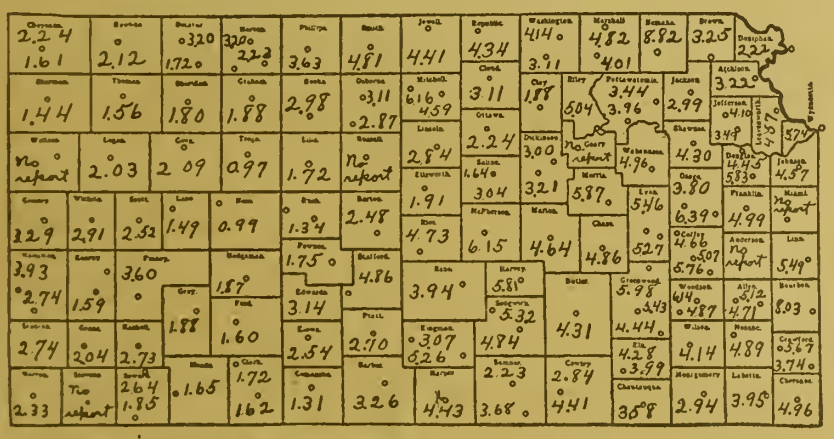
I was ordered to report at Farnborough, England, on the morning of November 16, 1914, ready to start for France. Fourteen pilots reported at 8 A. M. Eight machines were ready to go across the channel and eight of us were assigned to these machines. Luckily I was one of the eight. The others went across by boat, to take machines to be supplied later. An observer was also assigned to each of the machines.

Like all fighting planes in the British army, it was equipped with a Lewis machine gun, the invention of Major Lewis, of the United States army. Also, like all British planes, it had the simple "stick" control, which is the least complicated to operate. The rudder steered with a bar at my feet and the elevators and the ailerons were controlled by the single perpendicular stick. The machine gun on this plane operates through the hub of the propeller. It was in a fixed position and I aimed the gun by aiming the entire machine. The observer in front of me operated the gun and at either side of the observer's seat was strapped a telescope through which he could examine the ground beneath us.

Before leaving the ground the observer and I both strapped ourselves in our seats. This is one of the strictest rules of the air service. Sometimes, though, it is not observed. On one occasion at the front an observer failed to strap himself into his seat before leaving the ground. The plane was of the old pusher type and in conflict under gunfire over an enemy battery the pilot found it necessary to turn a quick loop to get away from his opponent. After looping he flew back towards his station and had gone a consirerable distance before he noticed that the observer was missing. He had been dropped out at a height of many thousand feet.—The American Boy.

Rainfall Over Kansas, for May

Reports Furnished by S. D. Flora, Meteorologist, Weather Bureau, Topeka.



THE rainfall of May was slightly below normal over about two-thirds of Kansas, but by the close of the month it was sufficient for present needs in all parts and a great deal more than was needed in some parts. There was less drying wind than usual and this and the lack of sunshine kept the ground too wet for cultivation and planting a great deal of the month.

Crops, especially wheat and grasses, made a fine growth despite their need of sunshine and warmth. At the close of the month wheat was heading in the eastern part and doing fairly well in the western. The greater part of the corn crop was up and making slow growth, but still had a good color.



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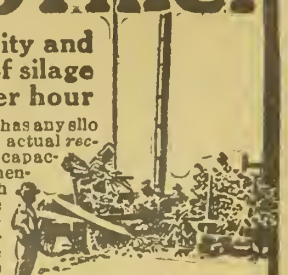

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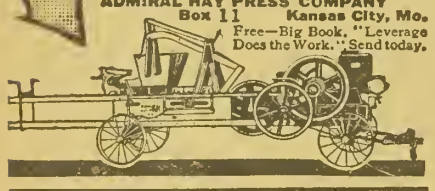

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Shed For Handling Sheep

ONE of our readers in Allen County asks for a plan for a cheap house or shed and feed lots in which to feed grain and hay to a hundred ewes and their lambs during stormy weather.

We asked A. M. Paterson, of the Agricultural College, who is a recognized authority on sheep, to offer some suggestions along the line of the inquiry from our correspondent. He says:

"I would suggest economy of construction as the first item to be considered in planning for the housing of these hundred ewes. For a location, select a rather high place having good drainage and a southern slope if possible.

"The house or shed should be built so as to give plenty of ventilation and light. Allow about twelve to fifteen square feet of space for each ewe and lamb. It is necessary to provide for the storage of feed. I do not think it advisable to build a two-story structure because all the feed necessary can be stored at one end. The barn should be arranged so you can drive through with a team to clean out the litter and manure.

"Permanent partitions are not necessary. When a division of the flock is to be made, temporary partitions can be formed with the feed bunks. I do not believe it is necessary in this state to plan to do all of the feeding inside. I think it is a great deal better to feed the sheep out in the open except when the weather is very bad and stormy. If any of your readers will furnish me specific ideas as to what they want, I will be glad to draw rough plans for them."

Increasing Supply of Meat

It is oftentimes much easier to mak some changes in methods that will sav. losses than to increase production by farming more acres or feeding additional stock. In a recent public statement F. B. Mumford, dean of the Missouri College of Agriculture, called attention to the enormous apparent waste of corn stover and in some districts straw and other coarse fodder. Millions of acres of corn stover are permitted to stand in the field without any attempt to preserve it in palatable form. If this material could be preserved and used for production of meat on the farms, it would add largely to the present supply without largely increasing the cost of our present farm system.

Corn stover is a coarse roughage. It will, however, maintain animals in good condition during the winter season. The amount of corn stover that is now practically wasted in the stalk fields of the Middle West would successfully maintain in a satisfactory manner millions of cattle during the five months' winter feeding period. This material is the one greatest asset in increasing the supply of meat products.

In using the cheaper materials for the production of live stock it will be necessary to modify somewhat our present systems of farming. It will also be necessary for us to emphasize the fact that the farmer's problem is not always to provide the most satisfactory conditions for animals, but a more fundamental problem is how to most profitably use all of the material resulting from the cultivation of the soil. If we consider his problem from this point of view, it may well happen that the most profitable methods of live stock production may not be those which produce maximum growth of fat in a given period, but rather methods of production which will utilize the cheap, coarse products of the farm.

Save the Ewe Lambs

Save every ewe lamb possible for breeding, is the urgent message the Department of Agriculture is sending to sheep owners. Market for slaughter only those being absolutely worthless for breeding stock. There is a strong demand among farmers for breeding stock and owners of ewe lambs should have no trouble finding a breeding market for them through county agents or the state agricultural colleges. Although prices for breeding stock are now high, those who start production of wool and mutton on a moderate scale will have no cause to regret purchasing breeding stock even at present figures.

Breed to Good Stallion

A low stallion fee is too often the deciding factor with many mare owners in the selection of a sire. A low service fee ought never to be a temptation but rather should be taken as a warning. A low fee is usually a sign of an inferior stallion. Colts from inferior or scrub sires will sell for much less than those sired by the sound, pure-bred stallion. This fact is well illustrated by facts given in a leaflet issued by the Wisconsin Live Stock Breeders' Association.

In this leaflet it is stated that a certain farmer had for several years been breeding his mares to a grade stallion. He finally decided to patronize a pure-bred. Some time after he held an auction sale. Yearlings, two-year-olds, and three-year-olds, all by the grade sire, sold for $37, $55, and $76 a head respectively, while weanlings from the same mares, sired by a pure-bred stallion, averaged $101 each.

In another instance it is reported that a company of farmers purchased a two-year-old pure-bred stallion. He was considered so good that the service fee was placed at $25—$10 more than any competitor. A three-year-old gelding sired by him was sold to a dealer for $625, and not one went for less than $225. A pair of grade mares sired by the same horse was sold to a man in Tennessee for $750, while a colt not over twenty months old was sold at public auction for $700.

These are not isolated cases but are given simply to show the greater profits that result from the use of pure-bred sires. Sound, high-class horses are the ideal farm power, and good mares bred to pure-bred sires of the same breed and conformation pay good profits, not only in the colts they produce, as has been shown, but also in the labor they perform. Poor horses render poor service and often cost more to keep than they are worth. The loss in feed consumed and lack of labor performed by the inferior and scrub horses of the country is enormous. This expense can be greatly reduced if farmers and mare owners will breed their mares to the right sort of stallions and produce the kind of horses the farm requires and the market demands.

The time to begin is now. All inferior pure-bred colts and all grade and mongrel colts should be castrated. Only the best mares should be retained, and these bred to sound pure-bred sires. One of the best ways to stimulate interest in the breeding of better horses is to arrange to hold a fall colt show. A string of promising colts will afford striking evidence of the result of breeding the best, and prove a splendid advertisement for the community.

Permanence is also the national slogan now.

H. M. Hill, of Lafontaine, Kansas, owner of the Sycamore Springs herd of Shorthorns, has spent twenty years collecting a herd of the useful type of Shorthorn cattle. During the past two years this herd has furnished foundation cattle to start a number of herds in Kansas, Oklahoma and the Southwest. The herd cows are richly bred in the blood of Ingle Lad and Imported Collynie and the chief stock bull used at the head of the herd is Master Dale by the great Avondale. These matings are proving very satisfactory in producing the right sort of useful cattle. A feature of the herd at this time is a choice lot of stock bulls and bred heifers, the kind that prove valuable on any farm with proper care.



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Ducklings Thrive in Hot Weather

WHAT can I do to help in our nation's crisis? This is a question many of the farm women are asking. The men are putting forth every effort to raise larger crops, but what can the women do?

There may be some who have strength and time to help in the fields, but to the busy farm wife who has but a few hours spare time and but a few more ounces of strength to help out the country's need I will offer a few suggestions which perhaps will be helpful.

There is gardening, canning and drying to be done. Vegetables, it is true, will be a great help toward feeding the nation, but what about the meat question? The prices of all kinds of meat are soaring to the skies. There are fewer early chickens hatched this year than usual because eggs were high and feed scarce. Late chickens are usually stunted by hot weather, but have the farm women tried raising summer ducks? Strange as it may seem, ducklings thrive best in hot weather, and it is during July and August that I hatched my large flocks of Buff ducks.

Ducklings are early and late foragers. It is no uncommon sight to see an old biddy groping blindly around in the dark and trying to follow her busy foragers. When the sun shines hot and water is available, they enjoy best of all to dive into its cool depths after crawfish, frogs, and water insects.

Some people may wonder where I get the eggs to hatch. This is very simple, as I raise the Buff ducks, which are all-year layers, and I always have the best success hatching the eggs. I have heard women complain that their ducklings ate too much. Upon being questioned, they admit that they fed them at least half a dozen times a day and the ducklings just hung around the house waiting for more feed. Such management, indeed, would be profitless, but young ducks, like people, can be trained to be lazy or industrious. They are smart creatures and soon learn when to expect their meals. I always feed them early in the morning and late at night when the chickens are on the roosts. During the day they are always off foraging among weeds and grass or in the water. Quite often they find so much I feed them just enough to let them know they have not been forgotten. They certainly convert waste into meat. I know of nothing that grows to maturity more quickly than ducklings. I feed them all the tough lettuce leaves from the garden, as this is one thing that cannot be dried or canned, and young ducks like nothing better.

In the fall I find that my ducklings have grown to be ducks weighing from six to eight pounds each. It is needless to tell of the good prices I get for them on the market, of the feathers, fancy stock, and eggs I sell, of the neat sum of money I have realized, which is nearly all clear profit.

I will only add that as I watch the hungry men eagerly devour a portion of a deliciously roasted duck, I know I have done my part.—MRS. FRED SIEGLINGER, Oklahoma.

Do Not Sell Laying Hens

In view of the high price of eggs last winter and the prospect for high prices next winter, H. L. Kempster, of the University of Missouri College of Agriculture, advises against the customary disposal of laying hens in early summer. In supporting his suggestion he offers the following:

"According to the New York Produce Review the egg receipts in New York up to March 28 were 205,687 cases short of last year's receipts, or in other words the receipts in 1917 are only 75 per cent as great as for last year. In January of this year eggs were 15 cents higher than last year; in February, 19 cents higher, and in March, 8 cents. The prospects are that these high prices will continue.

"One egg dealer writes that in his opinion fresh infertile eggs will sell for not less than 25 cents a dozen throughout the summer. With these prospects ahead it is a mistake to sell the laying hen. She should be kept as long as she lays. If she goes broody she can be confined in a slat bottom coop for a few days, fed liberally, and thus be broken up. Poultrymen should also aim to keep as many mature pullets as possible next winter. The common practice of selling the largest pullets in the fall and keeping the small ones should be discouraged. It is the mature bird that will lay during the early fall and winter. Farmers should plan now to winter over large flocks. The sacrifice of the pullets last fall is being shown already by the egg shortage. That mistake should not be repeated a second year."

Approximately 5,016,000 dozen eggs spoil needlessly every year in cold storage simply because someone has let clean eggs get wet or has washed dirty eggs before sending them to market, according to the specialists of the United States Department of Agriculture. Careful investigations of large quantities of stored eggs show that from 17 to 22 per cent of washed eggs become worthless in storage, whereas only 4 to 8 per cent of dirty eggs stored unwashed spoil. The explanation is simple. Water removes from the shell of the egg a gelatinous covering which helps to keep air and germs out of the inside of the egg. Once this covering is removed by washing or rain which gets to eggs in the nest, germs and molds find ready access to the contents and spoil the eggs.

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SITUATIONS WANTED ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

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WANTED—TO HEAR FROM OWNER OF good farm for sale. State cash price and description. D. F. Bush, Minneapolis, Minn.

FOR SALE—320 ACRES, FOUR MILES Colby, Kansas; 140 acres wheat, balance pasture; good water, all fenced, some improvements. Inquire Mrs. Phebe Mills, Barrett, Kansas.

FOR SALE—THREE ACRES ADJOINING Manhattan and college grounds, just outside city limits. Eight-room stone house, stone barn, stone chicken house. Modern, with sparkling spring water. Fruit of all kinds. $7,500. Whan Trading Co., Marysville, Kan.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

HOLSTEIN CALVES FROM TESTED dams. Blue Label Stock Farm, Route 5, Whitewater, Wisconsin.

FOR SALE — ONE THREE-YEAR-OLD registered Guernsey bull, well marked and a good breeder. G. D. Glidden & Sons, Homewood, Kansas.

THREE YOUNG, REGISTERED, BRED Red Poll females, two bull calves and one yearling bull. Tubercullin tested. Henry Murr, Tonganoxie, Kansas.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $25 apiece. Frank M. Hawes, Whitewater, Wis.

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JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

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TAKEN UP—BY E. H. WALKER, RESIDing two miles north and three miles west of Anthony, Harper County, Kansas, May 27, 1917, one dark red Durham bull. No marks or brands. Appraised at $50. C. E. Kennedy, County Clerk, Harper County.

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FOR SALE—COLLIE PUPPIES, HANDsome, useful. $7. Frank Barrington, Sedan, Kansas.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

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FOR SALE—NEW KHAKI LADIES' DIvided riding skirt. Price reasonable. Grace M. Latta, Wakeeney, Kansas.

FOR SALE—INSIDE SILO FORM, 10 feet D., metal covered, well made and braced, used once, good as new. Price, $15 f. o. b. Jay B. Bennett, Holton, Kansas.

SITUATION WANTED.

EXPERIENCED FARMER WANTS A place on salary, or rent place furnished, stock and tools. Small family. Christian. Prefer Western Kansas. Box 44, Haviland, Kansas.

O. W. Long, Maitland, Missouri, one of the leading breeders of pure-bred stock in that state, reports his herds doing fine. He has herds of Shorthorn cattle and Poland China and Duroc hogs. A feature of his Shorthorn herd at this time is the choice lot of young stock by Prime Goods, a good son of Diamond Goods, the international grand champion. Mr. Long saved a fine lot of spring pigs this year, all of them by boars that are proven breeders. He reports a strong demand for breeding stock.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Controlling House Ants

Much can be done towards avoiding a siege of house ants by keeping kitchen and pantry clean and by seeing to it that crumbs or small particles of other food are not allowed to accumulate on the pantry shelves, on the kitchen floor, or in the yard. Ants require very little tolling and it is easier to keep the kitchen and pantry free from them than it is to get rid of them after they make their appearance.

The following suggestions for ridding the house of ants are made by George A. Dean, entomologist at the Kansas Agricultural College:

"While there are three or four species of ants that occasionally get into the house, the little red ants and the little black ants are the most common and troublesome. The little red ant is the true house species, making its nest behind the plaster, wainscoting, or baseboard and mantels, beneath flooring, and, in fact, wherever there are openings. The little black ant is not strictly a house species, although frequently found indoors and becoming at times as troublesome as the red ants. Its colonies are usually located under walks and stones, in the yard and under steps and low platforms.

The red house ant is usually difficult to eradicate, but, if the nest is found, two or three ounces of carbon bisulphide can be injected into it, which will kill the queen and workers present and the rest will then die out in time. The nest of the little black ant is more easily located by following the workers as they leave the house and go into the yard. The nest can be treated with hot water or by injecting carbon bisulphide, which may be applied through one or two holes in the top of the nest. These holes should be covered with earth after the carbon bisulphide has been put into them.

"Whenever the nests cannot be located, the only source of relief is the destruction of the ants in the house. One of the best means of effecting this is to attract the ants to sponges moistened with sweetened water and placed where they are most numerous. These sponges should be collected several times daily and emersed in hot water, which treatment will destroy the ants."

Methods Change

Our grandmothers' ways of doing things were good, especially for the time in which they lived, but the newer ways of doing many things bring about as good or much better results in less time and with the use of much less energy. Housekeeping has become a science and many intelligent, practical people are devoting their lives to the working of housekeeping problems and are giving to the housekeepers of the present day many helpful suggestions which can be profitably applied to their business—and housekeeping is a business.

As the farmer or any other business man finds he can secure valuable help from those who are making a scientific study of his business—if he understands how to sift the essentials from the non-essentials—so the housewife will find there are many fields from which she can glean helpful suggestions to use in her business. If she does not receive from the Federal Department of Agriculture or from the state agricultural college or university the bulletins prepared for her use, she is missing an opportunity to build up her business along many very practical lines. These bulletins are prepared by specialists in the subjects treated, and they have worked to practical solutions many of the problems which the housewife does not have time to solve. It is their business to give her this service and she will do well to make use of it.

Only a few days ago we were talking with a friend who is an excellent housekeeper and an economical one, and yet she did not know she could successfully can many of the vegetables which she grows every year in her garden. At present several members of the family are on a vegetable and fruit diet and she was complaining about the exorbitant prices asked for the products canned, and said she would be so glad when they could get them in their own garden. We asked if she did not intend to can an extra quantity this season, and her reply was that she had always canned as much of the vegetables and fruit that could be canned, as was needed for their use. We then asked if she had ever canned beans, peas, or corn. Her answer was that she had tried to can these vegetables but was not successful. Our conversation brought out the fact that she had never tried canning according to the methods so successfully worked out by experts in the government service in late years, and when we told of the success of canning clubs and of individuals through the use of these methods, she was very enthusiastic and asked where she might obtain these canning recipes. Now that she knows she can successfully put up at home many of the products she has heretofore bought in cans, she is going to increase the amount of garden put out this spring that she may take advantage of this means of decreasing the family's living cost.

Especially at this time when it behooves all of us to economize in every way possible and yet keep up our standard of efficiency, every housewife should be on these mailing lists as many suggestions will be directed along these very lines. Do you know what is a good substitute for potatoes or for meat? Do you know the benefits derived by the members of your family from the different foods you place before them? Do you know the foods that furnish protein, carbohydrates and fats, most economically? Do you know the value of these food constituents to the human body? These are a few of the usable facts which may be learned through the free service offered by the Federal Department of Agriculture and the state. It is your department and your state, and if you are not making use of this service it is your own fault.

Good pictures have a character value and for this reason the walls of the home should be hung with at least a few such pictures. They will have a part in the character building of the younger members of the family, which fully justifies their purchase.

Pictures need not be expensive in order to be valuable. An inexpensive print of a good picture, framed in a way that will best emphasize its strong points, will do quite as well as a more costly one. The important thing to consider in buying a picture is whether or not it conveys an idea worth dwelling upon, or a suggestion worthy of imitation. If not, it should be left in the shop. Pictures, like books, influence lives, and should be chosen wisely—but at least a few should be chosen.

School Credit for Home Work

This new rule goes into effect in all the rural schools of Cook County, Illinois:

"Beginning September 1, 1917, all pupils will be required to obtain at least one achievement credit annually in order to pass from grade to grade above the fifth."

These achievement courses are all practical and fit into the lives of the

children. There are many different enterprises listed in the "recognized business school-home projects" and the child has the privilege of making his choice. But the work must be carried through to the end of the year and show a profit or he will not be promoted to the next grade—no matter how high a standing he may have in his book studies. But if the pupil lacks fifteen per cent of the standard grade for passing, in his book studies, if his achievement record is good it will count for this deficiency and he will be promoted.

We consider this a valuable advance step in the rural education system. The careful growing of a garden and the keeping of records in connection with his school work, will broaden the child's intelligence. He cannot work with a cow and keep records of feed and production without becoming familiar with fundamental principles which will be helpful to him whether or not he later becomes a dairyman. The girl who does canning work or sewing or garden work for school credits will take a deeper interest in these different lines and will do the work better than if she is allowed to do them at her will.

Herein is the value of the boys' and girls' club work which is being given special attention in our own state at this time. The club member works intelligently and the results are satisfying because he knows just how they have been obtained. He works with a purpose and at the end of the year whether he stands at the top of the list or not he can see the value of his systematic work over careless methods. The club work gives the child confidence in his own ability to accomplish results through thought and application, and this is one of the most valuable lessons of life.

What a pity that not more children have the opportunity to make these achievement credits — particularly the children of the cities who so often are deprived of this contact with practical, growing things.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 7581—Girls' Middy Dress: Cut in sizes 6, 8, 10, 12 and 14 years. This dress has an underwaist fastening in the back and made without sleeves. To this is attached the side-plaited skirt. The middy jacket slips on over the head. The neck is finished with sailor collar and band cuffs finish the long plain sleeves. **No. 7520—Ladies' Shirtwaist:** Cut in sizes 34 to 42 inches bust measure. The front of this waist has an original cut inasmuch as the central portion extends up to the top of the collar, without any seam, and the sides of the front are gathered and attached to the edges of the shoulder extensions of the ragian sleeve. **No. 8119—Girls' Dress:** Cut in sizes 6, 8, 10 and 12 years. Fashion surely plays fair with the junior girl, in giving a design like this in a dress. The separate bolero is a feature that counts. It is worn over a simple waist, buttoned at the back and joined to a one-piece gathered skirt. A ribbon girdle is draped negligently at front after covering the joining. **No. 8106—Ladies' Coat:** Cut in sizes 36, 38 and 40 inches bust measure. For an up-to-date coat this will have style-deep beauty. Make yours like the one in the picture. Front and back, it has the straight-line effect so becoming to all figures, and is belted at the sides, with the ends of the belts inserted in plaits made in each half of the back and in front, as shown. **No. 8103—Ladies' Skirt:** Cut in sizes 24 to 30 inches waist measure. The deep yoke is not the only style feature of this two-gore model to draw admiration. There are gathered side panels to show Fashion's latest whim, and these are joined to the tops or the gores and gores and panels are attached to yokes. **No. 8115—Ladies' Dress:** Cut in sizes 34 to 42 inches bust measure. This may be just your idea of a dress in the season's mode. A basque waist and three-gore gathered skirt join at normal waistline and very good taste is shown in their trimming and novelty touches. The collar and cuffs of contrasting goods and braid trimmed give the waist its charm.

We Need Your Help In a Critical Time

KANSAS FARMER READERS CAN BE OF GREAT HELP TO THEIR FAVORITE FARM PAPER NOW

KANSAS FARMER comes to you through the mails. It is distributed under the jurisdiction of the Post Office Department, which has made some new rulings which the publishers of KANSAS FARMER must observe in respect to the procuring and continuation of subscriptions. During these critical times the rulings may be changed at any time, at the option of the Post Office Department.

The Postmaster General has made a ruling which makes it necessary that certain classes of subscriptions may not be carried after expiration. It has always been customary and permissable for the publisher to carry, at his option, subscriptions for a short time after they expire, in order that the subscriber might have an opportunity to renew his subscription and thus prevent his missing any copies of the publication.

The new rule, however, requires that this practice must be stopped.

We feel that you want KANSAS FARMER, because it is strictly a Kansas paper and is striving to help you in your work, and you certainly do not want to miss the good things that this old paper carries each week for the betterment of farm conditions. We do not want to discontinue your paper. We are very anxious to retain every one of our subscribers. In order to do so, we must urge that you send us your renewal subscription at once.

Here are four distinct offers which we submit to you. We will greatly appreciate your acceptance of any of them:

1. May we immediately have your renewal for one year at $1.00?

2. If you send us $2.00, we will renew your subscription for three years—a saving of $1.00.

3. If you will send us the subscription of two of your neighbors for one year for $1.00 each—$2.00 in all—we will renew your own subscription one year without additional charge in appreciation of this service rendered.

4. If you will send us the subscriptions of four of your neighbors at $1.00 each—$4.00 in all—we will extend your subscription for a period of three years without additional charge.

We have provided a special blank below to be used in sending in your renewal subscription or the subscriptions of your neighbors. May we again urge you to co-operate with us by accepting one of the offers provided?

Special Club Subscription Blank

KANSAS FARMER, Topeka, Kansas.

I enclose $.....for.....subscriptions to KANSAS FARMER for one year each. For this service I am to receive KANSAS FARMER for { 1 year / 3 years } without additional charge.

Name .....

Address .....

Name .....

Address .....

Name .....

Address .....

Special Renewal Blank

(To be used in case Club Offer is not accepted.)

KANSAS FARMER, Topeka, Kansas.

Enclosed please find { $1.00 / $2.00 } to pay for my renewal to KANSAS FARMER for { 1 year / 3 years } as per offer above.

Name .....

Post Office .....

R. F. D..... Box..... State.....

SHETLAND PONY FOR SALE

Shetland pony mare, not registered, coming three years old, bred to a registered Shetland stallion. Broke to ride. Will sell at a bargain if taken soon. Address

D, CARE KANSAS FARMER.

PURE BRED POULTRY

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

BARRED ROCKS — SEVENTY-THREE premiums. Breeders for sale. Eggs half price. Mattie A. Gillespie, Clay Center, Kansas.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, $3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

RHODE ISLAND REDS.

SINGLE COMB RED EGGS, GOOD FARM range, $4 per hundred; $1.50 per thirty. Mrs. Rosa Janzen, Box 242, Geneseo, Kansas.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

SEVERAL BREEDS.

BUFF DUCKS—DARK CORNISH CHICKens. Sunnyslope Farm, Stillwater, Okla.

BARRED AND BUFF ROCKS — SINGLE Comb White Leghorns. Fawn and Penciled Runner Ducks. Eggs—Fifteen, $1; hundred, $5, from range flocks. J. T. Riekman, Kiowa, Kansas.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

BRAHMAS.

HIGH SCORING LIGHT BRAHMA EGGS $1.00 per fifteen, parcel post prepaid. Geo. Pratt, Route 2, Topeka, Kansas.

PHEASANTS.

PHEASANTS — DEMAND UNLIMITED for Ringnecks this spring at $6 to $8 pair. Try them. Eggs from these, $4 dozen; 24 for $7. Harper Lake Poultry Farm, Jamestown, Kansas.

MINORCAS.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

WYANDOTTES.

WHITE WYANDOTTE EGGS — STOCK from (Fishel World Best Direct) $2.50 for 48, prepaid. S. Peltier, Concordia, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs reduced to fifteen, $1; fifty, $2.75; hundred, $5. Mrs. Edwin Shuff, Plevna, Kansas.

IF YOU WANT THE BEST SILVER Wyandottes, Barred Rocks or White Crested Black Polish breeding stock or eggs, write to William Neiers, Box T, Cascade, Iowa.

LEGHORNS.

PURE-BRED SINGLE COMB WHITE Leghorn eggs, 100, $5. Chas. McFadden, Morland, Kansas.

SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

S. C. BROWN LEGHORNS—HAVE BEEN raising them 21 years, the 222 to 266 egg record kind. Under hens the fertility runs 95%. Eggs—Fifteen, $1.25; 100, $5. Safe arrival guaranteed. Gorsuch, Stilwell, Kan.

TURKEYS.

BOURBON RED TURKEY EGGS—TWOyear-old hen, 40-pound tom. $3 setting. S. Peltier, Concordia, Kansas.

FEATURING THE MUCH WANTED "Goldbank" Mammoth Bronze turkeys. Eggs, $1 each after April 1. Will book orders. Mrs. Iver Christenson, Jamestown, Kansas.

POULTRY WANTED.

WE PAY EXTRA FOR NON-FERTILE eggs. Want roosters, broilers, hens. Loan coops and cases free. The Copes, Topeka.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

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CLAIM SALE DATES.

Jerseys.
June 26—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.

Shorthorns.
June 22—Park E. Salter, Wichita, Kansas. Sale at farm.

Holsteins.
Oct. 16 — The Nebraska Holstein Breeders' Consignment Sales Co., Omaha, Neb.; Dwight Williams, 103 Bee Bldg., Omaha.

Poland Chinas.
Aug. 15—H. L. Faulkner, Jamesport, Mo.
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Oct. 17—Walter B. Brown, Perry, Kansas.

C. E. Hill, of Toronto, Kansas, who is one of the successful Shorthorn breeders in this state, reports his herd doing well and all young stock growing out fine. A feature of the herd at this time is the choice lot of youngsters sired by the pure Scotch bull, Bettie's Albion. This lot includes some choice young bulls.

R. C. Watson, of Altoona, Kansas, owner of good herds of Shorthorn cattle and Duroc hogs, reports his herds doing well and the young stock in both herds growing out fine. Mr. Watson saved a very choice lot of Duroc pigs this year. They are the big high-quality kind and are of the best blood lines. He also has a fine lot of young stock in his Shorthorn herd, including some fine young bulls.

T. R. Maurer & Company, owners of Maurer's Holstein Farm, Emporia, Kansas, report their Holstein herd doing well and a brisk demand for high class Holsteins. Mr. Maurer has just returned from an inspection of a number of good eastern herds and while on this trip he purchased a choice lot of pure-bred cows, yearling heifers and calves of both sexes.

The public sale of double standard Polled Durham cattle held by Ed Stegelin, of Straight Creek, Kansas, on June 8, was attended by a large crowd of Shorthorn and Polled Durham breeders from a number of states. The forty-six head sold for $17,735. Ten bulls averaged $525, including a number of yearling calves. Thirty-seven females averaged $357.75, including seven young heifers less than a year old. These figures would indicate an increasing demand for this popular breed of horaless cattle. The sale was conducted by Colonel Price and the prices received for the entire lot were very satisfactory to Mr. Stegelin.

S. E. Smith, of Lyons, Kansas, owner of one of the good herds of pure-bred Hampshire hogs in Kansas, reports his herd doing well and young stock growing out fine. Mr. Smith has been breeding Hampshires for a number of years and has found them a very profitable hog. He has the big easy feeding type and the blood lines of his herd are the best of the breed, including Col. Stone, Pat Malloy and Eagle Chief breeding. A feature of his herd at this time is a choice lot of October boars and gilts.

Mr. W. H. Mott, of Herington, Kansas, owner of one of the good herds of Holsteins in Kansas, reports his herd making a good record. He has both registered and high grades. A feature of the herd at this time is a choice lot of pure-bred bulls and about seventy-five grade two-year-old heifers, all bred to a registered bull.

We have just received Volume 51 of the National Duroc Jersey record. This volume contains the records of males from No. 103501 to 201499; females from 484700 to 508698, and the usual amount of information that should be in the hands of every Duroc breeder.

L. M. Fish, of Bolivar, Missouri, owner of good herds of Chester White and Duroc Jersey hogs, reports his herds doing well. He saved a fine lot of pigs of both breeds this year that are growing out fine. The winnings of his show herds during the past few years were very heavy, few show herds equaling them in number of prizes won.

At the dispersion sale of R. J. Linscott's famous Register of Merit Jersey herd, held May 31, some new Kansas record prices were made. Jacoba Irene's Premier sold for $850 to H. C. Taylor, of Beloit, Wisconsin, which is the highest price ever paid for a Jersey bull at auction in this state. Three of his two-year-old heifers sold for an average of $256.66. Four of his heifer calves under four months old sold for an average of $111.25. A double grandson four months old sold for $200, which is the highest price for a four-months-old bull calf at auction in Kansas. The highest-priced cow was Gamboa's Knight's Beauty, a daughter of Gamboa's Knight, just past two years old, and she certainly is a beauty—sold for $500, which is the highest price ever paid for a Jersey cow in Kansas at auction. Her six-days-old calf sold for $100. The next highest priced cow was Majesty's Golden Eva, that sold for $460, and her seven-days-old calf brought $145, which is the highest price ever paid at auction for a week-old heifer in Kansas. Both these cows were bought by A. H. Wood, of Braman, Oklahoma. Gamboa's Knight, the next highest priced bull, was bought by W. S. Sanders, of Berryton, Kansas, for $495. Thirty-two of his get were sold at an average of $180.15 and included a seven-days-old heifer at $145; five bulls from one to eight months old at an average of $131.25; six heifers under six months old at an average of $127.50; eleven yearling heifers at an average of $175.45; and eleven two-year-old heifers at a naverage of $233.18. One hundred and twenty-one head were sold, aged from five days to thirteen years, and they brought an average of $197.77. Four aged bulls sold at an average of $472.50. Four bulls from eight to twelve months old averaged $198.75. Twelve bull calves from six days to four months old averaged $75.83. Seventy-three cows from two to thirteen years old averaged $227.05. Eight yearling heifers averaged $168.12. Twenty heifer calves from seven days to twelve months old averaged $114.37. One hundred and one females aged from seven days to thirteen years averaged $200.14. Eighteen states were represented among the bidders, including far-away Georgia. Sixty-two different people bought the cattle, three of them being women, and they seemed as capable judges as the men. Eighty-five cattle were bought by forty-eight Kansas people, but only four remain in Jackson County. Four were bought by a Wisconsin man; eight by six people in Missouri; nine by three men in Nebraska; thirteen by four men in Oklahoma, while two went to a man in Arkansas.

The Nebraska Holstein Breeders' Consignment Sales Company will hold its next sale at South Omaha, Nebraska, October 18. Sixteen of the leading Holstein breeders of Nebraska will consign to this sale, including the University of Nebraska and the United States Indian School at Genoa, Nebraska. The other consignors are: B. B. Davis, Omaha; B. E. C. Brown, Fullerton; LeRoy Ball, Albion; W. J. Jenkinson, Monroe; D. M. Hildebrand, Seward; J. F. Bunty, Cortland; Nelson Bros., Stromsburg; W. M. Condon, Humphrey; Little & Little, Clarks; C. J. Furry, Franklin; E. C. Swanson, Stromsburg; Kirk Griggs, Beatrice; and Dwight Williams, Omaha. Some of the best animals from the herds of each of the above breeders will be in the sale, including individuals that are winners at the fall fairs. The sale will be under the management of Dwight Williams.

Catalogs are out for the Shorthorn sale to be held by Park E. Salter, Wichita, Kansas, on Friday, June 22, at Park Place Farm near Augusta, Kansas. Fifty head of Shorthorn cows and heifers have been catalogued for this sale. The offering contains an unusual number of big flat-backed breeding cows. One feature of the sale will be the large number of cows and heifers with calf at foot or bred to imported bulls. Seven cows have calves at foot and ten are showing heavy to imported sires. Mr. Salter has two imported bulls—Bapton Corporal and Newton Friar. A number of these cows and heifers are bred to either Rosewood Dale or Maxwalton Aviator, both sons of the noted Avondale. A few are in calf to Roan Major, an intensely bred milking strain sire.

A. S. Alexander, of Cedar Row Farm, Burlington, Kansas, who owns one of the great herds of old original Spotted Polands, reports his herd doing fine. Mr. Alexander saved a large number of spring pigs this year. These pigs were sired by some of the best boars of the breed and are out of the famous brood sows in his herd.

Real Estate For Sale

360 ACRES CREEK BOTTOM FARM
160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; $5,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only $45 per acre.
M. T. SPONG - - FREDONIA, KAN.

WANTED

To trade first-class farm in Iowa or Minnesota for high-class herd of Shorthorns or Herefords. Nothing but top quality cattle considered. Give complete information concerning herd in first letter. Will give complete description of property and location of same in reply.
AMOS BURHANS - - Waterloo, Iowa

FOR INSIDE INFORMATION on oil lands or poultry and vegetable tracts, write **SOUTHERN REALTY CO., McAlester, Okla.**

Government Red Soil Fruit Land can be located on Desert Act near Delta under newly completed irrigation system. Easy payments. **Thompson, 515 Denham Bldg., Denver, Colo.**

LANE COUNTY KANSAS

Several good smooth wheat farms at from $10 to $15 an acre. A choice improved half section three miles from Dighton for $8,000. Get my bargain list.
C. N. OWEN - - DIGHTON, KANSAS

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
B. E. FRIZELL, Frizell, Pawnee Co., Kansas

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. **Clarksdale, Mo.**

SHORTHORN CATTLE.

15 Shorthorn Bulls

Reds and roans. Pure Scotch and Scotch-topped yearling bulls, 10 to 18 months old, at farmer prices. Farm at Pearl. Ship over Rock Island, Santa Fe, Union Pacific and Missouri Pacific. Come and see me.
C. W. TAYLOR, Abilene, Kan.
Dickinson County.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

SPRING CREEK SHORTHORNS
Headed by the great sire, Orange Goods. Best families represented in herd, good individuals. Choice young stock for sale.
THOS. MURPHY & SONS, Corbin, Kansas.

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

TWO SHORTHORN BULLS. Duroc herd boar. Fall gilts, bred or open. February and March pigs, pair or trio, no relation.
R. C. WATSON - ALTOONA, KANSAS

THREE SHORTHORN BULLS
Fourteen to eighteen months old. Red, white, roan. Sired by Bettie's Albion 399451. Pure Scotch.
C. E. HILL - - TORONTO, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

SHORTHORN BULLS

A two-year-old herd bull, dark red, fine individual. Also six-months-old bulls for sale.
H. W. ESTES, SITKA, CLARK CO., KAN.

POLAND CHINAS

OLD ORIGINAL SPOTTED POLANDS
Choice March and April pigs of both sexes.
H. A. MATTON, Route 2, Burlington, Kan.

Langford's Spotted Polands. Gilts bred for fall farrow. Future herd boars. Satisfaction guaranteed. **T. T. LANGFORD & SONS, Jamesport, Missouri**

BIG-TYPE POLANDS AND DUROCS SHORTHORN CATTLE
Booking orders for weaning time. Pigs, $25 each, trios $50. Will make 700 to 1,000-pound hogs. Two hundred to select from. Top breeding. Eight choice Shorthorn bull calves. Priced reasonable. Write me your needs.
O. W. LONG, Route 3, Maitland, Missouri.

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. **CHAS. E. GREENE, Peabody, Kan.**

POLAND CHINA BOARS
Twenty-five choice spring boar pigs sired by Caldwell's Big Bob, Big Hadley Jr., King Price Wonder, Columbus Defender, Big Bob Wonder and Fessey's Tim. Some fine prospects and priced reasonable. Immune.
BERT E. HODSON, ASHLAND, KANSAS.

BEAVER'S POLANDS

Good stretchy Poland China spring boars, sired by Kansas Giant by the 1,135-pound The Giant. Others by a good son of the 1,125-pound Big Tim, out of Expansion sows Choice, $25.
ED BEAVERS
Route 2 Junction City, Kansas

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

Henry's Big-Type Polands

Spring pigs, either sex. June delivery. Sired by Mammoth Orange, King Price Wonder, Big Wonder. Choice of lot, $35. Trio, $100. Others, $25. First check, first choice.
JOHN D. HENRY, LECOMPTON, KANSAS

HAMPSHIRE HOGS

High Quality Hampshires Sold on Approval. Fall boars and gilts; weanling pigs, either sex, not related, by a son of Paulsen's Model.
F. B. Wempe, Frankfort, Kansas.

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

SMITH'S HAMPSHIRES

Bred gilts and choice boars, October farrow. Prize winning breeding. Also herd boar, priced to sell. **S. E. SMITH, Lyons, Kansas.**

PARK E. SALTER, WICHITA, KANSAS

SELLS

50 SHORTHORN COWS AND HEIFERS

AT PARK PLACE STOCK FARM, NEAR AUGUSTA, KANSAS

WICHITA, KANSAS, FRIDAY, JUNE 22, 1917

SPECIAL SANTA FE TRAIN WICHITA
TO PARK PLACE FARM AND RETURN

Sale Under Cover, Rain or Shine



Fifteen Canada cows.

Twelve cows with calf at foot by imported bull.

Fifteen 3-year-old heifers safe in calf, will make fine herd cows.

Big broad-backed breeding cows and heifers that will grow into large useful cows.

Most of the cows and heifers of breeding age are showing safe in calf to imported Newton Friar, Rosewood Dale by Avondale, Maxwalton Aviator by Avondale, and the great milking strain bull, Roan Major.

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TUBERCULIN TESTED. LONG-TIME TEST.
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Ten A. R. O. cows on semi-official yearly test now. Ten more to start this fall.

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REGISTERED COWS, HEIFERS AND BULLS.
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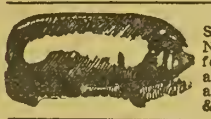

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For Sale—Choice double standard Polled Durham bulls, serviceable age, by Belle's Hero by Roan Hero.
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Buy your next bull calf from a herd that won the butter test over all breeds.

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We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.

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High Grade Holstein Calves 12 heifers 15-16 pure bred, 4 to 6 weeks old, beautifully marked, $20 each. Safe delivery and satisfaction guaranteed.

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Braeburn Holsteins Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.

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Holstein and Guernsey Calves—Both sexes, 5 weeks old, nicely marked, fawn and white, black and white, mostly 15-16ths. $25 each, crated for shipment. Satisfaction guaranteed.

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CEDAR LAWN FARMS

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Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.

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A few choice young springers, also some high class young bulls. If you want record breeding, we will be pleased to have you inspect our offering.

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Registered and high grades, cows and heifers. The milky strain, service bulls, carloads or less. High grade heifer calves, $18 each, crated. Write me. I have what you want.

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120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

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Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

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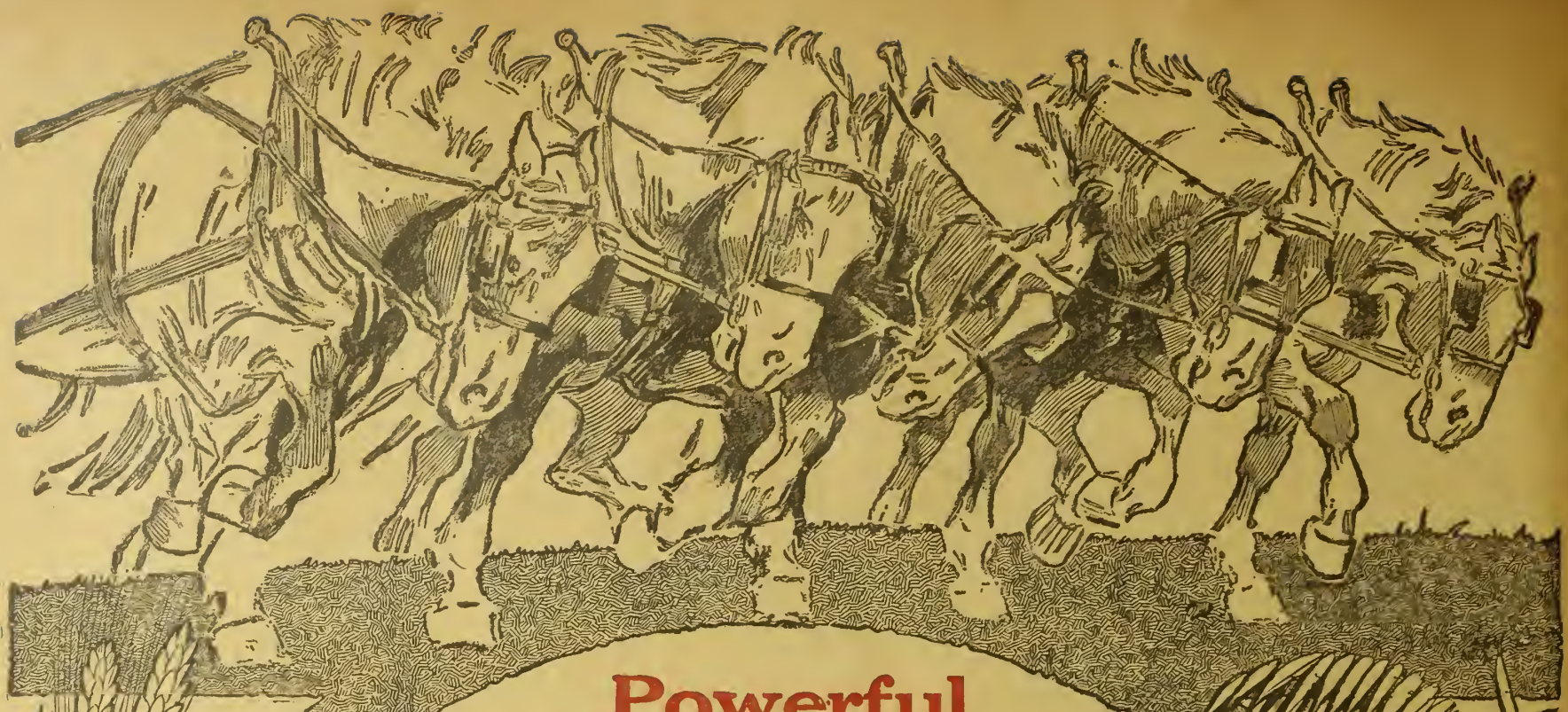
Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.



Powerful As Five Horses

Costs Less Than Four Horses

Here is the kind of a tractor you've been looking for—one that not only plows, but does ALL farm work that horses can do, besides supplying power for belt work. Not a big, heavy, cumbersome tractor, that plows while your horses loaf and eat, then leaves the rest of the work for your horses to finish; but a tractor that does EVERY job a horse can do—does it better—faster—easier and cheaper.

It costs less than four horses, yet it plows 4 to 12 acres a day; pulls two 14-inch bottoms; harrows, discs, plants and CULTIVATES corn or other hill and row crops—16 to 20 acres a day. It is as powerful as five horses and does the work of seven horses; easy to drive as a team—a REAL ONE-MAN TRACTOR and the only tractor that does all farm work without horses. It is so inexpensive to buy and operate that even 80-acre renters can profitably use the

MOLINE ORIGINAL 2 WHEEL UNIVERSAL TRACTOR

Note the big advantage of its two-wheel construction—ALL ITS WEIGHT IS TRACTION WEIGHT. ALL its weight goes into the PULL. That's why we can build it lighter—why we eliminate almost a ton of excess dead weight necessary on tractors of the three and four-wheel types. Then notice how handily it is hooked to the tool you use—the plow—harrow—cultivator—mower—binder, etc. Notice how you operate both tractor and implement from the implement seat. All your work is plainly in view. No craning or straining of your neck looking back to watch the farm tools—no extra man needed. Easy to back up with tool attached; easy to make quick and short turns; to work close to fences; to do all work as well and as easy as with a team.

No matter what size farm you own, if you have 80 acres or more, here is the tractor for you. If your farm is extra large, two MOLINE-UNIVERSAL Tractors will be cheaper than *either* horses or one large tractor. Write for our free catalog-folder which tells all about this all-work, all-purpose, low-cost, one-man tractor. See for yourself how it will solve the power and hired help problems on your farm.

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The Moline Line Includes: Corn Planters, Cotton Planters, Cultivators, Corn Binders, Grain Binders, Grain Drills, Harrows, Hay Loaders, Hay Rakes, Lime Spreaders, Mowers, Manure Spreaders, Plows (Chilled and Steel), Scales, Seeders, Stalk Cutters, Farm Trucks, Vehicles, Wagons; also **Stephens Six Automobiles**

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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 25. TOPEKA, KANSAS, JUNE 23, 1917. Established 1863. $1 a Year

RECORD DAIRY CLUB

Emporia Bank Distributes Dairy Cows

THE pictures on this page tell the story of a remarkable event which took place in Emporia on June 7, when three carloads of dairy cattle were distributed to Lyon County boys and girls by the Citizens National Bank of Emporia. F. C. Newman, president of this bank, in order to encourage dairying and to train a large group of young people in business methods, furnished the funds. County Agent H. L. Popenoe and A. S. Neale, extension dairyman of the Agricultural College, went to Northern Ohio and carefully selected the cows and heifers. All are high-grade Holsteins from herds having good production records, and are bred to pure-bred bulls.



LYON COUNTY BOYS AND GIRLS READY FOR THE COWS



HOLSTEIN HEIFERS GETTING A TASTE OF KANSAS ALFALFA



SELECTING COWS BY LOT, EACH BOY AND GIRL DRAWING A NUMBER FROM THE HAT.—THE MAN WITH THE BIG SMILE IS F. C. NEWMAN, PRESIDENT OF THE CITIZENS NATIONAL BANK OF EMPORIA



FRED R. SKIDMORE, OF ALLEN, READY TO START HOME WITH THE HEIFER HE DREW

KANSAS FARMER has been conducting a Dairy Club the past year in co-operation with bankers. No one bank, however, has financed more than six or seven boys and girls. The members of this record club have been enrolled through the efforts of C. A. Boyle, district club leader, under the general direction of State Club Leader Otis E. Hall. Mr. Boyle has certainly done his work well in arousing the interest of the boys and girls. At the appointed time they were on hand, accompanied by their parents. A numbered tag on each cow's tail showed her value. Corresponding numbers were placed in a hat, and each member in turn drew one of these. Then came a scurrying to and fro to find the cow bearing this number. After the drawing each signed a note for the value of his purchase and the boys and girls scattered in every direction, leading or driving their cows. The names of the members of the Lyon County Dairy Club will be printed in a later issue.

Is Your Tractor Paying Dividends?

Is it doing its work all the time, or is it laid up frequently for costly repairs?

You can increase the efficiency of your tractor greatly by using the right lubricating oil.

When kerosene is used as fuel it is needful that an oil capable of withstanding high temperatures be used, if the bearings are to be kept cool and friction eliminated.

To meet conditions obtaining where kerosene is used as fuel we have designed a special lubricating oil.

Use Stanolind Gas Engine Tractor Oil

It is made by the Standard Oil Company of Indiana. It is the result of an extensive research for a lubricant that not only had the right viscosity but would hold it under the extreme heat produced when kerosene is used as fuel.

It is made especially for gas engine tractors where kerosene is used as fuel.

It is an oil of great durability and adds power and life to your engine.

It is equally efficient for stationary gas engines as well as for lubricating the bearings of all types of harvester machinery and heavy gearings of tractors.

Use Standard Gas Engine Oil

in tractors where gasoline is used as fuel. This oil also is an ideal lubricant for external bearings and may be used as a complete lubricant in the operation of your engine.

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(Indiana)
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Fun is the best medicine in the world. Give and take it in large doses.—Author Unknown.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

LOSS of time due to poorly repaired machinery frequently means loss of crop. Repairing can be done at odd moments and on rainy days so that the machines will be ready to start work at any time. It is most annoying and expensive to have to spend several hours in getting the mower, the rake, and other implements ready when they are needed at once in the hay field.

In ordering repairs it is best to give the number of machine, the year purchased, the number of the part, and the exact address of the person to whom the repairs should be sent.

It saves time to keep a few of the more important repairs on hand, such as sections and guards for the sickle for binders and mowers, shares for plows, and spark plugs for the tractors. These are not expensive and if one of these parts breaks, a new one can be put on with little loss of time.

When through with any machines, such as corn planters and listers, for the season, it is an excellent plan to tag all the parts that should be replaced before machines are used again. Then in the fall it is well to order all of these parts and have them put on in the winter. This makes it possible to have the machines ready for use long beforehand. It makes it possible also to get the repairs when ordered instead of waiting until spring when time is valuable.

The probable shortage of implements means that old machines should be kept in the best of repair and that new machines should be ordered some time before they will be needed. With a labor scarcity, difficulty in obtaining steel, and congested freight, it may be good business policy to buy all machines needed for the next twelve months or to make the necessary arrangements to buy each machine later.

Gravel Roads for Labette

The county commissioners of Labette County have announced to the people of that county that they will set aside $30,000 each year from their annual road fund to be applied in building gravel roads in that county under the new road law, the county to pay half, the townships one-quarter and the benefit districts one-quarter. Labette County is fortunate in having an abundance of fine river bed gravel along the Neosho River which traverses the eastern edge of that county. It is estimated that a system of gravel roads can be built in that county sixteen feet wide, well graded and well drained and surfaced with gravel from five to ten inches thick, at a cost of from $1,000 to $2,000 per mile.

Tractor's Place in Hay Field

One of the unfortunate things in the business of farming, on the farms of the corn belt particularly, is that haying comes at a time, usually, when the greatest amount of attention is required by the corn crop. As a rule, the farmer is very reluctant about taking his teams off the cultivator and putting them to work mowing, tedding, raking, and loading and hauling hay.

The solution of the problem is either to have extra teams and additional hired help, to use a tractor in the hay-making operations, or to use a specially designed tractor for cultivating, which can be kept busy cultivating the corn while the teams are putting up the hay.

Many farmers take their teams off the cultivators only long enough to do the mowing and raking, leaving the tractor for hauling hay wagons and loaders. In this way the time lost from cultivating is not so great. And this is a big advantage, for a few days more of cultivating makes a big difference in the yield, particularly at about the time that haying is ordinarily in progress.

The tractor has been used with some success for hauling mowers. One design in particular is especially adapted for this work, it being arranged so that the operator can ride on the mower seat and control the entire equipment from that position. The advantage of this arrangement is that it does away with an extra man.

In some cases a hitch similar to that used for hauling binders or an offset device of some sort has been used for hauling two or more mowers behind a tractor. The disadvantage of this, however, is that a man or boy is required on each mower, besides the tractor operator, and for this reason many farmers will not consider such an arrangement feasible.

There is a considerable difference of opinion whether it is profitable to use a tractor for mowing, raking or tedding. It all depends on conditions, and it is a matter which each farmer will, naturally, have to work out for himself. Where haying is done on a large scale and horses are scarce or needed bedly for other work, it may be profitable to use the tractor for mowing. However, in view of the fact that mowing is light work for horses, even in hot weather, and since teams will rush it along almost as fast as a tractor, ordinarily the horse will be found most satisfactory for this purpose, unless one owns a tractor that is especially adapted to the work.

In loading and hauling hay, however, the tractor has a decided advantage over teams, especially where a tractor has a road speed of three to four miles an hour, for the work can be rushed much faster than with horses. The tractor will also handle a larger load. By operating the tractor at low speed while putting on a load, the men who do the loading usually find that they can work with greater ease behind a tractor since the pull is steadier, than is the case with teams.

Several years ago I operated a tractor for hauling hay wagons and loader, and found that it could be done very successfully. Two men were required to do the loading and we were able to put on loads twice the size of those which would ordinarily be hauled by a team.

With plenty of help we made quick work of securing the day. The work was not only done easier than we could have done it with horses, but by being able to work fast, the hay was secured in the very best condition. — RAYMOND OLNEY in Power Farming.

Concrete Floors Ratproof

When the immense loss caused annually by rats is considered, the need of stopping their depredations is more clearly realized. It has been repeatedly stated that every rat in the country causes an annual property loss of over one dollar.

Rat extermination can be accomplished best by the use of concrete in the floors and foundation for every class of building. The process of mixing and laying this material requires only ordinary skill. Any careful person will have no trouble in following the plain directions contained in handbooks of concrete construction or literature furnished without cost by any of the manufacturers of cement.

In building dwelling houses, granaries, barns, dairy houses, corn cribs, poultry houses, etc., the additional cost, if any, of making the foundations, walls and floors of concrete and thus ratproof, is slight compared with the advantages obtained. Wood sidewalks, porches, feeding floors, etc., are commonly laid upon wood sleepers resting on the ground. Under such floors, rats have a safe retreat from nearly all their enemies. These retreats can readily be stamped out by the use of concrete, which is strictly sanitary and permanent. In granaries having concrete floors there are no cracks to batten in order to keep grain from running through. The floors form smooth surfaces for shoveling grain or other materials and are free from annoying nail heads which usually hinder shoveling on wood floors.



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Triple Power Portable STUMP PULLER

No stump too big. No land clearing job so tough but that it can be solved quickest and cheapest the Hercules way. More power than a tractor. 60 per cent lighter, 400 per cent stronger than cast iron puller. 30 days' free trial. Unlimited guarantee now to replace, free, all castings that break from any cause whatever. Double safety ratchets insure safety to men and team. Accurate turning means light draft.

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KANSAS FARMER

THE FARM PAPER OF KANSAS

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NEW WHEAT MAKES GOOD

We have just received a letter from one of our farmer readers who attended the Farmers' Union picnic in Ellis County on June 7. This picnic meeting was held on the Fort Hays Experiment Station farm and 1,700 people were present. A careful study of the experimental work of the farm was a most important feature of the meeting.

Our correspondent inclosed in his letter some heads of the new Kanred wheat, or P-762, which he plucked on the station farm, where there is quite an acreage of this wheat this year. These heads were over three inches in length. The wheat had stood the dry weather better and was more uniform in general progress and development at the time of the picnic than the other varieties. It will be remembered that when Prof. H. F. Roberts made his head selections in 1906 the notation was made that the head labeled P-762 was early. It has continued this characteristic and the variety, Kanred, developed from this single head selection is uniformly from three to five days earlier than ordinary Turkey wheat.

Since 1910 this wheat, with many others developed, has been in the hands of the agronomy department of the Agricultural College, of which department Prof. L. E. Call is the head. The many varieties being studied are given field tests not only on the station farm but also on farms all over the state.

The development of better varieties of wheat is one of the station projects to which Director W. M. Jardine has devoted a great deal of his personal attention. At a big Grange picnic held on the college farm two years ago we heard him tell with great enthusiasm how this P-762 was being developed, promising that in the very near future every farmer in the state could get a start with the new variety. We met Director Jardine recently while making a train trip, and he told us there would be thousands of bushels of this variety grown in Kansas this year. One man who got a small quantity of P-762 several years ago has kept it pure and increased his acreage each year until he now has a prospect of five thousand bushels for his crop this year.

We were especially glad to learn from our correspondent sending the heads of wheat that so many good farmers of Ellis County were able to visit the Experiment Station farm June 7 on the occasion of the Farmers' Union round-up and see for themselves the value of this new wheat. It is a remarkable achievement to produce a variety of hard winter wheat that uniformly outyields ordinary Turkey or Kharkoff by three or four bushels to the acre. Professor Call made the statement last year that if this variety had been generally grown in Kansas for the past three years and if its yield had corresponded to the average obtained on the station farm and in the fifty-nine co-operative tests on twenty-nine different farms of the state, it would have added $62,845,000 to the income of the farmers of Kansas. Too much credit cannot be given to the men who have made such a thing possible. The farmers of Kansas owe a debt to these faithful Experiment Station workers far in excess of the salaries they receive from the state.

INSPECTION OF WHEAT FIELDS

Kansas has a reputation all over the country for producing the finest of milling wheat. To maintain the high standard of the wheat grown in the state, it is important that good Turkey type wheat free from smut and mixture of soft wheat or rye be used in seeding the immense acreage put to wheat this fall. In the northern part of the wheat belt there are millions of acres of wheat that were abandoned this year. Many growers in this section will have to buy seed wheat for this fall's seeding.

The State Council of Defense has undertaken the job of furnishing expert inspection of fields of growing wheat wherever the crop gives fair promise, the object being to list the names of those who will have wheat suitable for seed. This inspection will be furnished on request. In reporting on fields for inspection address Prof. L. E. Call, Manhattan, and give the name and address of the grower, the name of the variety, and the location of the farm. The direction and distance of the farm from town should be given. It may not be possible to inspect all the fields listed, but this will be done as far as possible. Every grower who will have good reasonably pure wheat should make an effort to do his part in supplying seed wheat for those who may be short.

RED CROSS CALLS FOR HELP

Last week we attended a Farmers' Union picnic held on the agronomy farm of the Agricultural College. Of the many speeches made, none impressed us more than that of W. C. Lansdon, of Salina. Standing on the front porch of the college farm residence, facing a splendid audience of men and women of the farms of Riley and adjoining counties, Mr. Lansdon made a strong appeal for support of the Red Cross cause. His speech was vibrant with patriotism from beginning to end. On every hand were evidences of prosperity. Fully two hundred automobiles were parked about the picnic grounds. A dinner had just been served where the fragments would have seemed a feast to the suffering millions of Europe. It was pointed out that the most stupendous call in the history of the world to aid suffering humanity confronts the Red Cross. Millions of men who have been fighting on the battle fronts of Europe lie dead or wounded. Millions of women and children are homeless and helpless. Everywhere disease and distress are rampant.

Never in history has there been enough help to care for the wounded and alleviate the suffering always associated with war. The Red Cross cause is the cause of suffering humanity. It knows no boundary line. Under the Geneva charter the Red Cross becomes the agency through which the voluntary service and offerings of all peoples contribute toward the saving of countless lives, and relieving the suffering not only of soldiers on the battlefield but of the women and children, innocent victims of war.

President Wilson, as president of the American Red Cross, has proclaimed the week of June 18 to June 25 as Red Cross week. But a small proportion of our people can serve upon the actual field of battle, but all—men, women and children alike—can serve and serve efficiently under the banner of the Red Cross. It calls for sacrifice, but now that we ourselves are in this gigantic war we must share the suffering which our allies have endured. We, too, must help to bear the burdens and do our part in a real way.

The first great need is money. The Red Cross of America is now calling for a hundred million dollars. A Red Cross war council has been appointed, to which is entrusted the duty of responding to the extraordinary demands made upon the organization by the present condition. President Wilson in appointing this council pointed out that such a concentration of administrative action seemed absolutely necessary and he earnestly called upon all those able to contribute either great sums or small to the alleviation of the suffering and distress which must inevitably arise out of this fight for humanity and democracy. "I hope," said the President, "that the response to the efforts of this council will be a demonstration of the generosity of America and the power of genuine, practical sympathy among our people that will command the admiration of the whole world."

In every town and community agencies have been provided for receiving contributions to this great cause. The response should be more than liberal. It should represent real sacrifice. No one can withhold from this cause which represents the heart of the American people.

K. S. A. C. COMMENCEMENT

On Thursday of this week 177 young men and women graduated from the Kansas State Agricultural College. This is a small class compared with those of recent years. The war has had its influence on the attendance at the college. Many of the young men have dropped out either for military service or for service on the farms in the food drive which is an important part of our war program. Five members of the graduating class have received army commissions. President Waters told us that fully 300 young men from the different classes left the institution before the end of the year.

The shadow of the great war in which we are now involved was in evidence throughout the exercises of the week. Practically every male student of the institution appeared in the cadet uniform, which is the regular khaki uniform of the army.

"American Ideals" was the subject of the commencement address by William O. Thompson, president of Ohio University. In the light of the events of the past few months a more appropriate subject could not have been chosen. A nation becomes great through the high ideals of its citizens, and the young men and women going out from such an institution as the Kansas State Agricultural College will have a great responsibility in helping to mold and lift higher the ideals of the communities where they take up their life work.

Unusual interest was taken in the dress parade of the battalion of college cadets, which is an annual event on the afternoon of commencement day. The usual band concert which for so many years have been given on commencement day was conspicuous by its absence. The college military band is now en route to France and we feel sure that it will meet with an enthusiastic reception from the French people.

The old graduate who has been away from the institution for a number of years and tested himself out in real life knows better the true worth of the training he has received than those just receiving their degrees. Many of these loyal friends of the institution were back to render homage at the shrine of their alma mater. With each year the numbers and influence of this body of graduates of this institution increases.

AUXILIARY DAIRY MEETING

The Kansas State Dairy Association will hold an auxiliary meeting at Lawrence on the afternoon of Saturday, June 30. So many inquiries have come from this section of the state concerning dairy problems that the officers of the association have decided to call this meeting and have announced the following program:

"Milking Cows for Profit," by William Newlin, Hutchinson, president of the Kansas State Dairy Association; "Feeding Dairy Cows," by A. W. Garvin, Lawrence; "Eliminating the Boarder Cow," by H. B. Browning, Linwood; "Dairy Farm Equipment," by A. S. Neale, extension dairyman of the Agricultural College.

The program is a strong one and of course at such a meeting there will be opportunity for free discussion and the presentation of any question connected with the business of milking cows.

BOND ISSUE OVERSUBSCRIBED

The success of the Liberty Loan bond issue should be a warning to the imperial government of Germany that the people of the United States are solidly back of the Government in support of the war. The moral effect of such an enthusiastic subscription to the issue will tend to hasten the end of the great struggle. The sooner it becomes apparent that we are not bluffing, but throwing every resource of the wealthiest nation of the world into the fight, the sooner can we hope for peace.

At twelve o'clock on Flag Day, June 14, old Liberty Bell, in Independence Hall, Philadelphia, which 141 years ago proclaimed the birth of the United States, was rung again, and its cracked voice proclaimed the success of the bond issue, the books of which closed at twelve o'clock June 15. According to the latest reports available as we write, the issue has been oversubscribed from 700 million to a billion dollars. The Government states that in issuing the bonds the big subscriptions will be pared off first so that the loan will consist of many small subscriptions.

STACKING ALFALFA

Alfalfa is too valuable a feed to be piled up without protection from the weather, but a much larger proportion of the crop is stacked than is put into sheds or barns. By building big, high stacks, such as can be put up by the use of stackers of various kinds, the loss from exposure to the weather can be greatly reduced. It is important that the stacks be properly constructed. We were taught to stack hay as a boy on a Kansas farm, and we well remember the constant emphasis placed on keeping the middle of the stack full and well tramped. Probably more stacked hay is lost because this rule is not carefully observed than for any other reason. When the stack settles, the sides of a properly-made stack should settle more than the middle so that the hay has a downward pitch. The water cannot run into a stack when this rule has been carefully observed. In building round stacks, which is a common type of stack, the sides should be given a fairly prominent bulge. The top should be fairly well rounded and when settled the top should maintain its position over the center of the stack. It is a good plan to cover alfalfa stacks with some coarse marsh hay of slough grass. This sheds water much better than alfalfa.

The organization of farm bureaus in Kansas continues. Such organizations have been recently perfected in Anderson and Norton counties. Roy M. Phillips, who has been extension dairyman with the agricultural college of the State of Washington, has been selected by the farm bureau of Anderson County as county agent. Mr. Phillips is a graduate of the Kansas Agricultural College. Norton County has not yet selected its agent, but will do so soon. Norton will be the twenty-first county in Kansas to have a farm bureau and a county agent.

DRY FRUITS AND VEGETABLES

Boys and Girls Can Help in Preserving Food For Winter Use

By G. E. Bray, Extension Division, K. S. A. C.

HERE is an opportunity for boys to assist the Council of Defense and help in the preserving of food for winter use. It is estimated that one-half the fruits and vegetables raised in this country are wasted. This will continue unless something is done to encourage the preservation of fruit and vegetables by drying. The ordinary methods used for drying in the sun are awkward, inconvenient and unsanitary. Boys can help to overcome these difficulties by constructing the equipment described and illustrated in this article.

Figure 1 suggests a tray provided with a wire screen cover to be used for drying in the sun. The tray consists of a rectangular frame covered with muslin. A narrow strip of wood is nailed around the outer edge of this frame to hold the muslin in place and prevent the fruit or vegetables from rolling off the tray. The cover to this tray is a rectangular frame covered with wire netting. It is advisable to use muslin or cloth of some kind on the tray, as acid fruits are liable to be injured if placed directly on galvanized wire. A convenient size for the tray and cover is twenty-five inches in width by thirty-six inches in length. When these trays are used they should be supported on two rails or pieces of lumber so that the warm air passing under and over them will dry the fruit or vegetables from the under side as well as from the top.

Any boy, or girl either for that matter, handy with tools, can construct a dozen or more of these trays with covers for home use. The approximate cost for a single tray with cover is as follows:

For the tray—

Two board feet of ⅞ x 4½-inch lumber at 6 cents per foot	$0.12
Two-thirds yard of muslin at 17 cents per yard	.11
Total	$0.23

For the cover—

Two board feet of ⅞ x 4½-inch lumber at 6 cents per foot	$0.12
Six square feet of pearl wire screen at 4 cents per square foot	.24
Total	$0.36

Making a total for the drying tray, with cover, 59 cents.

Figure 2 suggests a simple piece of



FIG. 1—TRAY WITH WIRE SCREEN COVER

construction which boys can easily make and which will aid in conserving food. This rack with a set of shelves is to be placed on the back of the home cook stove and used for drying fruits and vegetables. In this way much of the heat ordinarily wasted when baking or preparing meals in the home is utilized.

The drying rack with trays shown in Cut 2 is made of the proper dimensions to fit the back of the cook stove. It should have a width of from twelve to fourteen inches and a length sufficient to extend across the back of the stove. This rack is raised by means of iron legs so as to provide sufficient space for placing cooking utensils under it.

Boys should make two of these for the home use. One of the racks can be kept busy practically all of the time that the kitchen stove is in use during the drying season and very frequently two can be placed on top of the stove and used for drying without interfering with other uses of the stove. These racks with trays are light and when not in use can easily be lifted from the stove.



GIRL SPREADING FRUIT ON TRAY IN HOME-MADE DRYER.—DEVICE HAS BEEN PATENTED BY KANSAS AGRICULTURAL COLLEGE AND IDEA GIVEN TO PEOPLE

There should be a space of about five inches between the trays. This makes the total height of the rack approximately twenty-nine inches, assuming that the iron legs raise it ten inches from the top of the stove. Constructed in this manner, the warm air from the stove will circulate freely between the trays and carry off the moisture from the fruits or vegetables being dried.

The approximate cost of material for constructing the rack with four trays is as follows:

Six board feet of ⅞ x 6-inch lumber at 6 cents per foot	$0.36
One yard of muslin at 17 cents	.17
Total	$0.53

The home-made dryer shown in use in the cut at the top of this page is somewhat more difficult for boys to construct, but with care and perhaps some little assistance from an older workman, this project is not too large for them to undertake.

The size of this dryer is determined by the size of the sash available. The ordinary hotbed sash is three feet by six feet, which was the size used in making the dryer illustrated. Where hotbed sash is not available, storm sash or even ordinary window sash may be used if rainproof. The rectangular tray upon which the girl is spreading the fruit is made of one-inch by two-inch strips nailed together and covered with muslin. This is placed when finished under the sash in the dryer. The sash which covers this dryer is given a pitch of several inches. The under part of the lower end is boxed in to provide a place for the incubator or other suitable lamps which are used for producing artificial heat when the sun is not shining. These lamps cause a current of air to circulate through the dryer, passing out through the five one-inch openings shown in Figure 3. Two six-inch holes are cut through the floor of the drying space at the low end. In each of these holes a stovepipe six inches in diameter and twelve inches long is fastened so as to extend down into the lamp box below. A sheet metal deflector is placed over the top of the stovepipes as shown in Figure 3. This deflects the entering air to the back end of the dryer. The deflector is fastened down to the floor at the back of the stovepipe openings and then raised about one inch by means of blocks to which it is nailed.

The draft enters the dryer through the lamp box floor, passes up through the stovepipes, then through the drying space, and finally out through the ventilator openings previously mentioned. In case it is desired to use the dryer when the sun is not shining, lamps are lighted and placed in the lamp box under the stovepipes. These lamps produce sufficient heat to cause a current of air to pass through the drying space and out through the ventilator openings. It will be noticed that the sides of the lamp box are tightly closed in order to prevent the wind from blowing out the lamps.

The cost of the materials required to make this dryer is as follows:

Thirty board feet of 13/16" x 4" flooring at 6 cents per foot	$1.80
Twenty-eight board feet of 13/16" x 6" siding at 6 cents per foot	1.68
Hinges for lamp door	.25
Catch for lamp door	.10
Glass for lamp door	.15
Nails	.10
Two half lengths of 6" stove pipe at 15 cents each	.30
Three yards of muslin at 17 cents per yard	.51
Total	$4.89

At the present time a hotbed sash three feet by six feet by one and three-eighths inches thick costs $2.80. Incubator lamps will cost from $1 to $1.25 each. The cost of the sash and lamps is not included in the cost of the material, as they are generally to be found on farms.

This dryer has sufficient surface space for approximately one bushel of apples at a time, and it is very probable that from three to five batches can be dried in twenty-four hours. In trying out the dryer, potatoes, pumpkin, and green spinach leaves were dried in less than four hours, and apples in a single night. During this test the temperature on the outside was between 70 and 75 degrees Fahrenheit and the temperature in the drying space was from 130 to 170 degrees Fahrenheit while the sun was shining. As the best authorities suggest that the drying of fruits and vegetables should take place at a temperature of from 140 to 160 degrees Fahrenheit, additional ventilation will have to be provided during the hottest part of the day. This can, of course, be accomplished by slightly raising the sash. During the test at night the temperature on the outside ranged from 50 to 60 degrees Fahrenheit and in the dryer from 80 to 90 degrees Fahrenheit. This additional heat was produced entirely by the lamps.

The preparation of fruits and vegetables for drying in the suggested trays or dryer is the same as the preparation for drying by the old method in the sun. Two methods are recommended for preparing sweet corn for drying. The corn may be slightly cooked on the cob, then cut off and placed in the dryer, or it may be cut from the cob before cooking, seared in the oven until the milk is set, and the drying process completed in the dryer. Through the use of this latter method more of the natural flavor is retained.

Wax beans should be parboiled before they are dried, in order to remove the undesirable strong flavor and to soften the tissues so that they will dry more quickly. Some vegetables are cut in thin slices and dried. Others are cooked, mashed, and then placed in shallow pans and dried in the dryer.

The following are some of the fruits and vegetables found in this state which can be preserved by drying: Apples, blackberries, cherries, currants, huckleberries, peaches, pears, persimmons, plums, quinces, raspberries, cabbage, corn, citron, peas, peppers, pumpkins, spinach, squashes, sweet potatoes, and wax beans. When there is a shortage of cans, preservation by drying is especially recommended for corn, pumpkins, and apples.

It is going to be difficult and in many cases impossible for canning factories to get cans this year. Unless plans are made to dry fruits and vegetables we



FIG. 2—DRYING RACK WITH TRAYS

are likely to be compelled to go without these foods the coming winter. The articles here described will be a great aid in preserving food products by the drying method. Many boys, girls, and older persons for that matter, who can use ordinary home tools, can readily make and use any of this apparatus and in this way provide wholesome food for next winter's use. Where is the boy who would not be more than willing to make this drying equipment in order to have the opportunity of enjoying pumpkin pies, dried apple sauce, and dried corn the coming year?

Buy Canning Supplies Early

With the enormous increase in the production of fruits and vegetables this year, it is declared to be a matter of common foresight to buy canning supplies early. Shortage of different supplies is frequent during normal canning seasons, and it is said that the shortage may be more acute this year on account of the difficulty of transportation.

Save All Grain Produced

Methods Impractical Under Ordinary Conditions Will Return Good Profits This Year

WHEN wheat is selling on the market for $3 a bushel, it is not hard to figure a good profit from the additional work necessary to save some of the waste that ordinarily occurs. Labor that would have been unprofitable under ordinary conditions can be made to bring a good return. "Save all grain produced" might well be the slogan of the wheat grower this year.

Last week the Interstate Cereal Conference was held in Kansas City. A wide range of subjects was considered at this meeting, but at this particular season and under present conditions parts of an address given by Edward C. Johnson, dean of the extension division of our Agricultural College, had peculiar significance to wheat growers of this state.

The subject assigned Dean Johnson was "Waste in Cereal Production." After pointing out the many different kinds of losses which can occur, such as those due to smut, rust, insect enemies, etc., he referred to a recent news item reading as follows:

"Nebraska farmers are rethreshing old wheat straw stacks and some have made a profit of $1 to $1.50 a bushel from the operation. The wheat grades No. 2, and from strawstacks two to three years old some farmers have threshed 100 to 200 bushels. This kind of 'conservation' started in the southern part of the state and has spread widely. Attention of county conservation boards and defense councils has been called to the probability of substantially increasing the food supply by rethreshing wheat straw, and for the benefit of wheat growers a record will be kept of further results of the rethreshing."

"This item," said Dean Johnson, "probably would not have made much of an impression had not other items of a similar nature appeared in the papers of our state last winter and this spring, and had we not known of farmers who actually have made money by rethreshing wheat straw stacks.

"One of our railroads is distributing a poster which in part reads as follows: 'At Kiowa, Kansas, August Hauser had a field of 140 acres that was threshed last summer at a cost of 12 cents a bushel. Thereafter he noticed that the wheat straw contained considerable wheat grain. This came to him when he was hauling it in for bedding. He decided to rethresh it as an experiment, and the work was handled in twenty hours by the same rig that originally threshed it, at a cost of about one dollar a bushel for the wheat recovered. The original job was a poor piece of work, but Mr. Hauser thinks that threshing is being rushed to such an extent that there is a great deal of the same grade of work being done throughout the country. The wheat threshed last summer was No. 2 and weighed sixty-one and sixty-two pounds. That just recovered was of the same grade and weighed fifty-nine and sixty pounds. There were 131 bushels of it, selling on the Kiowa basis at $2.50 per bushel. The Kiowa News Review of April 27, commenting on the above, says: "'"From the Hauser farm the threshing outfit went to the Joe Hesler farm and similar results were obtained by threshing the straw over."'"

"In Hauser's case the threshing expense was twelve cents per bushel for the 2,520 bushels of wheat threshed from the 140-acre field, plus the 131 bushels of No. 2 wheat thrown out by the fan and stacker. In other words, the expense was twelve cents per bushel for the 2,520 bushels, plus five per cent of the wheat crop on that farm.

"In Pawnee County, Kansas, last fall, permission was given to a farmer to follow up a threshing machine and clean up and collect such grain as was left where the machine had been standing and which had not been cleaned up by the threshing crew. He followed the machine for three weeks with a team and fanning mill. At the end of that time he had collected wheat which sold

[Continued on Page Eight.]

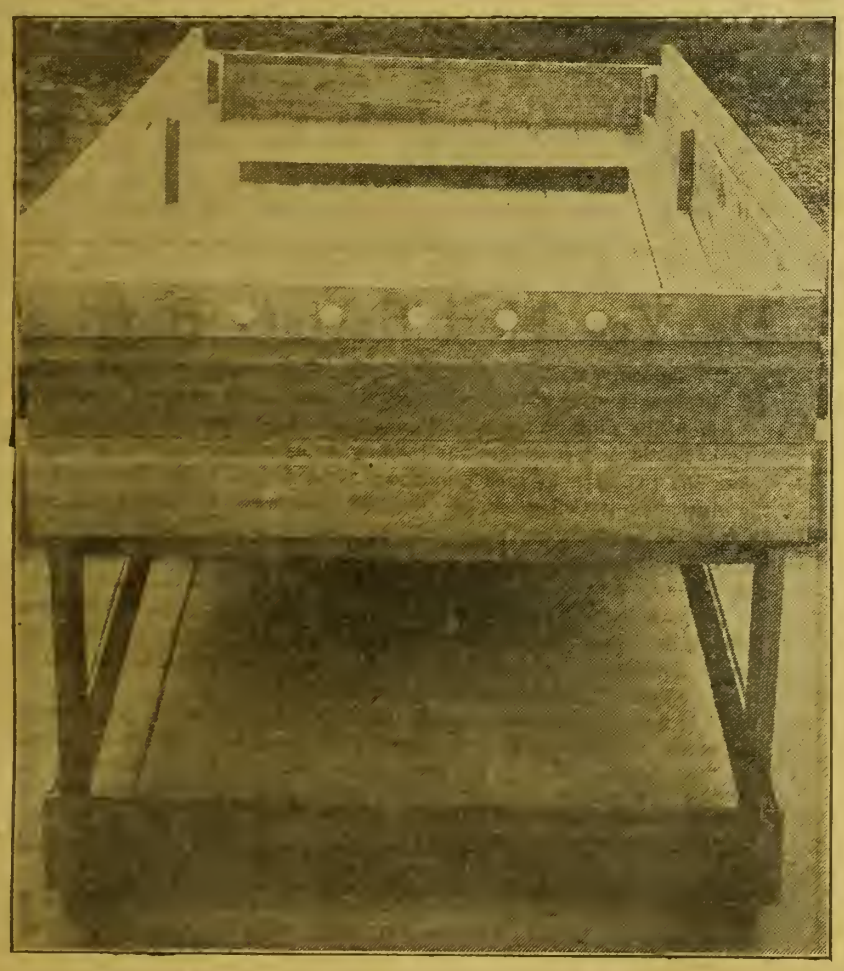


FIG. 3—TOP VIEW OF HOME-MADE DRYER DESCRIBED ON OPPOSITE PAGE.—DEFLECTOR OVER LAMP HOLES SHOWN.—THIS DRYER MOST EFFICIENTLY ACCOMPLISHES ITS PURPOSE

KANSAS STATE FAIR

Under the Auspices of the State Board of Agriculture

HUTCHINSON, SEPT. 15-22

The greatest annual event in Kansas.
The natural meeting place of the breeder and the buyer.
The producers' show window of agriculture.
The practical "Food Training Camp" for all people.
Send a postal card for the STATE FAIR CATALOG and learn all about it.
Great racing, sensational free entertainment, daily.
The great pyrotechnic spectacle, "THE WAR OF THE NATIONS," five nights.
Everybody invited to exhibit and to come.
Write the Secretary for information.

H. S. THOMPSON, PRES. A. L. SPONSLER, Secretary



PRAIRIE DOG TRACTOR

Makes Work a Pleasure. Early plowing conserves moisture and increases crops. The greater profit will pay for a Prairie Dog Tractor. Works in any weather. Does not mind the heat—never tires. Pulls two 14-inch plows under ordinary conditions at 2½ miles per hour. 20 H-P. Waukesha Motor for belt work. Speed on high for road work, 7 to 10 miles per hour. Saves time, makes work pleasant. High quality—low price. Write for catalog and special offer to reliable farmers.

K. C. HAY PRESS CO., Kansas City, Mo.

Patriots and Loyal Citizens Will Want to Show Their Colors



"Your Flag and My Flag"

"Long may it wave
O'er the land of the free
and the home of the
brave"

The big demand, the scarcity of good dyes and the high price of cotton have made it hard to secure flags. We have been fortunate enough to secure a few high-grade printed flags 3 feet by 5 feet with canvas heading and brass grommets, colors fast.

You May Have One of These Flags If You Act Promptly

HERE IS OUR OFFER

For only $1.50 we will enter your subscription or extend your subscription for one year and send you this beautiful flag, postpaid. Or for $2.00 we will renew your subscription for one year and one new subscription for one year and send you one flag postpaid.

Don't Delay—Send Your Order NOW, Before It Is Too Late

FLAG OFFER BLANK

Name.....R. F. D.....

Postoffice..... State .....

DESK D, KANSAS FARMER, TOPEKA

Plant Pumpkins in the Corn

Pumpkins planted in corn furnish a cheap, appetizing stock feed. They should be planted by the latter part of June, putting a pumpkin seed in every sixth hill and in every missing corn hill. They will affect but slightly the stand of corn and a large amount of fine stock feed can be raised if the corn is not intended for the silo or to be harvested with a binder.

Pumpkins are relished by cattle and hogs. Fed, uncooked and with the seeds, they act as an appetizer and corrective of digestivle troubles. Two and one-half tons of uncooked pumpkins are equal to one ton of corn silage to cattle. It has been found that 273 pounds of grain and 376 pounds of pumpkin produced 100 pounds of pork, the pumpkin saving 100 to 150 pounds of grain. The low cost of growing, ease of keeping, large yields, and the tonic quantities of a succulent feed available when succulent hog feeds are scarce make pumpkins well worth while.

Young people who contemplate attending business college or auto training school this fall or winter will find it to their advantage to write us. KANSAS FARMER has some information that will be of genuine interest to you. Address DESK D, KANSAS FARMER, Topeka, Kan.



Twenty Million Miles of Telephone Wire

The telephone wire in use in the Bell System is long enough to run from the earth to the moon and back again forty times.

The Bell System has about twice as much telephone wire as all Europe.

More than 500,000 new telephones are being added to the Bell System yearly—almost as many as the total number of telephones in England.

In twelve months the Bell System adds enough telephones to duplicate the entire telephone systems of France, Italy and Switzerland combined.

In proportion to population the extension of the Bell System in the United States is equal in two years to the total telephone progress of Europe since the telephone was invented—a period of about forty years.

The Bell System fills the telephone needs of the American people with a thoroughness and a spirit of public service which are without parallel the world over.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

Kansas Farmer Dairy Club

Banks Commend Club Work

THE following article was written for the Douglass Tribune by J. A. Middlekauff, cashier of the State Bank at Douglass.

"The Kansas Farmer Dairy Club was organized under the direction of The Kansas Farmer, of Topeka, about one year ago. Banks were induced to loan boys and girls the purchase price of a selected milk cow.

"Cary Burton, aged twelve, son of Chas. R. Burton, joined the club from Douglass, the State Bank of Douglass paying for the cow. This boy's record for the year has just closed. The total cost of the cow, insurance and interest was $91.80. His receipts from the sale of butter fat were $33.11, one calf $30.00 one pig $19.25, total sales during the first year $82.36, lacking but $9.44 of paying in full for the cow. The cow is in splendid condition and of course represents Cary's profits.

"He has kept neat detailed records of the cow's feed and milk and filed them each month with The State Bank of Douglass and KANSAS FARMER. All this was valuable training for Cary besides being a safe profitable financial proposition."

Wherever there are members of the Kansas Farmer Dairy Club stories of this kind are being told. It has been a piece of co-operative effort most fruitful in its results.

Mr. Middlekauff says in a letter that he took considerable pains in selecting Cary and encourageing him in his work and the results have made him feel well repaid for his efforts. He will be glad to aid another boy or girl of that community in doing similar Dairy Club work.

Bankers all over the state loaning money and directing boys and girls in their Dairy Club work have had a feeling of satisfaction similar to that expressed by Mr. Middlekauff. The State Bank co-operated in the club work the past year and its cashier, C. R. Hoyt, has just sent in the names of several boys as members of the club now being enrolled. He says in his letter: "We find the club work last year has produced quite an awakening among our farmers here, and several are buying better cows. Let the good work go on."

Glad She Joined Club

I am sending my milk and feed records for the month of May. I am paying eight per cent interest on my note.

I had the picture taken of my cow, heifer, and calf and myself, but do not know whether they are good or not. I will send you one in the near future.

I have made $30.18 to pay on my note during May and the six days in April when my cow was giving milk. I work in the field for papa. He gives me one dollar a day. I am paying that on my note also.

I sure am glad I joined the Dairy Club, and hope to see many more join this year.—DORA BRADER, Labette Co.

Dora's record had a notation on it stating that she was selling butter for thirty-five cents a pound. According to the Elgin price for butterfat, this is not enough. Of course we do not know exactly the amount she should receive for her butterfat, but as a rule the creameries pay very close to the Elgin price. Those who make butter and sell it ought to get at least as much for their butterfat in the form of butter as in cream. A pound of butterfat should make about one and a quarter pounds of butter, and this over-run, as it is called, pays for the work of making the butter.

New Member Reports

I am sending my records and Clarence's today with the mail.

I pay 8 per cent on my note. The note was for $100. Last month—April—I paid $9.57. This month—May—I will have a little over $10.

Can I let anything I raise go on the note or feed, such as a pig, calf, or turkeys? I have all three.

My cow has a few pimples on her bag. Can you tell me anything to cure them? Much obliged.—LUCILE RADCLIFFE, Osage County.

We have written Lucile that it is all right to use any money she is able to make in paying the note, although of course in the dairy contest itself only the production of the cow will count. It is a fine thing to be able to earn money in other ways and pay off the note as quickly as possible.

We do not know what is the cause of the little pimples on the cow's udder and have asked for further information, whether they are like warts or fresh sores, on what part of the udder they are located, and whether they bother in milking.

When cows are in full milk they require plenty of water. It is stated authoritatively that cows in full flow of milk will consume fifty per cent more water than when dry.

Keep the cows on the farm, also the calves, especially the females.

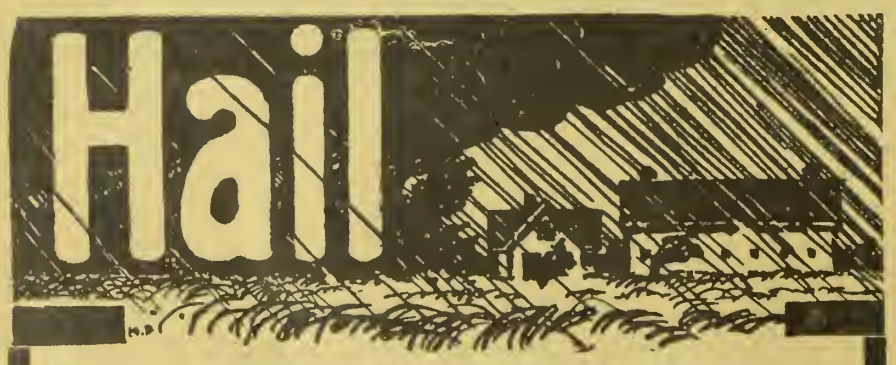
Do You Need Sample Bottles?

FOR the convenience of Dairy Club members we have ordered a supply of the sample bottles and mailing containers used in sending the monthly milk sample to Manhattan. Each member will need one sample bottle and container for mailing it, as a sample of milk must be taken the fifteenth of each month and sent to the Dairy Department of the Agricultural College at Manhattan, Kansas, to be tested. It would be safer to have two of these sets, as there is a possibility of one being lost or broken in the mail. We will furnish these to members of the club at cost—twelve cents for each set, including postage.

Be sure to address your sample of milk to Prof. O. E. Reed, Kansas State Agricultural College, Manhattan, Kansas, and NOT TO US. Each milk sample should be plainly marked with your name and address and the words "Member Kansas Farmer Dairy Club."

It is necessary to use corrosive sublimate tablets in the milk samples to preserve the milk until it is tested, and since these tablets are usually difficult to obtain locally, we have made provision to supply them also at a cost of ten cents a dozen. Half a tablet is enough for a single sample of milk. IT SHOULD BE REMEMBERED THAT CORROSIVE SUBLIMATE IS A DEADLY POISON, AND THE TABLETS SHOULD NEVER BE LEFT WHERE SMALL CHILDREN CAN GET TO THEM.

If you want us to mail you a sample bottle or bottles and the corrosive sublimate tablets, send us your order with the amount to cover it in postage stamps.



ARE YOUR CROPS PROTECTED?

You know the deadly work of hail. Within a few hours all your crops can be destroyed. Your income is gone. Your labor is wasted.

What a sense of security you have when your crops are protected against hail in a safe and conservative company. Don't risk another day, but insure now in a company whose officers are bonded to the State of Kansas for $50,000.

THIS IS THE COMPANY

that first put the insurance in force from the moment the application was signed and the premium paid. Always has adjusted all losses, no matter how small. We ask for your application on our past record. Don't wait for the storm, but write us for full particulars or see our agent before you insure your grain.

THE GRAIN GROWERS HAIL INSURANCE COMPANY

Elmer F. Bagley, Secretary, Topeka, Kansas.



Stay With Dairy Business

THERE is a good deal of complaint among dairymen because of the high cost of feed, but we do not believe this is a sound reason for going out of the business. We have in mind the kind of dairying which is a part of general farming. There may be some doing specialized dairying who must of necessity go out or change their methods and general plan of business. A good many have done out in some sections of the country as is evidenced by the large receipts of canner and butcher cows at some of our central markets. This kind of retrenchment is a good thing for dairying in general. It eliminates competition of those who had not known before that they were doing business at a loss.

Here in Kansas the steady demand for good dairy cattle indicated that more rather than less interest is being taken in dairy work. It is a good time for the dairyman who understands his business to stick to it. On many a farm in spite of the high price of feed the milking of all the cows that can be handled will continue to be a source of profit. The high cost of grain and the concentrates that are ordinarily purchased will lead to a larger use of farm grown feeds. The chief function of dairy cattle when dairying is carried on as a part of general farming is to consume the feed of the farm, and all plans should be worked out along the line of insuring a maximum use of these farm grown feeds.

The use of better cows is always in order, but is of unusual importance when feeds are exceptionally high in price. The present condition is likely to result in the keeping of closer records and in this way we are sure to find out how poor or how good our cows are. It is a good time to plan for practicing a little better dairying rather than to lesson the amount of dairy work done.

Size of Silo

Silage exposed to the air spoils quickly. For this reason it is important that at least two inches of silage be fed out daily during the summer and an inch and a half during the winter. The silage fed should be removed evenly from the whole surface each day, and it is better to feed even more than the minimum amount mentioned above. Those building silos should understand the necessity for having the silo of a size suited to the amount of stock to be fed. The silo for a small herd should be small in diameter. On very few farms should the silo be larger than sixteen feet in diameter. The minimum amount of silage to be fed daily from a silo of this size is 1325 pounds. It will require thirty head of cattle consuming forty pounds daily to eat this amount.

The total amount of silage to be fed during the year depends on the length of the feeding period. The amount to be fed daily, however, determines the diameter of the silo. In order to have a long feeding period, it is necessary to have the silo of greater height.

Where the herd is large it is often advisable to build two silos rather than one large one. Over a ton of silage must be removed daily from a silo twenty feet in diameter in order to prevent the feed from spoiling on top. On farms where silage is to be fed during the summer season to help out the pasture a small silo can often be used to good advantage.

Grain for Skim-Milk Calf

Whole milk is Nature's balanced ration for the calf and it should be fed during the first two weeks of the calf's life. Whole milk, however, is too expensive for prolonged calf-feeding because the fat it contains is worth approximately forty cents a pound.

In view of this price it is advisable to sell the fat and feed skim milk with a substitute for butterfat. The chief office of fat in the calf ration is to supply heat to the body. When the fat is removed and skim milk is fed, the energy can be supplied more economically in the form of grain.

Protein is also expensive but absolutely essential to development of the calf's body. None of the growth-producing proteids is removed by skimming the milk.

When the calf is about two weeks old it may be taught to eat grain. If it is with older calves it will take grain without any special attention. Otherwise it may be started by rubbing a small amount of corn meal or bran on its nose. In licking its muzzle the calf will develop an appetite for the grain. The grain may be kept constantly before the calf for a few days.

A good grain mixture is three parts cracked corn or corn meal and one part wheat bran. To this one part oats may be added if desired. Linseed meal or blood meal may also be added in small quantities, but neither is necessary.

The grain should be given in the dry form after the skim milk has been fed. After the calf is old enough to eat grain freely, it should be fed at regular intervals. During the first two months the grain taken will be less than one pound a day. This should be gradually increased so that at the age of six months, when the calf is weaned, about two pounds will be taken daily.

When only a few days of age the calves will begin to nibble hay if it is within reach. It is preferable to feed timothy or prairie hay for the first two or three months, after which alfalfa or clover hay will give better results.

Cow Test Report

The following is the record of the cows in the Dickinson County Cow Testing Association reaching the forty-five pound mark in butter production for the month ending February 28:

Owner—	Pounds Milk	Per Cent of Fat	Pounds Butter 80% Fat
A. B. Wilcox, H.	1,560	3.7	72.1
A. B. Wilcox, H.	1,434	3.6	64.5
A. B. Wilcox, H.	1,989	3.7	92.0
A. B. Wilcox, H.	1,242	4.1	63.9
A. L. Eshelman, H.	858	4.4	47.3
J. A. Engle, H.	1,104	4.3	59.4
Fred Muench, J.	1,098	5.3	72.7
Fred Muench, J.	1,011	5.1	64.5
Fred Muench, J.	945	5.8	68.5
Fred Muench, J.	462	5.8	46.5
J. M. Gish, H.	1,113	3.6	50.1
J. M. Gish, H.	1,017	4.2	53.4
Mott & Seaborn, H.	1,140	3.6	51.2
Mott & Seaborn, H.	1,695	3.1	65.6
Mott & Seaborn, H.	1,011	4.1	51.8
Mott & Seaborn, H.	1,056	4.0	52.7
Hoffman Bros., H.	837	4.8	50.2
Hoffman Bros., H.	966	3.7	45.9
J. A. Weishar, H.	1,245	3.9	60.8
J. A. Weishar, H.	1,146	3.4	48.8
Ira Zercher, H.	1,068	4.2	56.1
Ira Zercher, H.	1,023	3.8	48.6
H. S. Engle, H.	993	3.8	47.1
H. S. Engle, H.	1,107	3.6	53.1
H. S. Engle, H.	1,392	3.4	59.1
H. S. Engle, H.	1,398	3.9	68.1
D. S. Engle & Son, H.	1,377	3.2	55.1
D. S. Engle & Son, H.	996	3.8	47.2
D. S. Engle & Son, H.	948	4.0	47.4
George Lenhert, H.	1,239	3.2	49.5
George Lenhert, H.	1,101	3.3	45.3
George Lenhert, H.	993	4.2	49.0
George Lenhert, H.	1,002	3.72	46.5
E. S. Engle & Son, H.	1,122	3.6	50.5
E. S. Engle & Son, H.	1,251	4.3	67.3
E. S. Engle & Son, H.	1,260	3.7	58.3
E. S. Engle & Son, H.	1,047	3.6	47.1
E. S. Engle & Son, H.	1,821	3.8	86.5
E. S. Engle & Son, H.	1,746	3.6	78.6
E. S. Engle & Son, H.	1,413	3.2	56.2
E. S. Engle & Son, H.	1,485	3.7	68.6
E. S. Engle & Son, H.	1,456	3.5	63.5
E. S. Engle & Son, H.	1,536	3.9	74.9
E. S. Engle & Son, H.	1,893	3.34	79.0
E. S. Engle & Son, H.	2,352	2.94	86.4
E. S. Engle & Son, H.	1,392	3.55	61.8
E. S. Engle & Son, H.	1,377	3.56	61.2
E. S. Engle & Son, H.	1,449	3.63	65.7

Note: In the preceding table H. stands for Holstein and J. for Jersey.

The Department of Justice has issued an order prohibiting the American flag to be woven or stamped on collars, handkerchiefs or other wearing apparel. People wearing flags in this way will be prosecuted, it is said.

You have not fulfilled every duty unless you have fulfilled that of being pleasant.—CHARLES BUXTON.



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DE LAVAL SEPARATOR NOW

1st If you are still using some gravity or setting process of creaming—

BECAUSE YOUR WASTE IS greatest and quality of product poorest in mid-summer when the milk supply is heaviest.

BECAUSE TIME IS OF GREATEST value on the farm at this season and the time and labor saving of the good separator counts for most.

BECAUSE THE SKIM-MILK IS poorest without a separator in hot weather and often more harmful than helpful to calves.

BECAUSE THE WORK OF A NEW De Laval Cream Separator is as perfect and its product as superior with one kind of weather as with another.

2nd If you have a very old De Laval or an inferior separator of any kind—

BECAUSE THE LOSSES OF THE poor separator from incomplete skimming and the tainted product of the hard-to-clean and insanitary separator are the greatest at this season.

BECAUSE OF THE GREAT ECONomy of time at this season in having a separator of ample capacity to do the work so much more quickly.

BECAUSE THE NEW DE LAVAL is so much simpler and more easily handled and cared for than any other, and you can not afford to waste time these busy days "fussing" with a machine that ought to have been thrown on the junk-pile long ago.

BECAUSE THE DE LAVAL SEPARator of today is just as superior to other separators as the best of other separators to gravity setting, and every feature of the De Laval superiority counts for most during the hot summer months.

These are all facts every De Laval local agent is glad of the opportunity to prove to any prospective buyer. If you don't know the nearest De Laval agency simply write the nearest main office, as below.

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York 29 E. Madison St., Chicago

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

POWER FARMING

With the All-Standard Tractors

PLOW BOY 10-20 and PLOWMAN 13-30

American farmers get results. Their yield in bushels per man is much higher than in Europe. Why? Because they use modern farm machinery. But since we have too few men for the vast farm area of U. S. our *yield per acre is very low.*

Farm tractors are now furnishing the power to make better use of both men and implements. Each man does two to four days' work in one.

As a result more acres are farmed—plowing done earlier and better—crops tended more thoroughly and harvested quicker—time is saved—labor cost reduced.

When ground is too hard or weather too hot for horses, the tractor will do your work.

Plow Boy and Plow Man tractors have won notable success at home and abroad. All-Standard construction offers these advantages: great pulling power, smooth operation, low upkeep, fuel economy, durability.

Get your tractor early—let it solve your labor and power problems. Don't wait! Railroads will soon be tied up with mobilization and war shipments.

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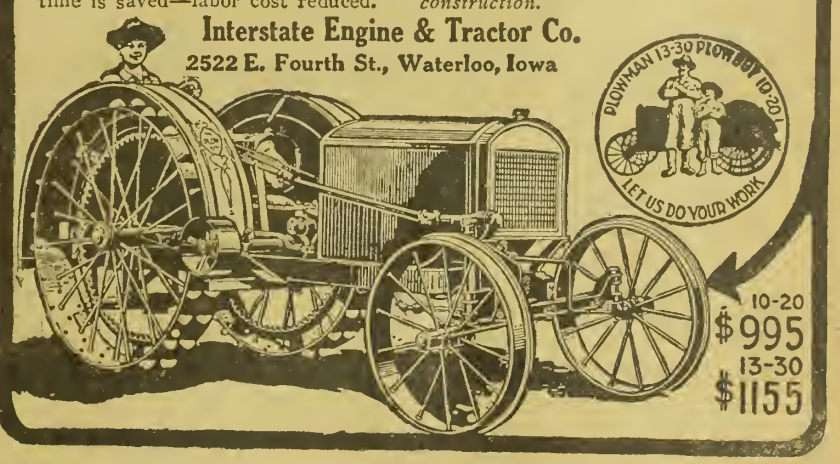

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Means Animal Health

Use about the barn, pens, chicken yards; use at the house on garbage cans, sinks, drains, cesspools. It cleanses and purifies—keeps down bad odors and smells and destroys disease germs. Dip your sheep to eradicate scab and kill ticks. Dip or spray hogs to kill lice.

Sold on Money-Back Guarantee—1 Gallon, $1.00

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What are a Major's duties? What salary does a General draw? What are the different army divisions? These and many more questions answered in MILITARY HAND BOOK. Instructive, interesting; limited edition. Write for your copy today. **25c.**
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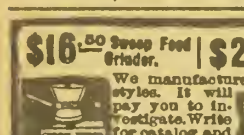

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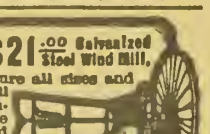

CURRIE WIND MILL CO.,
610 E. Seventh St., Topeka, Kansas

Many children are burned to death every year in Kansas. These tragedies often occur in the best of families and through no more neglect upon the part of the parents than is common in practically every home. Those homes that have not lost a child or had one disfigured for life by the flames are usually more fortunate than careful, for the fact cannot be disputed that nearly every family in the state is guilty of just such thoughtlessness as is responsible for most of these horrible accidents.

Enclosed find check for two dollars to pay for KANSAS FARMER for three years.

Just read your article on first page of May 12 issue about the dairy cow and think it alone worth the two dollars.—EVANS DONLEY, Clay County.



Save All The Wheat

IT IS poor business as a rule to permit waste of a crop after it is fully grown and ready for use. We may charge Nature with being responsible for the extensive winter-killing of wheat the present season and perhaps some of the losses which occur in harvesting and threshing, but there are many losses for which we must accept responsibility because of careless habits.

J. C. Mohler, secretary of the Kansas State Board of Agriculture, recently pointed out that practically everything that man can do with respect to maturing a wheat crop in the United States this year has been done. Spring wheat has been sown and the winter wheat is being harvested in the South. The one thing that man can do yet to increase the wheat supply of this year is to eliminate waste in harvesting and threshing and handling. With wheat at present prices it will take no urging to induce farmers to save every kernel of wheat possible. It is important, however, to watch the sources of loss. One of these is in threshing. Last year many straw stacks were rethreshed on a fifty-fifty basis with big profit. One instance that came to the attention of Mr. Mohler was where the rethreshed straw from a quarter section of wheat yielded 150 bushels of grain that sold for $1.38 a bushel. It is estimated that the loss in wheat passing through the separator to the straw stack averages a bushel and a half to the acre. This year the percentage is likely to be higher unless the utmost care is exercised, owing to the larger proportion of weedy wheat.

One cause for considerable of the loss in threshing is the high speed with which many operators insist on running their separators. This is against clean separation. Even though it might be necessary to pay more in order that threshing outfits may make the same wage running at reduced speed, it should be done to secure the maximum of wheat at a time when it is so badly needed. The increased wheat should more than pay the increased cost. In an ordinary season there is enough waste in threshing to feed the state. This year with our short acreage to harvest, approximating four million acres, at the usual rate of loss the wheat would amount to six million bushels—a quantity that would provide bread for an army. A slogan at threshing time, suggested by D. J. Fair, a prominent wheat grower of Rice County, and a member of the State Council of Defense, that should be kept prominently in mind, is, "Watch the straw stacks."

Seeding Timothy

A. C. R., Washington County, asks about seeding timothy. Prof. L. E. Call, of the Agricultural College, answers this inquiry as follows:

"The most common method of seeding timothy is to sow the grass with wheat as a nurse crop. Wheat is sown at the usual rate and timothy seeded at the same time at the rate of eight to ten pounds of seed to the acre. The most common practice is to sow timothy and clover together. In your section of the state timothy is not a very satisfactory grass unless you have well watered bottom land on which to seed it. On such ground it would not be satisfactory to sow timothy with a nurse crop because the nurse crop would be very apt to lodge and produce such a rank growth that timothy would be smothered. The best plan would be to sow the timothy without a nurse crop. The ground should be well prepared and the grass seeded about the middle of August, choosing a time when weather conditions were favorable.

"It would be well to mix with the timothy some other grasses, especially if the field was to be used for pasture purposes and even for meadow purposes, a mixture of clover and a little brome grass would be desirable. For pasture purposes, I would advise sowing at least as much brome grass as timothy, and with these grasses should be mixed a little sweet clover, white clover and alfalfa. The total amount of alfalfa, sweet clover, and white clover should not exceed five pounds. Timothy can not be grown successfully on thin upland ground in your section of the state."

Selling the Crop

Many raise good crops, but few market the crops at prices which pay a profit on the total cost of production.

For twenty years we have been watching the work of some men who have made money raising broom corn. We have noticed that they store the brush until the price is high enough to pay them a good profit over cost of production and storage.

Many of our farmers are now prepared to store wheat, if the price at threshing time is low. This storing of wheat on the farm will help to keep the prices steady. It will also help transportation companies by preventing too large a demand for cars at any one time. The grain will be marketed as the demand for it tends to raise prices.

Wheat stored on farms can be insured, and banks will advance money on it, the same as they will loan on wheat in elevators.—J. E. PAYNE, Snyder, Okla.

New Kansas Jersey Records

Castor's Sweet Roxana takes first place among Kansas' junior two-year-old Jerseys, having produced, in a year's test, 7,978.9 pounds of milk and 454.30 pounds of butterfat. The new champion is owned by H. F. Erdley, Holton.

Khoi takes first place among Kansas' senior four-year-old Jerseys, having produced, in a year's test, 12,518.5 pounds of milk and 615.23 pounds of butterfat. The new champion is owned by the Kansas Agricultural College, Manhattan.

When to Cut Sweet Clover

Sweet clover should be cut when it is about two to three feet high, in order to avoid woodiness in the stalks. If the plants have begun to stool out, cutting should not be delayed a day longer than necessary. The crop should be cut from three to four inches from the ground in order to prevent injury to the plants. As sweet clover hay cures more slowly than does alfalfa, care must be taken in handling so as not to shatter the leaves. The leaves are the most valuable part of the hay.

Young people who contemplate attending business college or auto training school this fall or winter will find it to their advantage to write us. KANSAS FARMER has some information that will be of genuine interest to you. Address DESK D, KANSAS FARMER, Topeka, Kan.

Save All Grain Produced

(Continued from Page Five)

on the market for $500, and had earned $27.77 per day for himself and team. Two other men in the same county did similar work, probably with similar results, but specific figures are not available. In Smith County, Kansas, a German farmer decided to take care of what had been left around the threshing machines in his fields before the straw piles were burned and the fields plowed. He spent two days with his team and his fanning mill, and in that time collected fifty bushels of wheat worth about $125. He thus earned a wage of $62.50 a day for himself and team, and incidentally saved valuable foodstuffs for the nation.

"I cite these examples not because they are peculiar to Kansas, but because they demonstrate that there is a great wastage in cereal production on

The Cow Knows—but SHE can't talk. Ask the Dealer.

SO-BOS-SO TRADE KILFLY MARK

Don't let your cows use up all of their energy on flies. SO-BOS-SO KILFLY

Keeps Flies Away

Spray the cow twice a day with SO-BOS-SO KILFLY and the flies will not bother the cows while milking or while in the pasture. Not injurious to skin. Will not gum the hair. Positive protection. Is the most effective preventive against the torture of flies known to chemical science. Has been used for over 17 years in the United States and foreign countries.

You can buy SO-BOS-SO KILFLY from your dealer in gallon cans.

Send for circular describing how SO-BOS-SO KILFLY can help you with other farm duties.



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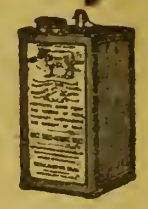

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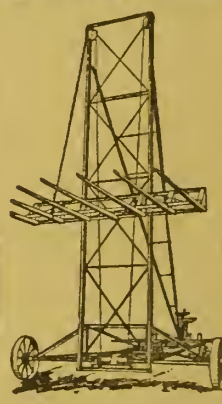

are superior for easy Loading, Stacking or Pitching Hay in Barn. No other has Steel Teeth. Wanted—every man, woman and child on the globe to sign petition for one share of stock (Ten Dollars) in their own Home County Branch of the World Bank and Market Co., a safe, paying investment. Send P. O. order 25c for Petition and By-Laws to

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THE NEVER GET-AWAY BRIDLE BIT



$100 reward if you show me a team that cannot be stopped and controlled with this wonderful Bit. Every farmer and ranchman needs a pair.

10 Days Free Trail

I will send you these Bits on ten days free trial, prepaid parcel post, if you furnish bank reference. If as represented, send $1.50 each, if not, return the Bits.

NIEMANN & SON, - LITCHFIELD, ILL.

Keep the Calves Growing

There is little profit in keeping or feeding animals that have been stunted in the growing period. Dairy calves should be kept in thrifty condition from birth, for an early check in growth is rarely overcome later. Probably the most prevalent cause of stunting is common scours. This disease can be successfully combated if reasonable precautions are taken. It is brought on by use of dirty pails, overfeeding, feeding milk that is partly spoiled or sour, or feeding milk at different temperatures. Milk should be fed sweet at about blood temperature. The feed pails should be washed clean and scalded with hot water or steam to kill bacteria. Feed ten pounds of milk for the first hundred pounds of body weight, five pounds for the second hundred pounds, and two and one-half pounds for the third hundred pounds.

Some feeds which are satisfactory for feeding to other classes of animals are not suitable for feeding chicks. Among such feeds may be mentioned tankage and cottonseed meal. The use of a large amount of gluten in the ration is frequently followed by digestive disorders.

the farm—a wastage due to habits acquired in former years with the price of labor high and price of wheat low—habits which now should be eliminated, because while there is a high price for labor, there is also a high price for wheat, and there is an urgent demand and absolute necessity that every grain of wheat grown be saved.

"After this wastage had come to my attention, I indulged for a while, together with some of my co-workers, in the pleasant occupation of studying statistics and making estimates, a few of which I wish to present to you. If we consider ninety million bushels a normal wheat crop in Kansas—our yield this year will probably be less than fifty million, while in 1915 it was 150 million—and the average threshing rig in Kansas able to thresh a thousand bushels of wheat a day, it would take 90,000 days for one rig to thresh the Kansas wheat crop. Every rig is moved from three to five times a day, and I believe three times a day is a very conservative estimate. The average number of moves for Kansas during a normal season, therefore, is about 270,000. The loss at each setting from careless cleaning up and handling of the wheat around the threshing machine often runs as high as ten bushels, as found by the farmers to whom I have referred. The average loss per setting, of course, is very much lower, and in the opinion of farmers and men intimately acquainted with farming conditions, an estimate of about two bushels loss per setting is considered conservative. Kansas, therefore, in a normal year loses twice 270,000 bushels, or 540,000 bushels of wheat, by careless or too hurried cleaning up around the threshing machines.

"A greater amount is lost through the shattering of wheat when it is hauled to the threshing rig or to the stack, and a much larger amount is lost in the straw. In order that we may have a view of the approximate situation it will be necessary for us to indulge in some further estimates. Considering ninety million bushels an average Kansas yield, it is safe to say that one-third or thirty million bushels of this is threshed out of the shock. If the average threshing rig pounds out 1,000 bushels a day, it will take 30,000 days for one rig to do the shock threshing. The average number of teams hauling grain to the threshing machine from the shock probably is in the neighborhood of six. Anyone who has done shock threshing or who has hauled grain to the stack in stacking, knows that wheat fully ripe or overripe at harvest time, or wheat which has been rained on in the shock and then dried out, shatters very easily, and that if a solid-bottomed rack is used considerable quantities of grain may be shoveled off or swept off the rack after every load. Many a time on the home farm I have collected one to two bushels a day and even more in this way even after the most careful handling of the bundles. Where handling is done by hired labor—and much of it the so-called floating labor—there is very little care given to prevent shattering, and as a consequence the loss from shattering is higher. If an average of two bushels per team is lost from shattering when shock threshing—and I do not believe this is an excessive estimate—as many bushels are wasted as two times 180,000, the number of team days used in hauling grain to the rigs from the shock, or 360,000 bushels each year in Kansas. Similarly a considerable amount of grain is wasted in stacking. If only one-half as much per team is lost through shattering when stacking the other two-thirds of the grain, another 360,000 bushels is lost in this way, or a total loss from shattering in hauling from the field of 720,000 bushels a year in Kansas.

"The greatest waste, however, in the harvesting and threshing operations is the loss of wheat through the straw. This is due almost entirely to careless handling of the separator, careless feeding, and threshing when damp. The loss on the farm of Mr. Hauser, referred to above, was more than five per cent. While this may not be uncommon, it undoubtedly is considerably higher than the average loss. Our estimate, based on the judgment of our farm management specialist, county agent leader, and a number of farmers, averages two per cent of the total crop. Two per cent of the Kansas output, using ninety million bushels a year as a basis, is 1,800,000 bushels of wheat, much of which is an absolute loss, as many of the straw piles still are burned instead of fed in the wheat belt.

"The total estimated waste of wheat in Kansas, therefore, during the hauling from the field and threshing period in a year like 1916 is approximately 2,520,000 bushels.

"Numerous other places of waste are found on the average farm, such as the waste in harvesting when headers are used and some of the grain is left behind, or where binders are set too high so that many heads are left in the field where the machine passes above the lodged grain. There is also the waste along fence rows when the back swaths are not cut. This waste, due to almost criminal neglect, is quite common on large farms where labor is scarce and at times when wheat is not high in price. This year we would expect to see no waste of this kind. Waste due to poor shocking, lack of stacking, or poor stacking, often is very great, especially in regions where there is considerable precipitation during the harvesting season. The waste from depreciation in quality due to lack of stacking or poor stacking, is also very appreciable, and while I have had no opportunity to search for available figures on this loss, I believe the loss is high. The waste due to poor stacking, I am convinced, is very much higher than one unfamiliar with the average stacking on the farms would estimate. I have seen the loss on a single farm due to poor stacking amount to as much as 20 to 25 per cent of the crop. This can be prevented entirely by a little training and attention to the building of a good stack.

"I have been much interested in watching the careful work of individuals in Swedish and in German communities during harvesting operations. Accustomed to smaller fields than those common in the United States, and to the habit of saving, they cannot tolerate waste of crops that already have been produced, and it is not uncommon to see an old man with a fork or rake following the binder as it cuts the first swath around the field and straightening up the wheat that has been crushed down by the bull wheel. In this way it is easy for a man or a boy to make good wages for a day's work. Others prevent this waste entirely by cutting the first swath with a scythe and cleaning a path for the teams and the binders in their first swing around the field. During a time of labor scarcity this would not pay, unless the country is short of grain and the wheat is high in price so that almost any measure, however expensive, can and should be employed for the saving of grain.

"At least one-half the waste due to carelessness in harvesting, in hauling the grain from the field, and in threshing, can be eliminated with very little care and expense. Setting the binders and headers so that no heads are missed, even if it means the harvesting of a little more straw, the use of solid-bottomed or canvas-covered-bottomed racks for hauling the grain, setting and adjusting the separator carefully, feeding evenly and not too rapidly, threshing when the grain is dry, together with careful cleaning around machines, easily will prevent at least one-half of the waste here described, or 10,238,076 bushels of wheat per year in the United States."



Give Your Hogs a Chance to Protect Themselves!

All hogs need protection against disease—at all times. Worms, stomach and bowel troubles, liver, lung and kidney disorders, are a constant menace to your herd. These ailments make hogs easy victims of cholera, and some of these troubles are often mistaken for cholera.

The old methods of waiting till disease shows visible symptoms and then dosing the animals, has proven very costly to hog raisers. It is safe to say that by far the largest percentage of losses in hogs and other live stock is due to failure to administer correct preventives IN TIME.

Your hogs realize their need of medicine long before the care-taker does. If they have the remedy within reach, natural instinct leads them to "doctor themselves" before disease can take firm hold upon the system.

Carey-ized Stock Tonic Brick
The New, Sure, Common-Sense Method

of preserving or restoring hog health. Relieves you of all worry. Gives hogs the right medicine, at the right time, in the right quantity, and in the easiest, most economical manner. There's no overdosing, no underdosing, no waste, no disease, no loss. Your hogs will save themselves.

Composed of powdered gentian root, sulphate of iron, bi-carbonate of soda, sulphur, carbonized peet, quassia, charcoal and pure dairy salt. These ingredients, properly proportioned, constitute a powerful vitalizing force and worm destroyer. With proper feeding, builds up the system to resist all disease.

Carey-ized Stock Tonic Brick contains no harmful ingredients, such as arsenic, black antimony or other poisonous drugs to create a false appetite. It is all pure, wholesome medicine. As good for cattle, horses or sheep as for hogs.

If you are conditioning your hogs for market, Carey-ized Stock Tonic Brick will save from 15% to 25% of your feed cost. Enables animals to assimilate their feed more thoroughly—brings quick returns.

Economical To Feed

Put up in solid brick form which preserves full strength of medicine. Not affected by weather. Place it in the trough or feed box. Hogs will eat only when they need it and as much as they need. Not only supplies animals with needed medicine, but salts them regularly and economically.

Saved Sick Hogs

J. O. Schuler, R.F.D. No. 3, Hutchinson, Kan., writes: "If every farmer knew the good this Carey-ized Stock Tonic Brick will do, they would not experiment with all kinds of powders. You surely have the right thing for knocking the worms. A neighbor of mine was losing his hogs. I recommended your brick to him and he never lost another hog after feeding it."

Good for Sheep and Other Stock

G. W. Thompson, Hutchinson, Kan., Manager of the Mellick Sheep Ranch, writes: "300 of our flock were scouring badly, and in run down condition. Those sheep are now as healthy as the balance of the flock. They are gaining faster than any lot of sheep I ever saw, as a result of feeding Carey-ized Stock Tonic Brick. The brick is good for the rest of the stock also, as I notice they are eating better and looking better."

LIVE MEN WANTED to handle Carey-ized Stock Tonic Brick where we have no dealers. Good proposition; good territory. Write for full information.

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Mail us the coupon or write us a postal today for fuller information.

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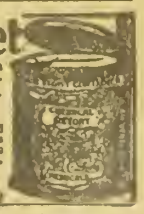

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Live Stock in Agriculture

WE ARE coming more and more to realize how important it is to have a definitely worked out plan of farming which requires a maximum use of live stock. It is not enough, however, to simply keep live stock. The animals must be of high quality.

Seven reasons why the keeping of live stock is essential to sound agriculture are set forth in an article by George M. Rommel in the 1916 Yearbook of the U. S. Department of Agriculture. Briefly, Mr. Rommel's seven reasons are the maintenance of soil fertility, the utilization of raw material, the need of motive power on the farm, cash income, the added attractiveness of a farm on which there is live stock, the training in business sense obtained by keeping animals, and better and more economical living for the farm family.

To maintain soil fertility, says Mr. Rommel, organic matter is necessary. This can be obtained from two sources—green crops plowed under, or barnyard manure. When green crops are plowed under, however, there is no direct revenue from them. By feeding these crops to live stock, valuable products that can be exchanged for cash are obtained. At the same time the manure produced by the animals retains a very large percentage of the fertilizing value of the feed. For this reason it is more economical to feed than to plow under without feeding, and the most practical source of vegetable matter is stable manure.

The farmer with live stock is from one point of view a manufacturer. He takes lean, unfinished animals and grain or forage as his raw materials and by combining them produces beef, mutton, pork, and dairy products. Like all manufacturing, this process must be conducted with skill and intelligence if it is to pay, but if the farmer possesses these qualities he derives a larger profit than he could obtain through the sale of crops and animals in the raw state. Furthermore there are many products on the farm which bring little or nothing on the market. They can, however, by skillful management be made to assist in the production of meat. The thrifty farmer makes use in this way of all roughage on his farm that would otherwise be unsalable. The cornstalks go into the silo or into the shock as cut fodder. The straw and coarse hay are utilized to the last unit of energy value. Land that cannot produce marketable crops is made to yield a certain amount of sustenance for hogs and sheep.

While in cities and factories mechanical power is coming into more and more general use, on the farms of the country the horse and the mule are still the chief reliance. The proper breeding, maintenance, and employment of these animal engines is a problem of the greatest importance to the farmer.

As a source of cash income the keeping of live stock in many sections is what is known as a specialty business. In dairy districts it is the main activity, and every phase of farm management is determined by its interests. Where the principal purpose of live stock feeding, however, is to maintain soil fertility, farms which rely on live stock for the main source of their income will tend to become breeding centers for pure-bred animals to be distributed through the surrounding country for breeding purposes on those farms on which only a limited amount of live stock is kept. The production of pure-bred animals is a highly specialized business, and only the most skilled animal husbandman can make a success of it.

The fifth function which Mr. Rommel ascribes to live stock on the farm is not so directly connected with problems of income, but it is nevertheless of vital importance. Experience has shown that nothing tends more strongly to create and maintain an interest in farm life among boys and girls than the care of animals. It is essential to the continued prosperity of this country that young people should be encouraged to make farming their vocation in life. Those who have devoted themselves to this work have found that among their most effective aids are the poultry, calf and pig clubs.

To the grown farmer the keeping of live stock is indirectly of value because its successful production requires the adoption of systematic, businesslike, and sanitary methods. No kind of farming calls for more business sense than live stock farming.

That the neglect of live stock results in increasing the cost of living on the farm and in lowering the standard of that living is a fact well known to all agricultural authorities. For example, the annual meat bill of farmers for some states is enormous. The meat purchases are made largely on credit, and the proceeds of the year's crop are mostly consumed in meeting debts incurred during its production. This practice is obviously antagonistic to thrift and proper prosperity. The production of home-grown food does not involve in the least the limitation of the crop output of the farm. It simply requires planning and a little more careful management. A cow or two to furnish the family with milk, butter, and cheese, and a flock of chickens to furnish poultry and eggs, will do much to make farm fare more healthful and cheaper.

Sheep and Dogs

C. B. Blaney, a KANSAS FARMER reader in Allen County, says in a letter in which he renews his subscription that he thinks we ought to tax dogs at least five dollars a head. He has good reason for feeling that dogs should be heavily taxed. He has just recovered from a long sick spell and on getting out found that dogs had been among his sheep, killing several and injuring others. He says he has never lost an animal from wolves.

While Congress is considering means of raising war taxes, the dog might well be considered as a source of revenue. A lot of them could most profitably be taxed out of existence. England has got to the point where its people are being warned that they may soon be asked to give up their dogs in order to save food for human beings.

If a choice was to be made between dogs and sheep on the basis of their value to man, it should not be hard to decide. Dogs cost their owners, or others, an average of $34 a year each in feed, while sheep return a good profit.

There are the best of reasons why sheep should be greatly increased in numbers on the farms of not only Kansas, but the whole country. The uncontrolled dog is a serious menace to the growing of sheep. Some means should be devised for overcoming this difficulty. Dogs have their place, but their owners have no license to permit them to become nuisances and menaces to such a valuable industry as the growing of sheep.

Bulletins on Horses

The following publications of the U. S. Department of Agriculture, Washington, D. C., relating to horses, are available for free distribution:

Principles of Horse Feeding (Farmers' Bulletin 170).

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Breeds of Draft Horses (Farmers' Bulletin 619).

Breaking and Training Colts (Farmers' Bulletin 667).

How to Select a Sound Horse (Farmers' Bulletin 779).

Horse-Breeding Suggestions for Farmers (Farmers' Bulletin 803).

Weaning Lambs

Lambs kept for breeding stock should be weaned when from four to five months of age. The lambs intended for market, on the other hand, should attain marketable weights before they are five months of age and should be weaned at the time they are sold.

Lambs at weaning time should be kept for four or five days at least on the old pasture, as they do not fret as much as in a strange place. The ewes should be removed to another pasture as far away as possible from the lambs. If the feed on this pasture be a little scant, so much the better, for this will help check the milk flow. The ewes and lambs should not be turned in together again, for a large amount of milk from a ewe that has not been suckled for two or three days is liable to cause digestive disturbances in the lamb.

At weaning time the ability of a ewe to produce a good lamb often is ruined because the necessary care is not taken to see that she is dried off properly. A little care at this time will be well repaid. Two or three days after the separation the ewes should be milked out. All of the milk need not be drawn from the udder, but enough should be taken to leave the udder soft and pliable. Mark with colored chalk ewes needing no further attention. In about three days the ewes should be milked out again and the drys marked. Further attention should be given four or five days later to those not dry. No efforts should be spared to maintain every breeding animal in a sound and useful condition.

Summer Care of Sheep

After the flock has been turned on pasture, it will require very little attention. The successful sheepman will, however, not neglect his sheep at this time. A little care and observation on the part of the owner as to the comfort and health of these animals often very materially increases his profits in this business.

If the pasture is abundant, they will need no other feed, with the possible exception of very thin old ewes that are nursing lambs. A little grain to such ewes will aid in building up the ewe's body and will increase the flow of milk, thus making a much better lamb.

Great care should be exercised when the flock is first turned on grass. At this time when the grass is succulent and palatable there is great danger of the sheep over-eating. This may cause bloat and often results in death. It is well to give the sheep an abundant supply of dry feed before turning them on the new grass, allowing them to stay on pasture only a short time at first, gradually increasing the length of time of pasturing until they become accustomed to the new feed. Then practically all danger is past. Care should be taken not to turn the sheep out when the grass is damp at this season. Clean, fresh water and salt should be before the sheep at all times. By mixing some sulphur with the salt an excellent tonic may be made.

A mistake that is made a great many times is taking the grain away from the lambs when they are turned on grass. Some arrangement should be made for the continued feeding of some grain to the lambs, as by so doing the lambs will be larger, in better condition, and will be ready to market quicker, which means larger profits.

Lambs should be weaned when about four months old. Much, of course, depends upon the size of the lambs and the condition of the ewes. In cases where the ewes are poor and run down and the lambs large and growthy it may be well to wean earlier in order to build up the condition of the ewes before breeding. Where the opposite condition prevails the lambs may not be weaned until later.

It is a good plan to wean the lambs gradually. This will eliminate having to milk the ewes and the lambs will do much better. The lambs should have plenty of grain and pasture at this time.

The ewes should be put on a dry feed for a few days in order to stop the flow of milk. The udders should be watched very closely and milked when necessary. If the udder is allowed to cake, there is likely to result a ruined udder which will lessen the ewe's future usefulness, thus reducing the profit very materially. Special care of the lambs should be taken at weaning time in order that their growth is not in the least retarded.—A. M. PATERSON.

Preventing Horns on Calves

Horns on calves may be removed by an application of caustic potash. When the calf is two or three days old, clip the hair from the spot where the horn buttons protrude. Moisten the end of a wrapped stick of caustic potash and rub on the horn. Care should be taken to see that all of the horn is removed in order to prevent the growth of scurs. The calf should not be turned out into the rain immediately after the operation as the caustic preparation may wash down into the eyes and injure them. Caustic potash should be kept in an air-tight container, or it will absorb water and dissolve.

Colt's Feet Need Care

The colt's hoofs must be given constant attention from the time the colt is foaled until it reaches maturity. Even then they need considerable attention. Often during colthood the feet are left to care for themselves. This neglect results in later life in many of the unsoundnesses common to horses' feet and legs.

Unsoundness that may be caused by lack of care when the horse is young are sidebones, ringbones, splints, bone spavins, bog spavins, corns, and cracked hoofs. All the unsoundnesses tend to lower the value of the horse. The time to prevent any of them is when the colt is young and his bones and tendons are yet plastic.

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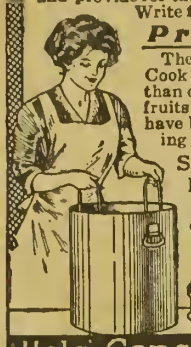

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TAKEN UP—BY E. H. WALKER, RESIDing two miles north and three miles west of Anthony, Harper County, Kansas, May 27, 1917, one dark red Durham bull. No marks or brands. Appraised at $50. C. E. Kennedy, County Clerk, Harper County.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

DOGS.

FOR SALE—COLLIE PUPPIES, HANDsome, useful. $7. Frank Barrington, Sedan, Kansas.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson. Box 128, Oakland, Iowa.

SITUATION WANTED.

YOUNG COUNTRY WOMAN, EXPERIenced in cooking, canning, preserving, etc., wants housework in country. $5 with washing, $4 without. Miss B., care Kansas Farmer.

EXPERIENCED FARMER WANTS A place on salary, or rent place furnished, stock and tools. Small family. Christian. Prefer Western Kansas. Box 44, Haviland, Kansas.

HORSES AND MULES.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

CANARIES.

FOR SALE—CANARIES, MATED PAIRS, beautifully yellow. Some crested. Mrs. Iver Christenson, Jamestown, Kansas.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

It does not take great men to do great things—it only takes consecrated men. The earnest, resolute man whom God works through is the medium by which His greatest work is done. — PHILLIPS BROOKS.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

I am happy in having learned to distinguish between ownership and possession. Books, pictures, and all the beauty of the world belong to those who possess them. All of these things that I am entitled to, I have—I own them by divine right. So I care not a bit who possesses them. I used to care very much and consequently was very unhappy.—JAMES HOWARD KEHLER.

Beware of Canning Powders

Such preservatives as salt, sugar, spices or vinegar may safely be added in palatable quantities to canned foods. But the use of boric acid, sodium benzoate, salicylic acid and all canning powders is to be heartily discouraged. They are entirely unnecessary if good food materials are used, and canning is carefully done.

Mother-Daughter Clubs

The closing date for entries in the state mother-daughter canning club contest is July 1. By this we mean that in order to be considered a part of the state club work being conducted cooperatively by the Kansas Agricultural College and the U. S. Department of Agriculture, these clubs should be reported to Otis E. Hall, state club leader, Manhattan, by July 1.

More than 100 of these mother-daughter canning clubs are now at work in the state, and many more should be organized, as they serve two very valuable purposes, namely, the encouragement of companionship between mother and children, and increased interest in the saving of surplus fruits, vegetables and meats for winter use.

The members of these clubs must work in teams. A child—either boy or girl—under eighteen years of age, is the junior member of the team, and a mother or other woman is the senior member.

The rules for organizing and working are very simple and can be obtained by writing the state leader. It was a Kansas club that won the mother-daughter national championship in 1916.

Fair Offers Club Prizes

The Boys and Girls' Club work of Kansas is to be given splendid recognition by the Kansas Free Fair held in Topeka September 10 to 15. A Boys' and Girls' Club Department has been created and a special classification is offered to those who take part in the club work conducted by the Agricultural College in co-operation with the United States Department of Agriculture.

The canning exhibits are divided into two classes: boys' and girls' exhibits and mother-daughter exhibits. A special prize of $25 is offered to the club groups making the best showing.

In the corn growing clubs the state is divided into two sections. A special club prize of $25 is also awarded to the group making the best showing.

The garden clubs include exhibits of tomatoes, potatoes, and those made by members of the square-rod garden clubs. A $25 prize is also offered here for special club honors.

Sewing clubs are divided into two classes, Class A including girls between fifteen and eighteen years inclusive and Class B those from ten to fourteen years inclusive.

Prizes are offered for pig club members showing pigs of the following breeds: Duroc Jerseys, Poland Chinas, Hampshires, and Berkshires. A classification will be offered for other breeds, providing six or more bona fide members present a petition for a new class representing some breed not included above. The prizes in the pig clubs range from $10 for first to $2 for fifth place. A full classification is also offered for poultry clubs making exhibits of the different breeds. The special prize of $25 is offered in each classification for the group making the best showing. The superintendent of this department is Otis E. Hall, Manhattan, Kansas.

To encourage boys and girls who might not be members of clubs to take a greater interest in the raising of pigs and poultry and the growing and canning of vegetables, this fair association has created a junior department and offers a series of prizes almost identical with those given above with the exception that there will be no special prizes for club honors, as the boys and girls entering will be working as individuals. The superintendent of this department iss Miss M'Edna Corbet, superintendent of public schools, Shawnee County.

The creation of these two departments with the liberal premiums offered should meet with a strong response on the part of boys and girls of those sections of the state tributary to Topeka. If the exhibits in these departments do not crowd the space assigned to them we shall be greatly disappointed.

Detailed information about the Boys' and Girls' Club Department and the Junior Department will be furnished by Phil Eastman, secretary Kansas Free Fair, Topeka, Kansas. Those planning to compete must have the rules and regulations at hand in order to make the necessary preparations. They should be sent for at once.

Tribute to a Mother

It was our privilege, not long since, to read several recommendations concerning a young man who was being considered for an important position. The young man had a fine record and had sent in the names of many as references, all of whom had written in high terms of his character, ability, and work. The business man who showed us these letters said he had received only very favorable comments upon the young man and his work, but that he had decided on him for the position because in one letter, in addition to the enumeration of the applicant's good qualities, were these words: "He has a remarkable mother." The business man's comment was, "That is what counts in a man."

These words should give a new meaning to the years of work, thought, and prayer that so many mothers are putting into the lives of their sons and daughters.

Helps to Saving Food

The following bulletins, containing much valuable information regarding the saving of food, may be obtained free by writing to the Division of Publications, U. S. Department of Agriculture, Washington, D. C.:

How to Select Foods (Farmers' Bulletin 808).

Preparation and Use of Vegetables for Table (Farmers' Bulletin 256).

Economical Use of Meat in the Home (Farmers' Bulletin 391).

Corn Meal as a Food and Ways of Using It (Farmers' Bulletin 565).

Cheese and Its Economical Use in the Home (Farmers' Bulletin 487).

Care of Food in the Home (Farmers' Bulletin 375).

Make Own Fat Compound

Lard is 28 cents a pound. Many folks object to paying that much, but realize that at the present price of hogs and with the probable future demand it is unlikely that the price will be reduced soon. It becomes important, then, to find a cheaper satisfactory substitute. Housewives should consider suet as a

source of cheap fat. Suet has not been as extensively used as lard on account of its harder consistency. It can be obtained at about 10 cents a pound. From this can be obtained fourteen ounces of pure fat at a cost of 12 cents a pound. In order to bring this to the consistency of lard it is only necessary to add oil in the proportion of one part of oil to two parts of suet. This gives a compound fat which is very satisfactory for general household use. Cottonseed oil or corn oil can now be obtained at about 21 cents a pound. On the basis of the above proportions a satisfactory lard substitute can be had at a cost of 15 cents a pound. — Dr. Louise Stanley, Missouri College of Agriculture.

Cottage Cheese Salad

Dates stuffed with well seasoned cottage cheese and served on lettuce leaves, make a delicious salad. This salad is not only delicious but has a high food value as well. By placing the dates on the lettuce leaf in a circle or in some other design, the salad may be made very attractive.

Graham Muffins

1 tablespoonful melted butter
1 egg
1½ cupfuls sour milk
2 tablespoonfuls sugar
1 rounded teaspoonful soda

Enough graham so that the mixture will drop from spoon.

A neat, pretty trimming for a white dress is stitching in a color and the four-hole buttons sewed on with the same kind of thread as is used for the stitching. This trimming is very effective even when used on the cheaper grades of white materials.

Anyone can carry his burden, however heavy, till nightfall. Anyone can do his work, however hard, for one day. Anyone can live sweetly, lovingly, purely till the sun goes down. And this is all that life really means.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8097—Ladies' Shirtwaist: Cut in sizes 36 to 44 inches bust measure. The practical mind will take in all the details of this becoming blouse, which shows fashion's newest whim by the square-cut neck. The fulness is gracefully caught in, with gathers at the shoulder seams, and the left front closing is adorned with many buttons. **No. 8058—Boys' Russian Dress:** Cut in sizes 1 and 2 years. No one will question that this little fellow is comfortable in the Russian dress he wears, and at his age, comfort is everything. However, the Russian effect is one of the season's styles, too. The high neck, right side closing and long sleeves with box plaits in the lower part are points worth noticing. **No. 8093—Ladies' Waist:** Cut in sizes 36, 40 and 44 inches bust measure. First aid to the unique style of this blouse is the fancy-like collar made with a back and front section and developed in contrasting goods. The front panel piece decorated with buttons and the long raglan sleeves also button trimmed, have place in fashion's favor. **No. 8092—Ladies' Apron:** Cut in sizes 36, 40 and 44 inches bust measure. Because of its trimness, this apron will be a comfort to the busy housekeeper during the morning hours, and to the studio worker as well. The same smartness that marks the one-piece dress is noticeable in this design, which has a three-button closing at the back to the waistline where a belt draws in the fulness. **No. 8098—Ladies' Skirt:** Cut in sizes 24 to 30 inches waist measure. In addition to the deep tunic on this two-gore skirt, there is an applied girdle, button trimmed, to make you look and feel modishly dressed. A raised waistline is used and there is ample fulness without noticeable flare. **No. 8095—Ladies' Dress:** Cut in sizes 36 to 44 inches bust measure. The waist of this garment is cut on full, comfortable lines and may or may not hide its gathered lower edge under a belt, in meeting the four-gore skirt that is buttoned down the front. The sleeve is easily full and long, the pockets give a bit of dash and the collar is of the popular cut.

We Need Your Help In a Critical Time

KANSAS FARMER READERS CAN BE OF GREAT HELP TO THEIR FAVORITE FARM PAPER NOW

Kansas Farmer comes to you through the mails. It is distributed under the jurisdiction of the Post Office Department, which has made some new rulings which the publishers of Kansas Farmer must observe in respect to the procuring and continuation of subscriptions. During these critical times the rulings may be changed at any time, at the option of the Post Office Department.

The Postmaster General has made a ruling which makes it necessary that certain classes of subscriptions may not be carried after expiration. It has always been customary and permissable for the publisher to carry, at his option, subscriptions for a short time after they expire, in order that the subscriber might have an opportunity to renew his subscription and thus prevent his missing any copies of the publication.

The new rule, however, requires that this practice must be stopped.

We feel that you want Kansas Farmer, because it is strictly a Kansas paper and is striving to help you in your work, and you certainly do not want to miss the good things that this old paper carries each week for the betterment of farm conditions. We do not want to discontinue your paper. We are very anxious to retain every one of our subscribers. In order to do so, we must urge that you send us your renewal subscription at once.

Here are four distinct offers which we submit to you. We will greatly appreciate your acceptance of any of them:

1. May we immediately have your renewal for one year at $1.00?

2. If you send us $2.00, we will renew your subscription for three years—a saving of $1.00.

3. If you will send us the subscription of two of your neighbors for one year for $1.00 each—$2.00 in all—we will renew your own subscription one year without additional charge in appreciation of this service rendered.

4. If you will send us the subscriptions of four of your neighbors at $1.00 each—$4.00 in all—we will extend your subscription for a period of three years without additional charge.

We have provided a special blank below to be used in sending in your renewal subscription or the subscriptions of your neighbors. May we again urge you to co-operate with us by accepting one of the offers provided?

Special Club Subscription Blank

KANSAS FARMER, Topeka, Kansas.

I enclose $.....for.....subscriptions to Kansas Farmer for one year each. For this service I am to receive Kansas Farmer for { 1 year / 3 years } without additional charge.

Name .....

Address .....

Name .....

Address .....

Name .....

Address .....

Special Renewal Blank

(To be used in case Club Offer is not accepted.)

KANSAS FARMER, Topeka, Kansas.

Enclosed please find { $1.00 / $2.00 } to pay for my renewal to Kansas Farmer for { 1 year / 3 years } as per offer above.

Name .....

Post Office .....

R. F. D..... Box..... State.....

SHETLAND PONY FOR SALE

Shetland pony mare, not registered, coming three years old, bred to a registered Shetland stallion. Broke to ride. Will sell at a bargain if taken soon. Address

D, CARE KANSAS FARMER.

PURE BRED POULTRY

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

BARRED ROCKS — SEVENTY-THREE premiums. Breeders for sale. Eggs half price. Mattie A. Gillespie, Clay Center, Kansas.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, $3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

RHODE ISLAND REDS.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

SEVERAL BREEDS.

BUFF DUCKS—DARK CORNISH CHICKens. Sunnyslope Farm, Stillwater, Okla.

BARRED AND BUFF ROCKS — SINGLE Comb White Leghorns. Fawn and Penciled Runner Ducks. Eggs—Fifteen, $1; hundred, $5, from range flocks. J. T. Rickman, Kiowa, Kansas.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

BRAHMAS.

HIGH SCORING LIGHT BRAHMA EGGS $1.00 per fifteen, parcel post prepaid. Geo. Pratt, Route 2, Topeka, Kansas.

MINORCAS.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

WYANDOTTES.

WHITE WYANDOTTE EGGS — STOCK from (Fishel World Best Direct) $2.50 for 48, prepaid. S. Peltier, Concordia, Kansas.

SHUFF'S "BEAUTILITY" SILVER WYandottes. Eggs reduced to fifteen, $1; fifty, $2.75; hundred, $5. Mrs. Edwin Shuff, Plevna, Kansas.

LEGHORNS.

PURE-BRED SINGLE COMB WHITE Leghorn eggs, 100, $5. Chas. McFadden, Morland, Kansas.

S. C. BROWN LEGHORNS—HAVE BEEN raising them 21 years, the 222 to 266-egg record kind. Under hens the fertility runs 95%. Eggs—Fifteen, $1.25; 100, $5. Safe arrival guaranteed. Gorsuch, Stilwell, Kan.

TURKEYS.

BOURBON RED TURKEY EGGS—TWOyear-old hen, 40-pound tom. $3 setting. S. Peltier, Concordia, Kansas.

POULTRY WANTED.

WE PAY EXTRA FOR NON-FERTILE eggs. Want roosters, broilers, hens. Lonn coops and cases free. The Copes, Topeka.

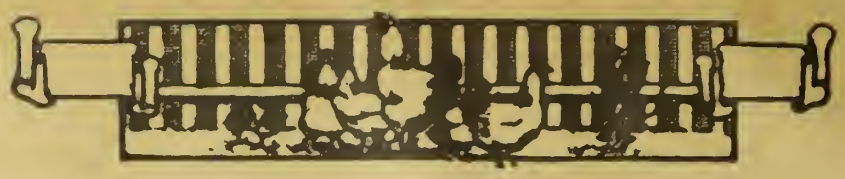
Real Estate For Sale

360 ACRES CREEK BOTTOM FARM
160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; $6,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only $45 per acre.
M. T. SPONG - - FREDONIA, KAN.

WANTED

To trade first-class farm in Iowa or Minnesota for high-class herd of Shorthorns or Herefords. Nothing but top quality cattle considered. Give complete information concerning herd in first letter. Will give complete description of property and location of same in reply.
AMOS BURHANS - - Waterloo, Iowa

NOW IS THE TIME TO BUY FARMS.
War insures high prices for farm products for years. Crops here almost perfect. Improved farms, $20 to $40 per acre. Write.
SOUTHERN REALTY CO., McAlester, Okla.



Stunted Stock Unprofitable

Now that the hatching season is over, attention must be given to the growing stock. We cannot afford to raise a bunch of stunted, poorly developed pullets. The number of eggs produced this winter depends largely on the way the growing pullets are fed. There has never been a time when it will pay better to feed well even at the present high prices for grains. Good feeding does not mean to throw out all the corn, wheat, kafir or any other one grain they will eat—it means the proper combination of feeds that will produce the greatest amount of growth. Where corn is fed it should be supplemented with milk, fresh meat or commercial beef scrap. When milk is given it should be used liberally. All the chicks will drink is desirable. If raw meat is supplied, the greatest care should be observed. One ounce per day is sufficient for a two-pound chick. Commercial beef scrap, which can be purchased for $3.50 to $4 per hundred pounds, is cheap when compared to other feeds and may be used as 20 per cent of the entire ration where chicks are on range and have access to plenty of green grass.

Profits from Small Flock

We too often overlook the profits that can come from poultry. On the farm poultry is largely a side line, but in proportion to the investment nothing pays a better income. In the town a few hens in a back yard pen are a great help in cutting down the cost of living. Eight or ten hens if given good care and proper feed will return a good profit, while a larger flock crowded into close quarters will be a money-losing proposition. Just to illustrate what may be accomplished along this line, the following facts and figures are given. They are from the experience of a young man named Cross, who handled a back-yard flock in Manhattan last winter. People on the farm can get some good ideas by reading of the results secured by the town man with his small flock.

Twenty-one hens of different breeds were kept in a small pen in the back yard. The house was constructed of a piano box and a few extra boards. The mash, shell and grit boxes—which are shown in the cut—were home-made, costing ten cents each for some small boxes and a few minutes' time in putting them together.

These twenty-one hens were hatched April 14, 1916. They were not pushed for quick development but were kept growing from the beginning. They began laying when a little less than eight months old, or December 15, 1916. During the months of December, January, February, and March, they laid eggs to the value of $1.89, $7.22, $8.84, and $10.53 respectively. The feed bill outside the table scraps from a family of three was $12 for the four months. Figuring the income, which was $28.48, less the feed bill, $12, leaves a net income for the twenty-one hens of $16.48 for the four months. These hens laid during this period 1,104 eggs, or an average of a little over nine eggs a day at a cost of a trifle over 13 cents a dozen.

The feeds used to produce the above results were sprouted oats as green feed, a liberal supply of grit and oyster shell, two to three pints of corn in the evening and chop scattered in straw in the morning. As a mash which was kept before the hens in a hopper, the following was used: Bran 5 parts, shorts 5 parts, fine corn chop 1 part, and lard cracklings 1 to 2 parts. The cracklings were procured from a local butcher shop and ground through a food chopper.

The secret in feeding for egg production is to induce the hens to work for all grain except at night and to consume all they will eat up greedily.

Spray Often for Mites

Clean the chicken coop once a week during the summer as a safeguard against lice and mites, advises Ross M. Sherwood, acting head of the Department of Poultry Husbandry in the Kansas Agricultural College. Loss through these insects amounts to thousands of dollars annually.

The droppings are harboring places for mites and infectious disease germs. Thorough cleaning of the coop once a week and disinfecting at least every two weeks is advisable. The mites live in the cracks of the boards and in the droppings. They multiply rapidly, producing a new generation every ten days or two weeks.

To kill mites, spray thoroughly with coal tar dip, carbolic acid mixed with water, or pure kerosene. In applying these solutions a brush may be used, but a spray pump is the most desirable. Repeat the spraying in a week or ten days to assure the death of those that hatch after the first spraying.

The person who is considering keeping a few hens this winter for eggs only should keep in mind that the same house room and feed that will care for and sustain four of the general purpose breeds will be sufficient for five Leghorns. It is also a fact that the Leghorn will stand close confinement and heavy feeding better than any other breed. For these reasons a dozen eggs can be produced from this breed more economically than with the heavier varieties.



THIS SMALL FLOCK AVERAGED NINE EGGS A DAY FOR A YEAR AT A COST OF THIRTEEN CENTS A DOZEN

SHORTHORN CATTLE.

15 Shorthorn Bulls

Reds and roans. Pure Scotch and Scotch-topped yearling bulls, 10 to 18 months old, at farmer prices. Farm at Pearl. Ship over Rock Island, Santa Fe, Union Pacific and Missouri Pacific. Come and see me.
C. W. TAYLOR, Abilene, Kan.
Dickinson County.

Sycamore Springs Shorthorns
Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

Sunflower Herd of Shorthorns
A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

TWO SHORTHORN BULLS. Duroc herd boar. Fall gilts, bred or open. February and March pigs, pair or trio, no relation.
R. C. WATSON - ALTOONA, KANSAS

THREE SHORTHORN BULLS
Fourteen to eighteen months old. Red, white, roan. Sired by Bettie's Albion 399451. Pure Scotch.
C. E. HILL - - TORONTO, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

SHORTHORN BULLS
A two-year-old herd bull, dark red, fine individual. Also six-months-old bulls for sale.
H. W. ESTES, SITKA, CLARK CO., KAN.

HAMPSHIRE HOGS

High Quality Hampshires Sold on Approval. Fall boars and gilts; weanling pigs, either sex, not related, by a son of Paulsen's Model.
F. B. Wempe, Frankfort, Kansas.

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

SMITH'S HAMPSHIRES
Bred gilts and choice boars, October farrow. Prize winning breeding. Also herd boar, priced to sell. S. E. SMITH, Lyons, Kansas.

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

GUERNSEY CATTLE.

Choice Guernsey Calves—Ten heifers, 15-16ths pure, beautifully marked, from heavy-producing dams. $20 each. Satisfaction guaranteed. L. Terwilliger, Wauwatosa, Wis.

AYRSHIRE CATTLE.

AYRSHIRE COWS.
For Sale—Heavy producing registered Ayrshire cows and heifers, bred to freshen in October. Also a few young bulls.
H. B. HOFFMAN - ABILENE, KANSAS

Let us have faith that right makes might; and in that faith let us dare to do our duty as we understand it —ABRAHAM LINCOLN.

FARM AND HERD.

Segrist & Stephenson, of Holton, Kansas, report their Holstein herd doing fine. This herd is noted for its record breakers and they expect to make some new records this year.

C. G. Ditmars & Company, of Turney, Missouri, owners of one of Missouri's choice herds of Duroc hogs, report their herd doing well. They have saved about 150 head of choice spring pigs this year that are growing out fine. This is one of the old established herds that is drawn upon heavily for herd material and some of the best herds in Missouri and neighboring states were started with foundation stock from the Ditmars herd. They report a good demand for high class herd material at this time.

B. R. Anderson, of McPherson Kansas, is making a success with his herd of Duroc Jersey hogs. This herd was started in 1899 and is probably the oldest herd of Duroc swine in McPherson County. A number of very high-class Duroc boars have been used in the herd. The 100 head of spring pigs now on the farm are by such boars as Pathfinder, Kansas Cherry Chief by old Cherry Chief, King Col. Junior by B. & C.'s Col., and Proud Chief by Col. Wonder Crow. Last March Mr. Anderson shipped a half carload of registered Duroc barrows to the Kansas City market and they sold for $15.15, the top of the market for that day and the top price for hogs up to that date. A feature of the herd at this time is the fine lot of yearling gilts bred for September farrow, and choice spring boars.

EDGEWOOD FARM
REGISTERED ANGUS BULLS. HAVE FIFTEEN STRONG YEARLING BULLS FOR SALE.
D. J. White, Clements, Kansas

POLAND CHINAS



Faulkner's Famous Spotted Polands
The world's greatest pork hog are raised exclusively on
HIGHVIEW BREEDING FARMS
The largest registered herd of old, original, big-boned, spotted Polands on EARTH.
Spring Boars Now Ready to Ship, Pairs and Trios No Kin.
Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.
H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

OLD ORIGINAL SPOTTED POLANDS
Choice March and April pigs of both sexes.
H. A. MATTON, Route 2, Burlington, Kan.

Langford's Spotted Polands. Gilts bred for fall farrow. Future herd boars. Satisfaction guaranteed. T. T. LANGFORD & SONS, Jamesport, Missouri

BIG-TYPE POLANDS AND DUROCS SHORTHORN CATTLE
Booking orders for weanling time. Pigs, $25 each, trios $50. Will make 700 to 1,000-pound hogs. Two hundred to select from. Top breeding. Eight choice Shorthorn bull calves. Priced reasonable. Write me your needs.
O. W. LONG, Route 3, Maitland, Missouri.

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

TOWNVIEW HERD BOARS
Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

POLAND CHINA BOARS
Twenty-five choice spring boar pigs sired by Caldwell's Big Bob, Big Hadley Jr., King Price Wonder, Columbus Defender, Big Bob Wonder and Fessey's Tim. Some fine prospects and priced reasonable. Immune.
BERT E. HODSON, ASHLAND, KANSAS.

BEAVER'S POLANDS
Good stretchy Poland China spring boars, sired by Kansas Giant by the 1,135-pound The Giant. Others by a good son of the 1,125-pound Big Tim, out of Expansion sows. Choice, $25.
ED BEAVERS
Route 2 Junction City, Kansas

OLD ORIGINAL SPOTTED POLANDS
Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

Henry's Big-Type Polands
Spring pigs, either sex. June delivery. Sired by Mammoth Orange, King Price Wonder, Big Wonder. Choice of lot, $35. Trio, $100. Others, $25. First check, first choice.
JOHN D. HENRY, LECOMPTON, KANSAS

DUROC JERSEYS.

ANDERSON'S DUROCS
For Sale—Ten fall yearling gilts, bred for September farrow to Proud Chief by Col. Wonder Crow. Twenty spring boar pigs, the pick of 80 head, sired by Pathfinder, Kansas Cherry Chief, King Col. Junior and Proud Chief. One extra good fall yearling boar ready for use. Prices reasonable. Write at once.
B. R. ANDERSON
Route 7 McPherson, Kansas

LONE TREE DUROC FARM
Herd Boar Graduate Prince by Graduate Col. Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.
GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNE DUROC-JERSEYS
Forty-five head spring boars and gilts, March and April farrow, by Gano Pride 2d by Gano Pride, out of a Graduate Col. sow. Herd sows best of breeding. Write for prices. T. F. DANNER, Winfield, Kansas.

McBRIDE'S DUROCS
Bred gilts for September farrow and boar pigs for sale from four to six months old.
W. T. McBRIDE - PARKER, KANSAS

IMMUNED DUROCS
With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

GALLOWAY CATTLE.

GALLOWAY BULLS
SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
B. E. FRIZELL, Friell, Pawnee Co., Kansas

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

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CLAIM SALE DATES.

Jerseys.

June 26—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.

Holsteins.

Oct. 16 — The Nebraska Holstein Breeders' Consignment Sales Co., Omaha, Neb.; Dwight Williams, 103 Bee Bldg., Omaha.

Poland Chinas.

Aug. 15—H. L. Faulkner, Jamesport, Mo.
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Oct. 17—Walter B. Brown, Perry, Kansas.

One of the heavy producing Jersey herds in Missouri is owned by Redman & Son, of Tipton, Missouri. This herd is noted for its record breeding and consistent production. A feature of the herd at this time is the fine lot of young stock of Golden Jolly and Noble of Oaklands breeding.

The premium list for the Kansas State Fair, Hutchinson, Kansas, September 15 to 27, will be out July 1. Plans have been completed to make this the most instructive and entertaining fair ever held at Hutchinson. Exhibitors should send request for premium list early.

Ed Beavers, of Junction City, Kansas, owner of a good herd of pure-bred Poland China hogs, reports his spring pigs growing out fine. Mr. Beavers saved a large number of pigs this year, sired by Kansas Giant, a son of the 1,135-pound boar, The Giant, and a son of the 1,125-pound Big Timm.

Coleman & Crum, of Danville, Kansas, owners of one of the noted herds of Chester White hogs in this state, report their herd doing well and spring pigs growing out fine. This herd is noted for its heavy winnings at the principal state fairs during the past several years.

J. W. Berry & Son, of Jewell City, Kansas, who own one of the high class Jersey herds in this state, report their herd doing well. They have about 120 head of pure-bred and high-grade cows and heifers in their herd and a feature at this time is the large number of choice yearling heifers.

Peck & Son, of Salina, Kansas, owners of one of the heavy-producing herds of Holsteins in this state, report their herd making a good record this year. They have herds of both pure-breds and high-grades and a feature at this time is the choice lot of young stock in the herds.

Inquiries for catalogs indicate a widespread interest in the sale of Jersey cattle to be held June 28 by Dr. J. H. Lomax, St. Joseph, Missouri. The sale will be held at the Lomax Stock Farm near Leona, Kansas, and will be under the management of B. C. Settles, of Palmyra, Missouri. Fifty head of choice Jerseys have been catalogued and they are the kind that has made the Lomax herd famous for production.

T. T. Langford & Sons, of Jamesport, Missouri, report a heavy demand for old original Spotted Polands. They have one of the great herds of Spotted Polands and have furnished foundation stock for good herds in a number of states.

V. O. Johnson, of Aulne, Kansas, reports his 150 head of big-type Poland China spring pigs doing well. Mr. Johnson owns one of the high-quality herds of big-type Polands in Kansas and has a type that is profitable. He keeps his herd immune at all times and as a result always has a healthy, growthy lot of hogs.

H. L. Faulkner, of Jamesport, Missouri, owner of the famous Highview Farms herd of old original big-boned Spotted Polands, reports a very heavy demand for big spotted spring pigs this year. The demand for big spotted herd material comes from almost every state and Mr. Faulkner's principal business just now is shipping spring pigs. He has announced a bred sow sale for August 15 and has bred the finest lot of sows ever offered at Highview Farms for this sale. The sows will all be bred to the noted boards now in use in his herds.

HOLSTEIN CATTLE.

MAURER'S HOLSTEIN FARM
Has just received another choice lot of young pure-bred cows and springing heifers. Also some extra good registered yearling heifers and a fine lot of registered calves of both sexes. Write for pedigrees and prices, or call.
T. R. MAURER & CO - - - - EMPORIA, KANSAS

PECK'S HOLSTEINS We have a choice lot of extra large high-grade Holsteins, including fresh cows, heavy springing cows and heifers, and young calves. Registered bulls. Come and see our herd. We meet you at train and guarantee satisfaction.



M. E. PECK & SON, SALINA, KANSAS



HOLSTEINS AND GUERNSEYS
High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.
F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.



Purebred Registered
HOLSTEIN CATTLE
$53,200—PAID FOR HOLSTEIN BULL CALF. The greatest tribute to the superiority of Holstein-Friesian Cattle was paid in the auction sale at Worcester Mass., June 7 and 8, where a Holstein Bull Calf brought $53,200, a Holstein Cow $18,300, and a Holstein Heifer $13,000. 143 animals were sold for $296,470, or an average of about $2,073 per head. In 1916 at Detroit, Mich., 140 animals were sold for an average of $1,173 per head. This great increase in selling values is proof conclusive of Holstein popularity, partly due to Holsteins raising in the past year all world's 7-day records for milk and butter. The world's record for butter in 7 days is now over 50 lbs.
Send for FREE Illustrated Descriptive Booklets.
The Holstein-Friesian Association of America
F. L. Houghton, Sec'y. Box 114, Brattleboro, Vt.

HOLSTEINS FOR SALE
No culls. No seconds.
REGISTERED COWS, HEIFERS AND BULLS.
Nice lot of grade cows and heifers.
D. H. Stiles, Garnett, Kansas.

TREDICO HOLSTEIN BULLS
A. R. O. dams. A tested bull. One cow even made it 12 months after calving.
GEO. C. TREDICK
Route 2 Kingman, Kansas

HOLSTEIN CALVES
Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

GREENSWARD HOLSTEINS.
Choice bull calves, heifers, cows. Registered and best breeding. Herd tuberculin tested. We are breeders, not dealers.
MAX J. KENNEDY, FREDONIA, KANSAS

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

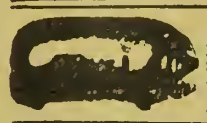
BERKSHIRE HOGS.

KING'S BERKSHIRES — Twenty good Berkshire fall boars. One good yearling boar. E. D. KING, Burlington, Kansas.

Breeders' Directory

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

CHESTER WHITE HOGS



FOR SALE
Spring Pigs in Pairs and Trios Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

O. I. C. SPRING PIGS, BOTH SEXES. Bred gilts.
HARRY W. HAYNES, GRANTVILLE, KAN.

Registered Chester White and Duroc Jersey Hogs—Half-ton kind.
L. M. FISH - Bolivar, Missouri

POLLED DURHAM CATTLE.

FOR SALE—Two red and white bull calves, 10 months old, sired by Chief, a son of True Sultan. Priced to sell.
D. C. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 miles S. E. of Topeka)

ALBRIGHT'S POLLED DURHAMS.
For Sale—Choice double standard Polled Durham bulls, serviceable age, by Belle's Hero by Roan Hero.
C. M. ALBRIGHT, OVERBROOK, KANSAS

HOLSTEIN CATTLE.

MOTT'S HOLSTEINS
Seventy-five head of high-grade and registered coming 2-year-old Holstein-Friesian heifers for sale, bred to a registered bull. Six choice pure-bred Holstein bulls old enough for service. Come to Herington or send us mail order. We guarantee to please you.
W. H. MOTT - - HERINGTON, KANSAS

Butter Bred Holsteins
Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

CEDAR LANE HOLSTEIN HERD
We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.
T. M. EWING, INDEPENDENCE, KANSAS

High Grade Holstein Calves 12 heifers 15-16 pure bred, 4 to 6 weeks old, beautifully marked, $20 each. Safe delivery and satisfaction guaranteed.
FERNWOOD FARMS, WAUWATOSA, WISCONSIN

Braeburn Holsteins Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.
H. B. COWLES, 608 Kan. Av., Topeka, Kan.

Holstein and Guernsey Calves—Both sexes, 5 weeks old, nicely marked, fawn and white, black and white, mostly 15-16ths. $25 each, crated for shipment. Satisfaction guaranteed.
Edgewood Farms - Whitewater, Wisconsin

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

CEDAR LAWN FARMS
C. A. Schroeder & Sons, Props.
Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.
W. C. SCHROEDER - WEST BEND, WIS.

Shady Brook Holsteins
A few choice young springers, also some high class young bulls. If you want record breeding, we will be pleased to have you inspect our offering.
M. E. MOORE & CO. - CAMERON, MO.

HIGH GRADE HOLSTEIN CALVES
Five to six weeks old, nearly pure, well marked, $20, express paid.
COLD SPRINGS FARM, Whitewater, Wis.

HOLSTEINS
Registered and high grades, cows and heifers. The milky strain, service bulls, carloads or less. High grade heifer calves, $18 each, crated. Write me. I have what you want.
RAY C. JUDD - ST. CHARLES, ILL.

JERSEY CATTLE.

120 Jersey Cows and Heifers
Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

REDHURST JERSEYS
Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

HORSES AND MULES.



PERCHERONS, BELGIANS, SHIRES. Ten stallions ready for heavy stand; also yearlings and twos. Young fillies, also mares with colt by side and bred again. All registered. One hundred individuals of first rank for sale.
FRED CHANDLER, R. 7, Charlton, Iowa
Just above Kansas City

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

Let Me Treat All Your Hogs For 60 Days FREE

PERRY STRATTON
BREEDER OF
BERKSHIRES

Momence Ill. Dec. 14/16

Avalon Farms Co.

Chicago, Ill.

Dear Sir.

I thought I would drop you a line and thank you for the bottle of Hog-Tone that I received from you through the influence of the Frost Pub. Co. I didn't have much faith in it when it first arrived as I have tried so many different kinds of stock foods and so called worm powders with no results that I supposed they were all alike; but yours being in a liquid form I thought "Well now here's something different."

I took a couple of shoats that did not seem to be doing well from a larger bunch of hogs and began by feeding them some of your Hog-Tone and in about five weeks time you would not have believed they were the same hogs. They grew so rapidly and made such fast gains that now I have them back with the other hogs and when feeding time comes they are the biggest scrappers in the bunch. Thanks to you for your bottle of Hog-Tone.

Yours truly,
Perry Stratton



W. O. GANDY
President
Avalon Farms Company

And—if I don't make your hogs make you **more** money, and prove it to your own satisfaction, I don't want your money! My proposition is to produce more pounds of pork for you from the same amount of feed. I am giving you the same opportunity to prove this to your **complete satisfaction** that I gave to Mr. Perry Stratton, the famous Berkshire breeder at Momence, Ill., whose letter is printed above.

It is the same opportunity that I gave to Mr. H. O. Michael, R. No. 2, Markle, Ind. He writes—"My first bottle of Hog-Tone made me one hundred dollars ($100.00) as it saved more than that many dollars' worth of hogs for me. I will not be without Hog-Tone, as I think it is wonderful what this remedy will do for hogs."

Hog Raisers Face Their Biggest Opportunity in Years

Worms are killing off the hogs literally by the million. **"Nearly every hog is infested with worms,"** declares the U. S. Dept. of Agriculture. And **"More hogs may be lost from worms this year than from hog cholera, and many cases of apparent cholera are only worms,"** says Bulletin No. 470, of the South Dakota State College. The malignant Thorn Head Worms—Stomach Worms—Liver Worms—Lung and Bronchial Worms—weaken the hogs—affect every sow's litter—make millions of hogs **easy victims** of cholera, scours, thumps, rheumatism, enteritis, gastritis—rob surviving hogs of nourishment their food should bring, cut down their weight and quality at marketing time. Read the letters at the right—study this whole ad—and then—**grasp** this opportunity to try

Read These Letters

"I had a bunch of seven hogs. They took sick and two died. Three of them would not eat at all. After the first dose of Hog-Tone they commenced to improve and continued to do so. I thought these hogs had the cholera, as they acted like it and the neighbors had it all around me and their hogs died. My hogs never missed a feed after feeding Hog-Tone, and they made good hogs. I'll not be without Hog-Tone from this on as I cannot afford to take chances for what Hog-Tone costs."

GUY HOOPINGARNER
Rural No. 1 —— Uniondale, Ind.

"I bought two hogs the 20th of October; they weighed 270 lbs. I put them up and started feeding Hog-Tone. They made a remarkable gain. I am sure that they have gained 100 lbs. in 30 days and they are eating good and look thrifty.

I am well pleased, as I am satisfied Hog-Tone is a wonderful treatment."

ALBERT COLES, Warren, Ind.

"I have been feeding Hog-Tone and found it to be the best medicine for freeing hogs of the worms. I fed fourteen and at the age of six months they averaged two hundred pounds. I cannot recommend the Hog-Tone too highly and I never will be without it."

SILAS STAYER,
—— Arcola, Indiana

"Hog-Tone has surely benefited me in fattening my hogs. I experimented on one sow. At the time I weaned her pigs she weighed 150 lbs. live and in just 42 days I killed her and she dressed 273 pounds."

THEO. FORNWALT,
Baldwin, Indiana

AVALON FARMS HOG-TONE

—The Liquid Worm Killer and Hog Conditioner

for 60 days—on all your hogs—at no initial expense—**at my risk! Avalon Farms Hog-Tone costs very little.** I will ship you one $1.00 bottle of Hog-Tone for each eight hogs in your herd—the day the coupon below, filled in, reaches this office. That will be sufficient to treat your hogs 60 days or more, according to size. This will mean just 12½ cents per hog for all the treatment and that treatment is guaranteed by me to free your hogs of all worms—to enable them to put on more weight from the same feed—to fill them with strength and vitality—to resist disease attacks.

Avalon Farms Hog-Tone is a highly concentrated liquid medicine FOR HOGS ONLY. It contains highly important medical ingredients which are liquids and which cannot be combined in Medicated Salts, Stock Foods or Condition Powders of any kind. It is very easy to treat your hogs with Avalon Farms Hog-Tone. It is EASILY MIXED WITH ANY KIND OF SLOPS, WITH THE DRINKING WATER OR DAMPENED FEED. It is given only every third day for the first six weeks and after that only once a week. 100% strong.

Really does clean out all and every kind of worms that infest hogs. By doing so, it gives protection to your hogs from easily contracting Cholera, Rheumatism, Scours, Thumps caused by worms, Enteritis, Indigestion and a score of other diseases. Also will prove a simply wonderful tonic and conditioner—gives the hogs voracious appetites, aids their digestion, helps them thrive, grow and put on fast increases of flesh. Splendid for pregnant sows—helping to assure fine, strong litters.

W. O. Gandy, Pres.

Avalon Farms Co.
623 Rand McNally Bldg., Chicago, Ill.

SEND NO MONEY—TAKE NO RISK

Just Mail Me This FREE COUPON

I have_____ hogs. Ship me immediately enough AVALON FARMS HOG-TONE to treat them for 60 days. I am to pay nothing now except transportation charges. I agree to report results to you at end of 60 days and pay for the Hog-Tone at that time if it has done all you claim. If it does not, I will return the labels, you agree to cancel the charge.

Name_____

P. O._____

R. R. No._____ State_____

Ship to_____

Name and address of my druggist_____

Don't Send Me a Penny!

Simply tell me how many head of hogs you have—write down your name and address and mail to us. I will immediately ship you enough **Avalon Farms Hog-Tone** to treat your hogs for 60 days! You simply pay transportation charges. Feed **Hog-Tone** according to directions. If at the end of treatment you are not completely satisfied—simply return the labels and you don't owe me a cent.

Grasp This Opportunity—Mail Me the Coupon Today

W. O. GANDY, Pres., Avalon Farms Company
623 Rand McNally Bldg. Chicago, Illinois



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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 26. TOPEKA, KANSAS, JUNE 30, 1917. Established 1863. $1 a Year

ECONOMY IN ROAD MAKING

Proper Maintenance Important Feature of all Types of Road Construction

By B. H. Piepmeier Maintenance Engineer Illinois State Highway Department

THE economy of any type of road depends almost entirely upon its proper maintenance. A careful study of money expended and the results obtained in the maintenance of the public highways in Kansas indicates that considerable more thought and consideration should be given to this important part of road improvement. The present trend of thought in road matters seems directed entirely to means and methods of securing more improved roads with utter disregard of the maintenance of existing roads or of roads under consideration for improvement.

A great many different types of roads have been condemned in the eyes of the public chiefly on account of the lack of proper maintenance. It is not uncommon to hear the layman say that certain types of roads are very unsatisfactory, as they go to pieces rapidly under even ordinary traffic. It is evident that if proper maintenance had been given such roads, they would not be condemned, but on the contrary would be recommended for use in many places.

The value of a public highway depends almost entirely upon the condition of its surface throughout the year. The traveling public should not be concerned in regard to the type of road so long as the condition of the surface of the road is such that it satisfies all requirements of traffic all seasons of the year. It is apparent that if proper maintenance would be given to many of the cheaper types of roads, they could be kept in a condition that would virtually satisfy the traffic in a great many localities.

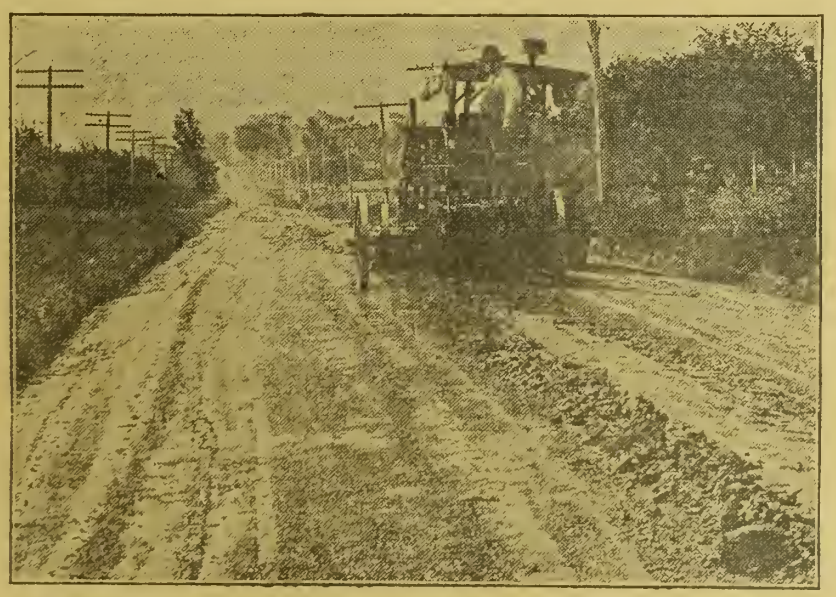
No one will dispute the economy of a brick pavement on an extremely heavily traveled road, or the economy of the well kept earth road for light farm traffic. With these two extreme conditions satisfied, it is evident that if proper maintenance is given there must be economy in some of the numerous other types of improvements for roads which have traffic conditions varying between the limits of traffic that warrants a well kept earth road and traffic that justifies a brick wearing surface.

PROPER MAINTENANCE NECESSARY

It is evident that the average layman does not consider all advantages of the various types of improvements when selecting a type of road. Very often the public is prejudiced against certain types of roads on account of their lack of knowledge of their first cost and the cost of upkeep. Again, they may be prejudiced against certain types by published information that is not authentic or by the result of unscrupulous work of biased material representatives or special interests. It has been proved without question, however, that the principal cause for prejudice is dissatisfaction which results from improper maintenance.

It is not uncommon to see many different types of roads constructed and then after they begin to show signs of slight wear to have them neglected entirely or some means of repair or maintenance imposed that has been found by long practice to be defective. For example, it is common to see mud holes in earth roads filled with rip-rap, crushed stone, cinders, etc., paying an enormous price for the material when it is apparent that proper drainage with earth from the side road is more satisfactory and economical. Old gravel and macadam roads are often repaired by filling ruts and depressions with inferior material that is readily displaced by traffic or ground to dust. Bituminous surfaces are often patched, if patched at all, by loose stone or gravel and in some cases concrete. A number of streets and roads have been inspected where brick was used to patch concrete surfaces, and concrete used to patch brick surfaces. Such careless methods used for the maintenance of public highways and streets not only make many types of roads unsatisfactory and uneconomical, but tend to discourage road improvement, particularly the cheaper types of improvement which are in many localities the more economical if properly maintained.

The proper maintenance of many improved roads and strects is neglected on account of the inability of the road officials in a great many cases to assess a tax that is sufficient to do the work which they realize should be done. By special assessments, most any kind of improvement may be undertaken, but to provide a fund and an effective method of supervision for maintenance purposes is quite a different problem and one that has not been properly met in many localities.



SHAWNEE COUNTY DIRT ROAD IN PROCESS OF CONSTRUCTION. — COMBINATION TRACTOR AND ROLLER PULLING GRADER

CONSIDER COST AND MAINTENANCE

The tendency in promoting a system of improved roads is to select types of roads which require very little annual maintenance. The general feeling seems to be that when a road surface requires some annual maintenance to keep it in good shape, it is an expensive type and should be avoided; when, if the difference in the original cost plus the interest on the investment, plus the repairs, were taken into consideration, the cheaper type of surface would in many cases be more economical.

It is evident that the average layman does not consider all divisions of cost when selecting a type of improved road. Quite often the high first cost of a pavement is overshadowed by its low maintenance cost. Again, it is not hard to find localities that utterly overlook maintenance cost and give preference to that type of road which they may be familiar with or that type which will give the greatest mileage. In comparing different types of roads there are three things which must be taken into consideration, namely, the first or original cost of the improvement, the interest on the money invested in the improvement and the total upkeep cost. When all of these factors are taken into consideration, it is evident that many of the cheaper types of roads are more economical on account of their low first cost.

In selecting a type of road on the three principles set forth above, it is very essential that provision be made for proper and efficient maintenance. If by reason of local conditions or circumstances that might delay or prevent proper maintenance, preference should be given to the types of pavements that may require only a small amount of maintenance or be serviceable even under neglect of maintenance. Neglecting proper maintenance for but one year on many types of roads is very much more serious than the amount of money involved represents. One season's neglect of maintenance or improper maintenance often results in complete destruction of some of the cheaper types of road surfaces.

NEED TRAINED REPAIR MAN

There are very few men experienced in the maintenance of various types of roads. There seems to be a tendency to shun this phase of road work in preference for construction. This may probably be explained by the so-called "fussy methods" that must necessarily accompany much maintenance work. Again, the usual plan for making repairs on a road is to wait until it becomes almost impassable and then hurriedly secure the services of the first man available for doing the work, with very little thought in regard to his experience. A good maintenance or repair man cannot be trained in a day or one season, nor can a road be effectively maintained by only occasional consideration. Effective and efficient maintenance is accomplished only by constant attention of the experienced man that will give personal attention to all details of the work.

It is the utter neglect of maintenance and improper methods followed by many road officials that have molded the sentiment of the masses of people against such work. The neglect of maintenance has not only served to destroy many useful and economical roads, but in so many cases has molded sentiment to have no faith in any type of road that requires annual maintenance. This neglect and inefficiency on the part of many road officials has led road promoters to disregard the type of road which in many cases would be most economical for a community.

Ordinary milk is the cheapest and most valuable source of lime and phosphorous. Though milk is deficient in iron, the iron that is contained is particularly well utilized by the body.

APPLETON Silo Filler



In quantity and quality of silage made per hour

the Appleton has any silo filler beat, by actual *records*. Great capacity, with tremendous strength to stand the hardest, continuous service, made Appleton the choice of those thousands who *investigated* it before they bought *any* silo filler. Have *you* investigated it?

Guaranteed to do more and better work with less power

than any other silo filler. Costs no more to buy and much less to operate. Its all-round economy guarantees you silage at the lowest cost per ton and makes you most profit on work for others. Don't buy until you *know* what Appleton offers. Send for

Two Free Books

about silo building and silage; and about Appleton Silo Fillers, showing 4 sizes for 4 h. p. gasoline engines and up.

Appleton Mfg. Co., 419 Fargo St. Batavia, Ill.

THE INDIANA SILO



Fifty thousand are now in use on the finest farms in America.

If you are going to buy a silo—this satisfactory service rendered everywhere—should be of special interest to you.

The cost of all materials is advancing like the price of wheat and corn.

Why not save money by contracting for your silo now. It undoubtedly will cost you more next spring or summer.

Let us send you our proposition—to contract now for your silo and deliver it later.

We still have openings for a limited number of farmer agents.

INDIANA SILO CO.

611 Union Building, ANDERSON, INDIANA
611 Silo Bldg., KANSAS CITY, MO.
611 Indiana Building DES MOINES, IOWA
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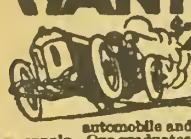

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WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

MODERN conveniences in the way of power and mechanical devices have wrought great changes in housekeeping methods. A writer in Power Farming asks us to imagine an average farm home without modern improvements and conveniences. We can picture the average farmer's wife as she goes through her daily routine. Follow every step from the time she starts the fire in the frigid kitchen till she lays wearily down the last pair of mended stockings at night. Now by magic transfer her in her sleep into a house with just the plain conveniences: a heating system; running water, hot and cold; a bath room with lavatory, closet, and bath tub; a sanitary system of sewage disposal; a power plant that not only pumps water but runs an electric lighting plant with storage battery; a power washing machine and wringer, a power separator and churn, a vacuum cleaner, and perhaps an electric flatiron and a little motor to run the sewing machine.

Give her an extra hour to sleep. The kitchen is warm, the water is hot, and she can get breakfast in a jiffy on the oil stove. Now picture to yourself her day's work and her day's uplift to body, mind and soul. It is the difference between losing and winning, between conquering and being conquered. Look at these pictures from the standpoint of efficiency, of humanity, of romance. No magic of Aladdin's lamp could work a greater transformation or bring greater joy and comfort.

Keep Battery Filled

A reader asks if he should do anything to his battery. It is working all right and has been for four months.

He should have refilled his battery three and one-half months ago. A battery will continue to give some energy as long as there is any solution in the jars. If the solution is allowed to get too low, however, it becomes stronger and stronger and finally it destroys the bottoms of the plates and the insulation between the plates. If this reader has not filled his battery for a period of four months, he may find that it has been seriously injured as a result of the solution getting low. One of the important points in the care of a battery is to keep all the cells filled with distilled water to a level of one-half inch above the top of the plates. The cells should never be filled full and ordinary water should not be used.

Care of Magnetos

A dirty magneto will not give efficient service. It must be kept free from oil and moisture and dirt of all kinds.

It is a good plan to keep the magneto protected from dirt by a cover. By having a suitable cover, oil can be prevented from getting to the magneto. The film of oil on the breaker parts is sure to catch and hold dirt and dust. This is sure to result sooner or later in a short circuit. Most manufacturers of magnetos use small fiber washers to insulate some of the important working parts. It requires only a very small amount of oil, water, or dirt accumulation to cause short circuiting across the binding posts or breaker parts.

When pouring water into the radiator, the overflow will sometimes splash on the magneto and interfere with its operation. During rainy weather the same trouble may be experienced. By using a tightly fitting cover most of these difficulties can be eliminated. It is also important to keep the magneto base clean so as to insure an uninterrupted ground circuit.

Machinery Foundations

Foundations for gas engines, cream separators and similar machinery may be best constructed of concrete. With long boards, practically any size of foundation may be built by simply setting the boards on edge to form an enclosure the shape of the engine bed and bracing them so that they will stay where placed while the concrete is being deposited in the form. If a foundation more than one foot high is wanted, the same scheme of forms may be used by placing one board on top of the other and holding them in position by stakes or cleats at convenient points. Cleats placed in the outside angle of the intersection of the boards and extending the full height of the form will add strength and stiffness to the form.

Engines and other machines vibrate more or less and should be firmly bolted to the foundation. Before filling the form with concrete, a template should be made of light boards and holes bored in the template to correspond with the location of anchor bolt holes of the machine. The template is placed level on top of the form and the bolts suspended by means of temporary wooden washers. A plate or cast iron washer is first slipped down to the head of the bolt, and the threaded end passed through its hold in the template and wooden washer and the nut screwed on. To prevent cracking the concrete bed anchor bolts should be set at least three inches back from the faces of the foundation. Place the concrete in the form carefully so that the bolts will remain plumb. After the concrete has hardened, remove the template and carefully level the top of the foundation with cement mortar using a mixture of one part of Portland cement to two parts of sand. The edges may be left square or may be rounded or beveled before the concrete hardens.

The mixture for engine foundations should be in the proportion of one sack of Portland cement, two cubic feet of coarse clean sand, and four cubic feet of well graded pebbles or broken stone, mixed with enough water to make a quaky consistency.



A FEW OF THE CARS LINED UP ON AGRONOMY FARM OF KANSAS AGRICULTURAL COLLEGE ON OCCASION OF FARMERS' UNION PICNIC JUNE 15

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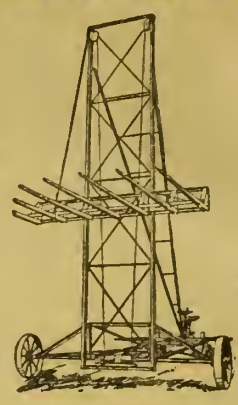

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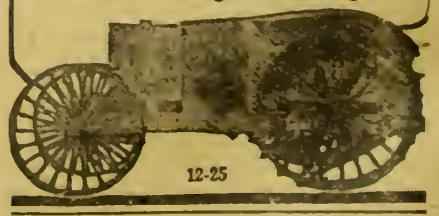

To get into the habit of making every act, every movement, and every thought a constructive one, makes for a satisfactory home.—HENRY FORD.

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KANSAS FARMER

THE FARM PAPER OF KANSAS

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SUPPORT THE GOVERNMENT

We believe every loyal citizen should support his government to the extent of his ability and influence. We have many naturalized citizens in this country—people who came here because of the greater opportunities offered and because here in this "land of the free" they could have a share in directing the affairs of the government. Such citizens have all the rights of American-born citizens and owe an everlasting debt of gratitude to the country of their adoption. We should hesitate to say this if we could not quote the words of one of these citizens by adoption who now is not afraid to condemn the attitude of those who hold back in this great crisis. We refer to Maurice McAuliffe, president of the Farmers' Union of Kansas, who said in a recent editorial in his paper:

"This government may not be all that we think it should be, but it is what the voters make it, and we, the voters, are alone to blame for its imperfections. Our government is the best government in the world today, and the naturalized citizen, regardless of his place of birth, should be more loyal and true than the American-born citizen because of the opportunities afforded him to acquire a home, and in many instances a competency that he never could have obtained in the land of his birth. . . . When I hear men of foreign birth everlastingly standing up for the land of their birth as against their adopted country, I say: 'Shame on you! You are ingrates. This, your adopted country, deserves better of you and you should give her the best there is in you in preference to the land of your nativity or any other land.' . . . If the foreign-born citizen is not willing to stand by his adopted country in this, her hour of need, he should be made to do it during the war, and when the war is over I would be in favor of telling these slackers to get out of here and live under the flag and government to which they extended their sympathies when the struggle was on.

"I was as much opposed to war as anyone could be, but since Congress has declared a state of war exists I am for prosecuting the war until we accomplish the purposes for which we went to war. It makes no difference to me whether we were justified in going to war or not. It is enough for me to know that we are at war, and in return for the good things this government has done for me I am willing and anxious to do all I can for her, and so should every naturalized citizen, no matter from what clime he hails."

These are strong words, but they furnish food for thought not only to our naturalized citizens, but to our American born citizens as well.

BOARD OF AGRICULTURE REPORT

Kansas will probably produce record-breaking crops of oats and barley, but the wheat crop is likely to be the smallest since 1896. The State Board of Agriculture gave out its detailed report for June last week. This report is based on a canvass among 4,000 correspondents, the date of this report being June 16.

These correspondents estimate a probable yield of approximately 42,000,000 bushels of winter wheat in Kansas this year, or an average of 11.8 bushels to the acre on the 3,525,326 acres now reported as left standing. This aggregate of wheat is about 2,000,000 bushels more than the May forecast, and the average yield per acre 1.8 bushels higher, while the area left standing is less by about 400,000 acres than reported in April. According to the estimates this year's crop is 58 per cent less than the state's output of last year.

With the official returns from assessors received from ninety of the state's 105 counties, it is shown that the area sown to wheat last fall was much more than previous estimates by correspondents had indicated, or a total of approximately 9,500,000 acres. This is by far the largest in the history of Kansas. Growers now say that of the area sown nearly 63 per cent was a total failure, as against 55 per cent reported in April. Additional abandoned areas, since April, are reported from the western counties, many reporting the wheat as practically a total loss, as it is in a number of the north central counties. Recent hailstorms destroyed much wheat, in the southwest especially, and hot winds last week in several of the south central counties caused damage. Insects have been conspicuous because of their absence. There is less evidence of the Hessian fly this season than for several years past. Out of the hundreds of reports received only thirty-seven, distributed among seventeen counties, twelve of which are in the south central part, mention the fly.

In the eastern half of the state wheat has improved in the past month and generally gives promise of yields better than expected thirty days ago. The higher yields per acre are in the eastern third of the state, south of the Kansas River, Chase leading with twenty-four bushels. The larger aggregate yields are in the south central counties, Sumner taking first rank with 2,950,974 bushels, followed by its neighbor on the west, Harper, with 2,101,788 bushels.

Harvest has begun in the southern counties under favorable circumstances, and, weather permitting, will rapidly progress northward, as recent warm days have been fast ripening the wheat.

The prospective yield of oats aggregates 70,354,709 bushels, exceeding the best prior crop year, 1888, by 16,000,000 bushels, and surpassing the crop of 1916 by 41,000,000 bushels. A record area of 2,225,414 acres was sown last spring, much of it occupying abandoned wheat ground. The provised average yield per acre of 31.6 bushels is the highest since 1910. Conditions in the eastern half of Kansas, where the larger acreages of oats are sown, have been uniformly favorable for the crop. Brown County reports the highest average yield, forty-four bushels, while Cloud is credited with the largest aggregate yield, 2,754,962 bushels, followed by Marshall, Marion and Washington, with 2,457,207, 2,444,844 and 2,397,442 bushels respectively.

Estimates indicate that the yield of barley may aggregate 16,000,000 bushels. Last year the barley crop was 6,000,000 bushels, and in 1915 it was 10,500,000 bushels. The 890,000 acres sown last spring is by far the largest area ever recorded for Kansas. The average yield per acre is only fair, however, amounting to 17.9 bushels, conditions being unfavorable in several central-west and southwest counties having important acreages. Barley is grown chiefly in Western Kansas, and of the four counties that promise a million bushels or more each, three are Cheyenne, Rawlins and Thomas, in the northwestern corner of the state. The other county, Sumner, which leads with 1,426,230 bushels, is in the south central part.

BOYS' SHEEP CLUB

We wish to commend most heartily the plan of the Bradley Knitting Company to conduct a boys' sheep club in this country. We are in favor of anything that has for its purpose the encouragement of boys in rightful pursuits. Many a boy owes his success in life to the encouragement he received from one or both his parents or the kindly interest taken by some man who had not forgotten the time when he was a boy himself.

While we always think first of the development of the boy or girl as a result of this participation in club work, most clubs have secondary aims of great importance in their effect on our industries. The Bradley Sheep Club will tend to arouse interest in a much neglected branch of the live stock business. Nothing can take the place of wool as a clothing material, and mutton is one of the healthiest of meats for human consumption.

This proposed sheep club is nation-wide in its scope. The age limits are thirteen to seventeen years inclusive, and the boys who enroll must live on farms where no sheep are now kept. The first step in the work will be the sending in of an examination paper based on a pamphlet on sheep furnished to every boy who enrolls. Twelve flocks, consisting of four bred ewes each, will be placed on the basis of these examination papers without regard to the location of the boys winning. In addition forty-eight flocks will be placed, one to the boy in each state who sends in the best examination paper. We understand the plan calls for a series of prizes covering a period of five years. We hope in the near future to be able to give in detail the plan so Kansas boys who may wish to compete can enroll.

KANSAS STATE FAIR

An unfounded rumor has been going the rounds that a large number of the big fairs in this country would not be held on account of the war. Agricultural fairs are important factors in promoting better methods of crop and live stock production. As educational agencies they are older than agricultural colleges. At a time when so much depends on the soil and its products, fairs are of greater importance than ever.

The Kansas State Fair to be held at Hutchinson September 15 to 22 is coming on as usual. There has been no change in the policy of its managers. There will be additional facilities for displays in the new agricultural building, which will be ready for use at the coming fair.

This fair has always featured county agricultural exhibits. These exhibits are among the most striking of those displayed in the agricultural department. Some of the counties making such exhibits of their products have won enough in prizes to pay the expenses of gathering material and of getting it to the fair and in place. Progressive Kansas counties can well afford to take the necessary steps to make such county exhibits.

Plans should be made at once for preparing exhibits. The fair catalog should be in the hands of all who have any intention of competing for the premiums offered in any department. A copy can be obtained by sending a postal to the secretary at Hutchinson.

Contagious diseases are much feared by cattle owners, for the losses which they entail are enormous. The properly managed bull association furnishes its members with a means for controlling tuberculosis and contagious abortion in their herds. Such an association requires the cattle of each member to be tested for tuberculosis and takes every known precaution to prevent the introduction of contagious abortion.

IRRIGATE THE GARDENS

An abundant supply of water for irrigation will greatly increase the productiveness of the Western Kansas garden. It has been estimated that a tenth of an acre of garden can furnish food equivalent to 400 pounds of round steak. In these days of high food prices this is no small item. An ordinary windmill, if worked at its capacity, can pump water enough for a fourth of an acre of garden. If every windmill in Central and Western Kansas could be used to supply water enough for only a tenth of an acre of garden, the food produced would be sufficient for an army division.

To use a windmill for irrigation it is almost necessary to provide some storage for the water. Dirt reservoirs are practical where the soil is tight enough to hold water without too much seepage. Such reservoirs can be cheaply made. They will hold water much better if the bottoms are puddled by the tramping of animals during the process of construction. A flock of ducks allowed to work in a reservoir in which there is a small amount of water will soon puddle the mud in the bottom so it will hold water much better. Sometimes a series of stock water tanks can be arranged for storage. The water can be conveyed from one tank to the next by syphon connections. It is only by having proper storage that full advantage can be taken of the windmill. If there is storage the windmill can be kept running night and day. Having a supply of water stored also provides a sufficient head of water so it can be properly spread when the garden is irrigated.

The best time to irrigate a garden is in the evening. The ground should be thoroughly soaked. As soon as the surface is dry enough to be cultivated, the crust should be broken up so as to prevent the rapid evaporation of the water in the soil below.

The Ottawa Manufacturing Company, of Ottawa, Kansas, which is building a large addition to its foundry, is now employing women on the work of making drill castings. In Europe women are employed in almost every capacity, but as yet in this country women and girls have been employed only in the lighter work of business and factory. We trust that it may never be necessary for them to take up the heavier tasks as have the women of Europe. In speaking of the employment of women by the Ottawa Manufacturing Company, Mr. Warner, president of the company, states that they have not turned any of the men off, using them in other work. He finds the women very attentive to their duties, taking good care of their tools, and in some ways turning out better work than men. The work is not heavy and is performed in a clean, healthy environment.

The thousands of town people who put out gardens this year have learned by this time that there is something more to gardening than simply planting seed or setting out plants. Insects of all kinds have been unusually plentiful. Plant lice, or aphids, have been more destructive than we have ever known them to be. Both town and farm gardeners have been kept busy fighting insects of various kinds. People are learning that exact knowledge of what to do and how to do it is most important. We have tried to furnish in KANSAS FARMER detailed methods of fighting these various garden insects. In this issue will be found an article dealing with methods of combating plant lice.

TREATMENT FOR WORMS

Simple and Practical Methods for Keeping Animals Free From Parasites

A VERY useful pamphlet has recently been published by the Agricultural Extension service of the University of Missouri. It is prepared by Dr. L. S. Backus, and gives information on the manner in which to detect worms and lice and the proper methods of combating them. The following is an excerpt from this practical pamphlet, which will doubtless be of much value to any man owning hogs or other animals:

"The object of this publication is to present to the stockman simple and practical methods of combating a few species of parasites which most frequently infest farm animals. Such infestations of certain kinds of parasites are so common that the condition is often recognized by the attendant and it seems advisable that he should possess reliable information concerning methods for their treatment. With this purpose in view, those parasites and treatments have been selected the information concerning which may be of practical use to the stockman.

"Technical terms have been avoided and the treatments recommended have been found safe, effective and practical.

"Stock owners recognizing the need of a worm remedy often resort to patented condition powders and medicated stock foods. These are usually recommended by the manufacturers to rid animals of worms, but as worm eradicators they often prove to be of little value.

"In cases of especially severe infestations of stock by parasites, a veterinarian should be called to make a diagnosis and recommend such treatment as would be indicated under the existing conditions.

"What are parasites? Parasites are animal (or vegetable) organisms that obtain nourishment from a living host, either animal or vegetable. In this circular only animal parasites that infest an animal host are considered.

"There are two main groups: external parasites, or those which live upon the surface of the body, such as lice, ticks and mites; internal parasites, or those which live within the body, such as worms of different kinds found in various parts of the animal body.

"How do animals become infested with parasites? Infestation may take place through the medium of an infested animal, infested premises, and infested foods. Lice and scab mites may pass from one animal to another when the animals are in close contact, or a healthy animal may be infested from the harness, blankets, bedding or stalls of an infested animal.

"An animal which harbors mature worms passes thousands of worm eggs daily. In a few days, especially under damp and warm conditions, these eggs hatch. The young worms live sometimes in bedding or on the damp soil, or in pools or ponds of water, ready to be taken into the digestive tract of another animal where they grow to maturity.

"Will worms of one species of animal attack an animal of another species? Generally speaking, they will not. There are a few kinds of worms which are common to several species of animals.

"How do internal parasites obtain nourishment? Some bury their heads in the lining of the bowels and suck blood; some attach themselves by the head but absorb nutrition through their body walls; and some have a complete digestive apparatus. In the last case food is taken in by the mouth and digested as in higher forms of animals.

"At what period in the development of worms are they most injurious to their host? Young and immature parasites demand a great deal of nutrition for their growth, and animals sometimes suffer severely from parasitic invasion when the parasites are so small that they may not be easily recognized on post-mortem examination of the host. However, the young, immature parasites are expelled more readily by worm remedies which often have little effect on the more mature worm. This explains how the frequent feeding of some comparatively simple worm medicine often prevents severe infestation with worms.

"As the worms become larger they may form serious obstruction to the passage of food materials and excreta through the intestines. Or they may interfere with nutrition to such an extent that the host actually suffers starvation even though food is abundant.

"What is the appearance of intestinal parasites? Intestinal parasites are commonly spoken of as round worms, pin worms or tape worms.

"The round worms vary in size in different animals. They are most common in the pig and horse and may be from five to fifteen inches long. In the horse they may attain the diameter of a pencil. They are white and pointed at both ends. They inhabit the small intestines.

"Pin worms vary from one inch to several inches long and are much smaller in diameter than round worms. One end is usually somewhat blunt. They inhabit the large intestines.

"Tape worms are flat and segmented and vary in length from a fraction of an inch to many feet and are generally found in the small intestine.

"Is a small number of worms detrimental to an animal's health? The effect of worms upon an animal is usually in direct proportion to the number present. Where a few may apparently do no harm, under favorable conditions for their propagation they may speedily become a menace to the life of their host.

"What conditions favor development of parasites? Limited quarters and a large number of animals foster their propagation. The healthy animals become infested from those which harbor the parasites.

"Damp and badly ventilated inclosures, ponds and poorly drained pastures are conditions favorable for hatching parasite eggs and retaining the young parasites.

"How long do pastures retain such eggs or parasitic embryo? Probably only a few weeks in dry weather or on well drained pastures, free from ponds or boggy places. Wet pastures may be unsafe for several years.

"What are the symptoms of parasites? Symptoms vary, depending upon whether the invasion takes place gradually over several weeks, or whether it is acute.

"Invasion is usually slow. The animal has a good appetite, often eats more than normally, fails to gain or may lose weight. The skin becomes rough and dry. Horses may eat the bedding. Presence of worms in the excrement may often be noted.

"In severe invasions animals may be affected with diarrhea, loss of appetite, and death may result in a comparatively short time.

"Do animals often die as a result of parasites? With a sudden severe invasion of parasites animals may die in large numbers and such invasions have been mistaken for some acute disease such as cholera among hogs, fodder poisoning or anthrax in horses. Worms sometimes plug the intestines to such an extent as to cause death. This may cause inflammation of the bowels.

"The economic loss which results from stunted growth and falling off in condition is probably greater than the direct loss by death. Parasites lower the animal's vitality and often prepare the way for other diseases.

WORMS IN HOGS

"What are symptoms of wormy hogs? Good appetite without proper gain; small pigs may suffer from convulsions; cough and thumps indicate worms; passage of worms with excrement; post-

(Continued on Next Page)

Hogs Need Mineral In Ration

By C. M. Vestal, Kansas Experiment Station

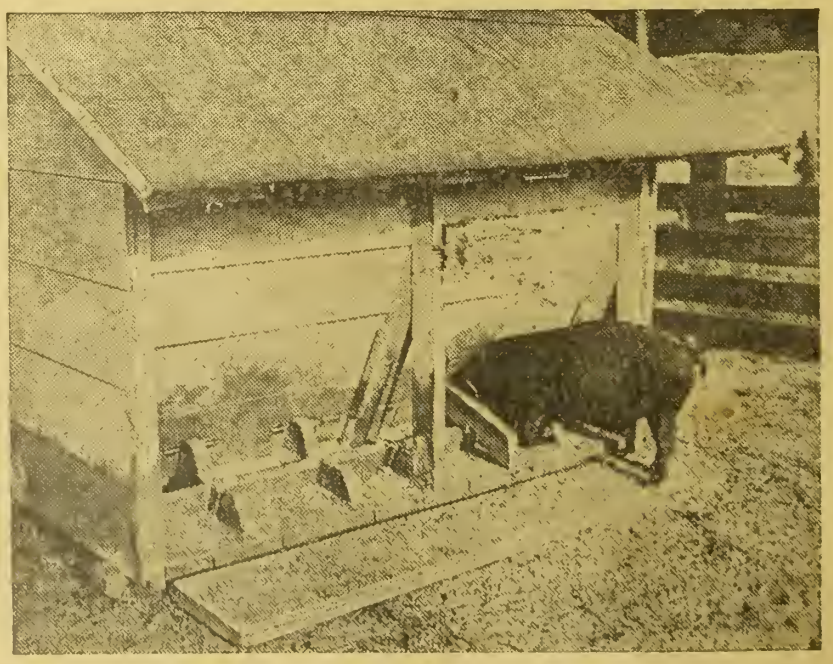
CONTRARY to the usual belief, the deficiencies in certain practical hog rations are mineral rather than protein. This has been shown in the extensive hog feeding experiments conducted at the Kansas Experiment Station.

Last summer and fall five lots of fifty-pound pigs were fed practical rations, and in five other lots the practical rations were duplicated, but bone ash was added at the rate of 2.5 pounds to each hundred pounds of other concentrates. In two additional lots where all of the feeds were offered according to appetite, no bone ash was consumed.

Comparing the results in two dry lots, one lot being fed corn, shorts, and tankage, and the other corn, shorts, tankage and ash, it is shown that the ash instead of proving a benefit hindered the pigs in their use of feed. This handicap is expressed as a loss of fifty-one pounds of grain, which is equivalent to a loss of eighty-three cents for each hundred pounds of gain or $1.25 per pig during the experiment. Adding to this difference the high cost of the bone ash—fifty cents per hundred pounds gain—there results a total handicap of two dollars per pig in the cost of 150 pounds gain.

Comparing results in pasture lots it is shown that the addition of bone ash to a ration of corn, shorts, and tankage fed with alfalfa pasture hindered the economy in use of feed, as it required four pounds more of corn, shorts, and tankage to produce a hundred pounds of gain. The difference in cost of gains amounts to seventy-two cents per pig during the experiment. In other lots where bone ash was added to corn, shorts, and tankage on rape pasture, there was a loss of thirty-eight pounds of feed for each hundred pounds of gain when compared with the ration without ash. Including cost of bone ash this amounts to an increase in cost of $1.06 per hundred pounds gain, or $1.59 per head.

It was further shown in this experiment that while the addition of bone ash to corn and alfalfa pasture did not affect the appetites of the pigs, there resulted a saving of thirty-five pounds of corn for each hundred pounds gain. Including the cost of ash, however, the net saving amounts to only seventeen cents per hundred pounds gain, or 25.5 cents per pig. There is also a gain of nine days time in producing an average of 150 pounds gain. The pigs which received the bone ash were thriftier and made more growth but were not as fat as those on corn without ash.



PIG BALANCING HIS OWN RATION BY SELECTING THE DIFFERENT FEEDS IN THE SELF-FEEDER.—THIS IS KNOWN AS THE "FREE CHOICE" SYSTEM OF FEEDING

The results indicate that a ration of corn and alfalfa pasture does not supply all of the mineral required for growth in a young fattening pig. That the pig attempts to correct this condition is shown by the fact that the pigs which had only corn as a concentrate practically ruined the stand of alfalfa by rooting, while those which ate ash and corn rooted but very little. The grazing in both of the lots was much closer than where protein supplements were used with the corn.

An advantage was found to result from the addition of bone ash to the ration of corn, shorts, and alfalfa pasture. This advantage is represented in a saving of eleven pounds of corn and shorts for each hundred pounds of gain, or a saving of seventeen cents on these feeds. This, however, is not sufficient to offset the high cost of the bone ash used, and there results a loss of twenty-five cents per hundred pounds gain, or 37.5 cents per pig.

This loss should not be allowed to cover up the fact that the bone ash caused the corn and shorts to be used more economically. Evidently the bone ash was needed to balance the ration.

Tankage is not only rich in protein but also in bone ash. Hence, if an estimate of the value of tankage as a supplement is made from the results of this experiment, credit must be given to its ash content as well as to its abundant supply of available protein.

TREATMENT FOR WORMS
(Continued from Page Four)

mortem examination of a pig showing worms within the intestine, is an indication for treatment of the herd.

"How should hogs be treated for worms? Hogs, if properly handled, are comparatively easy to treat for worms. The following formulas are recommended: Santonin, 1 dram; calomel, 2 drams; powdered areca nut, 5 ounces.

"Areca nut is an efficient worm remedy, but it loses its strength, and care should be exercised to procure the fresh drug.

"The dose is one heaping teaspoonful for every hundred pounds weight, or the formula is sufficient for twenty pigs averaging from fifty to a hundred pounds.

"The pigs should be hungry when the remedy is given. Withhold all feed for twenty-four hours. Give the medicine in a light feed of wet mash and after six hours give one ounce of epsom salts per hundred pounds live weight, mixed in a slop. This treatment will be found very effective. If the pigs are of different sizes, they should be divided into lots so that pigs of equal weight will be together. This will enable each pig to get its share of the remedy.

"Another remedy is powdered copper sulphate, or bluestone. The dose is one teaspoonful per hundred pounds weight, or one ounce to every eight pigs of 100 pounds weight each. Give in a thick mash—a mash of corn chops and bran is preferable—morning and evening, after having fasted the animals for twenty-four hours. Give, the following morning mixed with the slop, one ounce epsom salts per hundred pounds weight.

"Turpentine is another good worm remedy. The dose is one-half ounce—or one tablespoonful—per pig. One pint of turpentine will be sufficient for one dose for about thirty pigs weighing from fifty to a hundred pounds.

"Prepare pigs for treatment as recommended above. Give one tablespoonful turpentine per hundred pounds weight, mixed with a light feed of thick mash or skim milk. Repeat for three successive feeds. Follow last dose with one ounce epsom salts per hundred pounds weight, mixed with slop.

"There is no danger of overdosing with turpentine, since if too much is given, the pigs will refuse to eat the mixture.

"The last two remedies are desirable because they are cheap and easily obtained. Turpentine and copper sulphate when used as previously directed have been found safe and effective worm remedies for the hog.

"Some reports hold that turpentine and copper sulphate have in some cases produced abortion of pregnant sows. We have no conclusive evidence, however, that such is the case.

"Pregnant sows are less frequently infested with worms. When treatment is necessary, the Santonin formula is recommended.

"Many swine raisers make a practice of keeping equal parts of salt and ashes or equal parts of salt, ashes and charcoal in the pig lots for the hogs to partake of at will. These mixtures, although not very efficient as a treatment for worms, are of value as preventatives, and such a simple mixture as salt, ashes and charcoal, if kept accessible to the hogs, will be of value in preventing worm infestation.

LICE ON HOGS

"How may hogs be rid of lice? During warm weather the animals may be dipped or sprayed with a two per cent solution of some commercial preparation such as Liquor-Cresolis, Compound, Creolin, or Kreso. Three ounces to one gallon makes about a two per cent solution.

"An emulsion dip may be prepared as follows: Kerosene oil, 2 gallons; soap, 8 ounces; water, 1 gallon.

"To prepare this remedy, make the water hot to dissolve the soap and while it is hot add to the kerosene, stirring the mixture rapidly for ten minutes. One gallon of this mixture is then mixed with nine gallons of water. The preparation may be used in a dipping tank or may be sprinkled over the hogs with a spray pump. The dip should be used toward evening or on a cloudy day, as the hot sun may blister the animal's skin if the oil has not evaporated.

"The emulsion dip is probably more efficient in destroying the nits than the commercial dip. In either case the treatment should be repeated in a week or ten days to destroy any lice which may have hatched since the previous treatment. During cool weather, sprinkling the hogs with crude oil is very effective. If this is used in summer, the hogs may blister if turned out in the hot sun.

"After treating hogs for either worms or lice the yards should be cleaned of litter and sprinkled liberally with freshly-slaked lime to prevent reinfestation of the herd. Lime kills many worm eggs and embryo worms in the infested grounds."

Destroying Plant Lice

Many complaints are being received of damage to garden crops by plant lice. These small insects work on the under surface of the leaves of such plants as melons, cucumbers, cabbages, and numerous other garden plants. They do their damage by sucking the juices out of the plant, and since they do not eat the leaves they cannot be poisoned.

In our issue of May 26 we printed a table of insect remedies which we hope our readers preserved. We must be prepared to fight many kinds of insect enemies if we would succeed with our garden crops. This table gave in compact form methods of combating practically every injurious garden insect.

To destroy the plant lice, spray the plants with a strong soapy spray or a forty per cent nicotine sulphate spray. This material is commercially known as "Black Leaf 40."

The soapy spray is prepared by dissolving one pound of common laundry soap in five or six gallons of soft water. The nicotine sulphate spray is prepared by mixing three-fourths of a pint of forty per cent nicotine sulphate and four pounds of soap in 100 gallons of water, or for a small amount, one teaspoonful of nicotine sulphate in a gallon of water plus a piece of soap about the size of a walnut.

Radishes and turnips when tender may be injured by a strong soapy spray, and for this reason should be sprayed with the nicotine sulphate.

It is essential to apply a spray in such manner as to drench all the plant lice, which will be on the under sides of the leaves. A spraying apparatus is used, and when there are a number of plants the common knapsack sprayer is best. The extension rod furnished with this sprayer should be replaced with one long enough to reach to the ground so the user will not have to stoop. It should have the lower end turned up at an angle of from forty-five to ninety degrees and capped with a fine-holed nozzle.

Folker to Shawnee County

In selecting A. D. Folker as its new farm agent, Shawnee County started its farm bureau very wisely. Mr. Folker has made a great success of the Jewell County work. Having been all over the county in the rural high school interests, called there by communities, and in other speaking dates, I am conversant with his service to Jewell County. Many thousands of dollars have been saved in such ways as prevention of spread of hog cholera, marketing of seed and live stock among themselves, crop questions, etc. Jewell has been the premier county in the work of "the helpful hen," in alfalfa production, and in hog breeding and feeding, and second in corn and some other things.

I am surprised that Shawnee County was able to pry Mr. Folker loose. However, the opportunity is great, and with the cordial co-operation of the farmers in his new and important field, Mr. Folker will demonstrate the very practical help of his department and will win new laurels. Among my own Grange friends and others I bespeak for him their glad hand and co-operation. He is very practical, tackles the every-day problem with vim and earnestness, and has friends on every hillside and in every valley home in Jewell County. I've "Forded" it with him on dry land, with my eyes and ears open. He ranks with the best county agents in the West.—ALFRED DOCKING.

Neighborhood Meat Clubs

THROUGH co-operation the families of a neighborhood can have fresh meat during the summer. A meat club solves the problem. The organization of such a club cuts out considerable expense and insures each family a better quality of meat than can ordinarily be purchased at the butcher shop in town.

A meat club should consist of as many families as the community justifies. The number depends on the distance between families and the number of persons in the family. When companies are formed, constitutions and by-laws should be drawn up. The clubs should be so organized that each family will get one of the several cuts of a carcass each time an animal is slaughtered. It should be understood that if at one time a member gets a cut of high value, the next time he will get a cut of lower value. These clubs should be formed only to supply fresh meat, as each family should kill and cure enough pork to last them throughout the year.

A. M. Paterson, the meat specialist at the Agricultural College, suggests that it is well to have the beeves as near the same weight as possible. In every case it is necessary to keep permanent records of weights and number of cuts distributed to each member. One or two large families can handle a lamb. When mutton is used, therefore, a large club can handle three or four lambs at one time. Pelts and hides must be sold and proceeds either distributed to club members or given to the person furnishing the animal.

Mr. Paterson states that the animals should be killed in the evening and the carcass split and allowed to cool over night. As soon as the carcass is cool it should be proportioned and divided. Meat should be placed in a dry, well ventilated place, because it will keep longer at comparatively high temperature where the circulation of dry air is good than at a lower temperature where the circulation is poor and the air damp.

If there is danger that some of the carcass will spoil it may be corned. In preparing corned beef, to 100 pounds of meat use eight pounds of salt. Sprinkle a layer of salt in the barrel, then a layer of meat. This is done until all of the meat is in the barrel. Be sure to have enough salt to cover the top of the meat. Let it stand over night, then add to each 100 pounds of meat, four pounds of sugar, two ounces of baking soda, and four ounces of saltpeter, dissolved in one gallon of tepid water. Have enough of the solution to cover the meat. Weight the meat down. The meat is taken out of the cure as used.



NEIGHBORHOOD MEAT CLUB IN LEAVENWORTH COUNTY DIVIDING A BEEF CARCASS JUST BUTCHERED

Summer Pruning of Fruit Trees

June is the month for pruning the young orchard. The branches should be thinned, undesirable twigs and limbs removed, and the tree made to grow in the shape desired. The branches and twigs have made most of this year's growth and the remainder of the season will be used to ripen the wood, to store plant food, and to develop leaf and fruit buds for next year.

Cutting back the long, slender, upright branches to an outside bud or twig and thinning out the great number of branches the tree has started and which will be of no future value to the tree, will reduce the leverage the wind has on the tree and insure a uniform upright tree instead of a tree leaning to the north with few limbs going toward the south.

The statement is often made that trees are pruned in June for fruit because June pruning checks growth. Summer pruning checks growth only in that part which has been removed.

The removal of a part of the growing points and the cutting back of the terminal growth throws more growth and nourishment to the laterals farther back on the more mature branches and thus develops fruit buds instead of all the nourishment going to the development of leaf buds farther out on the limbs.

Cutting back the tree and making it spread while it is young develops a more stocky trunk and insures a better tree than the more slender neglected one. Plant food that would ordinarily go into leaf and twig growth late in the season will be used to develop the trunk and scaffold limbs. The amount of this development will depend on the number of fruit buds being developed, the amount of growth the tree has made during the fore part of the season, and the extent of the leaf surface during the early part of the season.

Summer pruning should not mean a severe cutting of wood from the inside of the tree if early fruitage is desired. The slender, slow growing laterals should rather be shortened so that they may develop fruit spurs and fruit buds as early as possible.—GEO. O. GREENE, Extension Horticulturist, K. S. A. C.

Feed Crops After Wheat

While talking with a successful farmer, he called attention to the need of good crops in 1918. He suggested that it would be better to prepare the wheat stubble this summer for planting to feed crops next spring. By crowding a feed crop in this summer, we are likely to reduce the yield of the 1918 crop on every acre used for catch crops now.

The only lands which produced good feed crops in 1913 in the Panhandle of Oklahoma were prepared for the crops early in the fall before.

This farmer suggested that stubble be planted to feed crops this summer only by those who have not enough planted to such crops to meet their needs, and that an effort be made to work for storing moisture for 1918 crops in stubble fields.—J. E. PAYNE, Oklahoma.



ARE YOUR CROPS PROTECTED?

You know the deadly work of hail. Within a few hours all your crops can be destroyed. Your income is gone. Your labor is wasted.

What a sense of security you have when your crops are protected against hail in a safe and conservative company. Don't risk another day, but insure now in a company whose officers are bonded to the State of Kansas for $50,000.

THIS IS THE COMPANY

that first put the insurance in force from the moment the application was signed and the premium paid. Always has adjusted all losses, no matter how small. We ask for your application on our past record. Don't wait for the storm, but write us for full particulars or see our agent before you insure your grain.

THE GRAIN GROWERS HAIL INSURANCE COMPANY

Elmer F. Bagley, Secretary, Topeka, Kansas.

MAKE BIG MONEY BALE HAY THE ADMIRAL WAY

Get your hay to market, neatly baled, while the prices are high. Then reap big profits baling your neighbors' hay. Develop a steady business with the Admiral Power Press. Farmers specify the Admiral for neater, faster and better looking baling. Runs smoothly; free from needless parts. Low fuel costs.

SAVES the EXPENSE of EXTRA MAN on the FEED TABLE

Thoroughly tested engine insures dependable service for all conditions of field work. Saws wood, grinds feed, etc. Run by tractor, steam or gasoline engine. William Russell of Meriden, Kas., made $8 to $10 per day during the baling season. Pays for itself in record time. Cash or time payments extended to you. Write for our new offer today.

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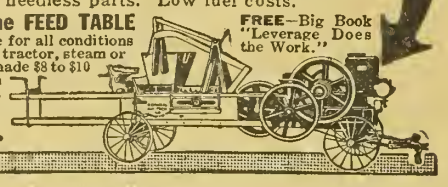

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WE NEED YOUR HELP

WE FEEL confident that there are thousands of KANSAS FARMER readers who will gladly respond to our appeal for help in the emergency now facing us. You do not want us to cut your name from our list, but by neglecting from day to day to send in your renewal you are seriously embarrassing us and causing us much unnecessary expense.

We are now confronted with a new order from the Post Office Department compelling us to stop sending KANSAS FARMER to a large number of our subscribers who are in arrears. We have in the past been allowed to give you several months in which to renew. The Post Office Department now says it will not carry at the second-class rate papers to those who are not paid up, and its word goes. We have no further recourse but to meet these requirements.

It has ever been the policy of KANSAS FARMER to keep close to the grass roots and under no circumstances to permit other than genuinely helpful material to appear in its columns. We, who are responsible for it editorially, have had real farm experience and keep in such intimate touch with farm conditions that we are able to give you the practical farm viewpoint of whatever appears.

In making this personal appeal to you we feel sure we can count on your loyalty to the cause which KANSAS FARMER represents. You can help us so easily and, what is more, we are going to make it financially worth your while to renew at once and send us in addition the renewals of your friends and neighbors.

You will find the date to which your subscription is paid on the label of the paper you are now reading. Turn to it now while it is fresh in your mind and register a vow to respond to this appeal for your help and co-operation. On page thirteen you will find our special renewal and club offer. It is worth a careful reading, as it will save you money.

Do not fail us in this emergency. We need your help.

T. A. BORMAN, President and Editor.
G. C. WHEELER, Associate Editor.
W. J. CODY, Secretary-Treasurer.
C. C. YOUNGGREEN, General Manager.

Prof. O. F. Hunziker, one of the leading dairy authorities of the country, has resigned his position as chief of the dairy department of Purdue University, Indiana, to take up work with the Blue Valley Creamery Company. He was granted a year's leave of absence beginning last October to study commercial butter making and in connection with this work because associated with this company. He will be manager of the manufacturing department of all their factories and will superintend the investigations made in the dairy laboratory. Professor Hunziker is the author of a number of dairy books and bulletins and is now preparing the manuscript for a text book on creamery butter making. His previous experience and training will be of great value to him in his new work.

Kansas Farmer Dairy Club

Preparing Cows For Freshening

WE WANT all Dairy Club members to get a good start and make splendid records. One of the important things to learn is how to feed and care for your cow before she freshens.

Prof. H. H. Kildee, of the Minnesota Agricultural College, who is one of the leading dairy authorities of the country, says that the manner in which cows are fed and managed during the six to eight weeks' period prior to calving has much to do with their year's production. Improper feeding or failure to give proper rest between lactation periods usually results in a decreased production for the lactation period.

It is a good plan to have a small pasture, so that cows due to freshen in the summer or fall may have an abundance of grass and not be molested by other cows. In addition to this, a few pounds of ground oats, which is one of the best feeds for pregnant cows, and in some cases a small quantity of eraeked corn and bran will be sufficient. For cows that are to freshen during the winter months, corn silage makes an excellent substitute for pasture grass, and in summer it should oftentimes be a supplement to pasture grass. In fact, it is impractical and unprofitable to attempt to run a dairy farm in the corn belt without corn silage. A ration made up of twenty to thirty pounds of corn silage, all the alfalfa or clover hay they desire, and a grain mixture of three parts ground oats, two parts bran and one part oil meal, will prove very satisfactory. The amount of grain per day should be governed by the individual animal.

A small quantity of corn may be given to animals thin in flesh, but they should not be crowded, but rather fleshed up slowly. Too large a quantity of corn is likely to have a bad effect on the system. Timotby hay and cottonseed meal are very undesirable, as they are rather constipating, while laxative feeds are needed at this time. It is well to reduce the ration slightly just prior to calving, as by so doing the danger of milk fever and after-calving troubles are decreased to some extent. It is best to put the cow in a clean, disinfected, well-bedded box stall a few days prior to calving. If her bowels are not moving freely, a dose of three-quarters to one pound of Epsom salts or one quart of raw linseed oil will prove very beneficial. A grain ration of two parts bran and one part oil meal is very good at this time.

For a few days after calving the cow's drinking water should be luke-warm. In addition to alfalfa or clover hay and a small quantity of corn silage, she should be fed bran mashes or a small allowance of bran, oil meal and oats. After about three days she may then be placed on more solid food. At least thirty days should be taken in getting her up to full feed and eare should be taken to increase bulky feeds that are laxative first and the heavy concentrated feeds later.

Better Than He Expected

Inclosed please find reports for the month of May, whicb finishes up the year for me. I have done better than I expected to do in regard to paying for my cow. When I first joined the club, I thought tbat if I could pay $50 a year clear profit I would be doing well, but my year's profit is $80.05. I think if my eow had not lost her calf I would have bad her all paid for at the end of the year.—H. G. LENHERT, Dickinson Co.

Harry did not get a very good start. His cow freshened some time before she was due, losing the calf. He thought of dropping out of the club, but we urged bim to milk his cow and make the best record he could. In spite of this poor start, he has made a fine profit and I am sure all the members will be glad tbat he remained in tbe club.

Joins Advanced Class

I would like to join the advanced class of the Dairy Club and start with Thilda this month if it is all right. I could bave written you sooner, but I tbought tbat those over eighteer years of age could not be in the elub any more, until I read about it in KANSAS FARMER. I will certainly be glad to join tbe elub for another year. I like the work fine. It seems to be getting more interesting all the time.

I sold my calf for $200 when six weeks old. It weighed 250 pounds. Best wishes to the Dairy Club.—ELISE REGIER, Butler County.

Cow Has Twin Calves

My cow was fresh on the first day of June. She had twin calves. One was a beifer and the other a bull. The beifer calf died. I milk my cow and keep a record of the milk and sell what I don't feed to my calf. My cow is giving more milk this time than she did before. I get about fifty pounds of milk a day.

I read KANSAS FARMER every week and get a great deal of benefit from it. —BENJ. E. ZOLL, Leavenworth County.

Delivers Milk for Dairyman

I enclose the records for May, which closes my record for 1916. I am going



THIS FINE YOUNG HOLSTEIN BULL BROUGHT TO LYON COUNTY BY F. C. NEWMAN, OF CITIZENS NATIONAL BANK, EMPORIA, FOR CO-OPERATIVE USE OF BOYS AND GIRLS OF DAIRY CLUB

to join the 1917 club. I have my cow, for which I paid $95, and a male calf.

I am selling whole milk for twenty cents per gallon. I am also working for the dairyman to whom I sell my milk. I help him deliver milk and wash bottles.

I have to pay seventy-five cents per month for pasture. I still have my cow from last year, which I still sell milk from. She is doing very well.—ERNEST WENDEL, Leavenworth, Kansas.

Almost Pays Out

As my year is up, I thought I would write to you about it. I paid eight per cent interest on the money I borrowed. At the end of May I owed $8.23 on my cow yet. I did not sell my calf, either. It is a steer calf about a year old and is worth about $30.

I wish all Dairy Club members success.—HAROLD BENTZ, Marion County.

Harold's year ended June 7.

Letters from New Members

I purchased my cow about a month ago. She is hardly three years old. I think she will be a good milker inside of a year. She gives about twenty-four pounds a day. I bought a new thirty-pound scale to weigh the milk on. The cow is not a pure-bred Holstein; she is short-legged and has a nice little udder.

I feel that I am going to make a cleaning-up in the next year.—JOE HERMAN, Leavenworth County.

My cow has been fresh about a month and is giving between five and six gallons of milk a day. I am doing very well at selling the whole milk and do not think it will take me long to pay for her.—FRED R. GRIFFITH, Lyon County.

Why Cream Tests Vary

Cream producers are often dissatisfied with their cream tests. This is especially true when there is a variation in test in seperate deliveries of cream. The test seeme to vary widely in consecutive deliveries with no apparent cause. There are, however, many reasons for the variation of the test, and unfortunately these reasons are not generally known. The variation may be expected although there may not have been any change in the position of the screw which regulates the thickness of the cream.

Complaints about tests are heard most often during spring, according to L. G. Rinkle of the Missouri College of Agriculture. At that particular season some of the factors causing a reduction in the tests are more pronounced than at other times of the year. One of the factors is the per cent of fat in milk.

As the season advances in the spring there is a gradual reduction in the fat test of the milk until it is at its lowest during the hot months of July and August. Whenever the per cent of fat in milk is reduced, the cream test goes down also. For instance, if a 3.8 per cent milk is separated into a 38 per cent cream then a 3.2 per cent milk run thru the same separator would give a 32 per cent cream.

Sometimes there is a sudden reduction in milk test because of several cows freshening at the same time. Such milk will ordinarily be lower in test than the milk from the cows well along in their lactation period. The milk, because of being lower in fat test, will then produce a lower testing cream.

There are several other factors causing cream tests to vary, among which is the speed of the separator. Ordinarily the speed is fairly uniform, but even with care there is apt to be a slight variation. An increase of speed usually produces a higher testing cream, while a decrease of speed produces a lower testing cream as well as inefficient skimming. The biggest change in speed is brought about when there is a change in persons operating the separator.

The rate of milk inflow also influences the fat test of cream. When the separator tank is kept well filled and the faucet is turned on full, the cream test will be lower than when the milk stands low in the supply tank or the faucet is wide open. If a small amount of high testing cream is desired, the simplest and easiest way to produce inflow by partially closing the milk it is to cut down on the rate of milk tank faucet.

The amount of flushing the bowl influences the cream test. The more skim-milk or water that is used the lower the test. Other factors such as temperature of the milk, cleanliness of the bowl, and balance of the bowl, have their influence upon the fat per cent in cream and may play an important part in causing it to vary.

Since different separations of cream may vary widely in test, one should not be hasty in accusing the cream buyer of unfair testing.

E. L. Koen, who has lived in Eastern Colorado for thirty-two years and tried out all branches of farming and stock raising, recently made the following statement: "I have reached the conclusion that there is nothing better than dairy farming. The farmer who can have a herd of twenty-five or thirty good dairy-bred cattle may take care of them without having to employ an unusual amount of help, and the steady income from this source, and from the increase of his herd, will make him very independent in a short time. I believe every farmer should have a small dairy herd.

"You Could Have Saved All Those Hogs With Hog-Tone"



It was worms that killed those hogs. 90% of hog deaths are caused directly or indirectly by worms. And the U. S. Dept. of Agriculture declares: **"Nearly every hog is infested with worms."** And **"More hogs may be lost from worms this year than from hog cholera, and many cases of apparent cholera are only worms,"** says Dr. J. T. Dinwoodie, Veterinary Specialist of the South Dakota State College. The Malignant Thorn Head Worms—Stomach Worms—Liver Worms—Lung and Bronchial Worms are stealing away the lives of an untold number of hogs every year. They weaken the hogs—make them subject to Cholera, Scours, Thumps, Rheumatism, Enteritis and Gastritis. They affect every sow's litter. Even if they don't kill your hogs, they rob you of your just profits. They make your hogs unthrifty—prevent them from putting on fat—lower their market value. You can prevent all this loss of hogs and money. You can banish the deadly worms. You can do it without risking a penny of your money.

We are going to give you the same opportunity to prove this that we gave H. O. Michael, R. No. 2, Markle, Ind. He writes: **"My first bottle of HOG-TONE made me one hundred dollars ($100.00) as it saved more than that many dollars' worth of hogs for me. I will not be without HOG-TONE, as I think it is wonderful what this remedy will do for hogs."**

If **Avalon Farms HOG-TONE** doesn't make your hogs make you more money—produce more pounds of pork for you from the same amount of feed—we don't want your money!

Avalon Farms HOG-TONE is the only Veterinary Remedy ever sold with a guarantee to produce a definite percentage of profit. **We guarantee it to produce 400 per cent profits on the cost of the remedy—no matter how healthy your hogs appear to be—and prove it to your own satisfaction.** If it doesn't do it, we don't ask you to pay a cent. Now, here is our remarkable offer: Simply fill out the coupon below, send it to us—**with NO money**—and we will immediately ship you

60 Days' FREE Treatment of

AVALON FARMS HOG-TONE

The Liquid Worm Killer and Hog Conditioner
For ALL Your Hogs—SEND NO MONEY!

We will ship you one $1.00 bottle of Hog-Tone for each eight hogs in your herd—the day the coupon below, filled in, reaches this office. That will be sufficient to treat your hogs 60 days or more, according to size. This will mean just 12½c per hog for all the treatment and that treatment is guaranteed by us to give you a 400 per cent profit over and above the cost of the Hog-Tone treatment at marketing time. This is the same opportunity that these men grasped—and made money as a result.

Perry Stratton, famous breeder of Berkshires, Momence, Illinois, writes: "I took a couple of shoats that did not seem to be doing well from a larger bunch of hogs and began by feeding them some of your Hog-Tone, and in about five weeks' time you would not have believed they were the same hogs. They grew so rapidly and made such fast gains that now I have them back with the other hogs, and when feeding time comes they are the biggest scrappers in the bunch."

Herman A. Behrens, Palmer, Iowa, writes: "Enclosed find money order for $5 for five (5) more bottles of your AVALON FARMS HOG-TONE. I have been treating my hogs with AVALON FARMS HOG-TONE for sixty days and see wonderful improvement in their condition. I am satisfied that AVALON FARMS HOG-TONE is showing me 400 per cent profits."

Guy Hoopingarner, R. No. 1, Uniondale, Ind., writes: "A bunch of seven hogs of mine took sick and two died. Three would not eat at all. After the first dose of Hog-Tone they commenced to improve and continued to do so. I thought these hogs had the cholera, as they acted like it, and the neighbors had it all around me and their hogs died. My hogs never missed a feed after feeding Hog-Tone and they made good hogs."

Avalon Farms Hog-Tone is a highly concentrated liquid medicine for hogs only. It contains highly important medical ingredients which are liquids and which cannot be combined in medicated salts, stock foods or condition powders of any kind.

Avalon Farms Hog-Tone is safe. It is very easy to treat your hogs with Avalon Farms Hog-Tone. It is easily mixed with any kind of slops, with the drinking water or dampened feed. It is only given every third day for the first six weeks and after that only once a week. 100 PER CENT STRONG.

Thoroughly proved on Avalon Farms near Fort Wayne, Ind. Cleans out every kind of worms that infest hogs. By doing so it gives protection to your hogs from easily contracting Cholera, Rheumatism, Thumps, caused by worms and indigestion, Scours, Enteritis, Indigestion and other diseases that destroy literally millions of hogs.

A Simply Wonderful Tonic and Conditioner—

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A quart of milk is equal in food value to eight eggs, a pound of steak, or half a pound of cheese.



CUT SWEET CLOVER HIGH

THERE can be no question as to the value of sweet clover as a farm crop. We have been much impressed with the results following its use, especially as a pasture crop.

C. C. Cunningham, who looks after the co-operative experimental work all over Kansas, states that many fields of the second season's growth have been killed by too close cutting when removing the first crop of hay. The sweet clover should be cut sufficiently high to leave at least one healthy branch with a few leaves on each stub. The stubble, in fact, should be left much higher than this, because the stub will dry up for two or three inches.

The growth of sweet clover varies on different types of soil and with the thickness of the stand, and for this reason it is hard to set any definite height at which sweet clover should be cut. Ordinarily the greater the growth or the thicker the stand, the higher the stubble should be left. If growth has reached thirty inches, a five or six-inch stubble may be sufficient, but if the plants have been permitted to make a forty-inch growth, an eight or ten-inch stubble may be necessary. A thick stand may have to be cut higher than a thin one.

The second cutting is handled the same as the first, but the last cutting may be made close to the ground. Ordinarily the second and third crops should be cut when twenty inches high. The first two cuttings of sweet clover are generally hard to cure because of the succulent condition of the crop and unfavorable weather for hay-making. Sweet clover hay is cured and stacked in the same manner as alfalfa or red clover.

Because of the necessity of cutting high—which interferes with the raking of the hay—and the difficulties experienced in curing the crop, utilizing the second year's growth of sweet clover as hay will never be popular. The first year's growth can be handled to good advantage and makes a comparatively good quality of hay. This crop is not cut until late in the fall after the buds for the next year's growth develop on the crown just below the surface of the ground.

Sweet clover can be utilized best the second year for pasture during the first part of the season and for seed production during the latter half. The farmer will get quick results from sweet clover as a soil improver. It is a legume and possesses the ability to thrive on badly eroded soils or on those low in humus.

Record Corn Acreage

The State Board of Agriculture reports a record acreage of corn. The official returns show that 9,200,000 acres have been planted to corn in Kansas this year. The nearest approach to this was 8,589,700 acres in 1910, while last year less than seven million acres were devoted to the crop. Approximately 2,800,000 acres of abandoned wheat ground was planted to corn.

The average condition of corn for the state is 78.4 per cent, 100 per cent representing a good stand and satisfactory growth and development. Until recently the weather generally has been cool and corn in the main is small and backward. In many eastern counties the soil was for a time entirely too wet, while in nearly all the western counties it has been continuously too dry. Throughout the state much replanting has been necessary, amounting in the Kansas River counties to more than one-half the area, while now and then come reports of fields that have been planted as many as three and even four times. In the more moist eastern half of the state, where the larger acreages are found, recent warmer weather has been beneficial, although conditions in the western part continue unfavorably dry. For corn, rains would be welcomed in all portions.

Cultivation is progressing and as a rule the fields are reported clean of weeds.

The same conditions that retarded corn have likewise been unfavorable for the sorghums, which require warmer weather than prevailed when much of the planting was done and afterward. Considerable was replanted, and growth generally has been slow.

Kafir is by far the most important of the sorghums. The area planted aggregates 1,448,000 acres, the largest in the history of the state, and 358,000 acres more than last year. Its general average condition is 69 per cent, based on 100 per cent.

Milo is principally grown in the southwestern counties. The state's acreage of this crop amounts to 369,000 acres, a gain of 180 per cent over last year, and the largest ever planted. Its average condition is 66. About 230,000 acres have been planted to feterita; condition, 65.9.

A largely increased acreage has been planted to sweet sorghums, approximating 777,000 acres, which is 260,000 acres more than a year ago, and 36,000 acres more than the previous record acreage in 1911. Its average condition is 76.

The first cutting of alfalfa, while somewhat delayed by rains in portions where the crop is most extensively grown, was saved in excellent condition, and aggregates probably 1,000,000 tons. Growth of the second cutting in counties with the larger alfalfa acreages is gratifying, but in the western half of the state conditions are uniformly unfavorable because of lack of moisture.

In the great bluestem region where cattle-grazing is an especially important factor, the pastures are luxuriant, but the short grasses of the west are not affording their usual feed for stock and are rated as "fair" to "poor" in the middle western counties. Dry weather is the cause.

By far the bulk of the prairie hay crop of Kansas is produced in the eastern half of the state, and there the meadows give promise of good returns in hay. Reports at this time indicate an aggregate output of about the same quantity as a year ago, when 1,200,000 tons were produced.

More Irish potatoes were planted by 3,000 acres than a year ago, the total for the state amounting to 61,500 acres. The general average condition is 88.36 per cent. In the commercial potato-growing district of the Kaw Valley the condition is given as 90.

Aside from potatoes, which are infested more or less generally by the potato bug, the crops covered by this report are unusually free from insects. Such pests are infrequently mentioned by correspondents. In the southeastern quarter of the state an occasional reporter refers to chinch bugs, while now and then grasshoppers are noted in the western part of the state. Information coming to the Board indicates that Kansans are alive to the importance of combating plant pests, and that the spraying of potatoes to kill the bugs is being quite generally practiced.

The Board's data reveals that of the nearly 6,000,000 acres of winter wheat that failed, 5,500,000 was planted to spring crops, as corn, oats, barley and the sorghums, with the remaining acres lying fallow. To plant this acreage in addition to that usually devoted to spring crops and thus approximate a normal year's planting is splendid evidence that the Kansas farmer is fully awake to the food situation. It also suggests his ability to meet emergencies, and indicates that he has utilized his facilities to the utmost and worked unceasingly to secure maximum areas in crops.

Sour Milk for Chicks

Milk is of great value in feeding chicks. Sour milk is preferable to sweet milk. In addition to being a good food for chicks, milk has a decidedly beneficial effect on their digestive system. It has considerable value as a preventive of disease. Porcelain-lined or granite pans should be used for the milk. They should be washed and scalded daily. Care should be taken to have the milk at about the same degree of acidity each day. The little chicks should have sour milk to drink as soon as they are placed in the brooder.

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FINANCING GOVERNMENT

AT THE recent annual meeting of cattlemen held at the Agricultural College, P. W. Goebel, president of the American Bankers' Association, Kansas City, Kansas, was on the program to discuss the subject of financing the cattleman. This is an important factor in developing the cattle business of our country. It has been comparatively easy for steer feeders to obtain money to finance their business, but it has been more difficult for the man who is developing a breeding herd to get the necessary capital. Mr. Goebel has had over thirty years of experience in financing cattlemen, and the address which he gave on this subject was listened to with much interest by the cattlemen present.

Before taking up the subject assigned to him, Mr. Goebel stated that he wished to talk for a while on the matter of financing our Government, because that is of more immediate importance than financing the cattleman. Mr. Goebel has had some opportunities to become acquainted with the work of our Government in preparing for the sale of the Liberty Loan Bonds.

"I do not know whether you realize it," said Mr. Goebel, "but we are in war, and war is going to be our principal business for two or three years—no one is wise enough to tell how long. This war is not going to be a Sunday School picnic nor an outing for half a million of our best young men. It is going to mean service. It is up to this Government to prepare as it has never before prepared to give these men all the safeguards that science and efficiency can provide before they go to battle.

"I know that a good many of our Kansas people were not enamored of the conscription idea, but let me assure you that it was only after the most mature consideration as to the method of raising the great army necessary that the Government concluded to raise men by this method. The name is the most unfortunate thing about it. Conscription has never sounded well to the American ear. After all, it is only universal service, and this is in a democracy the only desirable way of raising an army. These young men will offer themselves to the Government, but before they can be used to the best advantage it is up to the Government to prepare for them. We get impatient out here and think the Government is slow, but if you just consider the enormous task you will see that it takes time. The Treasury Department of the Government is organized only for ordinary purposes, and now must organize for this tremendous increase of business. The handling of seven billion dollars' worth of securities in the shortest time possible is the enormous task turned over to our Treasury Department.

"The first thing the Government needs before it can equip these soldiers as they should be equipped, is money. The Government must pay cash for its supplies and must deal with markets over the whole country to get these supplies. Where can the Government of the United States borrow money? Heretofore the great majority of our bonds went to foreign countries. The last issue of three hundred million dollars during the Spanish-American War was sold partly in this country, but over night enough cable orders came from Europe to take care of twice that amount. We cannot now borrow a dollar abroad. Europe has no capital and that market is entirely gone. The only place in the world where the Government of the United States can borrow money is from the people of the United States. The people of this country must take this loan.

"There is grave danger that failure to fully subscribe this loan would put new hope into the powers we are fighting and might affect the ultimate result very seriously. We are going to win, but we can win only if every one of us does his duty, and that we will have to do or we are not worthy to be called American citizens. Our first duty is to subscribe to these bonds. I will not mention the possibility of the failure of this issue. I want to say, however, that you had better voluntarily subscribe to Liberty Loan Bonds than be forced after a while to subscribe to indemnity bonds. Every bank and postoffice is taking subscriptions for these bonds and I hope that the people of Kansas will take forty million dollars' worth instead of the twenty million dollars' worth alloted to them.

"This money will all be spent in America. We are going to have a short wheat crop, but suppose we have forty million bushels, every bushel of it will be worth one dollar more than under ordinary conditions. Why not take the surplus and come to the aid of the Government by subscribing to the Liberty Loan Bonds? It is the best paper in the world, secured by the honor and faith of every man, woman and child in the United States, and secured by a mortgage on every foot of land in the United States. The rate of interest is 3½ per cent. In case the Government should find it necessary to pay more later. all previous bonds will take the higher rate of interest.

"I will stake my reputation that no man will have any trouble during this war to get such financial assistance as he may need for any constructive business that he may be engaged in. I am not promising you anything for speculation, but I believe that the constructive business will be taken care of, as well as it has ever been, because it is absolutely necessary to keep up the country. So don't forget that war is our principal business now and the Government must have money and from no other place can it get money than from its own people. It is up to you."

Young people who contemplate attending business college or auto training school this fall or winter will find it to their advantage to write us. KANSAS FARMER has some information that will be of genuine interest to you. Address DESK D, KANSAS FARMER, Topeka, Kan.

State Holstein Record

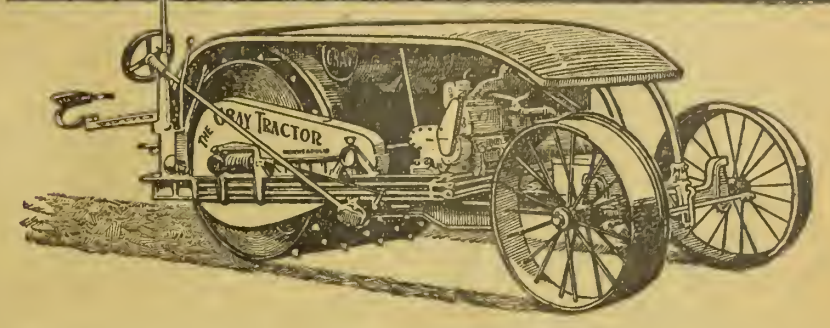
The highest seven-day official record ever made in Kansas has just been completed by Maid Henry Pontiac, a five-year-old Holstein cow bred and owned by the Kansas Agricultural College. Her record for seven days amounts to 487.3 pounds of milk and 22.4 pounds of butterfat, equivalent to 28 pounds of butter. The average butterfat test for the seven days was 4.6 per cent. Maid Henry Pontiac has the right by inheritance to be a great cow. Her mother, the famous cow Maid Henry, at eleven and a half years of age made the state record for yearly butterfat production and has held this position for more than five years. Her record for a year was 19,600 pounds of milk and 716 pounds of butter fat. Maid Henry has another daughter with a record of 28.7 pounds of butter in seven days.

The sire of Maid Henry Pontiac, Sir Carlotta Pontiac Cronus 45502, senior herd sire at the college, is a grandson of Hengerveld DeKol. His sire has several daughters with good records. One daughter produced 23,503 pounds of milk and 768.6 pounds of butterfat in one year; another produced 22,593.5 pounds of milk and 708.7 pounds of fat in one year; several others have splendid yearly records.

Sir Carlotta Pontiac Cronus, the sire of Maid Henry Pontiac, has a grade daughter in the college herd that recently produced 25.2 pounds of butter in seven days. He also has three other daughters in the herd with good yearly A. R. O. records. One produced 16,417.9 pounds of milk and 543.94 pounds of fat in a year; another produced 14,638.9 pounds of milk and 486.97 pounds of butterfat; another produced 9,551.2 pounds of milk and 356.53 pounds of butterfat with her first calf.

Maid Henry Pontiac is an extremely large cow. She has weighed over 1,900 pounds. During her first lactation period she produced 11,686.8 pounds of milk and 415.8 pounds of butterfat. With her second calf she produced 14,521.8 pounds of milk and 515.9 pounds of butterfat, and it is possible that she will make a better record this year than her mother made.

The GRAY TRACTOR WITH THE WIDE DRIVE DRUM



For Fall Plowing the Gray's Wide Drive Drum Affords Practical Advantages Found in No Other Tractor

Aside from the extra traction power afforded in proportion to the Gray's weight, the Wide Drive Drum acts as a tilling implement both in plowing and in seed bed preparation. The drum, together with the two front wheels which track immediately outside of the drum, crush all the stubble, trash and weeds ahead of the plows so that they are turned under the furrows and their fertilizing value used to the utmost.

Write for detailed information on the all-season uses of the Gray and its superior construction.

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A wooden or iron bar placed from end to end of the clothes closet is an economizer of space, as it will permit the use of many additional hangers.



Horse Breeding Suggestions

TWO lines of profit are derived by the use of specially selected mares on farms, viz., in raising colts, and in doing farm work.

To obtain the maximum gains from this system, all the animals used for work on the farm should be brood mares.

Mares chosen for work and breeding must be well-bred, sound individuals, of desirable conformation. It does not pay to raise scrub colts.

Mares doing this double duty should receive extra care and management.

The selection of a stallion is highly important. A low service fee should not tempt if the stallion is inferior.

It is advantageous to produce a uniform lot of foals. Select breeding animals with this in view.

There may be less interference with the farm work if the most mares foal in the fall.

Careful choice of matings creates greater possibilities for the offspring, but these possibilities are realized only when nourishing feed and regular attention are given the young animals.

Count on the colt crop, but remember that good breeding, proper feed and careful management are essential.

The above suggestions for producing better horses are discussed in detail in Farmers' Bulletin 803 just issued by the U. S. Department of Agriculture, Washington, D. C. This is furnished free to those who apply.

Care of Work Horses

Even with the large number of tractors now in use, our main dependence for farm power is horses and mules. In Kansas at the present time there is only one tractor to every thirty farms. The care of horses is the most important factor in bringing about maximum crop production. The poorly fed and poorly handled horse cannot give anywhere near the amount of service that can be expected of a horse given the right kind of care and feed.

There are many little details in the care and management of work horses that will add to the efficiency and economy of their use in performing farm work. The following hints under the head, "Helping the Horse During Hot Weather," are from a circular just issued by C. W. McCampbell, secretary of the Kansas State Live Stock Registry Board:

Since the horse is one of the most important factors in the maximum crop production planned for the coming year, a few simple precautions that will increase by 25 per cent the efficiency of the average farm horse are suggested:

Water frequently, for the body of the work horse needs great quantities of water during hot work. Watering frequently overcomes the dangers that result from watering freely at long intervals.

Feed regularly a uniform ration both as to kind and amount. This practice lessens the danger of colic and other digestive disturbances.

The daily allowance of grain should be fed in three equal feeds but only one-fourth the daily allowance of hay should be fed in the morning, one-eighth at noon, and the remainder at night.

The grain portion of the daily ration should be increased in direct proportion to the severity of the work performed.

As a general guide for feeding work horses, one may suggest one and one-third pounds of grain and one pound of hay for each hundred pounds live weight.

Allow the horse to stop in the shade for a few minutes whenever possible for a brief rest and a chance to breathe freely and deeply.

Watch the work horse carefully. Drooping ears, unsteadiness of gait, short, quick breathing, and a sudden ceasing to sweat are danger signals demanding prompt attention. They mean that the horse is getting too hot and that he must have shade, cooler air, and rest.

If the horse suffers a heat stroke, protect him from the sun, remove the harness, apply cold to the head—either water or ice—wash out his mouth and nostrils, and sponge his entire body with cold water.

Provide as cool a place as possible for the work horse at night, for the horse that does not become thoroughly cooled off at night will be in poor condition to stand the heat and work of the next day.

Allow the work horse to rest on Sunday. Do not use him for a work horse during the week and for a buggy horse on Sunday.

A horse produces the greatest amount of net power from the feed and care provided when drawing a load at a moderate gait, hence greater and more efficient power and energy can be secured by increasing the load rather than the speed of the work horse.

Eliminate lice, worms, and flies, for they may decrease the efficiency of the work horse 50 per cent and increase the feed bill 25 per cent.

Groom the work horse thoroughly. This will save feed and will increase the health, vigor, and power of the horse.

Clean the collar every time it is put on the horse and keep its bearing surface hard and smooth.

If possible sponge off the work horse, especially where the collar and other parts of the harness have left their marks when he comes in from work. Sponge out his mouth, nose, and eyes. Soak his feet thoroughly with cold water but do not turn the hose on his body or legs. Wash his shoulders every night for a few weeks with cold salt water.

Silage for Beef Cattle

There is no roughage which is of more importance to the producer of beef cattle than silage. The value of silage to the beef producer varies considerably and is dependent upon a large number of other factors. If rough fodders are scarce or are high priced, if the grain is high priced, or if the grain is not near a good market that much of it can be readily sold, silage will have a greater value than if the opposite conditions exist. It is a great saver of grain regardless of whether it is to be fed to stock cattle or fattening cattle. It will lessen the grain feeding by practically the same amount as is contained in the silage. The value will also depend somewhat upon the kind of cattle to which it is to be fed. If there is an abundance of rough fodders which can not be marketed, silage will not be so valuable. But in a case of this kind the silage would prove more valuable if used for the calves and pregnant cows and the coarse fooders used for the other stock.

For wintering the entire breeding herd there is no roughage better than silage. All of the animals will relish a ration containing it and it will create a good appetite for all other feeds. Cows that are fed all of the silage they will consume along with clover hay will go through the winter in fine shape and make small gains. If the amount of silage is limited, a more economical method of wintering them will be to reduce the silage to a half ration, letting them have the run of a straw stack and feeding about two pounds of cottonseed meal or oil meal per day. Some dry coarse fodder or straw should always be kept before the animals getting silage, as it reduces the amount of silage consumed and prevents the bowels from becoming too loose. The succulent feed will cause the breeding cows to give a good flow of milk even though the calf be born in midwinter, and a thrifty calf will result. If the silage is free from mold or rotten spots there will be no

The Cow Knows—but SHE can't talk. Ask the Dealer.



Keep the Flies Away From the Cows

And note the increase in the milk production. Cows cannot give the maximum amount of milk when their energy is drawn upon to switch flies from their backs. Dairy farmers know this and have striven for years to find a preparation that would keep flies away. This is done effectively

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Silage is especially beneficial for danger in feeding it to breeding cows. calves which have just been weaned. They take to this ration quicker than to dry feed and there is usually little loss in weight from the weaning. The silage should be supplemented with some good leguminous hay, as alfalfa, cowpea, or clover, and the calves should be given a small amount of grain. A mixture of one-half corn chop and one-half cottonseed meal is excellent.—W. F. WARD, U. S. Department of Agriculture.

Judging Age of Horse

Until a horse is over ten years old the teeth furnish an indication of age which is fairly accurate. In estimating the age of a horse, only the three pears of front teeth or nippers on each jaw are considered. Horses, like human beings, have two sets of teeth; the first set, known as milk teeth, being replaced by permanent teeth. New teeth have deep cups, or indentations, at their centers. As the teeth wear down these cups disappear.

A colt does not usually get its first pair of nippers until it is a few days old, but has all three pairs by the time it is six to ten months old. Until a colt is three years old, however, its general appearance is relied upon largely to indicate its age. Following is a description of the yearly changes which ordinarily occur in the teeth of a horse:

At one year the center pair of incisors, known as the pinchers, and the pair next to them, known as the intermediates, are well through the gums and in contact, but the corner pairs do not yet meet on a level.

At two years the pinchers and the intermediates indicate that they are being crowded by the permanent teeth, as they are pushed free from their gums at the base. By the time the colt is two and a half years old the middle pinchers should be through. The permanent teeth are much larger than the temporary ones.

At three years the middle pinchers are large enough for use. Their deep cups show plainly. The milk intermediates are about to be shed.

The permanent intermediates appear at three and a half years and are ready to use at four. The corner teeth give evidence that the permanent corners are coming. The cups in the pinchers are about one-third gone. The tusks, or canine teeth, of male colts may appear about this time.

The temporary corner teeth are shed at four and a half years and the permanent ones are ready to use by the time the horse is five years old. The horse has now what is known as a full mouth, all permanent incisors being ready to use. The cups of the first pair are about two-thirds gone.

At six years the cups in the center pair have nearly disappeared. In the second pair they are about two-thirds gone.

At seven years the cups from the second pair are gone. There is a notch in the upper corner tooth where it overlaps the lower one.

At eight years the cups are all worn out of the lower nippers, and we look at the upper jaw. Although cups remain in the center pair, they are not deep.

At nine years the cups in the center pair of nippers on the upper jaw have disappeared. They are still present in the other two pairs, being fairly deep in the corner ones.

At ten years the cups are worn out of the second pair on the upper jaw, although they are still present in the corner pair.

At eleven years all of the cups are usually worn out of the incisors and it becomes necessary to use some other indication. Estimation of age may now be based upon the angle at which the teeth meet, their change in size and shape. As the horse gets older, the teeth meet more and more at an acute angle; that is, the jaws become more oblique. As the teeth wear down, the shape of the worn ends changes from oval to more nearly round and, finally, in an aged horse, to a nearly triangular form. Sometimes cups are cut or burned in the teeth of old horses to make their mouths resemble those of younger animals.

Kansas Fairs in 1917

The following is a list of fairs to be held in Kansas in 1917, their dates (where they have been decided on), locations and secretaries, as reported to the State Board of Agriculture and compiled by Secretary J. C. Mohler:

Kansas State Fair: A. L. Sponsler, secretary, Hutchinson; September 15-22.

Kansas Free Fair: Phil Eastman, secretary, Topeka; September 10-15.

Allen County Agricultural Society: Dr. F. S. Beattie, secretary, Iola; September 4-7.

Allen County—Moran Agricultural Fair Association: E. N. McCormack, secretary, Moran; September —.

Barton County Fair Association: Porter Young, secretary, Great Bend; October 2-5.

Brown County—Hiawatha Fair Association: J. D. Weltmer, secretary, Hiawatha; August 28-31.

Clay County Fair Association: W. F. Miller, secretary, Clay Center; October 3-5.

Clay County—Wakefield Agricultural Association: Eugene Elkins, secretary, Wakefield; October 5-6.

Cloud County Fair Association: W. H. Danenbarger, secretary, Concordia; August 28-31.

Coffey County Agricultural Fair Association: C. T. Sherwood, secretary, Burlington; October 1-5.

Commanche County Agricultural Fair Association: A. L. Beeley, secretary, Coldwater; September 12-14.

Cowley County—Eastern Cowley County Fair Association: W. A. Bowden, secretary, Burden; September 5-7.

Dickinson County Fair Association: E. W. Elwick, secretary, Abilene; August 14-17.

Douglas County Fair and Agricultural Society: C. W. Murphy, secretary, Lawrence; September 18-21.

Elk County Agricultural Fair Association: Fred R. Lanter, secretary, Grenola; August 28-30.

Ellis County Fair Association: P. J. Deane, secretary, Hays; September 25-28.

Franklin County Agricultural Society: L. C. Jones, secretary, Ottawa; September 25-28.

Franklin County Agricultural Society: L. C. Jones, secretary, Ottawa; September 25-28.

Franklin County—Lane Agricultural Fair Association: Floyd B. Martin, secretary, Lane; September 7-8.

Gray County Fair Association: C. C. Isely, secretary, Cimarron; September 25-28.

Greenwood County Fair Association: William Bays, secretary, Eureka; August 28-31.

Harper County—The Anthony Fair Association: L. G. Jennings, secretary, Anthony; August 7-10.

Johnson County—Spring Hill Grange Fair Association: W. F. Wilkerson, secretary, Spring Hill; September 4-7.

Kearny County Fair Association: Audley Helmick, secretary, Lakin; August 16-18.

Labette County Fair Association: Clarence Montgomery, secretary, Oswego; September 19-22.

Lincoln County—Sylvan Grove Fair & Agricultural Association: W. H. Becker, secretary, Sylvan Grove; September 5-7.

Lincoln County Agricultural & Fair Association: J. D. Ryan, secretary, Lincoln; September 11-14.

Linn County Fair Association: E. D. Bennett, secretary, Mound City; September 4-7.

Logan County—Inter-County Fair Association: L. L. Moore, secretary, Oakley; August 14-17.

Marshall County Stock Show and Fair Association: C. J. Brown, secretary, Blue Rapids; October 9-12.

McPherson County Agricultural Fair Association: W. J. Krehbiel, president, McPherson; dates not set.

Meade County Fair Association: Frank Fuhr, secretary, Meade; September 10-14.

Mitchell County Fair Association: Ira N. Tice, secretary, Beloit; September 25-29.

Montgomery County Fair Association: Elliott Irvin, secretary, Coffeyville; September 25-28.

Morris County Fair Association: H. A. Clyborne, secretary, Council Grove; July 31-August 2. (Race meet only.)

Nemaha Fair Association: J. P. Koelzer, secretary, Seneca; September 25-28.

Neosho County Agricultural Society: Geo. K. Bideau, secretary, Chanute; October 9-12.

Ness County Agricultural Association: Claud Miller, secretary, Ness City; not certain about fair in 1917.

Norton County Agricultural Association: A. J. Johnson, secretary, Norton; August 28-31.

Ottawa County Fair Association: J. E. Johnston, secretary, Minneapolis; August 21-24.

Pawnee County Agricultural Association: Harry H. Wolcott, secretary, Larned; September 25-28.

Phillips County—Four-County Fair Association: Abram Troup, secretary, Logan; September 11-14.

Pottawatomie County Stock Show: C. Haughawout, secretary, Onaga; September 5-7.

Pratt County Fair Association: E. L. Shaw, secretary, Pratt; August 14-17.

Republic County Agricultural Association: Dr. W. R. Barnard, secretary, Belleville; September 4-7.

Rooks County Fair Association: F. M. Smith, secretary, Stockton; September 4-7.

Rush County Agricultural & Fair Association: T. C. Rudicel, secretary, Rush Center; September 4-6.

Russell County Fair Association: J. B. Funk, secretary, Russell; October —.

Saline County Agricultural, Horticultural & Mechanical Association: F. D. Blundon, secretary, Salina; September 3-8.

Sherman County Agricultural & Racing Association: T. V. Lowe, secretary, Goodland; August 22-25.

Smith County Fair Association: C. S. Buchanan, secretary, Smith Center; September 4-7.

Trego County Fair Association: S. J. Straw, secretary, Wakeeney; September 19-22.

Washington County Stock Show & Fair Association: Paul B. Gwin, secretary, Morrowville; dates not set.

Wilson County Fair Association: Max J. Kennedy, secretary, Fredonia; August 21-25.

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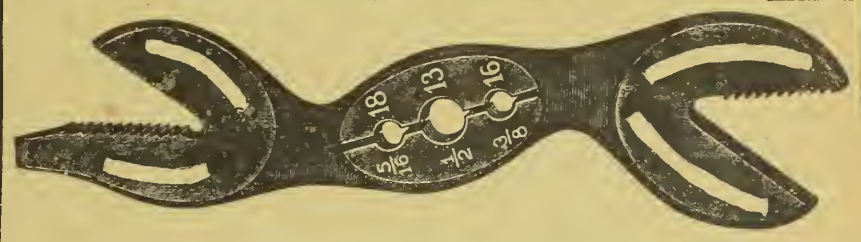

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FOR SALE—320 ACRES, FOUR MILES Colby, Kansas; 140 acres wheat, balance pasture; good water, all fenced, some improvements. Inquire Mrs. Phebe Mills, Barrett, Kansas.

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120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

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INVESTMENT—WE HAVE THE GREATest money making auto accessory on the market. Our Vaporators burn coal oil in Ford cars successfully. A small amount finances a splendid exclusive agency. Write for particulars. Guy Richards, State Agent, Ellis, Kansas.

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YOUNG COUNTRY WOMAN, EXPERIenced in cooking, canning, preserving, etc., wants housework in country. $5 with washing, $4 without. Miss B., care Kansas Farmer.

EXPERIENCED FARMER WANTS A place on salary, or rent place furnished, stock and tools. Small family. Christian. Prefer Western Kansas. Box 44, Haviland, Kansas.

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JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

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CANARIES WANTED — WRITE AGE, kind, price, etc. Missouri Squab Company, St. Louis, Mo.

WALNUT LOGS WANTED, FOURTEEN inches and up. Give number and size first letter; distance to R. R. W. A. Schwartz, Louisburg, Kansas.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

A woman who creates and sustains a home, and under whose hands children grow up to be strong and pure men and women, is a creator second only to God. —HELEN HUNT JACKSON.

Destroy Rose Parasites

If your roses are not doing well, look out for the rose aphis and the rose slug, warns George A. Dean, professor of entomology in the Kansas Agricultural College.

"Both are easily identified and by thorough spraying may be controlled," said Professor Dean. "It is necessary, however, to act early in order to save the roses. The rose aphis is a small, soft-bodied, greenish insect which causes the leaves of the rose to dry up and die. The rose slug is a light green, soft-bodied, worm-like larva, a half inch in length, which works on the under side of rose leaves, causing the leaves to appear as if they had been scorched by fire or were suffering as a result of drouth.

"The rose aphis may be controlled by thoroughly spraying with either Black Leaf 40 or a strong soapy spray. The Black Leaf 40 spray is prepared by dissolving one teaspoonful of Black Leaf 40 in one gallon of water plus a small piece of soap the size of a walnut. The soapy spray is prepared by dissolving one pound of common laundry soap in six gallons of soft water.

"In spraying for the rose aphis, it is essential that the spray be applied in such manner as actually to strike or wet every insect. It must be applied by the use of a spraying apparatus, and for spraying just a few bushes, a good hand sprayer will be sufficient.

"In controlling the rose slug, spray the bushes with lead arsenate, using one ounce of lead arsenate paste, or one-half ounce of lead arsenate powder, to one gallon of water. This should be applied in such manner as to wet all surfaces of the leaves."

Saving the Mother's Time

Money or time expended in providing conveniences or needed help for the home benefits not only the housewife, but the entire family. Since the mother is the home-maker and the happiness and well being of all the members of the household depend largely upon her, her strength must be economized as much as possible. It is too precious to waste in unnecessary manual labor.

A mother becomes so accustomed to forgetting herself in caring for others that it is easy to carry this to an extreme, neglecting a proper care for one's self and as a result of this neglect being unfitted to give the greatest help to those for whom the sacrifice is made. We must learn to conserve our time and if necessary to neglect a little some of the less important things so that we may have leisure for the things that are most worth while. The mother must not degenerate into a mere servant in the home. If we spend an undue amount of vital energy in ministering to the physical comfort of the members of our family and fail to give them the inspiring companionship which means so much more to them, we are wronging them as well as ourselves.

Mary chose the "good part" not for herself alone but also for her guest when she refused, like Martha, to allow provision for his physical wants to engage all her thought.

Food Value of Cottage Cheese

Cottage cheese contains a greater percentage of protein than do most meats, and protein in cottage cheese is much less expensive than when obtained in meats. As protein is the chief material used for body building, it is very essential that it be supplied in our daily diet. A pound of this cheese contains about one-fifth pound protein and nearly all of it is digestible. Meats contain less protein and there is a certain waste, too, such as bone and other material that cannot be used for food.

In supplying protein, one pound of cottage cheese is equal to 1.27 pounds sirloin steak, 1.09 pounds round steak, 1.37 pounds chuck rib beef, 1.52 pounds fowl, 1.46 pounds fresh ham, 1.44 pounds smoked ham, 1.58 pounds loin pork chop, 1.31 pounds hind leg of lamb, or 1.37 pounds breast of veal.

As a source of energy, also, cottage cheese is less expensive than many kinds of meat at present prices.

The food value of cottage cheese can be increased by adding heavy or whipped cream to it at time of serving. The cream also adds to the palatability of the cheese.

Grease and Water Spots

Mrs. A. H. C., Chautauqua County, asks: "Will you please tell me how to get water spots, also grease spots, off an Alice-blue messaline dress, and how to remove water spots from a taffeta dress?"

Before attempting to remove spots on a garment, some experimenting should be done on a piece of the material having the same kind of a spot on it. By this method several cleaning agents may be tried and the most effective can then be applied to the garment.

For grease spots on silks and satins, a thin paste should be made of benzine and carbonate of magnesit, and the spots rubbed with this. The benzine will evap-



PRESIDENT WATERS WELCOMING FARMERS' UNION VISITORS TO AGRONOMY FARM OF EXPERIMENT STATION.—MORE WOMEN THAN MEN IN ATTENDANCE AT PICNIC

orate and the grease will be absorbed by the magnesia which can be brushed off. Ether or chloroform also can be mixed with the magnesia or with starch and used in the same way. It is well to apply with a piece of the same material or at least with a piece that is the same shade, and several thicknesses of blotting paper should be put under the spot.

Care should be exercised in using inflammable materials for cleaning and the work should be done entirely out of range of fire.

Another way of treating grease spots is with starch, whiting, or blotting paper. Place spot over the absorbent, and use a warm iron on it. This melts and draws out the grease.

For the water spots, we would suggest that a piece of the material with water spots on it be sponged with clear water, allowed to dry, and then pressed with a warm—not hot—iron. If this is effective, the whole dress can then be treated in the same manner. If it is not effective, the only alternative that we know is to have the dress dyed a little darker shade.

If any of our readers have been successful in removing water spots, we would be glad to know their methods for this work.

Save a Dollar

The subscription price of KANSAS FARMER is one dollar a year. That it is worth the money is attested by the fact that thousands have for many years been paying the price and are satisfied they have been getting good value for their money. The publishers have determined to give their subscribers the benefit of the commissions formerly paid to agents. While the subscription price will remain at one dollar a year, every old subscriber is authorized to send in his own renewal for one year and one new subscription for one year with one dollar to pay for both. In like manner two new subscriptions will be entered, both for one year, for one dollar. Address Desk D, Kansas Farmer, Topeka.

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No. 7724—Ladies' Corset Cover: Cut in sizes 36, 40 and 44 inches bust measure. This two-piece corset cover is of a design pretty enough for wear under a sheer waist. A noticeable detail is the pointed lap of the material which extends over the shoulders at front. Bands of insertion finish them and edging is used at the neck where ribbon run through beading regulates the fullness. **No. 8117—Child's Dress:** Cut in sizes 4, 6, 8 and 10 years. Box plaits always produce nice effects in children's dresses and this season they are having a big showing. The little frock pictured is cut in one piece from shoulder to lower edge and slashed in front for slipping over the head. A box plait in each front and each half of the back is pressed in place to the lower edge, the belt passing underneath. **No. 8102—Ladies' Waist:** Cut in sizes 36 to 44 inches bust measure. There is plenty to talk about and admire in this neat shirtwaist design. An interesting feature is having the center front and front yoke cut in one piece. A box plait in each half of the back, below the back yoke, and again in each side front, is a smart style development. **No. 8104—Ladies' Apron:** Cut in sizes medium and large. One of the fashion's surprises in aprons is offered by this design. It is made with a wide bib front that continues its way below the waistline, forming side pockets. The skirt section has plenty of fullness that is gathered at back and joined to the belt. **No. 8128—Ladies' Skirt:** Cut in sizes 24 to 32 inches waist measure. For style and sturdy service, a better model than this is not easy to find. It is cut in four gores and has the front and back gores and the yokes all in one. The popular straight-line idea is carried out with panel effect front and back, and the side gores are gathered where they join the yokes. **No. 8120—Ladies' Dress:** Cut in sizes 36 to 44 inches bust measure. Really trim enough and appropriate for street wear if made of other than a tub fabric. This may be called top notch in house dress designs. The diagonal closing makes the plain waist attractive. A feature of the skirt section is the broad panel effect, gained by making a plait in each half of back and in each front.

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KANSAS FARMER READERS CAN BE OF GREAT HELP TO THEIR FAVORITE FARM PAPER NOW

KANSAS FARMER comes to you through the mails. It is distributed under the jurisdiction of the Post Office Department, which has made some new rulings which the publishers of KANSAS FARMER must observe in respect to the procuring and continuation of subscriptions. During these critical times the rulings may be changed at any time, at the option of the Post Office Department.

The Postmaster General has made a ruling which makes it necessary that certain classes of subscriptions may not be carried after expiration. It has always been customary and permissable for the publisher to carry, at his option, subscriptions for a short time after they expire, in order that the subscriber might have an opportunity to renew his subscription and thus prevent his missing any copies of the publication.

The new rule, however, requires that this practice must be stopped.

We feel that you want KANSAS FARMER, because it is strictly a Kansas paper and is striving to help you in your work, and you certainly do not want to miss the good things that this old paper carries each week for the betterment of farm conditions. We do not want to discontinue your paper. We are very anxious to retain every one of our subscribers. In order to do so, we must urge that you send us your renewal subscription at once.

Here are four distinct offers which we submit to you. We will greatly appreciate your acceptance of any of them:

1. May we immediately have your renewal for one year at $1.00?

2. If you send us $2.00, we will renew your subscription for three years—a saving of $1.00.

3. If you will send us the subscription of two of your neighbors for one year for $1.00 each—$2.00 in all—we will renew your own subscription one year without additional charge in appreciation of this service rendered.

4. If you will send us the subscriptions of four of your neighbors at $1.00 each—$4.00 in all—we will extend your subscription for a period of three years without additional charge.

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WHITE ROCK EGGS, $4 PER HUNDred. Nora Lamaster, Hallowell, Kansas.

BARRED ROCKS — SEVENTY-THREE premiums. Breeders for sale. Eggs half price. Mattie A. Gillespie, Clay Center, Kansas.

WARD'S BARRED ROCKS—FIVE YARDS both matings, from Chicago winners. Eggs, $3 for fifteen. Send for catalog and list. W. H. Ward, Nickerson, Kansas.

RHODE ISLAND REDS.

SIX GRAND PENS, ROSE COMB RHODE Island Reds that have shape, size and color. Mated to roosters costing $15 to $50. Fifteen eggs, $2.50; thirty eggs, $4; fifty eggs, $6. Fine pure-bred range flock, $5 per hundred. Baby chicks. Send for catalog. W. R. Huston, Red Specialist, Americus, Kan.

SEVERAL BREEDS.

BUFF DUCKS—DARK CORNISH CHICKens. Sunnyslope Farm, Stillwater, Okla.

CHICKS — ROCKS, REDS, LEGHORNS, Wyandottes. July delivery, 10c. Order now. Jesse A. Younkin, Wakefield, Kansas.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

BRAHMAS.

HIGH SCORING LIGHT BRAHMA EGGS $1.00 per fifteen, parcel post prepaid. Geo. Pratt, Route 2, Topeka, Kansas.

MINORCAS.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

WYANDOTTES.

WHITE WYANDOTTE EGGS — STOCK from (Fishel World Best Direct) $2.50 for 48, prepaid. S. Peltier, Concordia, Kansas.

LEGHORNS.

SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

PURE-BRED SINGLE COMB WHITE Leghorn eggs, 100, $5. Chas. McFadden, Moriand, Kansas.

TURKEYS.

WHITE HOLLAND TURKEYS, 30-pound toms. Eggs, $3.00, eleven. Mrs. S. F. Crites, Florence, Kansas.

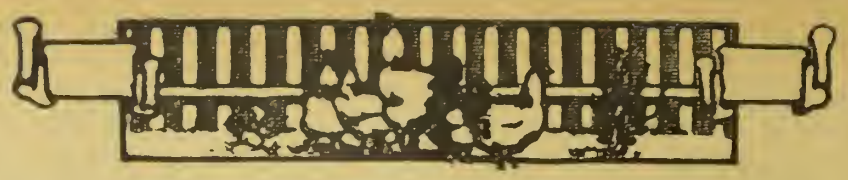
BOURBON RED TURKEY EGGS—TWO-year-old hen, 40-pound tom. $3 setting. S. Peltier, Concordia, Kansas.

POULTRY WANTED.

MORE MONEY FOR YOUR EGGS AND poultry when shipped direct. Coops and cases loaned free. The Copes, Topeka.

MISCELLANEOUS.

FOR SALE—DOGS, POULTRY, PIGEONS etc., all kinds. We ship everywhere. Circulars free, catalog dime. Pet Shop, 3111½ Olive St., St. Louis, Mo.



Bright Prospect For Poultry Raisers

COLD storage eggs will sell at not less than fifty cents per dozen next fall or winter. Sixty to seventy-five cents will be paid for the same article in many markets.

Western and central western eggs went into cold storage this spring at prices ranging from twenty-seven to thirty cents. At this writing—June 7—here in Leavenworth, Kansas, eggs for cold storage are bringing thirty-three cents.

The United States Government under date of May 8 reported that returns from 350 cold storage houses showed that on May 1, 1917, only 1,739,692 cases of eggs were in storage as compared with 2,327,174 cases May 1, 1916, showing a decrease of 25.2 per cent.

The report shows that on May 1, 1917, the average price of market eggs throughout the country was thirty cents per dozen compared with 18.1 cents per dozen on May 1, 1916. These averages include, of course, all southern eggs which always have sold at lower prices than northern eggs.

In 1915 eggs that went into cold storage during April and May brought only seventeen to twenty-one cents per dozen. Thus it will be seen that the commission buyers and cold storage men have paid close to 100 per cent more for the future "pickled eggs" than was paid two years ago.

Canada is crying for her people to produce ten million dozen more eggs this fall and winter than they produced last spring. Canada must have that many more eggs and must have them without regard to cost, and it is certain to be up to the United States to furnish this year double the number of eggs and pounds of poultry to Canada that we furnished last year.

England and France need millions of dozens of fresh eggs, and they just have to have them. Prices as high as $1 to $1.50 are not stopping and will not stop the demand from those countries.

The British Government has issued orders that for the time being, at least, no grain which can be used for human consumption is to be fed to horses, mules, swine, etc., except as rationed by the food commissioners, and they further recommend that no domestic fowls be kept except those which can be fed on table scraps, garden waste, etc.

This means our allies must depend upon the United States and Canada for eggs for their homes, and remember the countless thousands of sick and wounded soldiers who positively must have eggs.

Last year Canada exported to England over fourteen million dozen eggs and imported over seven million dozen eggs from the United States, besides this country exported millions of eggs direct to England and now we must supply the needs of France, Italy, Belgium and many neutral countries.

Do not worry about what the price of eggs or poultry will be. Do not worry about the cost of poultry feeds. Supply and demand will take care of these things in a natural way, although it may take a little time and some inconvenience may be necessary in the meantime.

Some time ago federal officials on short notice caused the managers of leading boards of trade to give indefinite vacations to about five thousand grain broker clerks, clearly demonstrating that the country is in no mood to permit gambling speculation in the sale of food stuff.

Do not worry about prices, but worry about methods and management and how to save labor and produce more poultry and eggs. Study the best market and style of disposing of your product. Cull out the young market cockerels now which will only grow into lively, active roosters—a fighting machine, not a profit machine. His comb, his spurs, his crow, and his high opinion of himself are without value when sold on the market as a cockerel. Caponize him and he adds weight twice as quickly at a less food cost. Keep an eye on all such steps of management as will tend to increase the income without any increase in cost.

With cold storage eggs selling at fifty cents a dozen and higher, it is certain to mean the fresh-laid article will bring from twenty-five to fifty per cent more. In some sections of the country they will be even much higher.

I. K. Felch, of Natick, Mass., writes that on May 3 he paid forty-five and forty-eight cents a dozen for fresh eggs to put down in water glass for the future use of his family. Certain it is that Mr. Felch, the oldest poultryman in America, is looking for high prices next fall.

There is no reason for poultry raisers to feel blue over the present cost of poultry food. Good judgment in feeding; a careful culling out of the drones and slackers among your layers and all those of inferior size and vitality, and an effort to improve the quality of your flock will mean profit for you in the future.

Poultry, both for meat and for breeding use, will be higher priced next season and in seasons to come than ever before. Prices never again will be as low as in times past. Mr. Felch says, "So, poultrymen, let others grow potatoes and corn. You grow chickens, and first class ones, for as the masses of our people learn to appreciate a flock of chickens they will demand 'better poultry' as well as more of it."

With rains heavy and general during the last of May and early June, over all sections of the greatest wheat, corn, oats and alfalfa states, it would seem that a good yield per acre is assured.

Late reports show that Kansas, Nebraska and Iowa will have the largest acreage of corn in the history of these states, besides the two former states mentioned will have a much larger acreage of oats than usual. The Dakotas, Montana, Minnesota, Oklahoma and Northern Texas can, from recent reports, be looked to for their usual large production of wheat, while Missouri, Illinois, and other corn and grain producing states report their fields in splendid condition as a result of the soaking rains of the past two weeks. This is encouraging news to the poultry raisers. It seems to indicate that the necessary feed for poultry will be lower this fall and winter. It is interesting to note that at the present time with cash wheat selling at or around $2.50 per bushel, September wheat is now listed at $1.50 per bushel.

We look forward to the demand creating prices for poultry products sufficiently large as compared with grain prices as to insure a neat profit to the poultryman, if the growing stock and layers are handled properly.

Thousands are taking up the raising of poultry, at least in a small way, this spring. This fall is certain to show many thousands more who will, for the first time, stock a portion of their back yards or vacant lots with fowls.

With the work and publicity that has been going on in favor of pure-bred poultry, we are sure to find a larger per cent of the annual poultry converts taking up a good quality of stock to start with than was the case ten or even five years ago. This means a new and greater demand upon the thoroughbred poultryman for breeding and laying stock this fall. This demand will create new business and an abundance of new business means that the present-day, established, pure-bred poultrymen will be buying and selling among themselves at a rate greatly increased over that of recent years.

Those who make the most from poultry this next year will be those who work hardest and best. It is not how many you raise, but how well you raise them. One hundred pullets well raised this summer and fall and well housed and cared for this winter, will produce more eggs than will three hundred not properly handled as chicks and layers.—RUSSELL F. PALMER, Leavenworth.

Standard Varieties of Chickens

Farmers' Bulletin 806, just published by the Federal Department of Agriculture, Washington, D. C., describes the standard varieties of chickens of the American class. It contains some good halftones of fowls of these varieties, and is a useful reference pamphlet for those interested in any of the American breeds. It will be mailed free of cost to those who apply.

Real Estate For Sale

360 ACRES CREEK BOTTOM FARM
160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; $5,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only $45 per acre.
M. T. SPONG - - FREDONIA, KAN.

WANTED

To trade first-class farm in Iowa or Minnesota for high-class herd of Shorthorns or Herefords. Nothing but top quality cattle considered. Give complete information concerning herd in first letter. Will give complete description of property and location of same in reply.
AMOS BURHANS - - Waterloo, Iowa

NOW IS THE TIME TO BUY FARMS.
War insures high prices for farm products for years. Crops here almost perfect. Improved farms, $20 to $40 per acre. Write.
SOUTHERN REALTY CO., McAlester, Okla

STOP, LOOK and LISTEN!

Deal direct with the owner. Half section improved and half section unimproved, Eastern Elbert Co., Colorado, well located at a bargain. Guarantee full and accurate details in first letter.
F. E. JANKE - STRATTON, COLO.

JERSEY CATTLE.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

JERSEY CATTLE
One four-year-old cow, milked 35 pounds 5 per cent milk with second calf. Will freshen in December to service of our great son of Sans Aloi. Also four splendid Finance Interest bulls from four to six months old. Write for pedigrees and descriptions.
BISONTE FARM - LAWRENCE, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

SHORTHORN CATTLE.

15 Shorthorn Bulls

Reds and roans. Pure Scotch and Scotch-topped yearling bulls, 10 to 18 months old, at farmer prices. Farm at Pearl. Ship over Rock Island, Santa Fe, Union Pacific and Missouri Pacific. Come and see me.
C. W. TAYLOR, Abilene, Kan.
Dickinson County.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

TWO SHORTHORN BULLS. Duroc herd boar. Fall gilts, bred or open. February and March pigs, pair or trio, no relation.
R. C. WATSON - ALTOONA, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

SHORTHORN BULLS

A two-year-old herd bull, dark red, fine individual. Also six-months-old bulls for sale.
H. W. ESTES, SITKA, CLARK CO., KAN.

EDGEWOOD FARM
REGISTERED ANGUS BULLS. HAVE FIFTEEN STRONG YEARLING BULLS FOR SALE.
D. J. White, Clements, Kansas

POLAND CHINAS

POLAND CHINAS.



Faulkner's Famous Spotted Polands
The world's greatest pork hog are raised exclusively on
HIGHVIEW BREEDING FARMS
The largest registered herd of old, original, big-boned, spotted Polands on EARTH.
Spring Boars Now Ready to Ship, Pairs and Trios No Kin.
Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.
H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

OLD ORIGINAL SPOTTED POLANDS
Choice March and April pigs of both sexes.
H. A. MATTOX, Route 2, Burlington, Kan.

Langford's Spotted Polands. Gilts bred for fall farrow. Future herd boars. Satisfaction guaranteed. T. T. LANGFORD & SONS, Jamesport, Missouri

BIG-TYPE POLANDS AND DUROCS SHORTHORN CATTLE
Booking orders for weaning time. Pigs, $25 each, trios $50. Will make 700 to 1,000-pound hogs. Two hundred to select from. Top breeding. Eight choice Shorthorn bull calves. Priced reasonable. Write me your needs.
O. W. LONG, Route 3, Maitland, Missouri.

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

TOWNVIEW HERD BOARS
Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

POLAND CHINA BOARS
Twenty-five choice spring boar pigs sired by Caldwell's Big Bob, Big Hadley Jr., King Price Wonder, Columbus Defender, Big Bob Wonder and Fessey's Tim. Some fine prospects and priced reasonable. Immune.
BERT E. HODSON, ASHLAND, KANSAS.

OLD ORIGINAL SPOTTED POLANDS
Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

Henry's Big-Type Polands
Spring pigs, either sex. June delivery. Sired by Mammoth Orange, King Price Wonder, Big Wonder. Choice of lot, $35. Trio, $100. Others, $25. First check, first choice.
JOHN D. HENRY, LECOMPTON, KANSAS

DUROC JERSEYS.

ANDERSON'S DUROCS
For Sale—Ten fall yearling gilts, bred for September farrow to Proud Chief by Col. Wonder Crow. Twenty spring boar pigs, the pick of 80 head, sired by Pathfinder, Kansas Cherry Chief, King Col. Junior and Proud Chief. One extra good fall yearling boar ready for use. Prices reasonable. Write at once.
B. R. ANDERSON
Route 7 McPherson, Kansas

LONE TREE DUROC FARM
Herd Boar Graduate Prince by Graduate Col.
Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.
GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNE DUROC-JERSEYS
Forty-five head spring boars and gilts, March and April farrow, by Gano Pride 2d by Gano Pride, out of a Graduate Col. sow. Herd sows best of breeding. Write for prices. T. F. DANNER, Winfield, Kansas.

McBRIDE'S DUROCS
Bred gilts for September farrow and boar pigs for sale from four to six months old.
W. T. McBRIDE - PARKER, KANSAS

IMMUNED DUROCS
With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

GALLOWAY CATTLE.

GALLOWAY BULLS
SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

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CLAIM SALE DATES.

Holsteins.
Oct. 16 — The Nebraska Holstein Breeders' Consignment Sales Co., Omaha, Neb.; Dwight Williams, 103 Bee Bldg., Omaha.

Poland Chinas.
Aug. 15—H. L. Faulkner, Jamesport, Mo.
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Oct. 17—Walter B. Brown, Perry, Kansas.

Red Polled Cattle.
Sept. 4—Milton Pennock, Delphos, Kansas.

O. I. C. Hogs.
Sept. 4—Milton Pennock, Delphos, Kansas.

The Bisonte Farm Jersey herd, Lawrence, Kansas, is one of the Jersey herds in the Southwest that has made a fine record for production. This herd was started with foundation stock backed by records. The bulls used in the herd from its foundation to the present time have without exception been representatives of the greatest Jersey producers and the result is a herd of Jerseys that are consistent producers and that show a balance on the profit side of the ledger every year.

The sale of Shorthorn cattle held by Park E. Salter, of Wichita, Kansas, June 22, was one of the successful sales of the season. Forty-eight head of cows and heifers sold for an average of $300. The offering was a useful lot of Scotch-topped cattle and was sold without any extra care or fitting. The keen competition was on cows bred to the imported bulls, Bapton Corporal and Imported Newton Friar. The offering was about equally distributed among buyers in Kansas, Missouri and Oklahoma, at prices that will return the purchaser a handsome profit within a year's time if given proper care and feed.

One of the record bred Holstein herds in Kansas is owned by W. W. Finney, of Emporia. This herd is noted for its large number of A. R. O. cows. The herd is composed entirely of individuals of record breeding and it is among the heavy producing and profitable Holstein herds now assembled.

Milton Pennock, of Delphos, Kansas, owner of good herds of Red Polled cattle and O. I. C. hogs, reports his herds doing well. On September 4 Mr. Pennock will sell a choice lot of Red Polls and an extra good lot of O. I. C. hogs.

Clarence Dean, of Weston, Missouri, reports his herd of big-type Polands doing fine. Mr. Dean owns one of the choice herds of big-type Polands now assembled. At this time he has a big lot of youngsters that are developing fine.

Dr. J. H. Lomax, of St. Joseph, Missouri, who owns one of the choice stock farms near Leona, Kansas, reports his herd of big-type Poland Chinas doing well. This year he saved a choice lot of early pigs that are growing out fine and he will have one of the best offerings for his October 4 sale that he has ever raised.

C. W. Taylor, of Abilene, Kansas, reports his Shorthorn herd doing well. A feature of his great herd at this time is the choice lot of young stock that is growing out fine.

Ross & Vincent, of Sterling, Kansas, owners of one of the good herds of Poland Chinas in Kansas, are preparing to hold a Poland China sale October 20. They will have a choice offering of the big easy-feeding type.

Girod & Robison, of Towanda, Kansas, report a steady demand for high class registered and high grade Holsteins. At this time they have 347 head of registered and high grade cows and heifers in their herd. A feature of this lot is 200 head of choice two-year-old heifers bred to registered bulls to freshen in September and October. The Girod & Robison herd is one of the noted herds of Holsteins in the Southwest, and a very large number of good producing herds have been started with foundation stock from the Girod & Robison Holstein farm.

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

PREMIER KANSAS HERD OF HOLSTEINS



Clapp Pontiac Korndyke No. 116418—Born April 27, 1913

World's Record Blood
Many A. R. O. Cows

We offer for sale this week this bull from an ADVANCED REGISTRY dam of good ancestry and sired by Maplecrest Pontiac Korndyke. He is a splendid individual priced at $300.00, but worth more money. Address

W. W. FINNEY
Emporia - - - - Kansas

CLYDE GIROD, At the Farm F. W. ROBISDN, Cashier Towanda State Bank
HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS
BREEDERS OF PURE-BRED HOLSTEINS
We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.
IT WILL PAY YOU TO SEE OUR OFFERING
of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.
GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM
Has just received another choice lot of young pure-bred cows and springing heifers. Also some extra good registered yearling heifers and a fine lot of registered calves of both sexes. Write for pedigrees and prices, or call.
T. R. MAURER & CO - - - - EMPORIA, KANSAS

PECK'S HOLSTEINS We have a choice lot of extra large high-grade Holsteins, including fresh cows, heavy springing cows and heifers, and young calves. Registered bulls. Come and see our herd. We meet you at train and guarantee satisfaction.



M. E. PECK & SON, SALINA, KANSAS



HOLSTEINS AND GUERNSEYS
High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.
F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

TREDICO HOLSTEIN BULLS
A. R. O. dams. A tested bull. One cow even made it 12 months after calving.
GEO. C. TREDICK
Route 2 Kingman, Kansas

GREENSWARD HOLSTEINS.
Choice bull calves, heifers, cows. Registered and best breeding. Herd tuberculin tested. We are breeders, not dealers.
MAX J. KENNEDY, FREDONIA, KANSAS

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

BERKSHIRE HOGS.

KING'S BERKSHIRES — Twenty good Berkshire fall boars. One good yearling boar. E. D. KING, Burlington, Kansas.

Breeders' Directory

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

CHESTER WHITE HOGS



FOR SALE
Spring Pigs in Pairs and Trios Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

O. I. C. SPRING PIGS, BOTH SEXES. Bred gilts.
HARRY W. HAYNES, GRANTVILLE, KAN.

Registered Chester White and Duroc Jersey Hogs—Half-ton kind.
L. M. FISH - Bolivar, Missouri

HORSES AND MULES.



PERCHERONS, BELGIANS, SHIRES. Ton stallions ready for heavy stand; also yearlings and twos. Young fillies, also mares with colt by side and bred again. All registered. One hundred individuals of first rank for sale.
FRED CHANDLER, R. 7, Chariton, Iowa
Just above Kansas City

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

MOTT'S HOLSTEINS
Seventy-five head of high-grade and registered coming 2-year-old Holstein-Friesian heifers for sale, bred to a registered bull. Six choice pure-bred Holstein bulls old enough for service. Come to Herington or send us mail order. We guarantee to please you.
W. H. MOTT - - HERINGTON, KANSAS

Butter Bred Holsteins
Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

CEDAR LANE HOLSTEIN HERD
We are making very low prices on a few young bull calves. It will pay you to buy them of us while young. Sired by our 29.4-pound grandson of Pontiac Korndyke.
T. M. EWING, INDEPENDENCE, KANSAS

High Grade Holstein Calves 12 heifers 15-16 pure bred, 4 to 6 weeks old, beautifully marked, $20 each. Safe delivery and satisfaction guaranteed.
FERNWOOD FARMS, WAUWATOSA, WISCONSIN

Braeburn Holsteins Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.
H. B. COWLES, 608 Kan. Av., Topeka, Kan.

Holstein and Guernsey Calves—Both sexes, 5 weeks old, nicely marked, fawn and white, black and white, mostly 15-16ths. $25 each, crated for shipment. Satisfaction guaranteed.
Edgewood Farms - Whitewater, Wisconsin

CEDAR LAWN FARMS
C. A. Schroeder & Sons, Props.
Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.
W. C. SCHROEDER - WEST BEND, WIS.

Shady Brook Holsteins
A few choice young springers, also some high class young bulls. If you want record breeding, we will be pleased to have you inspect our offering.
M. E. MOORE & CO. - CAMERON, MO.

HIGH GRADE HOLSTEIN CALVES
Five to six weeks old, nearly pure, well marked, $20. express paid.
COLD SPRINGS FARM, Whitewater, Wis.

HOLSTEINS
Registered and high grades, cows and heifers. The milky strain, service bulls, carloads or less. High grade heifer calves, $18 each, crated. Write me. I have what you want.
RAY C. JUDD - ST. CHARLES, ILL.

HOLSTEIN CALVES
Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.



The RUSH IS ON- GET YOUR "PULLFORD" NOW

Kemple, Missouri.
March 23, 1917

C. H. Bantley Sales Co.,
Kansas City, Mo.

Gentlemen:

We received our PULLFORD all O. K. and have been using it for all kinds of work and it works perfectly.

The first thing we did with it was to hitch it up to two iron road drags, which ordinarily takes three horses for each drag, and the PULLFORD pulled these two drags with four men on the drag, with perfect ease.

The other day one of our neighbors wanted to move his well drilling outfit, which weighs 6200 pounds, and we hitched it up to the PULLFORD and we pulled it right along, and up some grades that very few automobiles could possibly make on high.

We have also used our PULLFORD for plowing, pulling two 12" plows plowing 6 to 7 inches deep in sod plowing, and the plows were rusty too.

Yours respectfully,
C. L. Divelbiss.

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May 4, 1917.

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Send two PULLFORDS to Middlebaugh & Cheney, Vesper, Kansas. This makes seven machines we have ordered in the last few days and we are in need of them right away to list corn with. We would be very glad to get them right away if possible.

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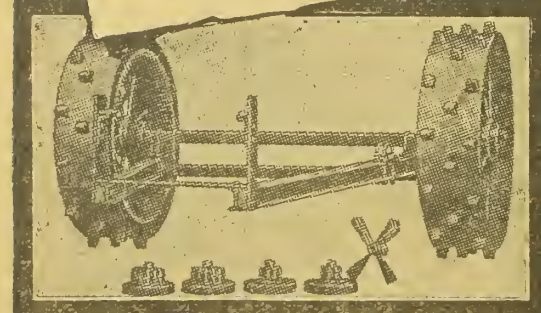







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Kansas City, Mo.

Gentlemen:

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I am now listing corn with mine and it does all you claim it to, and even more.

I have listed about 70 acres with it, and I am sure more than saitsfied with it.

Yours truly,
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Volume 55, Number 27. TOPEKA, KANSAS, JULY 7, 1917. Established 1863. $1 a Year

VISIT TO AGRONOMY FARM

Farmer's Union of Riley County Study Work of Experiment Station

NEARLY a thousand people attended the Farmers' Union picnic meeting held on the agronomy farm of the Kansas Experiment Station at Manhattan, June 15. On the broad well-kept lawn of the farmhouse a bountiful picnic dinner was spread. Ice cream was served to all present by the agronomy department of the college. Following the dinner a good program was given consisting of addresses by prominent Farmers' Union men and women and by representatives of the Agricultural College, interspersed with appropriate musical numbers. The audience, a portion of which is shown in the picture on this page, was comfortably seated on the lawn in the shade of the trees and the porch of the house was used as a platform. D. H. Hassebrook, president of the Riley County Union, had charge of the program and presided.

President H. J. Waters gave a hearty welcome to the visitors and in the course of his address explained how the Government is recognizing the rights of the farmers and is endeavoring to protect their interests in the matter of food production. He pointed out that they need have no fear of the price-fixing program concerning which there is so much talk at the present time. There is no intention on the part of the Government to fix maximum prices on farm products in the interest of the consumer and at the expense of the producer.

Maurice McAuliffe, president of the State Farmers' Union, was present, and in his talk urged the importance of educating the boys and girls of the farm at home, making a strong plea for the rural high school. W. C. Landsdon, who was Democratic candidate for governor last fall, was not on the program, but was called to the platform and responded with a strong patriotic talk, especially emphasizing the need for liberal support of the Red Cross.

John Twomble of Beloit, Mrs. Lucy Pottorf of Riley, and Alfred Docking of Manhattan spoke on various phases of the organization work of the union. W. M. Jardine, director of the Experiment Station, made a plea for criticism and comment on the work done by the station. He pointed out that the sole purpose of the station is to serve the people of the state and unless the people study it and offer suggestions or bring to it their troubles, it cannot be of the greatest benefit in building up the farming business.

Prof. L. E. Call explained briefly the different problems being worked out on the station farm at the present time and then with the help of his assistants took the visitors over the farm, pointing out as they went various station projects. While this was being done the women, who were present in larger numbers than the men, remained at the farmhouse and Miss Marion Broughton gave a demonstration on the back porch of the farmhouse in canning peas, beets, and rhubarb.

The agronomy farm is located two and one-half miles northwest of Manhattan and one and one-half miles northwest of the Agricultural College campus. It consists of 320 acres of upland and creek bottom land. Forty acres are utilized by the Department of Animal Husbandry for pasture and feed crops. The rest of the farm—280 acres—is used for experimental work with crops and soils.

The visitors were especially interested in the drainage work and the methods of preventing soil washing. The topography of the farm is such that the soil washes badly and a special effort is being made to control erosion. Small stone and cement dams have been built to catch washed dirt and direct the course of the water; systems of open ditches have been constructed and others will be built to catch water on steep slopes and carry it around the hills; fields that wash the most are seeded to alfalfa and listing for corn or sorghum is seldom practiced because it is likely to increase washing.

The creek bottom land—an area of forty-six acres—on the north part of the farm was originally swampy and produced only wild grass. This area has been tile-drained in such a way that the seep water on the hillside is caught and removed; while the lower land is drained with laterals ninety feet apart. A total of 720 rods of tile was laid at an average cost for labor and tile of $1.05 a rod. The most of this ground can now be worked as soon as the upland portion of the farm.

Professor Call had explained before starting on this tour of the farm that the experimental work with crops and soils is of three distinct types, namely: (1) the breeding and improvement of crops; (2) a study of cropping systems and methods of manuring that will maintain the fertility of the soil; (3) a study of tillage practices and methods of handling farm crops in order to determine those methods that will produce the highest yields at a maximum profit.

Methods of utilizing sweet clover have been under investigation for some time. The visitors were shown a pasture consisting of 3.8 acres of sweet clover, where six head of dairy cows had been pastured since the first of May. These cows were in splendid condition and have been making excellent production records. We have learned since this meeting that on June 20 the number of animals was reduced to three and the pasture is supplying this number with an abundance of green feed in spite of the dry, hot weather which has prevailed since that date. Some experiments in the height of cutting sweet clover were pointed out. The results demonstrated conclusively that sweet clover cut close to the ground the second year of its growth is destroyed.

One of the most striking series of plots on the whole farm were those having to do with the preparation of ground for wheat. Even at this date the marked advantages of early preparation were apparent. These seed bed preparation tests have been going on for four or five years. On another page in this issue, in an article by Prof. L. E. Call the results are given in detail.

The time of cutting alfalfa hay was a point to which attention was directed during this farm visit. Plots which have been cut year after year as soon as the plants reached the bud stage are showing evidence of weakness and the stand is getting thin. Grass is crowding out the alfalfa and the yields on these plots are low. It was observed that the most vigorous plants were found on plots where the crop had been allowed to reach the full bloom stage before cutting. This is a matter of considerable value to farmers who are growing alfalfa on uplands where the crop must be given the most ideal conditions in order to maintain the stand for a period of years.

farm crops is one of the important pro-

(Continued on Page Ten)



THE AUDIENCE AT RILEY COUNTY FARMERS' UNION PICNIC ON AGRONOMY FARM AS IT LOOKED TO THE SPEAKERS

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

WOOD generally is the best material for the average farmer to use in the construction of a garage. Almost any farmer has enough practical training to enable him to build a garage from lumber. Only a few tools are necessary. Drop siding may be used for the sides, or plain boards will serve as well provided battens are nailed over the cracks. Shingle sides also may be used to advantage. This gives the building a neat appearance.

Shingles or some combination roofing material will make as cheap and durable a roof as such a building needs. Because of the present high price of metal, galvanized iron roofing would be rather expensive.

For the man who is skilled in the use of cement, the plastered metal lath construction makes an attractive and durable garage. If galvanized iron roofing is used with this type of building a fireproof structure results. There is more or less danger from fire with any gasoline vehicle and even if the building is fireproof, an automobile may burn if the gasoline catches fire. For the average man the metal-lath form of building may be more or less unsatisfactory because he may not be able to obtain a nice finish on the plaster.

An eight-foot door gives ample room for the entrance. The type of door which slides on a partly circular track inside the building is popular for the garage. Double doors, which usually swing outward, also may be used.

A window on every side of the garage is practically necessary so that repairing need not be done in semi-darkness at any time. Windows also provide for good ventilation. This is necessary in case the engine is run while in the garage, for the exhaust gases are more or less dangerous if inhaled.

Concrete makes a durable and easily cleaned floor for the garage. When a good foundation is provided a three-inch floor will be strong enough to meet the demands of the small garage. A slope of three inches in ten feet should be given the floor so water will run off quickly. This is necessary when it is desired to wash any part of the car or to give it a general scrubbing. The floor ought to be a few inches above the ground and have a floor drain in the center so that no water will stand on any part of it.

A garage thirteen by twenty feet is of sufficient size to accommodate a single car. This leaves room for a work bench along the side. A building twelve by twenty-two feet gives room for the work bench at the end of the garage. A garage may be much smaller than the dimensions given. Some are made as small as ten by twelve feet. They are large enough to shelter the car, but provide no room for the extras, such as tents, coats, and tires, which practically every car owner sooner or later accumulates. The worst feature of the small garage is that it provides no room for a work bench, tools, and supplies, or room for making repairs and adjustments to the car. Attention is much more likely to be given a car if it is housed in a well arranged roomy garage.

A clearance of at least six inches should be allowed above the top so that it will not strike anything when the car is being driven into the garage. A good height is about eight feet. This ought to give ample room above the top.

A work bench twenty-four inches wide and thirty-four inches high should be conveniently located with respect to the light, and a good supply of tools should be provided. The tools should be arranged systematically in a set of pigeonholes or on a series of hooks so that each one may be found without searching through a box of unsorted articles. A rack placed against the wall will serve well for the storage of surplus oil, extra wire, and repairs kept on hand for future use.

The cost of a garage will be governed by such a variety of factors that it is nearly impossible to say just which type of construction will be cheapest. A skilled man will find the metal-lath construction entirely satisfactory both as to cost and appearance. The man who is not skilled in the use of such materials, on the other hand, would not get good results. The ordinary man, who has had only the training afforded by the methods generally used in the construction of farm buildings, should use the materials with which he is most familiar.

In planning to build a garage it is always best to do the work at some slack time if possible so that it will not be necessary to hire extra men.—W. W. CARLSON, Engineering Division, Kansas Agricultural College.

Care for Your Auto

The first, most fundamental, and absolutely essential thing about an automobile is that the engine be lubricated. Nothing else is so important. Forget to fill the gasoline tank and you may be inconvenienced when the car stops nine miles from anywhere, or in the middle of a busy street crossing—but the inconvenience is temporary. But take the car out on a run with insufficient oil in the crank case or the lubricator (if your car doesn't oil with the splash system) and the next thing you know a polite repairman will present a bill as long as your arm.

After seeing to the daily filling of oil reservoir, gas tank, and radiator, there is nothing a boy can do for his own or his father's car which will pay better dividends than taking care of the tires. Tires are expensive and wear easily. To prevent wear, then, to add to the mileage a tire gives, is to do a real service.

Start by keeping a "tire history" of each tire on the car. Note the mileage when put on, the date, and the place of purchase. Then, test regularly for pressure. The tester is a little gauge, which slips over the uncapped valve stem and registers the air pressure in the tire.

Tires should be inflated to twenty pounds of pressure for each inch of cross section—that is, a three-inch tire should have sixty pounds of air; three and a half, seventy; four-inch, eighty; and so on. Driving a tire that should hold sixty pounds, with only thirty-five pounds pressure in it, will do more harm in an afternoon than weeks of driving, properly inflated.—The American Boy.

Cleaning the Car

It takes considerable care to keep a car looking well. Soap is injurious to the finish of a car and should be used sparingly if at all. To retain the original polish, the washing should be done with plain water, using a chamois for the final wiping. When the car has been out in muddy weather it should be washed immediately, before the mud has had time to dry and harden.

When an engine misses fire, the trouble is caused by a faulty spark plug nine times out of ten. To determine which plug is missing, take a wooden-handled screw driver and short circuit the plug to the cylinder head. If the plug is working properly the engine will slow down as soon as the short circuit is made, and if it is not working the short circuit will have no effect.

Take a dollar's worth of prepared inner tube patches along in your car. Although they do not afford an absolutely permanent repair for a puncture, they are mighty handy in an emergency.

The greatly increased cost of materials and labor is tending toward advanced prices of motor cars. A number of makers have announced increases in price ranging from $30 to $1,000. Most of them are from $50 to $150.

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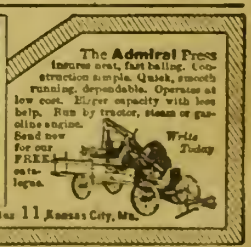

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GRAIN FOR OUR ALLIES

It has been estimated that we must furnish our allies two hundred million bushels of wheat this year. On the basis of our present home consumption and probable yields for this year's crop, only forty-five million bushels will be available. There is no other source of supply and unless the people of this nation practice greater economy in the use of food and the substitution of other products, our allies will go hungry, and hunger is a compelling force stronger than arms or munitions of war. The great military genius, Napoleon, once said, "An army travels on its belly." This was never more true than at the present time. In the present world war whole nations are organized for war purposes and food supply is likely to be the determining factor in winning or losing in the great conflict.

Doing these things which will make it possible to supply the wheat needed is a patriotic duty. The man who offers his services as a soldier is not the only one whose actions are directed by patriotic impulses. Even the housewife in the kitchen can respond to the patriotic appeal by striving to make it possible to furnish our allies with the wheat they need.

One of the great savings in the use of grain would result from a suppression of the manufacture of alcoholic liquor. It has been estimated that seventy million bushels of grain could be saved if the nation were dry, and this makes allowance for the manufacture of all the alcohol needed for making munitions of war and for other industrial purposes. What is known as the food control bill in Congress has been held up because of the determined fight made by the liquor forces on the proposed suspension of this great economic waste of food material. The Brewers' Year Book boldly declares that it requires the labor of seventy-five thousand men for six months to produce the grain required for the manufacture of malt and distilled liquors. There are employed in the manufacture of liquor 62,920 wage earners. Fully three-fourths of these are employed as mechanics of various kinds — carpenters, electricians, teamsters, machinists, etc.—men needed in legitimate pursuits. It seems a shame that some men must starve in order that others may get drunk.

It appears now that a compromise will be agreed to in Congress, exempting beer and wine from the control measure. We believe Congress is right in striking at this great food and labor waste and it is to be regretted that there must be a compromise made in order to insure the passage of the measure as a whole. We know farmers of Kansas do not take kindly to producing grain for such purposes.

* * *

SUCCESSFUL DAIRY MEETING

A very successful auxiliary meeting of the Kansas State Dairy Association was held in Lawrence last Saturday. The attendance was not large, but those present were very much interested in discussing the various phases of the dairy business. In this section of the state producing milk for the city market is claiming the attention of most of the farmers who are milking cows. Handling and marketing milk was a subject of special interest to those present. In the forenoon a number of dairy farms were visited and an inspection of the barns and milk rooms showed that these dairymen were on the whole making a serious attempt to do the things necessary to keep milk clean and in proper condition for human food.

The extremely high cost of feed made the subject of cost of production a vital one and Prof. J. B. Fitch urged upon those present the importance of forming a cow test association. At the present time it is a serious loss to be feeding unprofitable cows and the cow test association is a cheap way of keeping books on the herd.

The subject of building sanitary barns and modifying barns already built so as to make them more practical for producing good, clean milk, was discussed by A. S. Neale, of the extension division of the Agricultural College.

Douglass County has a local dairy association and in the eastern edge of the county there is an organization consisting of thirty-three members which ships seven hundred gallons of milk to Kansas City daily. This milk is sold to a Kansas City firm of distributors and the contract is made with the local organization of producers. The members seem better satisfied with this method of handling the matter than when each was compelled to deal individually with the distributors in Kansas City.

* * *

NOT ECONOMY ALONE

There seem still to be a few people who do not appreciate the necessity for food conservation in the present national crisis. A housewife remarked to us the other day: "We are being urged to use cornmeal and rice, but I can't see that these things are much cheaper than wheat products."

The idea in substituting other foodstuffs for the cereals is not solely to save our money, but to provide food for our own soldier boys and for the armies of our allies. Our allies in the war are cereal-eating peoples, consuming more cereals and less meat than our own nation. The European nations engaged in the war are not raising farm crops this year; they are fighting. Our own country must produce food for the men now in the trenches and for our own boys who will soon be there, and this food must be of a kind that is easy to handle and concentrated in form.

The three things needed in the prosecution of the war are soldiers, money, and food, the most pressing need at the present time being food. Wheat, oats, and barley are needed. Our own wheat crop is short this year and the only way we can supply the amount needed by our allies and our own army is by using less ourselves than we ordinarily do. It is much more difficult for the men engaged in the strenuous business of war to change from their accustomed diet than for us at home to use for perhaps one meal a day some substitute for the wheat products usually eaten.

Vegetables and fruits in tin cans may also be shipped to the front to give variety to the soldier's ration. The supply of tin cans and of canned products on the market is limited and no housewife should be guilty this year of purchasing for the use of her family a single quart of canned products which might be used by the army. That is the reason for the emphasis the Government is placing on home canning and drying.

We must stand back of our allies, and when our own men go to the trenches they must go with every possible provision for their safety and well being. England has the reputation of having the best rationed army in the field. She may keep this reputation until our men get there and then no nation must surpass ours in the care of its men on the firing line.

* * *

In looking over the premium list of the Kansas Free Fair to be held in Topeka September 10 to 15, we note that a department of Home-Made Products has been added. This is in line with the effort being made all over the country to arouse interest in preserving and storing food products in the homes, as was formerly done. Premiums are offered in this department for home-dried fruits of various kinds, home-dried vegetables, home-cured herbs, home-cured and preserved meats, and home-made dyes and soap. In each classification the recipe or formula for the product must accompany the entry. This department is something new in fair premium lists, and we refer to it for the purpose of directing the attention of our readers to this feature of the Free Fair. We hope this department will be well filled. A copy of the premium list can be secured by addressing Phil Eastman, Secretary Kansas Free Fair, Topeka, Kansas.

* * *

We have just learned that special consideration will be given by manufacturers of tin cans to members of organized canning clubs. There is a great shortage of tin cans for preserving perishable food products and it was feared that this shortage would cripple the efforts of those striving to save perishable products by canning. Several of the companies handling these supplies have agreed to honor orders for cans when such orders are in furtherance of the plans for food conservation of the State of Kansas and the United States Department of Agriculture. Further information can be secured through the State Council of Defense at Topeka or the Extension Division of the Agricultural College, Manhattan.

Plan For Record Wheat Crop

KANSAS normally has been producing practically one-tenth of all the hard wheat grown in the United States. In 1914 when the Kansas crop totaled 180 million bushels, the proportion was one-fifth. This was grown on 9,116,000 acres. Last fall farmers of Kansas sowed nine and a half million acres of wheat. It is not at all preposterous for Kansas to plan for a two hundred million bushel crop in 1918. If conditions had been as favorable for this year's crop as when the record-breaking crop of 1914 was grown, we might easily have harvested two hundred million bushels or more this year.

Wheat is a vital need of our allies in this great war. They need two hundred million bushels this year—an amount that might be produced by the one state of Kansas provided that every man does his part and Providence favors us with conditions equal to those which made the 1914 crop possible.

There are a good many factors involved in growing a big wheat crop. In the first place there must be a large acreage sown. This year the money required for the seed will be no small item. In some sections seed will have to be purchased because not enough will be harvested for seed purposes. The acreage sown to wheat in such portions of the state may depend upon the financing of those who cannot supply themselves with the seed. There is plenty of money in Kansas and enough good wheat for seed will be harvested, but it will require close co-operation to insure the sowing of such a large acreage as will be required to produce a two hundred million bushel crop.

The State Council of Defense for several weeks has been gathering information from over the state on the wheat situation and in the meeting of this Council taking place as we write, the results of this investigation will be one of the important subjects discussed.

Kansas as a state could not do a more patriotic thing than to organize all interests of the state so as to make it possible for our wheat growers to do all that lies within human power to grow the biggest crop of wheat ever produced.

The growing of big yields of wheat is not all chance. There are a number of things involved in growing more wheat to the acre, many of which are within the control of the grower. Growers of wheat are not ignorant of the things necessary to producing large yields. Our Experiment Station has demonstrated that the yield of wheat is greatly influenced by the kind of wheat sown, the time and rate of seeding, the preparation of the seed bed, the kind of rotation in which the wheat is grown, and the methods followed to keep up soil fertility. These are apparently factors within the control of the grower and yet not entirely within control, for, as already stated, many know better than they are able to do.

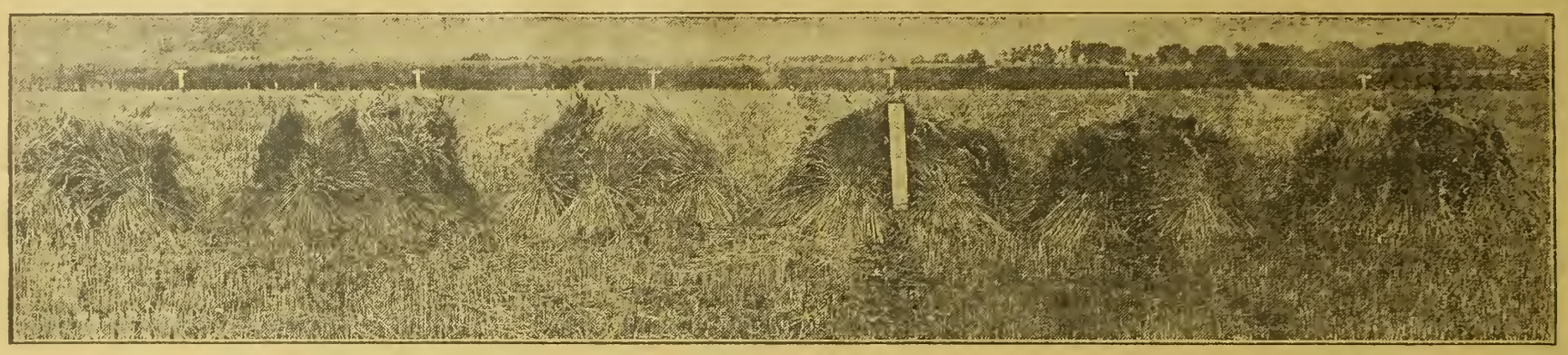
In our drive for a two hundred million bushel wheat crop next year every co-operating agency in the state should be lined up in the common purpose of enabling every man to do as well as he knows. It may be necessary in some instances to furnish money for seed, implements, or labor. It may be necessary for the Government to protect the grower from possible loss by guaranteeing a minimum price. The job of the Council of Defense is to see that all these different factors are brought into harmony for the furtherance of the one big purpose of growing a record-breaking crop of wheat next year.

MORE WHEAT TO THE ACRE

By L. E. CALL

Yield influenced by kind of wheat sown, time and rate of seeding, seed bed preparation, cropping system, and methods used to maintain soil fertility. Plot shown in upper cut plowed seven inches deep September 15—yield seventeen bushels to acre. Plot below plowed seven inches deep July 15—yield forty bushels to acre.





THE total production of wheat in Kansas has varied from 50,000,000 bushels in 1911 to more than 180,000,000 bushels in 1914. While this variation has been caused principally by fluctuations in weather conditions, it is nevertheless true that there are many factors within the control of the producer that have a tremendous effect on the production of wheat from year to year. There are five important factors that should receive attention in this connection, namely, the kind of wheat that is sown; the time and the rate at which the seed is sown; the way in which the seed bed is prepared; the cropping system in which the wheat is grown; and the methods used to maintain the fertility of the soil.

VARIETY OF WHEAT TO SOW

Kansas did not become an important wheat producing state until after the introduction of hard winter wheat. In the seven years following the introduction of hard wheat the acreage increased eightfold. In fact the average annual increase in acreage during this period was equal to the total acreage the year preceeding the introduction of hard wheat. Kansas would not be an important wheat producing state today if it were not for the excellent varieties of hard winter wheat that are grown. The reputation of Kansas wheat for milling purposes is due to the superior value of hard wheat for bread making.

It is surprising in the face of these facts that the farmers in the hard wheat belt of Kansas should consider growing any variety of wheat that is not of the hard Turkey type, yet this fall several thousand acres of soft wheat were sown in the wheat belt of this state because it was found to be a little more resistant to attacks of Hessian fly. Should the acreage of soft wheat increase in the next three years in the same ratio that it has increased in the past three, it would result in such a mixture of varieties that the reputation the state now enjoys as a producer of hard wheat of high milling value would be greatly impaired if not destroyed. Not only would the quality of our wheat suffer, but we would replace a winter resistant, hardy wheat with more tender, less resistant varieties. Such a condition would result in a calamity the first unusually severe winter. The hard Turkey types of wheat have been developed during centuries of time in European Russia under conditions similar to our own. They have been proven by 35 years of test to be the best adapted to our conditions. We need more hardy, not less hardy varieties.

The Kansas Experiment station has tested during many seasons practically every variety that has any promise of proving valuable. The average acre yields for the past six years for a few of the best of these varieties have been as follows: P-762, or Kanred, 31.1 bushels; 570, Turkey, 26.5; 382, Kharkof, 25.9; Fulcaster, 23.6 bushels.

These varieties are all hard wheats of the Turkey type with the exception of Fulcaster, which is one of the best varieties of soft wheat that has been grown at this station. As an average the Fulcaster variety has produced less wheat than any of the good hard varieties. In favorable seasons like the last three seasons, this variety has equaled and sometimes surpassed the hard varieties in yield, but in seasons like 1912, when conditions were severe during the winter, it was not sufficiently hardy. The highest yielding variety has been the selection P-762 made at this station from the Crimean variety. This variety, to which has been given the name Kanred, as an average of the past six years has produced 4.6 bushels more than the Turkey variety and 5.2 bushels more than the Kharkof. The superiority of this variety over Turkey and Kharkof has been maintained in variety tests conducted with farmers throughout the wheat belt of the state.

TIME AND RATE TO SOW WHEAT

The time the wheat is sown in the fall usually has an important bearing on the yield. Wheat should be sown early enough to make sufficient root growth to become thoroughly established before winter. The time required for this amount of growth will depend upon weather conditions during the fall months. In warm, late seasons, wheat can be sown much later in the fall than in years when cold weather sets in early. It is not desirable to sow wheat too early especially in seasons when fly is abundant, because of injury from these insects. Early sown wheat may also make so rank a fall growth that soil moisture is wasted and the wheat weakened in vitality. Usually there is a period of ten days or two weeks in the fall during which time wheat may be sown with the best results. This period is usually late enough to avoid injury from fly, yet early enough to allow the wheat on early prepared ground to make sufficient fall growth.

The rate at which the seed should be sown will depend upon the time of seeding and upon the preparation of the seed bed. Less seed should be sown when the crop is sown early than when sown late, more seed should be sown on a poorly prepared seed bed than on well prepared ground. Less seed should be sown when rainfall is light than when more abundant. The best rate to sow will vary in different sections of the state, in different seasons, and on differently prepared ground, from two pecks to the acre on early sown well prepared ground in West Central Kansas to over two bushels to the acre on late sown poorly prepared ground in the eastern part of the state. The rate and date of seeding have been tested over a four-year period on the agronomy farm. Amounts ranging from two pecks per acre to eight pecks were sown, the first sowing being made September 8 and successive sowings following weekly up to and including October 19-21.

The results indicate that there is a period of about ten days extending from September 25 to October 5 when wheat may be sown in the Manhattan locality with the greatest assurance of a good yield. Seeding later or earlier than these dates usually results in smaller yields. It was also observed that the quantity of seed sown had but little effect on the yield of the early sown crop but that the yield increased with increasing amounts of seed when the crop was sown late in the fall.

PREPARATION OF SEED BED

The manner in which the seed bed for wheat is prepared is another factor that is important in its effect upon the yield. When wheat follows oats or wheat it is important to start the preparation of the seed bed as early in the summer as possible in order that weeds may be killed, moisture conserved, and plant food liberated. Other things being equal, that ground which is plowed earliest will produce the best crop. An experiment has been conducted at this station extending over the past six years in which wheat has been grown continuously and the seed bed prepared by plowing at different times during the season. The preparation has been the same upon each plot of ground for each of the six years. The results of this test have shown that ground which has been allowed to grow up to grass and weeds during the summer and prepared for wheat by disking just before seeding has produced the smallest average yield —7.9 bushels per acre. Ground plowed about the middle of September has produced fifteen bushels per acre, that plowed the middle of August 21.2 bushels, and that plowed the middle of July 22.4 bushels per acre. This experiment shows clearly the value of starting the preparation of the seed bed as early in the season as possible. If the ground cannot be plowed early, it will pay to disk the ground and then plow as soon as conditions will permit. In this test, ground disked in July and then plowed in September produced on the average nineteen bushels to the acre as compared with fifteen bushels for ground plowed at the same time but which had not been disked previously.

Good seed bed preparation in itself is not sufficient to maintain a high production of wheat over any long period of time. The ground gradually becomes wheat sick when wheat is grown continuously, regardless of the methods used in preparing the soil. It is, therefore, possible to produce maximum yields of wheat only when wheat is grown in a suitable rotation with other crops and when every means is taken to maintain the fertility of the soil.

The methods now employed in the important wheat sections of the state are not maintaining a high standard of production, as will readily be learned by consulting the records of the State Board of Agriculture, where it will be found that the average yield of wheat has declined over seventeen per cent in the last thirty-five years, while in this same period of time great progress was made in the improvement of the varieties of wheat grown. Too little attention has been given to the matter of rotating wheat with other crops and to the use of wheat straw, barnyard manure, and other forms of organic matter for the purpose of maintaining the fertility of the soil.

The value of good rotations and the use of barnyard manure as factors influencing the yield of wheat is well shown by the experimental work conducted at this station. Ground which has grown wheat continuously for the last ten years produced in 1916 less than seven bushels of wheat to the acre. On the same kind of soil, under similar conditions, wheat grown in a three-year rotation of two crops of corn and one of wheat produced sixteen and one-third bushels to the acre. In a similar rotation when cowpeas grown for hay replaced one corn crop in the three-year rotation, an additional increase of one-half bushel of wheat was secured. In a sixteen-year rotation where alfalfa was grown four years followed by two crops of corn and then wheat, the yield of wheat was eighteen and one-half bushels per acre.

Barnyard manure in every instance increased the yield of the crop. When wheat was grown continuously an application of two and one-half tons of manure annually increased the yield of wheat from 6.9 bushels to 18.4 bushels per acre. In the three-year rotation of corn, cowpeas, and wheat, an application of five tons of manure once in three years on the corn crop increased the yield of wheat from 16.7 bushels to 19.4 bushels per acre. The same quantity of manure divided equally between the corn and wheat crop in the same rotation increased the yield from 16.7 bushels to 25.6 bushels, a total increase of almost nine bushels per acre.

CANNING BEANS AND PEAS

Home Canning Is Kitchen Patriotism—Put Spare Time Into Cans

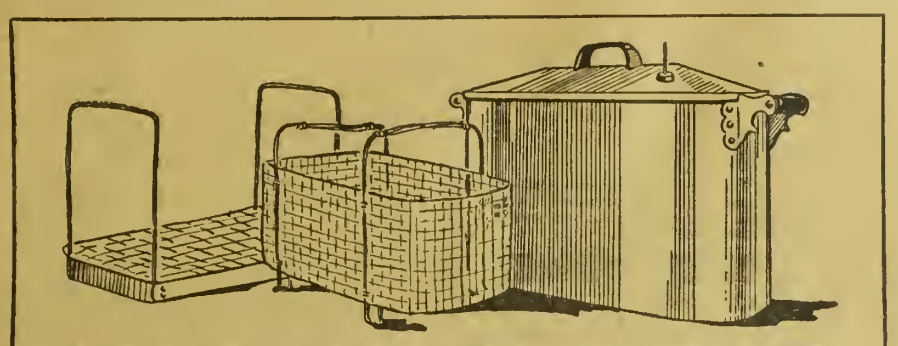
IF YOU have cans or can get them, do not fail to can a liberal supply of beans and peas. These vegetables have high food value, and a supply of them in cans will help to solve the problem of what to put before the family during the winter.

Green or string beans should be canned the same day they are picked. String, cut, snap, or shell. Blanch in boiling water for three to five minutes. Remove and plunge into cold water for a few seconds. Pack immediately in jars, place rubber in position, add one level teaspoonful salt to the quart and fill jar with boiling hot water. Seal partially, but not tightly. Sterilize two and one-half hours if using hot-water bath outfit, or seventy minutes if steam-pressure outfit with five to ten pounds of steam, remove jars and tighten covers.

Do not fail to try the following "half and half" recipe for canning beans: Select both tender green pods and those mature enough to shell easily. Fill jars with an equal amount of tender pods and of shelled beans. Blanch and can according to directions given for canning string beans.

Peas are also in season now. They should not be too mature, and like beans and other garden vegetables should be canned while fresh. Shell and blanch in boiling water for five minutes. Plunge into cold water for a few seconds. Pack in jars—pints recommended. Add one-half teaspoonful salt and about the same amount of sugar to each pint jar. Place rubber and top in position. Sterilize three hours in hot-water bath or seventy-five minutes under ten to fifteen pounds of steam, then tighten lids.

The word "sterilize" as used in the recipes given refers to the cooking of the vegetables in the jars. "Sterilize two and one-half hours" means cook for that length of time after the water around the jars in the hot-water bath is boiling. "Seventy minutes in steam-pressure outfit at five pounds of steam" means that the vegetables are to be "processed," or sterilized, seventy minutes after the steam gauge on the steam canner registers five pounds of steam.



WASH BOILER WITH REASONABLY TIGHT FITTING LID AND PROVIDED WITH CONVENIENT FALSE BOTTOM MAKES GOOD HOT-WATER BATH OUTFIT FOR HOME CANNING—TWO KINDS OF FALSE BOTTOMS SHOWN

Five pounds of steam is equal to a temperature of 228 degrees Fahrenheit.

While there are several home canning methods still in use, the "cold-pack" one-period method given above seems to be the only one that works equally well with all types and makes of jars and at the same time enables even those without experience to can all vegetables and meats as well as fruits and berries.

A hot-water bath outfit can be made in any home by any housewife or by a boy or girl. It is nothing more than a bucket, an empty lard can, a wash boiler, or any kitchen vessel provided with a reasonably tight-fitting lid and a false bottom to keep the jars from resting on the bottom of the vessel or too close to the fire. Where much canning is done it will pay to construct a false bottom to fit the vessel used. A small wire stand or rack will make a convenient false bottom for a pail or lard can. A solid bottom which will not permit the water to circulate under the jars should not be used. The cut on this page shows an ordinary wash boiler with two different types of false bottoms. These can be conveniently lifted out when the products in the jars have been sufficiently sterilized.

Additional recipes for canning and full instructions for using the cold-pack method, with tables showing the time required for various fruits and vegetables, are given in a bulletin entitled "Canning Instructions," which may be obtained for the asking either from Otis E. Hall, Extension Division, Kansas Agricultural College, Manhattan, or the State Council of Defense, State House, Topeka.

Community Drying Plant

The first community drying plant ever established in Nebraska, and so far as is known the first in the United States, began operation in North Lincoln recently. Fifty-seven families were represented at meetings of the North Lincoln Community Club when the project was undertaken.

This plant is known as the Lincoln Rotary Club Community Drier, as the Lincoln Rotary Club provided the money (about $150) for its construction. It was built by the Agricultural Extension Service, which is helping the Community Club operate it. Families bring their fruits and vegetables to the church in which the drier is located, prepare their products with utensils and machinery provided for that purpose, place them in the drier, and return twenty-four hours later to take away the fully-dried product. Electricity consumed by the big electric fan costs 1½ cents an hour, 120 trays of product being dried every twenty-four hours.

Concentrate products, especially soup mixtures, so that each container will hold as much canned food and as little water as possible.

Guarding Health and Morals of Soldiers

THE people of this country, and especially the mothers of the boys who enlist, are rightfully much concerned over the conditions surrounding army camps. We are glad to learn that the War Department is making a systematic crusade for the purpose of guarding the health and morals of the soldiers gathered in these various camps. Vice dens near army camps all over the country are being closed up. Through the Official Bulletin published by the Bureau of Information of the Government, the War Department authorizes the following statement:

That there shall be no "red light" in our new national army is the determination of the Government, and with that object in view the War Department has been pursuing a vigorous campaign in the vicinity of the camps now in existence, as well as in the larger cities adjacent to our military establishments. The popular theory that our citizen soldiers have been hounded by a "vice trust," organized to vend their wares in the regions where troops are being mobilized, is without foundation. The people with whom the Government has been dealing mercilessly are scattered adventurers, gamblers, drammsellers, proprietors of vicious resorts which have sprung mushroom-like out of the ground like gypsy camps at county fairs. In addition to these, the regularly established districts in the larger towns have been investigated and forced to close on the shortest possible notice.

In all cases the Government has worked with the honest and able co-operation of municipal and local authorities. The State Councils of Defense have done much valuable work. Chiefs of police throughout the country have been requested to give their attention to this phase of vice regulation, and the results vindicate the enthusiastic patriotism with which the authorities have carried out their trust. The tenderloins in the Texas cities—old-fashioned red light districts which up to a few weeks ago seemed as permanently planted in their towns as the city hall—have withered over night or gone their way. El Paso, Fort Worth, Waco are now surprisingly free of the easy-money establishments which once made night hideous and filled the police courts in the morning hours. The world in those parts has grown safe for the army of democracy.

Farther north, St. Louis has closed the lid tight upon the objectionable centers. Mayor Bell of Indianapolis has been doing energetic and effective work in his town and has co-operated in keeping undesirable resorts away from the environs of Fort Benjamin Harrison.

San Francisco's uptown tenderloin is also closed tight against the vice interests, and downtown the all-night pianos of the "Barbary Coast" no longer rattle forth their delirious ragtime. The cleaning-up process has extended all the way to Plattsburg, where the wandering undesirables have been told plainly to pack up and go.

To organize this great protective movement has been a work of tremendous detail and has involved the notifying of many thousand police heads in every region which might touch upon the military establishments. Twenty-one thousand letters were circulated among police authorities. The press throughout the country has done invaluable service to the Government through the medium of special articles setting forth investigated facts and advising means of discouraging the sort of business which the War Department has determined to stamp out in the vicinity of cantonments and training camps.



SQUAD OF KANSAS SOLDIERS LINED UP FOR MESS CALL

The work of Secretary Baker has been especially vigorous in this regard, as he has recognized from the first that healthy citizen soldiers could not be produced in unwholesome surroundings. He has never underrated the importance of the moral side of camp sanitation and, in cases where cities were slow to comply with his request, has not hesitated to inform the laggard officials that unless his policy was followed out promptly the camp site would be moved to other localities.

It is safe to predict that the Government's big campaign of house cleaning will result in a far lower percentage of disease among our soldiers than now prevails in foreign military camps.

Automobile Industry in War

It is pointed out in the Official Bulletin published daily by the Committee on Information of our Government that the American automobile industry is the most highly organized and the most extensive of its kind in the world, and the same system of standardized parts and quantity production of machines which has enabled the United States to have 3,500,000 automobiles on the road where all other nations together have less than 1,000,000, will be turned to the making of aircraft.

The whole answer to the problem before us is standardization. The American development of the airplane motor will be a standardized motor. If necessary, parts exactly alike can be turned out in quantity in one factory and shipped to a different place to be assembled. As the work develops our engineers can constantly be engaged in further perfecting the motor and as the industry expands in quantity it can also improve the quality of its output.

The best gasoline is none too good these days. Be sure to use a strainer, or else the dirt will soon clog up the carbureter.



ARE YOUR CROPS PROTECTED?

You know the deadly work of hail. Within a few hours all your crops can be destroyed. Your income is gone. Your labor is wasted.

What a sense of security you have when your crops are protected against hail in a safe and conservative company. Don't risk another day, but insure now in a company whose officers are bonded to the State of Kansas for $50.000.

THIS IS THE COMPANY

that first put the insurance in force from the moment the application was signed and the premium paid. Always has adjusted all losses, no matter how small. We ask for your application on our past record. Don't wait for the storm, but write us for full particulars or see our agent before you insure your grain.

THE GRAIN GROWERS HAIL INSURANCE COMPANY

Elmer F. Bagley, Secretary, Topeka, Kansas.

WE NEED YOUR HELP

WE FEEL confident that there are thousands of KANSAS FARMER readers who will gladly respond to our appeal for help in the emergency now facing us. You do not want us to cut your name from our list, but by neglecting from day to day to send in your renewal you are seriously embarrassing us and causing us much unnecessary expense.

We are now confronted with a new order from the Post Office Department compelling us to stop sending KANSAS FARMER to a large number of our subscribers who are in arrears. We have in the past been allowed to give you several months in which to renew. The Post Office Department now says it will not carry at the second-class rate papers to those who are not paid up, and its word goes. We have no further recourse but to meet these requirements.

It has ever been the policy of KANSAS FARMER to keep close to the grass roots and under no circumstances to permit other than genuinely helpful material to appear in its columns. We, who are responsible for it editorially, have had real farm experience and keep in such intimate touch with farm conditions that we are able to give you the practical farm viewpoint of whatever appears.

In making this personal appeal to you we feel sure we can count on your loyalty to the cause which KANSAS FARMER represents. You can help us so easily and, what is more, we are going to make it financially worth your while to renew at once and send us in addition the renewals of your friends and neighbors.

You will find the date to which your subscription is paid on the label of the paper you are now reading. Turn to it now while it is fresh in your mind and register a vow to respond to this appeal for your help and co-operation. On page thirteen you will find our special renewal and club offer. It is worth a careful reading, as it will save you money.

Do not fail us in this emergency. We need your help.

T. A. BORMAN, President and Editor.
G. C. WHEELER, Associate Editor.
W. J. CODY, Secretary-Treasurer.
C. C. YOUNGGREEN, General Manager.

Home Canning Outfits

Be Patriotic! Be Economical! You can be of great help to the country by doing your share toward conserving all food stuffs. Eliminate all waste. You can be economical, reduce the high cost of living and provide for the future welfare of yourself and family by storing surplus foods. Don't delay. Write today and investigate the Butler Home Canning Cookers.



Practical — They are just the thing for home use. Cook quicker, better, with less trouble than old style methods. Adapted to all fruits and vegetables. Cooked products have better color, flavor and shape, being cooked whole in the jar or can.

Economical — Butler Cookers are strong, yet light in weight and easy to handle. Substantial enough to last for years. The low price for which you can get these great cookers and the wonderful work they do make them almost a necessity for every household.

Simple — Steam or Hot Water Bath Methods.

Write today for free descriptive literature giving full information about different styles. Present prices not guaranteed. Steel market uncertain. Don't delay. Write today. Do your patriotic duty and help conserve the food supply.



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Steel Tanks, Grain Bins, Truck Bodies, Barn Ventilators, Culverts, Etc.

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Help Conserve the Nation's Food Stuffs

Kansas Farmer Dairy Club

Samples For Test Must Be Carefully Taken

TO DETERMINE the amount of butterfat a cow produces it is necessary to have the exact weight of the milk and the percentage of butterfat which it contains. This percentage of butterfat is referred to as the test. The fat is that part of the milk which makes butter and is its most valuable constituent. Milk or cream is usually sold on the basis of the butterfat it contains. Because of this a cow's production of fat is of great importance. Mere quantity of milk does not of necessity make a cow a big butterfat producer.

Testing the milk regularly is the only means of finding out how much butterfat the cow produces. The first step in determining production is to weigh the milk, but without the test this will not give any information as to the total amount of butterfat produced.

The rules of the Kansas Farmer Dairy Club require that one test of the cow's milk be made each month. This test is made from a composite sample of the milk the cow gives on the fifteenth day of the month, this to be taken as the average butterfat test for the month. The percentage of butterfat will vary slightly from day to day, but it has been found that a single test made the middle of the month will approximate very closely the average percentage of fat for the month.

The per cent of butterfat is a fixed characteristic. A cow's milk will not vary much in test during the year. As the year progresses it will gradually get richer, the highest test being just before the cow goes dry. After you have once had a fair test made you can predict with a reasonable degree of accuracy how the test will run from week to week.

To increase the total quantity of butterfat, the quantity of milk must be increased. No method of feeding can vary the test.

It is of no value to have a butterfat test that is inaccurate. You want to know exactly how much butterfat your cow is making—you can know this by getting an accurate test.

In order to make this test reliable the sample must be properly taken. Unless it is a representative sample of the milk produced the test will be inaccurate. There are several things which tend to bring about this result. The first milk drawn is much poorer in fat than the last. The strippings may test as high as 14 per cent, while the first pint drawn frequently tests less than one per cent. The sample, to be representative, must be taken from the pail containing all the milk the cow gave at one milking.

Another source of error is due to the fact that the butterfat globules begin to rise to the surface as soon as the milk is drawn. A sample taken from the top after the milk has stood a few minutes will not be a true sample. The milk should be poured from one pail to another several times and the sample taken at once while it is thoroughly mixed. This will give a true sample of that milking.

The morning milk is nearly always richer in butterfat than is the evening milk, thus if a sample of either is taken as representative of the day's milk, the result will be inaccurate. This is overcome by making a composite sample. This is simply putting together the samples from the two milkings. If the cow is being milked more than twice a day, a sample from each milking of the day must go into this composite sample.

The samples are most conveniently taken by using a little long-handled dipper holding one ounce. Take enough from the morning milk to fill the two-ounce sample bottle half full. Fill the bottle with the sample from the night's milking. Unless the bottles are filled the milk will churn and it will be more difficult to make the test. The sample of milk must also be kept sweet, otherwise the test cannot be accurately made. Half of one of the corrosive sublimate tablets placed in the sample bottle will keep the milk from souring. These preservative tablets are deadly poison and should be plainly labeled, carefully handled, and kept out of reach of the smaller children. Also keep the poisoned sample carefully guarded until it is mailed.

Since proper sampling is so essential to correct testing, we will summarize the instructions given above. First provide the bottle in which to place the sample, putting into it one-half of a preservative tablet. Milk the cow dry and pour the milk from pail to pail at least three times. Take the sample at once, fill the bottle half full, and cork. Take sample of night milk in the same way, filling the bottle full. Cork the bottle tight and place it in the container, packing it with cotton so there will be no danger of its being broken in the mail. Address to Prof. O. E. Reed, Dairy Department, Kansas Agricultural College, Manhattan, Kansas. Put your own name and address on the package and in addition write "Member of Kansas Farmer Dairy Club." Be sure to put your name and address on each package for unless this is done you will lose your test for that month.

Banker Takes Personal Interest

Many bankers over the state are taking special interest in the dairy club work. An illustration of the personal



THESE BOYS ARE CO-OPERATING IN GETTING THEIR COWS HOME FROM EMPORIA AFTER THE DISTRIBUTION BY MR. NEWMAN OF THE CITIZENS NATIONAL BANK

effort being put into the club work is furnished by the following letter from C. R. Hoyt, cashier of the Thayer State Bank. Mr. Hoyt now has four boys enrolled in the club work. He says:

"I have one more boy I wish to enter in your good dairy club—George French. We bought a cow for him Saturday and she freshened on Sunday. Please forward blanks for his records so he may begin as soon as the milk is good.

"One of our boys, Clyde Hines, started saving milk from his cow ten days ago and mailed a sample to Manhattan on June 15 for the test. Since that time the cow has almost quit giving milk. As soon as he let me know about it I purchased him another cow. This one will freshen in a few days, so he will begin a little later than at first intended. You may receive his test from the first cow, but please make no record of this. Had I known all the facts concerning the first cow, I would not have had him mail a sample for the test. I trust he is provided with a better cow this time.

"Howard Weis, the boy whom we entered in the advanced class, expects to have his cow and begin his record very soon. Luther Cross seems to be getting along nicely with his cow."

It is this sort of personal work with the boys and girls that makes club work valuable. Those who devote time to encouraging young people in this way will be well repaid for their trouble.

The father of one of our club members who completed his year's record in April was in the KANSAS FARMER office this morning and told us the boy was going to continue in the advanced class with a pure-bred cow. He has made a fine record with the grade cow in the first year's work, but is ambitious to own a pure-bred cow. The grade cow is in much better condition to make a good record next year than she was at the beginning of last year's record, and we were rather interested to learn that this cow will be sold to a member of the new dairy club. We hope to see her make an even better record than she did the past year.

Club Prizes at Hutchinson

The Kansas State Fair to be held in Hutchinson September 15 to 22 has shown its appreciation of the splendid work done throughout the state by the boys and girls in their club work by creating a Boys' and Girls' Club Department, the superintendent of which is Otis E. Hall, of Manhattan, state leader of club work. A special premium list is offered to boys and girls of the state belonging to clubs working under the leadership of the extension division of the Agricultural College in co-operation with the United States Department of Agriculture. This offering of prizes for club work is one of the progressive steps taken by the fair management.

The rules governing the competition in the Boys' and Girls' Department are given in the state fair premium list, which has just been printed. The canning club prizes are for exhibits by mother-daughter clubs and for exhibits shown by boys and girls who are club members. A good list of prizes is offered for exhibits by members of corn clubs, garden clubs, sewing clubs, and poultry clubs. Pig club prizes are open to bona fide members of the state pig clubs.

In each of these different classifications a special prize of twenty-five dollars is offered for club members, this prize going in each instance to the group or club making the best showing.

A big fair like the one held at Hutchinson each year can be of great educational value to all who attend, and by offering these prizes for club work the boys and girls will have their interest in the fair greatly stimulated. The club exhibits are to be given a prominent place in the new Agricultural Building which is now being constructed on the state fair grounds. This department should be one of the most valuable and instructive of the whole fair. We urge that every boy or girl club member in the territory tributary to Hutchinson plan to compete for the many prizes offered by the Kansas State Fair. The premium list giving the rules and regulations in full will be mailed on request by A. L. Sponsler, Secretary, Hutchinson, Kansas.

B. G. Welch, a banker of Kingman, Kansas, has sold 135 heifer calves to boys and girls of that community. His purpose is to increase the interest in handling cattle. He took the notes of these boys and girls at seven per cent without any other indorsement than their own signatures. The calves were shipped in from Wisconsin and sold to the young people at cost. The notes are made out for eight months, at the end of which time the calves will all be collected and sold at auction, the owners being permitted to bid. The boys and girls are to receive all of the profit above the purchase price—$75 a head, and the interest for eight months.

At Irving, Kansas, a patch of ground, offered for the season without rent, has been planted to corn, beans, and tomatoes, in connection with the work of the Marshall County Farm Bureau, and a community canning plant put in operation. The children of the community, under the direction of A. H. Christensen, local leader in charge of the work, will have a large part in helping to carry it on during the summer.



60 Days' Treatment to Rid ALL Your Hogs FREE of Worms

Mr. W. O. Gandy
President
Avalon Farms Company

If I don't make your hogs make **you more money**—produce more pounds of pork for you from the same amount of feed and prove it to your own satisfaction—I don't want your money! I am thoroughly in earnest in this offer. I am making it to **prove** my faith in the remarkable value of Avalon Farms HOG-TONE. I want you to accept it.

Perry Stratton, the Berkshire Breeder, Accepted This Offer! So Should You!

Mr. Stratton, whose Berkshire farm near Momence, Ill., is famous throughout the land, writes:
"Avalon Farms Hog-Tone, being in the liquid form, is so easily fed in the swill that you obtain the desired results without difficulty. I took a couple of shoats that did not seem to be doing well and began by feeding them Hog-Tone. In about five weeks' time you would not have believed they were the same hogs! They grew with the other hogs and when feeding time comes they are the biggest scrappers in the bunch."

Accept This Offer! Think What It Means to You!

The price of hogs is going higher every day—and is bound to go higher from now on. There is a **serious** hog-shortage. Especially a shortage of high-grade porkers—**hogs absolutely free from worms—big hogs with sound, clean flesh!** "Nearly every hog is infested with worms," declares the U. S. Dept. of Agriculture. The malignant Thorn Head Worms—Stomach Worms—Liver Worms—Lung and Bronchial Worms weaken the hogs—affect every sow's litter—make millions of hogs easy victims of cholera, scours, thumps, rheumatism, enteritis, gastritis—rob surviving hogs of nourishment their food should bring, cut down their weight and quality at marketing time.
Use HOG-TONE—and rid your hogs of **all** worms—bring them all to market in high-grade, high-weight, worm-free condition.

AVALON FARMS HOG-TONE

The Liquid Worm Killer and Hog Conditioner
FOR ALL YOUR HOGS—SEND NO MONEY!

I will ship you one big $1.00 bottle of Hog-Tone for each eight hogs in your herd—the day the coupon below, filled in, reaches this office. That will be sufficient to treat all your hogs 60 days or more, according to size. This will mean just 12½ cents per hog for all the treatment, and that treatment is guaranteed by me to free your hogs of all worms—to enable them to put on more weight from the same feed—to fill them with strength and vitality—to resist disease attacks.
This is the same offer that these men named below grasped—and were glad they did.

"Sometime ago I received your AVALON FARMS HOG-TONE and used it on one pig that I separated from rest of the bunch which was a good average one. Sold the bunch at seven months old which averaged 226¼. The one that I used your Hog-Tone on weighed 260 lbs. This hog was sold 38 days before the bunch."
EMERA H. MILBURN, Lapel, Indiana

"Find enclosed check for the Hog-Tone you sent me. It sure did the work on my pigs. The second day after the first dose the pigs began to pass worms—'round ones.' I tried out two hogs and they got awful fat. I am well satisfied with Hog-Tone." J. T. LEECH, Pampa, Texas

"I have purchased six bottles of Hog-Tone and am feeding it to my hogs. Have not been feeding it very long, but am sure surprised at the results. I can see a great change in their appearance and the way they eat. I never had Fall pigs do so well. HOG-TONE will do all you claim for it." (Signed) GEO. BRASFIELD, Swayzee, Ind.

Avalon Farms Hog-Tone is a highly concentrated liquid medicine for hogs only. It contains highly important medical ingredients which are liquids and which cannot be combined in Medicated Salts, Stock Foods or Condition Powders of any kind. Avalon Farms Hog-Tone is safe. It is easily mixed with any slops, with drinking water or dampened feed. It is only given every third day for the first six weeks and after that only once a week. 100 per cent strong.

It cleans out every kind of worms that infest hogs. By doing so, it gives **protection** to your hogs from easily contracting Cholera, Rheumatism, Scours, Thumps, caused by worms and indigestion, Enteritis, Indigestion and other diseases that destroy literally millions of hogs. A simply **wonderful** tonic and conditioner—gives hogs voracious appetites, aids digestion, helps them thrive, grow and put on fast increases of flesh. **Splendid for pregnant sows—the litter is stronger and thriftier, too.**

W. O. Gandy, President, Avalon Farms Co., 694 Rand McNally Bldg., Chicago, Ill.

I Don't Want You to Send Me a Cent!

Simply tell me how many head of hogs you have—write down your name and address—and mail to me. I will immediately ship you enough **Avalon Farms Hog Tone** to treat your hogs for 60 days! You simply pay transportation charges. Treat your hogs according to directions. If at the end of the treatment you are not **completely** satisfied—simply return the labels to me and you don't owe me a cent.

Just Mail Me This FREE Coupon

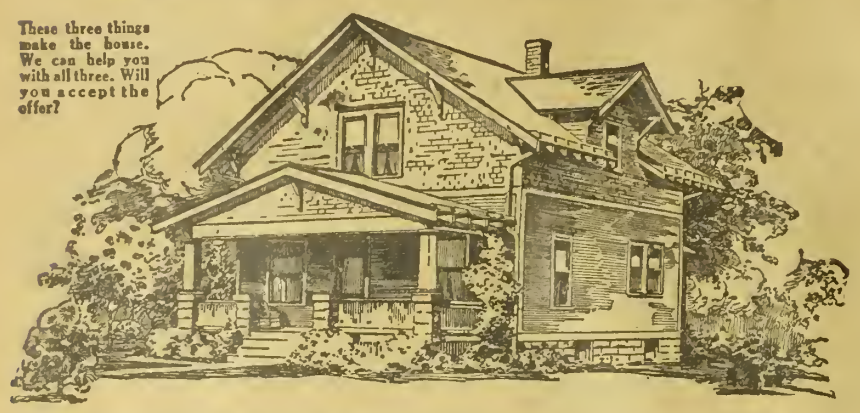
Avalon Farms Co.
W. O. Gandy, Pres.
694 Rand McNally Bldg.
Chicago
Illinois

SEND NO MONEY—TAKE NO RISK

I have _____ hogs. Ship me immediately enough AVALON FARMS HOG-TONE to treat them for 60 days. I am to pay nothing now except transportation charges. I agree to report results to you at end of 60 days and pay for the Hog-Tone at that time if it has done all that you claim. If it does not, I will return the labels to you and you agree to cancel the charge.

Name _____
P. O. _____
R. R. No. _____ State _____
Shipping Point _____
Name and address of my Dealer _____

Plans, Materials, Workmanship



These three things make the house. We can help you with all three. Will you accept the offer?

THE home above is practically a two-story house, yet costs but little more than one with a single floor. It is a practical, economical home and is shown in "Better Built Homes," Vol. 2, our Free Home Book of Plans. Send for this book.

Curtis Woodwork is made with such care from selected wood that whenever you buy even a door or sash you should insist on woodwork with this mark—CURTIS

On each and every piece of woodwork you buy, look for

1866 CURTIS WOODWORK

"The Permanent Furniture for Your Home"



Many different designs of Curtis Woodwork are shown in our Home Books, but your dealer can show you our big catalog containing every design if he sells Curtis Woodwork. Consult your dealer on your plans for alterations or new buildings and on Curtis Woodwork. Be sure your plans, materials and workmanship are right. Write for your Home Book—today. That's the right start.

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The Makers of CURTIS Woodwork guarantee complete satisfaction to its users. "We're not satisfied unless you are."

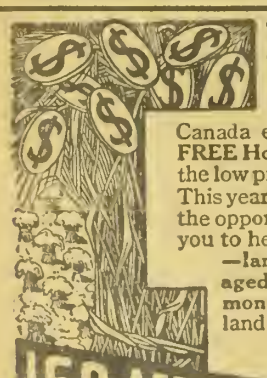
KANSAS STATE FAIR

Under the Auspices of the State Board of Agriculture

HUTCHINSON, SEPT. 15-22

The greatest annual event in Kansas.
The natural meeting place of the breeder and the buyer.
The producers' show window of agriculture.
The practical "Food Training Camp" for all people.
Send a postal card for the STATE FAIR CATALOG and learn all about it.
Great racing, sensational free entertainment, daily.
The great pyrotechnic spectacle, "THE WAR OF THE NATIONS," five nights.
Everybody invited to exhibit and to come.
Write the Secretary for information.

H. S. THOMPSON, PRES. A. L. SPONSLER, Secretary



Raise High Priced Wheat on Fertile Canadian Soil

Canada extends to you a hearty invitation to settle on her **FREE Homestead lands of 160 acres each** or secure some of the low priced lands in **Manitoba, Saskatchewan and Alberta.** This year **wheat is higher** but **Canadian land just as cheap,** so the opportunity is more attractive than ever. Canada wants you to help **feed the world** by tilling some of her fertile soil —**land similar to that** which during many years **has averaged 20 to 45 bushels of wheat to the acre.** Think of the **money you can make** with wheat **at over $2 a bushel** and land so easy to get. Wonderful yields also of **Oats, Barley and Flax. Mixed farming** in Western Canada is as **profitable an industry as grain growing.**

160 ACRE FARMS IN WESTERN CANADA FREE

The Government this year is asking farmers to put increased acreage into grain. There is now a great demand for farm laborers to replace the many young men who have volunteered for service in the war. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature as to reduced railway rates to Supt. of Immigration, Ottawa, Canada, or to

GEO. A. COOK
2012 Main St., Kansas City, Mo.
Canadian Government Agent.



Getting Farm Work Done

A WISCONSIN farmer who year in and year out profitably employs two men on his 160-acre farm, has been induced to tell how he gets his farm work done. The agricultural extension division of the Wisconsin University prints his story as a circular. It will suggest many helpful things to other farmers having similar problems to solve. He says:

"Every paper I take up has something in it about the great need for more food and I guess there is something to it, for we must feed a lot of people in Europe as well as our own growing population.

"Naturally enough I feel the need of having more to sell at the prices which conditions seem to promise. I have been thinking several cold days this spring, as I rode the gang plow behind four big horses, plowing sod for corn, what I could do to help out.

"One of my neighbors said one day, 'What's the use of plowing in such cold weather? We are going to have a late spring and there will be lots of time to plow.'

"But I just told him to remember how cold it was last spring until along about corn planting time, and how it turned off warm and he still had to plow his big sod field before he could plant it. I asked him if he remembered how the horses on the gang plow lathered and puffed and had to rest part of the time because the sod had grown tough and the weather was warm and the horses hadn't been hardened up by continuous work.

"I made that mistake once, too, but you bet I won't do it again if keeping the plow going whenever the ground is fit to plow will prevent it. Those cold days were great for plowing sod and hardening up the horses for the summer's work.

"I have been trying for several years to work out a plan that will help in getting the work done. The great thing is to get everything done at the right time and keep the odd jobs out of the way of the field work. The plan which has been helpful to me may be useful to others who haven't a plan as good or better, and if anyone has a better one I want to know about it for I'll adopt it at once. I believe every man who reads this can improve the plan, and I wish he would.

"Uncertainty of the weather and the shortness of the season in which to do a lot of things make farm management difficult. This plan is one for keeping pace with the seasons and making the most of good weather.

"Rule 1.—Field work must have all the time the weather and soil conditions will permit us to give it. This is the work which determines the amount of food we can grow. Nothing, except necessary work like feeding and milking, should be allowed to take us from the field work, and it should be planned where possible to get the milking done and keep the horses working ten hours a day. The best farmer is the one who gets the other work out of the way and keeps the teams moving whenever the land is in condition for field work.

"Rule 2.—There is a lot of work which I call wet-land work; in this class falls the cutting of weeds and brush in the fence rows, the repairing of fences, the cleaning up of the wood lot, the repairing of buildings, the laying of concrete walks, the digging of trenches for laying water pipes from the well to the house and to the barn, and a score of other tasks which should be jotted down in a notebook as they are thought of, and done when field work cannot be done. The rule is: 'Plan no wet-land work when there is work in the field which can be done.'

"Rule 3.—There is a great variety of work which we can do under shelter and which we should do on rainy days. Shelling seed corn, mending the harness and repairing tools are typical examples. If these matters are not cared for in rainy weather, they are in danger of stopping field work just when the time of men and teams is worth the most. It is necessary to have some means of thinking of these tasks when the rainy days arrive or we will let these golden opportunities slip by unimproved.

"One farmer I know keeps his notebook in his pocket to jot down the tasks which can be performed on a rainy day. This enables him to plan quickly the work for a rainy day. In planning rainy day work, do first the jobs which are in danger of getting in the way of the next dry weather work. The rule is to leave no rainy-day work to be done when it is not raining, for in this climate our profits are limited by the amount of outdoor work we get done.

"We farmers work with Nature and must keep pace with her if we are to expect good crops. I have often thought of my work as 'rush work' and 'get-out-of-the-way, work.' My problem is to make all the odd jobs which can be done most any time of year if I get at it, keep out of the way of the field work and the regular work in the dairy.

"Rule 4.—Feeding and milking dairy cows, sowing oats, planting and cultivating corn, and harvesting oats, are examples of work which suffer if not done at the right time. If we neglect our cows we shall soon have no milking to do. If we delay sowing oats until the warm, dry days of late spring, we will have a light harvest, and if we put off cultivating corn for one week after it is large enough to cultivate, the fields will be weedy and the crop poor. This class of work is rush work on my farm, because the profits depend upon doing as much of it as possible and doing it well. In rush seasons we put in long days, expecting to ease up on rainy days or when the rush is over. At these rush times we follow the rule, 'Do nothing today which can as well be put off until tomorrow.'

"Rule 5.—Work which we can do any time within a wide latitude requires our very special attention, because the time comes when this work cannot be put off longer and it may stop the rush work. For example, seed corn may be tested and shelled any time after it is thoroughly cured, but if the work is neglected until the fields are ready to plant, then that most profitable work in the cornfield may be delayed. This may be called 'get-out-of-the-way work.'

"It takes more planning, more thinking and more force of character to do this work in seasons when there is no rush work than it does to concentrate on rush work, for the season calls us to the rush work, while it is only by using our heads that we can get the other sort of work out of the way in advance.

"The rule I try to follow when there is no rush work to be done is found in the old phrase, 'Put off nothing until tomorrow which can be done today.' We must apply this rule methodically and with industry if we are going to get ahead very fast. My notebook in which I jot down the odd jobs which should be done has proved helpful to me.

"These rules have been working themselves out in my mind during many years of experience. They have been useful to me. If they help you I shall be well paid for the trouble of writing them out."

Helping Our Neighbors

It is too late now to do much planting for increasing production. Most farmers already have all the crops planted that they can cultivate right. Some have more than they can take care of. In some cases would it not be patriotic for neighbors who have their own fields clean and cultivated to spend a little time visiting the weedy fields

of neighbors who have gotten behind with their work—taking tools with them and making the land give its best yield? Some of us need encouragement when the weeds are hiding the crops, and a few "parties" of this kind would help to change crop failures to profitable returns. It might also improve the patriotism of all concerned.

It has been suggested that "we can often help our country best by helping our neighbors."—J. E. PAYNE, Oklahoma.

Fight Pernicious Weeds

As a country gets older, weeds become a more serious handicap to crop production.

Some are easily controlled, while others are almost impossible to eradicate. It is necessary to be constantly on the lookout for new and dangerous weeds. Pernicious weeds are commonly introduced on the farm by the sowing of impure seed. Often a good stand of alfalfa has been ruined by vigorous weeds which choked it out before it became well established.

Weeds are primarily a robber crop. When growing with crop plants, they rob the soil of much food and moisture which should be used by other plants. Weeds are usually hardy and prolific. They will thrive especially well in carefully prepared soil if given a chance. Unless kept down by proper cultivation and crop rotation they will soon overrun the land. Weeds are eradicated at great expense. Good clean seed should always be sown—the best obtainable is none too good.

A large number of weeds are common in Kansas. Practically all of them are familiar to the farmer and gardener. Some of the most troublesome are bindweed, dodder, curled dock, buckhorn, foxtail, Russian thistle, crab grass, chicory, and pigweed.

The botanical department of the Kansas Experiment Station employs a seed analyst who is kept busy with seed testing work. Whenever in doubt as to the character of a new weed, send a specimen to this department. Seed samples will also be inspected and a report made as to the weed seeds contained and their character.

The bindweed, a deep rooting perennial plant, is the most difficult to eradicate. Its roots send up shoots from a depth of two feet. When left to itself it spreads rapidly in a field—as much as ten feet in a season. It will thus be seen that unless radical and prompt measures are adopted for its eradication, it is only a question of time before it will take an entire field. As a matter of fact, crops cannot be raised at all where the land is infested with a heavy stand of bindweed. We discussed this most pernicious weed at some length in our issue of June 16.

Time to Cull Herds

Owing to present high prices for feed and labor, culling dairy herds of low producers is needed more than ever before. Inferior cows lower herd profits, but they can be detected by individual milk and butter records.

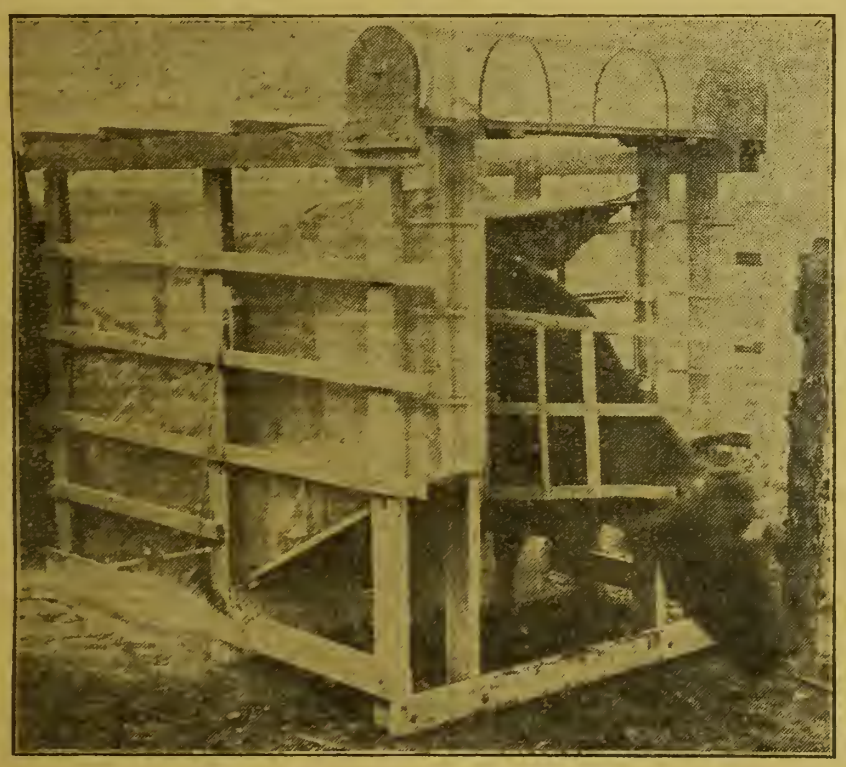
Low yields mean small profits or more often actual losses. The cost of milk production was figured at 13 cents a gallon by the Ohio Agricultural Experiment Station for seventy-six yearly records from thirty-one dairy herds during 1910 to 1916. Feed, labor and supplies have since increased about 30 per cent, making the cost at least 16 cents a gallon. These herds are all above the average in production. Unless the cow is a good producer, the cost of milk production will be much above this figure and a consequent loss. All cows not up to standard should be culled out and sold for beef.

Individual records of each day's milk and the amount of butter produced will show up the questionable animals. Scales and the Babcock test are finding a greater place every day on dairy farms. Private and official testing are becoming more popular because they show where profits come from and what cows cause any losses. A standard is thus set for building up future profitable dairy herds.

Trapping Flies on Dairy Farm

While driving from Carlyle to Colony a few weeks ago we stopped at a farm where we were told a fly trap was in operation. The cows were just being brought in from the pasture and seemed to know what the trap was for. In the picture a cow is shown just coming out of the trap. It is a most ingenious contrivance and from what we could observe by watching it work it catches most of the flies on the cows. The owner of these cows said that after they have got the flies cleaned up on the farm it is not necessary to put the animals through the trap more than two or three times a week. The principle employed is undoubtedly the correct method of attacking the fly problem. They are caught in the trap soon after they hatch and perish before they have had a chance to deposit their eggs. We understand this trap has been successfully used on a good many farms in that section.

Really there is nothing to canning fruit and vegetables except care, cleanliness, fresh products, jars and heat.



FLY TRAP IN OPERATION.—FLIES BEING TRAPPED AS COWS GO TO BARN FOR MILKING

HOT WEATHER

the season when a



DE LAVAL SEPARATOR

saves most over any other separator or skimming system

IT'S A GREAT MISTAKE for any dairy farmer without a separator or using an inferior machine to put off the purchase of a New De Laval Cream Separator in the summer months especially with butter-fat at the present unusually high price.

Great as are the advantages of the New De Laval over all other separators, as well as over any gravity setting system, at every season of the year, they are even greater during the mid-summer season than at any other time.

This is because hot weather conditions occasion greatest butter-fat losses with gravity setting and render it most difficult to maintain quality of product with any gravity system or unsanitary separator, while, moreover, the quantity of milk is usually greatest, and any loss in either quantity or quality of product means more.

Then there is the great saving in time and labor with the simple, easy running, easily cleaned, large capacity New De Laval machines over all other methods or separators, which naturally counts for more at this time of the year.

Hence the great mistake of putting off the purchase of a New De Laval Cream Separator in summer, whether you already have a poor machine or none at all, and every dairy farmer should keep in mind not only that a De Laval will pay for itself in a few months but may, if desired, be bought on such liberal terms as to actually save its own cost while being paid for.

Every claim thus made is subject to easy demonstration, and every De Laval local agent is glad of the opportunity to prove these claims to you, in your own dairy, without cost or obligation on your part.

Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for new catalog or any desired information.

Every New De Laval is equipped with a Bell Speed-Indicator

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York 29 E. Madison St., Chicago

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER

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MAKE BIG PROFITS Simplicity, strength, durability, make the Lightning Press the most economical to buy; big capacity, quick work, no trouble, lasts for years, best farm money-maker.

We make a complete line of both heavy and light presses, horse, engine and tractor power. We will make good terms to right customers.

Send name today for complete catalog, showing all styles and prices.



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Gentlemen: Please find enclosed $.....for which send me

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One year for $1.00; two years for $1.50; three years for $2.00.

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We have several thousand subscriptions expiring in June. It would be a saving of much time to us and avoid missing copies by the subscriber if the renewal could reach us before the expiration. The best way to do is to send in $2 when you renew and have your subscription paid three years in advance.

The Cow Knows—but SHE can't talk.
Ask the Dealer.

COMFORT for COWS and MILKMEN



When cows are continually tortured with flies they cannot be expected to produce the maximum amount of milk. When your cows are not producing their maximum amount of milk *you are losing money.*

SO-BOS-SO KILFLY is made for just such a purpose—to keep the cows free from flies while grazing in the pasture and while being milked in the barn. They will then produce their maximum amount of milk and besides man will milk in comfort.

You will also find SO-BOS-SO KILFLY equally as effective when used on horses, hens and hogs. It is a sure bane to lice and vermin.

Your dealer will sell you SO-BOS-SO KILFLY. Send for descriptive circular telling about other farm uses for SO-BOS-SO KILFLY.

The H. E. Allen Mfg. Co., Inc.
Carthage, N.Y., U. S. A.

Boys!

WIN THESE PRIZE EWES

THE Bradley Sheep Club offers sixty flocks of bred ewes as prizes to stimulate interest in sheep raising and to increase wool production.

Any boy between the ages of 13 and 17 inclusive, is eligible for one of these prize flocks. In five years the flock you win will earn enough to send you through college. This is your chance to learn a profitable industry and help clothe and feed our soldiers. Prizes awarded on merit only.

Write us for Free Booklet On Sheep Raising by Mr. Anthony Gould of the American Sheep Breeder. Full details of contest will be sent with booklet.

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1030 Bradley Ave.
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Pull the Stumps



Clear land slick, clean and fast at low cost. Big money clearing land for others. The Hercules big Free Book contains boiled down experience of 25 years of land clearing. Stumps pulled at three cents to five cents each.

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Solid steel bed plate, broad steel wheels. The marvel of the age. Get our special low introductory offer on this new machine that we can cover with an unlimited guarantee.

Write today
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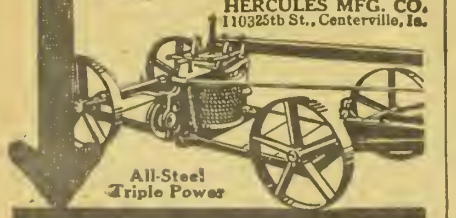

Get Hercules Big Book FREE

Young people who contemplate attending business college or auto training school this fall or winter will find it to their advantage to write us. KANSAS FARMER has some information that will be of genuine interest to you. Address DESK D, KANSAS FARMER, Topeka, Kan.

Alfalfa For Work Horses

THE value of alfalfa as a work horse ration is not fully appreciated. In a recent circular issued by the State Live Stock Registry Board it is stated that there is approximately thirty-five per cent more available protein in one pound of alfalfa hay than there is in one pound of shelled corn. This fact emphasizes the necessity of looking upon alfalfa hay as a concentrate rather than a roughage.

Allowing the work horse to eat large amounts of alfalfa is not only wasteful but dangerous, for the overloaded and distended digestive apparatus crowds upon the heart and lungs, making it difficult for the horse to breathe freely, thus depriving him of a sufficient amount of oxygen when at hard work.

Furthermore, practically all the protein that is not utilized by the body must be eliminated through the kidneys. This results in hyperstimulation or even inflammation of these organs and excessive urination.

Feeding excessive amounts of protein also has a cloying effect upon the whole animal system, resulting in impaired nutrition, filling and swelling of the legs and hocks, inability to stand hard work, excessive sweating, and impaired respiration.

However, the feeding of from four to ten pounds daily of alfalfa hay that has not been cut until quite mature, and that is free from dust, mold, or smut, has proved to be a very satisfactory practice.

Whenever possible horses fed alfalfa hay should also have access to prairie, cane, or kafir hay, straw, or corn fodder to add bulk to the ration and satisfy the craving that always results when very rich feeds are fed for long periods of time.

When compelled to use alfalfa only as the roughage portion of the ration, one should not feed more than one pound daily per hundred pounds live weight.

The use of mature, well cured, clean alfalfa hay will reduce the cost of feed very materially when substituted for a part of the prairie or timothy hay portion of the ration. One pound of alfalfa hay may be substituted for one-half to two pounds of prairie or timothy hay until from one-third to one-half of the prairie or timothy hay has been replaced by alfalfa hay, the amount depending upon the quality of the alfalfa.

Treating Cattle for Bloat

Bloating in cattle or sheep is a common ailment and one with which every live stock man is liable sooner or later to have experience. The disease is usually caused by the eating of large quantities of green feeds, such as alfalfa, clover, or green corn. These feeds ferment readily and produce large quantities of gas. Sudden changes in feed or inflammation of the rumen, or paunch, may cause bloat. Dr. J. H. Burt, assistant professor of veterinary medicine at the Agricultural College, gives the following information and offers suggestions for the treatment of bloat:

"The paunch or rumen occupies the left side of the abdominal cavity, hence the distension of the abdominal wall by the collecting of gas in the rumen occurs principally on the left side. The gas forms quickly and the distended wall is highly elastic.

"The animal stops eating and ruminating, the ears droop, and the back may become arched. In the more severe cases the walls of the abdomen are distended on both sides, the respiration is quickened, and the mucous membrane congested — these are the usual symptoms. Death results from asphyxia, caused by the distended paunch interfering with the movement of the lungs.

"This form of acute indigestion can be largely prevented by practicing preventive measures. All changes of feed should be gradual, especially if the ration fed is heavy, or the new ration consists largely of green succulent feed.

"Cattle pasturing on green clover or alfalfa should be kept under close observation. It is not advisable to pasture cattle on clover or alfalfa which is wet with rain or dew.

"Bloating usually can be quickly relieved by puncturing the wall of the paunch with the trocar and canula. The operation is simple and generally is not followed by unfavorable results. The instrument is plunged through the walls of the flank on the left side, midway between the border of the last rib and the point of the haunch.

"The trocar is then withdrawn from the canula. After the gas has escaped through the canula, the trocar is replaced and the instrument is removed. The instrument should be thoroughly boiled after being used, and kept clean until again needed.

"In bad cases it may be necessary to remove part of the food through an opening made in the side. This will require the services of a veterinarian.

"It is advisable to wash the skin with some good antiseptic before inserting the instrument. In bad cases it is sometimes well to give the cow a dose of Epsom or Glauber salts dissolved in plenty of water. One should add two to four ounces of turpentine, or three or four teaspoonfuls of charcoal. This will absorb the gases accumulating in the paunch."

Work horses are often sick on Monday. Investigation of such cases has usually brought out the fact that the horse has been fed as much grain on Sunday when at rest as when at hard work. Reducing the grain feed one-fourth on days the horse does not work prevents this sickness, known as azoturia.

VISIT TO AGRONOMY FARM

(Continued from Page One)

jects of the Experiment Station. There are in the crop nursery over seven hundred different strains and varieties of grain. Many of these have been introduced from foreign countries in other states, but the greater portion of them have originated at the Kansas station. The visitors were shown a twenty-acre field of the variety of Kanred wheat which was originated at the Kansas station. This variety has been tested at the station for the past six years under field conditions and has produced on the The breeding and improvement of average over four and one-half bushels more to the acre than the ordinary Turkey wheat. Last year it was planted on the farms of twenty-two farmers in the wheat belt of Kansas and produced on an average six bushels more to the acre than the variety regularly grown by the farmer. A ten-acre field of black-hulled kafir which has been bred up on the station farm was seen, also a field of Kansas Orange Sorghum produced at the station by head selection methods.

Soil fertility experiments are attracting more interest as the state gets older. One hundred and fifty one-tenth acre plots are devoted to working out practical cropping systems and methods for maintaining the fertility of the soil. This work is planned to cover a long period of years. Corn, wheat, alfalfa, and other crops are being grown continuously and in rotation. The visitors were told that last season the yield of wheat on ground cropped continuously for ten years was less than seven bushels to the acre, while that grown in rotation with alfalfa and corn produced at the rate of eighteen and one-half bushels to the acre. The application of barnyard manure at the rate of ten tons once in four years increased the yield of corn nine bushels to the acre as compared with corn grown continuously, and six bushels to the acre as compared with corn grown in rotation but without the barnyard manure. A similar application of manure to wheat increased the yield almost 200 per cent as compared with plots where wheat was grown continuously without manure.

This picnic meeting of the Farmers' Union was pronounced a complete success by those present and it was decided to make it an annual event. Visiting the farm in this way gives a fuller realization of what the Experiment Station is trying to do, and a mutual understanding between the people for whom the station is conducted and the station authorities is sure to increase its usefulness.

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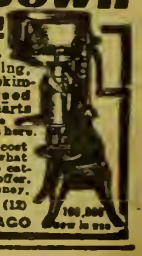

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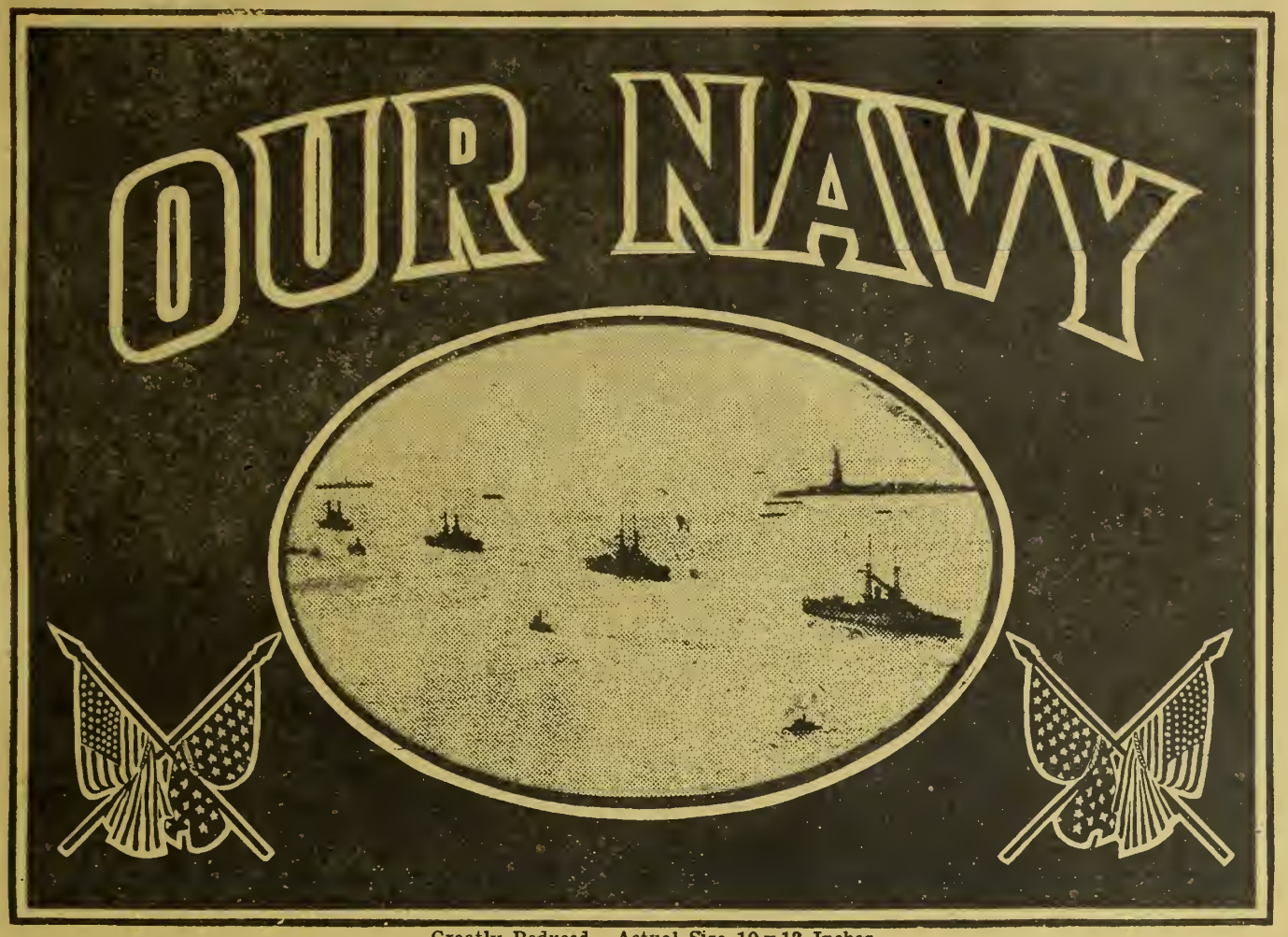
FARM AND HERD.

The Kansas Hampshire Swine Breeders' Association and the Halcyon Hampshire Pig Club organized by George W. Ela, of Valley Falls, Kansas, announce a combination sale of Hampshire hogs to be held at Valley Falls, October 12. In addition to the consignments from the best Hampshire herds in the state, the members of the Halcyon Pig Club will consign a choice offering of prize Hampshires. The energetic boosting for the Hampshire breed by the Kansas Association and the launching of the Hampshire Pig Club by Mr. Ela is creating unusual interest in the Hampshires, and this sale promises to be one of the sale events of the season. The sale will be under the management of Geo. W. Ela, secretary of the Kansas Hampshire Swine Breeders' Association.

In addition to being easily digested, milk is a cheap tissue builder, because the protein that it contains is of a kind particularly valuable for building tissue.

FREE! This Interesting Book Shows Every Type of Vessel in the Navy and Gives Full Text of the President's Great War Message



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"Our Navy" should be in every patriotic American home. Besides containing pictures, just released by the censor, of every type of vessel in United States service and scenes of life on board the ships, it gives the full text of President Wilson's Great War Message to Congress. This document should be read, studied and preserved, as it not only tells why we are at war and what it is hoped will be accomplished, but it defines Americanism, and reading it will make everyone a better citizen, prouder than ever that the country over which waves the star-spangled banner, is his country. The book also contains a new copyrighted photograph of President Wilson. It measures 10 by 13 inches, is permanently bound and beautifully printed. Thousands of these books have already been distributed.

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Advertising **"bargain counter."** Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks,** for bona fide seekers of employment on farms.

HELP WANTED.

WANTED—MAN AND WIFE TO TAKE charge of farm from July 10 until November 1. Address Joe Bell, McDonald, Kansas.

FARMERS, 18 OR OVER, WANTED (men-women) U. S. Government jobs. $90 month. Hundred vacancies. Common education sufficient. Write immediately for free list of positions. Franklin Institute, Dept. E-82, Rochester, N. Y.

REAL ESTATE.

WANTED—TO HEAR FROM OWNER OF good farm for sale. State cash price, full description. D. F. Bush, Minneapolis, Minn.

COWS, FORD OR OTHER LIGHT TOURING car in exchange for town property in Hastings, Oklahoma. R. E. Prather, Lineus, Missouri.

FOUR SECTIONS GOOD FARMING AND grazing land, Lincoln County, Colorado; one to three miles from railway. About half tract chocolate loam soil, balance sandy loam. Good stream touches two sections. Very mild winters. Trees along stream make fine shelter. Ideal ranch for mixed farming—will pasture 400 to 500 head of cattle all year. Another section splendid chocolate loam soil four miles from town—good wheat land. Will sell single sections or whole tract, if taken soon $12.50 per acre. Reasonable cash payment, balance to suit. Will pay for itself in short while if farmed right. Most healthful and ideal climate in which to live. M. Sigbert Awes, Minneapolis, Minn.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FIVE HIGH-GRADE GUERNSEY HEIFERS from tested dams with cow testing association records. J. W. Marley, Oswego, Kansas.

REGISTERED GUERNSEY BULL FOR sale. Good condition, proven breeder. Sixteen months old. Bargain if taken at once. M. I. Patterson, Victoria, Kansas.

REGISTERED HOLSTEIN BULL READY for service. Two of his dams averaged 100 pounds milk in one day and 35 pounds butter in seven days officially. $100. Wisconsin Live Stock Association, Appleton, Wis.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for $25 apiece. Frank M. Hawes, Whitewater, Wis.

FOR SALE — VERY CHOICE HIGH-grade Holstein calves, either sex, three to six weeks old, at $20 per head, crated for shipment. Or if you want dairy cattle of any age, I will buy them at a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

TRACTORS.

40-80 AVERY TRACTOR AND PLOW rig. Shidler Brothers, Lake City, Kansas.

HORSES AND MULES.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

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BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

DOGS.

FOR SALE—COLLIE PUPPIES, HANDsome, useful. $7. Frank Barrington, Sedan, Kansas.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

CANARIES.

FOR SALE—CANARIES, MATED PAIRS, beautifully yellow. Some crested. Mrs. Iver Christenson, Jamestown, Kansas.

WANTED

WANTED — SECOND HAND ENSILAGE cutter. John Haldeman, Route 3, Hope, Kansas.

CANARIES WANTED — WRITE AGE, kind, price, etc. Missouri Squab Company, St. Louis, Mo.

WALNUT LOGS WANTED, FOURTEEN inches and up. Give number and size first letter; distance to R. R. W. A. Schwartz, Louisburg, Kansas.

THE STRAY LIST.

TAKEN UP—BY BARNEY McCABE, RESIDING seven miles north of Iola, Allen County, Kansas, June 12, 1917, one bay mare, about twelve years old. The mare has a white face, black mane and tail, three white feet and some harness marks. Appraised at $40. Geo. Seymour, County Clerk, Allen County.

FARM AND HERD.

The amendments to the by-laws submitted on May 15 to the members of the American Jersey Cattle Club for a vote have resulted in the adoption of a new schedule of fees covering the registration of domestic-bred Jerseys. The new fees will go into effect on September 17, 1917, and will be as follows: Females one year old or under, to members $1 each, to non-members $2 each; females over one year old and not more than two, to members $2 each, to non-members $3 each; females over two years old, to members or non-members $10 each; males one year old or under, to members $2 each, to non-members $3 each; males over one year old and not more than two, to members $3 each, to non-members $5 each; males over two years old, to members or non-members $10 each.

If on the market for pure-bred stock, read KANSAS FARMER live stock advertisements. You will find what you want.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

All right use of life, and the one secret of life, is to pave ways for the firmer footing of those who succeed us.—GEORGE MEREDITH.

Summer Comfort for Baby

Keep the baby warm, but not too warm. The lighter weight shirts with little or no wool are best for summer weather.

Have a loose, warm, light-weight wrapper or sack that can be slipped on in the cool of the day and be easily removed when it becomes hot.

All garments should be loose with no bands which might bind and retard the circulation.

Food Insurance

New discoveries in canning and drying fruits and vegetables make it possible to save many more of these for winter use than we have saved in the past. How many of us have saved Irish and sweet potatoes by drying when we have found them beginning to rot? We have sorted these out and have tried to use them first, but even this method permits a waste, for all cannot be used before decay takes place. Through the use of the drier it is possible to save a much greater per cent of the potatoes, for they can all be dried at once before the rot spreads.

Saving surplus fruits and vegetables should be the practice every year, but especially this year when we are facing a food shortage that can be averted only by saving foods that we have not saved before, and using them to the best possible advantage.

Many bulletins and circulars are being issued at this time in the interest of food economy and conservation and it is well to give these the consideration due them, for in them will be found many practical helps.

Two such bulletins have just been issued by the U. S. Department of Agriculture — Farmers' Bulletin No. 839, "Home Canning by the One-Period Cold-Pack Method" and Farmers' Bulletin No. 841, "Drying Fruits and Vegetables in the Home." The subject matter is clearly written and many pictures are used to show the work actually being done. The blanching process for canning is illustrated, also the packing in the jars, and the cooking. All this will be valuable to the woman who is using these processes for the first time. In the drying bulletin the preparation of a number of vegetables, such as green peas, carrots, spinach, and potatoes, is shown, also types of driers, and containers for packing the dried products so they can be kept safely out of reach of insects. Several pages of this bulletin are devoted to the different ways of cooking dried fruits and vegetables.

Both of these bulletins can be obtained free by writing the Division of Publications, U. S. Department of Agriculture, Washington, D. C. They are published for the benefit of the general public and because of their practical value they should be in every kitchen.

Care of Shoes

Well cared for shoes will not only wear much longer than will neglected ones, but will look much better as a result of the care given them.

Shoes that are not worn regularly will keep their shape and will not become wrinkled if stuffed with soft paper. Wooden shoe trees can be placed in the shoes more quickly than can the paper, but the paper is a very good substitute for the shoe tree and is always easy to get. Shoes should be dusted before being put away and should be kept clean and polished. The polish should be selected carefully to make sure that it contains nothing that will injure the leather.

Even if given all of this care, shoes will soon look old and will be shapeless if the heels and toes are worn off and not rebuilt. When the heels or toes wear down, the shoes should be taken to a shoemaker for rebuilding.

Neglected shoes always spoil one's appearance, while well cared for shoes greatly improve the appearance of the simplest dress or suit.

White canvas shoes should be brushed frequently with a stiff brush to remove the dust. The brush should be used always before cleaning and its use after applying most cleaners will add to the appearance of the shoes.

Need for National Plea

Criticism of the national and state pleas for the saving of food is heard everywhere. Before criticising any policy of this nature let us remember that we are not the only ones who are asked to help carry it out. Perhaps we are now and for years have been practicing the strictest economy, but there are many people who do not know the meaning of the word, and the help of these must be enlisted if the greatest good is to be accomplished. It would be impossible to urge these personally to change their ways, and the only means of reaching them is by sending the warning broadcast.

If we have not been extravagant, let us interpret the warning as a sanction of our methods and an urgent call for others to follow in our ways, rather than as a criticism of our methods, and let us make a study of the need in order that we may intelligently contribute towards it. This is the broad way of looking at the matter and the way that will help our government and our allies. It is only by each feeling it his duty to have a part in the national conservation of food that the fight on food shortage can be won.

True Spirit of Sacrifice

It is hard for us in America to appreciate fully the meaning of the warning against food waste, especially to the extent that every slice of bread that is wasted means that someone must go without the "staff of life." When we have had a part in the war as long as our allies have now known its terrors and the sacrifices that it makes necessary on the part of those at home, we will understand better the stories we are now hearing of individual sacrifices being made by our neighbors in Europe.

A friend recently told us of a disheartening circumstance in connection with the entertainment of a young English woman who was in America on business in the interest of our allies. A simple dinner had been prepared, consisting of an inexpensive cut of meat, potatoes, one other vegetable, a fruit salad, bread and butter, coffee, and a light dessert. Throughout the meal the young English woman seemed very depressed in spite of her efforts to enter into the conversation and be agreeable. This attitude was so noticeable that her hostess felt hurt until at the end of the meal she learned the reason for the apparent lack of interest in the occasion she had looked forward to with so much pleasure. When there was an opportunity the young English woman said it was almost impossible for her to partake of so lavish a meal, knowing the economy that is being practiced in her own country and the great need for it.

Undoubtedly the time will come when we in America will feel called upon to make as great sacrifices as the European countries are now making, and we can best prepare for adjusting ourselves

to such conditions by beginning now to supply needs in the way of food rather than satisfying the cravings of our appetites which often far exceed the needs of the body.

Make baby's dress as simple as possible, with little trimming. Lace or starched ruffles in the neck irritate the tender skin. It is more comfortable for the baby and easier for the mother if no starch is used in laundering baby clothes.

Before putting your stove away for the summer, all rust should be removed by washing in vinegar to which salt has been added, using a handful of salt to a pint of vinegar. When the stove is dry, apply polish. A few drops of turpentine will give brilliancy to the polish and make it more lasting. Finally, wipe the stove and lengths of pipe to be stored with a rag dipped in paraffin oil. This will protect the stove from rust and save you a great deal of trouble next fall.

The war on flies should not be neglected for a single day. A day is ample time for these carriers of deadly disease to undermine the health of all members of the family.

War-Time Cake

2 cupfuls sugar
2 cupfuls milk
3 cupfuls flour
2 teaspoonfuls baking powder
Pinch of salt

Bake in a long pan, spread with butter and sprinkle with sugar and cinnamon mixed. This recipe has been tested and has proven itself worthy a place among the recipes.

Boiled custard flavored with peach leaves is delicious. When the custard has reached the boiling point, hold a few clean peach leaves in it for a few minutes. This is an old, old recipe well worth reviving, as many of them are.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8061—Girls' Apron: Cut in sizes 4 to 12 years. Fashion and little girls remain true to aprons, especially when made like the one in this picture, with sleeves extending to neck edge, the body part in smooth fit and with plenty of fullness in the skirt section. **No. 8066—Ladies' Long Coat:** Cut in sizes 36, 40 and 44 inches bust measure. The lines of this coat are those of the smart, practical coat for general wear. Such garment is indeed timely now that the blustery days are a reality. The deep round collar may be developed in fur cloth or self material—unless velvet is favored—with sleeve cuffs matching. **No. 8073—Children's Dress:** Cut in sizes 4 to 10 years. In keeping with a sensible style standard for children, this dress is made with a tucked waist that has bib effect front and the attractive duchess closing, using large eyelets or rings and ribbon. A half belt at back is arranged at normal waist, but the tab ends of the waist fronts make a front belt unnecessary. **No. 8074—Misses' Dress:** Cut in sizes 14 to 20 years. More than passingly smart, yet designed after the manner of the gracefully simple frock that has so many followers. The treatment of the waist fronts that extend in tab effect is new and novel; the two-gore skirt has its attraction in being plaited at center front. **No. 8084—Ladies' Skirt:** Cut in sizes 24 to 32 inches waist measure. The smart touches that add to the charm of this skirt are the odd pockets and side yokes. A slightly raised waistline is used and the two gores are gathered at the top where the yokes are joined. The lower edge in size 24 measures 3 yards. **No. 8094—Misses' Dress:** Cut in sizes 14 to 20 years. One of the most talked of styles for the winter is the Redingote. This one has its waist in cutaway or vest effect below a single button closing and shows decidedly the charm of simple lines. In contrasting goods the new collar makes direct appeal. The two-gore skirt is separate.

We Need Your Help In a Critical Time

KANSAS FARMER READERS CAN BE OF GREAT HELP TO THEIR FAVORITE FARM PAPER NOW

KANSAS FARMER comes to you through the mails. It is distributed under the jurisdiction of the Post Office Department, which has made some new rulings which the publishers of KANSAS FARMER must observe in respect to the procuring and continuation of subscriptions. During these critical times the rulings may be changed at any time, at the option of the Post Office Department.

The Postmaster General has made a ruling which makes it necessary that certain classes of subscriptions may not be carried after expiration. It has always been customary and permissable for the publisher to carry, at his option, subscriptions for a short time after they expire, in order that the subscriber might have an opportunity to renew his subscription and thus prevent his missing any copies of the publication.

The new rule, however, requires that this practice must be stopped.

We feel that you want KANSAS FARMER, because it is strictly a Kansas paper and is striving to help you in your work, and you certainly do not want to miss the good things that this old paper carries each week for the betterment of farm conditions. We do not want to discontinue your paper. We are very anxious to retain every one of our subscribers. In order to do so, we must urge that you send us your renewal subscription at once.

Here are four distinct offers which we submit to you. We will greatly appreciate your acceptance of any of them:

1. May we immediately have your renewal for one year at $1.00?

2. If you send us $2.00, we will renew your subscription for three years—a saving of $1.00.

3. If you will send us the subscription of two of your neighbors for one year for $1.00 each—$2.00 in all—we will renew your own subscription one year without additional charge in appreciation of this service rendered.

4. If you will send us the subscriptions of four of your neighbors at $1.00 each—$4.00 in all—we will extend your subscription for a period of three years without additional charge.

We have provided a special blank below to be used in sending in your renewal subscription or the subscriptions of your neighbors. May we again urge you to co-operate with us by accepting one of the offers provided?

Special Club Subscription Blank

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I enclose $.....for.....subscriptions to KANSAS FARMER for one year each. For this service I am to receive KANSAS FARMER for { 1 year / 3 years } without additional charge.

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(To be used in case Club Offer is not accepted.)

KANSAS FARMER, Topeka, Kansas.

Enclosed please find { $1.00 / $2.00 } to pay for my renewal to KANSAS FARMER for { 1 year / 3 years } as per offer above.

Name .....

Post Office .....

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SHETLAND PONY FOR SALE

Shetland pony mare, not registered, coming three years old, bred to a registered Shetland stallion. Broke to ride. Will sell at a bargain if taken soon. Address

D, CARE KANSAS FARMER.

POLLED DURHAM CATTLE.

FOR SALE—Two red and white bull calves, 10 months old, sired by Chief, a son of True Sultan. Priced to sell.
D. C. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 miles S. E. of Topeka)

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

GUERNSEY CATTLE.

Choice Guernsey Calves—Ten heifers, 15-16ths pure, beautifully marked, from heavy-producing dams. $20 each. Satisfaction guaranteed. L. Terwilliger, Wauwatosa, Wis.

PURE BRED POULTRY

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNDRED. Nora Lamaster, Hallowell, Kansas.

BARRED ROCKS — SEVENTY-THREE premiums. Breeders for sale. Eggs half price. Mattie A. Gillespie, Clay Center, Kansas.

SEVERAL BREEDS.

BUFF DUCKS—DARK CORNISH CHICKens. Sunnyslope Farm, Stillwater, Okla.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

MINORCAS.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

TURKEYS.

WHITE HOLLAND TURKEYS, 39-pound toms. Eggs, $3.00, eleven. Mrs. S. F. Crites, Florence, Kansas.

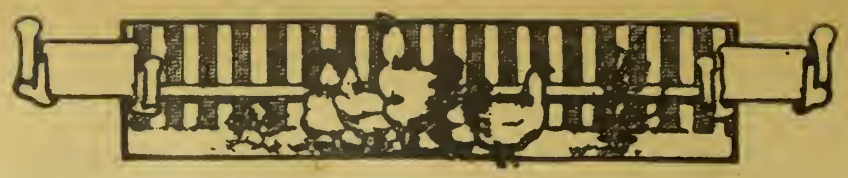
POULTRY WANTED.

MORE MONEY FOR YOUR EGGS AND poultry when shipped direct. Coops and cases loaned free. The Copes, Topeka.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

FARM AND HERD.

J. W. Berry & Son, of Jewell City, Kansas, are among the live boosters for Jersey cattle in Kansas. They have succeeded in building up one of the largest herds in the state and one that is noted for rich breeding. Production has been the watchword with this firm and for years they have been breeding Jerseys with that end in view. All herd material added has been of record breeding and their recent purchases of breeding stock are the class of Jerseys that have made the breed famous as profitable dairy cattle. The following letter from this firm will be of interest to Jersey breeders: "Jewell City, Kansas, June 23, 1917. Kansas Farmer, Topeka, Kansas: During the month of May I attended a number of cattle sales in Shelby County, Kentucky, the Jersey Isle of America, and brought home fifty head of yearlings, mostly of You'll Do blood. I am greatly impressed with the beauty, vigor and utility of the You'll Do blood. I have visited the Jersey sections of this country and I have never seen the equal of the animals from this great sire, Oxford You'll Do. I think he is the greatest sire now living. I think none of his progeny sold under $1,000 at the Cooper sale, and some as high as $4,000. I bought all of the yearlings at J. A. Stanley's sale and I am now breeding them to a You'll Do bull. I have about thirty head of the granddaughters of You'll Do and am breeding them to a You'll Do bull. J. A. Stanley had the largest bunch of useful cows I have ever seen in one barn, and the fifty heifers that I brought into Kansas are going to make their mark. We have one heifer fresh now, milking thirty-two pounds a day at twenty-one months old, testing 5.6 per cent. Her dam milked sixty pounds at twelve years old and is giving a good flow at seventeen years old. We have now about 130 head of registered and grade heifers, mostly yearlings of the type and breeding that make profitable dairy cows. We have sold about eighty head the past eighteen months through Kansas Farmer advertising. Our stuff was well wintered on silage and alfalfa and are doing well in pasture this summer. They are a beautiful sight to the man that appreciates good dairy stock.—J. W. Berry & Son."



Oklahoma Promotes Poultry Shows

OKLAHOMA has set the pace in legislation intended to promote increased interest in poultry production. A bill was passed by its legislature last March providing funds for supporting shows all over the state. These are primarily intended for educating young people in better methods of poultry production. A poultry show is to be held annually in November at each schoolhouse in the state not included in cities of the first class, and in January each year an egg show will be held. From five to ten dollars is appropriated for each of these shows. The bill also makes a provision for allowing $250 to each county to aid it in holding a poultry show in December of each year. The bill further provides that $2,000 be furnished for holding one big state show, this show not to be held in any one county two years in succession.

This is certainly giving most liberal support to the cause of education in poultry growing. It is one of the important industries of the state, as of all the middle western states, and is well worthy of such support.

Cornish Game Characteristics

W. O. H., a Missouri reader of KANSAS FARMER, asks about the Cornish Indian game fowls. He wishes to know their chief characteristics and weight.

The Cornish Indian game is of oriental origin. There are three varieties—the dark, white, and white-laced red. These fowls have pea combs and smooth yellow shanks. Their plumage lies very close and tight to the body. Their most outstanding characteristics are erect carriage, broad, meaty breasts, and thick legs. They are not very heavy layers, generally being considered only as meat-producing birds.

The Standard of Perfection published by the American Poultry Association gives their characteristics in detail. This book is copyrighted and cannot be reproduced. It should be in the hands of every breeder of poultry who endeavors to keep his stock up to standard requirements in form and feather.

Forage for Chickens

A. H. W., Lincoln County, asks what we would recommend to plant as a forage for chickens, a perennial preferred. He says he has a thrifty patch of alfalfa, but wants something in addition.

We cannot suggest any other perennial crop that will thrive in your locality. There is no better permanent forage crop for chickens than alfalfa. Either rye or wheat make fine forage. They supply green feed when nothing else is growing. It is always a good plan to have a patch of either rye or wheat where the chickens can run on it during the winter. Rye will usually make a more vigorous fall growth than wheat. In order to get early winter feed it should be planted earlier than wheat is ordinarily sown in the field, providing the seed bed can be prepared so it will start promptly.

Fatten Chickens in Crates

Sending chickens to market which have not been properly fattened is a wasteful practice. The weight of healthy well-grown chickens can be increased from twenty-five to fifty per cent in two weeks by proper feeding. Three hundred and fifty to four hundred pounds of mash moistened with skim milk or buttermilk and properly fed to good fowls will produce a hundred pounds of poultry meat in from twelve to fourteen days. Proper feeding of the chickens before marketing improves the quality of the flesh. "Crate fed" and "milk fed" are synonymous with "high quality."

Chickens which have been milk-fed in crates should sell for from two to three cents above the market price for unfattened chickens. At this price they are cheaper to the consumer on account of the reduced waste in dressing.

Faulty Incubation

Mrs. E. B., an Eastern Colorado reader, writes that many of her chickens and turkeys are ruptured when they hatch and few of them live. The rupture is a hard, dry scab where the chick is fastened to the shell. She also lost a rooster recently which had had diarrhea for two weeks, gradually falling off in weight. It ate up to within four or five days of death. Its comb became black or very dark red.

We referred this inquiry to N. L. Harris, superintendent of the agricultural college poultry farm, and his reply is as follows:

"This ruptured condition is usually caused by improper incubation but is frequently the result of weak parent stock or of inbreeding. If the result of weak parent stock, the remedy is to give more attention to the vigor of the breeding stock. If it is caused by faulty incubation it is in all probability the result of chilled eggs. This retards the development and causes the ruptured condition.

"Old fowls dying as this rooster did may be the result of an internal parasite or possibly lice. If badly infested with lice, an immediate cure can be effected by an application of blue ointment. This can be purchased at the drug store, and should be mixed with an equal amount of vaseline. To use it, apply a portion of the ointment about the size of a pea just below the vent, rubbing it well into the feathers.

"If the difficulty is worms in the digestive tract, the use of one-half pound of Epsom salts to each twenty-five or thirty fowls is oftentimes successful as a remedy. This will not only rid the fowls of the parasites, but will promote the action of the liver."

Many fine chicks are materially injured by crowding. They are growing rapidly and are greedy, caring more to get all they can, regardless of the wants of the others. They crowd and tread on and pick each other until we find our once promising flock looking decidedly ragged. Separate them according to size, and give the weaker ones a chance; we may find our best fowls among them. The coops should be enlarged as they grow older. The cockerels should be separated from the pullets when they are three months old. But if you don't wish to keep them for breeders, it would be better to sell them.

Not enough importance is placed on the value of good air-slaked lime for use in the poultry house and on the runs. Properly used, the lime is of great sanitary value. It will counteract disagreeable odors. A free use of air-slaked lime on chicken runs where gapes prevail is exceedingly beneficial. Its use no doubt also destroys other germs and bacilli. The wise poultryman will always have a good supply of lime on hand and use it both inside and out of his poultry houses.

No one who has not tried it can imagine how much better a well-fattened fowl is than one that is just picked up in the yard in the ordinary condition. Shut those that are to be killed and eaten in a pen or coop and feed a mash food or cornmeal and tallow for ten days and the result will be a deliciously tender and juicy flesh with a flavor that comes of cleanliness.

The hen that lays this winter will literally lay the golden egg. Unless all signs fail, egg prices will soar during the fall and winter months. It will pay to hold onto all the strong vigorous pullets. It never pays to feed culls. They should be marketed as early as possible.

Real Estate For Sale

Will Trade Iowa Farm for Cattle

We will exchange a good Iowa farm for a top quality herd of Hereford cattle. Write, giving full particulars, to
AMOS BURHANS, Waterloo, Iowa

360 ACRES CREEK BOTTOM FARM
160 acres fine alfalfa, wheat or corn land; 20 acres meadow; 180 acres pasture; $5,000 worth of improvements. Splendid oil and gas prospect. Bargains. Act quick, only $45 per acre.
M. T. SPONG - - FREDONIA, KAN.

NOW IS THE TIME TO BUY FARMS.
War insures high prices for farm products for years. Crops here almost perfect. Improved farms, $20 to $40 per acre. Write.
SOUTHERN REALTY CO., McAlester, Okla.

STOP, LOOK and LISTEN!

Deal direct with the owner. Half section improved and half section unimproved, Eastern Elbert Co., Colorado, well located at a bargain. Guarantee full and accurate details in first letter.
F. E. JANKE - STRATTON, COLO.

JERSEY CATTLE.

B. C. SETTLES



Jersey Cattle
Pedigrees Public Sale
Catalogs Management
Palmyra - Missouri

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

JERSEY CATTLE
One four-year-old cow, milked 35 pounds 5 per cent milk with second calf. Will freshen in December to service of our great son of Sans Alol. Also four splendid Finance Interest bulls from four to six months old. Write for pedigrees and descriptions.
BISONTE FARM - LAWRENCE, KANSAS

Jersey Calf Bull dropped January 4, 1917, out of a rich-milking good-type dam. A bargain. W. T. Ballagh, Nevada, Missouri.

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

SHORTHORN CATTLE.

15 Shorthorn Bulls

Reds and roans. Pure Scotch and Scotch-topped yearling bulls, 10 to 18 months old, at farmer prices. Farm at Pearl. Ship over Rock Island, Santa Fe, Union Pacific and Missouri Pacific. Come and see me.
C. W. TAYLOR, Abilene, Kan.
Dickinson County.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

CHESTER WHITE HOGS



FOR SALE
Spring Pigs in Pairs and Trios Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

O. I. C. SPRING PIGS, BOTH SEXES.
Bred gilts.
HARRY W. HAYNES, GRANTVILLE, KAN.

Registered Chester White and Duroc Jersey Hogs—Half-ton kind.
L. M. FISH - Bolivar, Missouri

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

EDGEWOOD FARM
REGISTERED ANGUS BULLS. HAVE FIFTEEN STRONG YEARLING BULLS FOR SALE.
D. J. White, Clements, Kansas

POLAND CHINAS

POLAND CHINAS.



Faulkner's Famous Spotted Polands
The world's greatest pork hog are raised exclusively on
HIGHVIEW BREEDING FARMS
The largest registered herd of old, original, big-boned, spotted Polands on EARTH.
Spring Boars Now Ready to Ship, Pairs and Trios No Kin.
Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.
H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

OLD ORIGINAL SPOTTED POLANDS
Choice March and April pigs of both sexes.
H. A. MATTOX, Route 2, Burlington, Kan.

Langford's Spotted Polands. Gilts bred for fall farrow. Future herd boars. Satisfaction guaranteed. T. T. LANGFORD & SONS, Jamesport, Missouri

BIG-TYPE POLANDS AND DUROCS SHORTHORN CATTLE
Booking orders for weaning time. Pigs, $25 each, trios $50. Will make 700 to 1,000-pound hogs. Two hundred to select from. Top breeding. Eight choice Shorthorn bull calves. Priced reasonable. Write me your needs.
O. W. LONG, Route 3, Maitland, Missouri.

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

TOWNVIEW HERD BOARS
Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

POLAND CHINA BOARS
Twenty-five choice spring boar pigs sired by Caldwell's Big Bob, Big Hadley Jr., King Price Wonder, Columbus Defender, Big Bob Wonder and Fessey's Tim. Some fine prospects and priced reasonable. Immune.
BERT E. HODSON, ASHLAND, KANSAS.

OLD ORIGINAL SPOTTED POLANDS
Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

Henry's Big-Type Polands
Spring pigs, either sex. June delivery. Sired by Mammoth Orange, King Price Wonder, Big Wonder. Choice of lot, $35. Trio, $100. Others, $25. First check, first choice.
JOHN D. HENRY, LECOMPTON, KANSAS

DUROC JERSEYS.

JONES SELLS ON APPROVAL
February, March and April Durocs, pairs and trios and herds unrelated. First class pigs at reasonable prices.
W. W. JONES, CLAY CENTER, KANSAS

LONE TREE DUROC FARM
Herd Boar Graduate Prince by Graduate Col. Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.
GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNE DUROC-JERSEYS
Forty-five head spring boars and gilts, March and April farrow, by Gano Pride 2d by Gano Pride, out of a Graduate Col. sow. Herd sows best of breeding. Write for prices. T. F. DANNER, Winfield, Kansas.

McBRIDE'S DUROCS
Bred gilts for September farrow and boar pigs for sale from four to six months old.
W. T. McBRIDE - PARKER, KANSAS

IMMUNED DUROCS
With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

GALLOWAY CATTLE.

GALLOWAY BULLS
SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
B. B. FRIZELL, Frizell, Pawnee Co., Kansas

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

BERKSHIRE HOGS.

KING'S BERKSHIRES — Twenty good Berkshire fall boars. One good yearling boar. E. D. KING, Burlington, Kansas.

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

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CLAIM SALE DATES.

Holsteins.

Oct. 16 — The Nebraska Holstein Breeders' Consignment Sales Co., Omaha, Neb.; Dwight Williams, 103 Bee Bldg., Omaha.

Poland Chinas.

Aug. 15—H. L. Faulkner, Jamesport, Mo.
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Oct. 17—Walter B. Brown, Perry, Kansas.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.

Red Polled Cattle.

Sept. 4—Milton Pennock, Delphos, Kansas.

Durocs.

Oct. 24—Fred G. Laptad, Lawrence, Kansas.

Hampshire Hogs.

Oct. 12—Kansas Hampshire Swine Breeders' Association and Halcyon Hampshire Pig Club sale at Valley Falls, Kansas. George W. Ela, secretary and manager.

O. I. C. Hogs.

Sept. 4—Milton Pennock, Delphos, Kansas.

W. C. Kenyon & Sons, of Elgin, Illinois, owners of one of the outstanding herds of pure-bred and high-grade Holstein cattle in that state, report their herd making a fine record again this year. By using only sires backed by records this firm has succeeded in building up a herd bred in the best producing lines of the Holstein breed and at this time their herd is among the heavy producers.

Dr. J. H. Lomax, of St. Joseph, Missouri, held one of the successful Jersey sales of the season at his farm near Leona, Kansas, on June 26. The sale was not advertised as extensively at is should have been and, being held at a very busy time for farmers and breeders, there was only a small crowd of Jersey buyers present. Fifty-five head sold for $6,970, an average of $127. No. 5 in the catalog topped the sale at $325, going to Mrs. Mary Colver, of King City, Missouri. Twelve cows sold for an average of $230; twelve heifers sold for an average of $81; thirty-two cows averaged $180 and the forty-four head of females sold for an average of $150. The offering was a good useful lot and brought good prices.

W. W. Jones, of Clay Center, Kansas, is succeeding with his Duroc herd. He now has at the head of his herd a splendid son of Illustrator 2d, a yearling hog, Illustrator Improver, out of a Golden Model dam. The sow herd is of the large roomy sows from the Old O'Rron, Cherry Chief, Cherry King, Illustrator and Golden Model blood lines. Mr. Jones has raised this spring about 125 spring pigs and they are coming along fine. There are litters from ten of the leading Duroc boars of the breed and of the most popular blood lines.

B. C. Settles, of Palmyra, Missouri, the well known Jersey sales manager, reports a rapidly growing interest in the Jersey breed as a profitable dairy cattle. For years Mr. Settles has been managing Jersey sales and is in very close touch with the Jersey business. He is a recognized authority on Jersey pedigrees and reports prospects very bright for the Jersey breed throughout the wide field he covers.

Fred G. Laptad, the well known breeder of Poland Chinas and Durocs, has claimed October 24 as the date of his annual fall sale of Polands and Durocs. Mr. Laptad owns outstanding herds of both breeds and his annual sales are always big sale events.

The Holstein-Friesian heifer Von Helm Winnifred Colantha 329334 has broken the record for fat production in the junior two-year class of the thirty-day division, by producing in thirty consecutive days 1,925.3 pounds milk containing 94.245 pounds fat. She freshened at the age of two years, one month, four days. Her sire is Dutchland Governor Sir Colantha 90477; her dam is Winnifred Piebe De Kol 2d 183405. She was bred by Carnation Stock Farm, Seattle, Washington; and she is now owned by Mr. J. von Herberg of Kent, Washington. In the junior two-year class of the thirty-day division she displaces Fairview Korndyke Pietertje 252940, whose record for thirty days is 2,064.8 pounds milk containing 93,829 pounds fat. Computed on the 80 per cent basis, the equivalent butter claimed for Von Helm Winnifred Colantha would amount to 117.806 pounds.

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

PREMIER KANSAS HERD OF HOLSTEINS



Clapp Pontiac Korndyke No. 116118—Born April 27, 1913

World's Record Blood
Many A. R. O. Cows

We offer for sale this week this bull from an ADVANCED REGISTRY dam of good ancestry and sired by Maplecrest Pontiac Korndyke. He is a splendid individual priced at $300.00, but worth more money. Address

W. W. FINNEY
Emporia - - - - Kansas

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank
HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS
BREEDERS OF PURE-BRED HOLSTEINS
We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.
IT WILL PAY YOU TO SEE OUR OFFERING
of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.
GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM
Has just received another choice lot of young pure-bred cows and springing heifers. Also some extra good registered yearling heifers and a fine lot of registered calves of both sexes. Write for pedigrees and prices, or call.
T. R. MAURER & CO - - - - EMPORIA, KANSAS

FIFTEEN HEAD HOLSTEIN COWS AND HEIFERS
Three in milk, one due in a few days, balance yearling heifers. All popular breeding and some A. R. O. cows. Three high grades due this fall, bred to pure-bred bull.
B. P. SMITH, Miltonvale, Kansas

PECK'S HOLSTEINS We have a choice lot of extra large high-grade Holsteins, including fresh cows, heavy springing cows and heifers, and young calves. Registered bulls. Come and see our herd. We meet you at train and guarantee satisfaction.



M. E. PECK & SON, SALINA, KANSAS



HOLSTEINS AND GUERNSEYS
High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.
F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

HOLSTEIN CALVES
We offer for sale choice, beautifully-marked heifer or male calves, 15-16ths pure-bred, and all from extra large heavy-milking dams, as follows, crated f.o.b. cars: One to two weeks old, $15 each; two to three weeks old, $17 each; five to six weeks old, $20 each. First check takes them. Write
W. C. KENYON & SONS, ELGIN, ILLINOIS

CEDAR LAWN FARMS
C. A. Schroeder & Sons, Props.
Forty years of registered Holstein breeding, not dealing. Birthplace of 40-pound cow, Johanna DeKol Van Beers. State wants and get delivered prices on young bulls.
W. C. SCHROEDER - WEST BEND, WIS.

HOLSTEIN CALVES
Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

Breeders' Directory

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

HORSES AND MULES.



PERCHERONS, BELGIANS, SHIRES.
Ton stallions ready for heavy stand; also yearlings and twos. Young fillies, also mares with colt by side and bred again. All registered. One hundred individuals of first rank for sale
FRED CHANDLER, R. 7, Cherlton, Iowa
Just above Kansas City

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.



Purebred Registered
HOLSTEIN CATTLE

To the open minded farmer or dairyman, the results of actual comparative tests of Holsteins with other breeds are striking object lessons of economic investment. The ten largest records of Holstein cows average 1,007 pounds of butterfat and 25,897 pounds of milk in a year. A like number of cows of the nearest competitive breed produced 974 pounds of butterfat, and 18,120 pounds of milk. One good Holstein cow will produce as much as two ordinary cows at a saving in feed and care. There's big money in the big "Black and White" Holsteins.

Send for FREE Illustrated Descriptive Booklets.
The Holstein-Friesian Association of America
F. L. Houghton, Sec'y. Box 114, Brattleboro, Vt.

MOTT'S HOLSTEINS
Seventy-five head of high-grade and registered coming 2-year-old Holstein-Friesian heifers for sale, bred to a registered bull. Six choice pure-bred Holstein bulls old enough for service. Come to Herington or send us mail order. We guarantee to please you.
W. H. MOTT - - HERINGTON, KANSAS

Butter Bred Holsteins
Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

Braeburn Holsteins Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.
H. B. COWLES, 608 Kan. Av., Topeka, Kan.

Holstein and Guernsey Calves—Both sexes, 5 weeks old, nicely marked, fawn and white, black and white, mostly 15-16ths. $25 each, crated for shipment. Satisfaction guaranteed.
Edgewood Farms - Whitewater, Wisconsin

HIGH GRADE HOLSTEIN CALVES
Five to six weeks old, nearly pure, well marked, $20, express paid.
COLD SPRINGS FARM, Whitewater, Wis.

HOLSTEINS
Registered and high grades, cows and heifers. The milky strain, service bulls, carloads or less. High grade heifer calves, $18 each, crated. Write me. I have what you want.
RAY C. JUDD - ST. CHARLES, ILL.

GREENSWARD HOLSTEINS.
Choice bull calves, heifers, cows. Registered and best breeding. Herd tuberculin tested. We are breeders, not dealers.
MAX J. KENNEDY, FREDONIA, KANSAS



PLOW MORE ACRES AND DEEPER

WITH THE

Nilson

ON America has fallen the responsibility of feeding the world.

The President has issued a proclamation asking that every farmer plow more acres and deeper.

The economical, efficient way to plow more acres and deeper is with a good tractor.

The farmer of today needs a light weight tractor. A tractor with plenty of power. A tractor that wont pack or sink into the ground. A tractor with high road speed for hauling.

The Nilson is such a tractor—the Nilson solves the problem of the light weight tractor by its patented lever hitch which means grip by the drive wheels just as it is needed.

Automatic Traction By Pull Instead of By Weight

If you were to tie a rope to a stump and to the other end your team of horses, put the rope over your shoulder and give the word to your team to pull, you would find yourself with plenty of traction on the ground--wouldn't you? The harder the team would pull that rope—the harder your feet would grip the ground.



This is the principle of the Nilson and its patented lever hitch—the harder the pull, the harder the wheels grip the ground.



It is because the Nilson carries no dead weight that it is able to do more work at a less cost for fuel and upkeep than any other tractor on the market.

The Nilson Senior at $1750 has 36 H. P. at the belt, 25 H. P. at the draw bar and pulls a 4-14 inch bottom plow with ease. The Nilson Junior at $1385 with 25 H. P. at the belt develops over 16 H. P. at the draw bar and easily pulls a 3-14 inch bottom plow.

Waukesha Motor and Hyatt Bearings

Both models have the famous Waukesha Motor, made especially for tractors. The oiling system is a constant, level, automatic supply, fed under pressure by a positive circulating pump through the filtering screens.

In both the Nilson Senior and Junior, heavy duty Hyatt Roller Bearings are used throughout.

High Speed on the Road

The Nilson develops a high speed on the road. It will transport your harvest and supplies to and from market in less time and at less expense than you can possibly do with horses. The Nilson road speed is six miles an hour—a good buggy speed.

Has Stood The Test For Four Years

The Nilson is not an experiment. It is a tried and tested tractor. We have hundreds of letters from satisfied owners who would not think of being without the Nilson.

The Nilson is built on the right principles, with the right power at the right price. It may be adapted for the use of either kerosene or gasoline.

While our capacity is large our output is taxed to supply the demand. If you want a tractor this year, write us at once for catalogue and the name of your nearest dealer. Remember, on the American farmer rests the responsibility of feeding the world. A good tractor will solve many of your problems.

NILSON TRACTOR COMPANY

1651 HENNEPIN AVENUE MINNEAPOLIS. MINN.

GENTLEMEN.—Please send me your catalogue and complete specifications on the NILSON Tractor. This puts me under no obligations. My farm is..... acres. I work.....horses.

Name ..... P. O. Address .....

County ..... State .....

630.5
KA F

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 28. TOPEKA, KANSAS, JULY 14, 1917. Established 1863. $1 a Year

TRACTOR AND FOOD PROBLEM

Power Outfits Should do Double Duty in Early Preparation of Wheat Land

By RAYMOND OLNEY, in Power Farming

WHETHER or not the so-called food shortage in this country, which is demanding so much attention at present, is more apparent than real, and whether or not the extremely high prices are largely the result of speculation, monopoly, poor distribution, or what not, the fact remains that the world needs more food. There is no question but that this country would have no difficulty in feeding itself, but on account of the demoralization of European agriculture, the American farmer is called upon the feed many millions more than ordinarily. This condition of affairs will, in all probability, continue for some time to come, even though the war were to end soon.

In the meantime, what are we going to do about it? This nation and its allies have put it up to the farmers of this country. There are no doubts, however, as to their ability and willingness to make good.

But the same old problem of getting labor is confronting the farmer in all its seriousness; in fact, that seems to be the most discouraging thing with which he has to contend. For the men who own tractors, or who are fortunate enough to be able to get them, the labor question is, to a large extent, solved. The farmers of this country have, by no means, been slow to appreciate the labor-saving and profit-making possibilities of farming with mechanical power, and in spite of the obstacles at present in the path to increased production, the man on the farm is proving himself master of the situation by hitching the tractor to his production problems.

KANSAS MOBILIZES TRACTORS

The manufacturing situation, however, is unfortunate — for both farmer and builder. The farmer needs tractors this year worse than ever before, while at the same time the manufacturer is being held up because of the shortage of materials and skilled labor to build machines. In all probability government action will be taken soon to relieve this condition, making it possible for tractor and other farm operating equipment manufacturers to secure materials in sufficient quantities.

In the meantime, the tractors already in use should be made to do double duty. Down in Kansas the State Agricultural College some time ago started a movement among tractor owners urging them to operate their machines day and night in order to put in the largest possible acreage of crops. In the province of Ontario, Canada, the government proposes to buy a tractor for each county to help the farmers with their work. On every hand, not only are farmers being encouraged to buy and use tractors, but they are being urged to get a maximum of work out of them. This means that tractor owners should keep their machines busy night and day, and when they have finished work on their own farm, to help out their neighbors who may not be fortunate enough to own tractors.

Just recently Carl Vrooman, Assistant Secretary of Agriculture, issued a special appeal to tractor owners, in which he said, "Every farmer who owns a tractor owes it to his country this year to do all the custom or exchange work he can do without neglecting his own work. Every hour that his tractor would otherwise be idle, it ought to be at work helping a neighbor who is behindhand with his plowing or harrowing. Make your outfit work from dawn to dark; make it work all night if you have enough operators to fill the shifts. The acreage to be harvested this fall hangs on the plow. Don't let an acre that might otherwise be planted go untilled because your tractor is in the shed. Help your neighbors, and thus do your part in strengthening the allied lines on the battle fronts of Europe."

This is not a time for the every-man-for-himself policy. The greatest patriotic duty a farmer can perform is to raise the greatest possible volume of produce. If he owns a tractor, in most cases there are days when he can use it to help out a neighbor, without seriously interfering with his own work. This he should do wherever possible, as it is his patriotic duty.

Aside from plowing and fitting the seed bed, unquestionably the most important use for the tractor is harvesting grain. This is an operation that requires rapid work to get the grain cut at just the right stage of maturity. By means of a suitable binder hitch—a hitch for each binder—one tractor will handle conveniently as many binders as it has power capacity to haul. A tractor in the neighborhood offers a solution to the grain harvesting problem, since several neighbors can hitch their binders behind one tractor and make quick work of the cutting and binding operations.

A few years ago I was employed as tractor operator one season on a tractor experimental farm, where we harvested between 200 and 300 acres of grain. For hauling binders we found the tractor far superior to horse power, since the only stops necessary were for oiling, making minor adjustments, etc. The tractor traveled at a speed of two and one-half miles per hour, so that when hauling several binders, a very large acreage could be cut and bound in a day.

OPERATE NIGHT SHIFTS

It was necessary to rush this work as much as possible. Accordingly the crew and outfit were in the field each morning as soon as the dew was off. The only stops, provided nothing went wrong with the equipment, were for oiling and filling twine boxes occasionally, and for dinner. Late in the afternoon the fuel and water tanks were replenished, lubricators and grease cups filled, and the entire outfit inspected for necessary minor repairs and adjustments. Then another crew took the outfit and worked until the dew made further operation impossible. Some nights it was possible to work as late as eleven o'clock.

This method of harvesting offers a partial solution, at least, of the labor problem in the harvest field. The cutting and binding can be done in a comparatively short time; then all hands can turn to and help with the shocking. Where several farmers co-operate in this way, extra labor will seldom be needed, except possibly in the grain-growing sections where the acreages are unusually large.

After harvesting, this same tractor, if not needed for driving a company-owned separator, can be used to haul a train of neighbors' wagons loaded with grain to the elevator. A tractor with a road speed of three to four miles an hour will transport a large amount of grain in a short time and require much less labor than if teams were used.

It is not very many weeks before plowing for winter wheat will begin, or should begin, in earnest. (And here it should be said that where winter wheat can be grown, a large acreage should be put in this fall.) The earlier it is possible to start fall plowing for wheat, the better. The ground should be well prepared early, and all of the available moisture conserved.

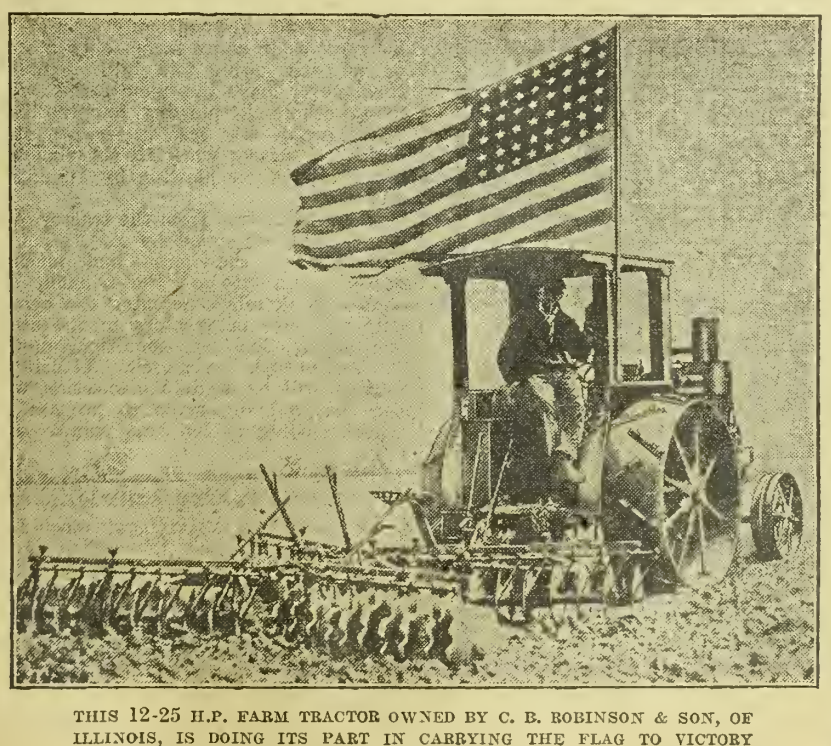
It goes without saying that midsummer is the worst time of the year for horses to plow. The heat, flies, and hard dry ground, as it often is then, are horse killers. The tractor, however, minds none of these things. So it is the duty of every power farmer to get his plowing and fitting done early, so that he can help his neighbors, or perhaps better still, rent more land to put in a larger acreage for himself.

There is no question whatever but that it is entirely possible by the more extensive and efficient use of tractors to produce any amount of grain required for the world food supply. The land is available in almost unlimited quantities, and to operate the tractor efficiently the owner should give a good deal of attention to familiarizing himself with his machine. The tens of thousands of tractors that are already in use are not operated at maximum capacity. There is already a movement being started to furnish owners of tractors with experienced operators or to assist the owners themselves in getting the necessary knowledge to operate his machine to its highest efficiency and capacity. This, no doubt, will come through the Government in co-operation with state agricultural colleges and commercial schools and the tractor manufacturers.

At this time it is the duty of every tractor owner to put forth his very best efforts to keep his tractor and the equipment which he uses with it in the very best working order at all times; he should exercise the most extreme care to see that each day, before it goes to the field, it is given a thorough inspection and nothing requiring attention is neglected. He should also, by careful study and planning, keep it busy at some useful and profitable work a maximum number of days throughout the season.

If every farmer will put the resources and equipment at his command to the best possible use and make them available for the good of the cause, there will be no food shortage, the world will have plenty to eat, and democracy, because of the farmer, will win the greatest victory in history.

I doubt if there is a power farmer in America who will not willingly and at any sacrifice put forth his best effort this year to "do his bit" with his tractor.



THIS 12-25 H.P. FARM TRACTOR OWNED BY C. B. ROBINSON & SON, OF ILLINOIS, IS DOING ITS PART IN CARRYING THE FLAG TO VICTORY



And this was called oil!

A chemist's report on a sample taken from a crank-case

An operator of motor trucks in Rochester, N.Y., who was getting irritating results from his lubrication, furnished us with a sample of the used oil from the crank-case.

It proved to be 72% gasoline.

How did the gasoline get there?

As you know, there is a clearance between piston rings and pistons. The oil used on this car, being of wrong body and character, had failed to seal this clearance. Gasoline had been forced down past the piston rings with each compression stroke. The gasoline had then been churned into the oil until there was actually more gasoline than oil in the crank-case.

72% gasoline in crank-case oil is of course unusual.

But the incident brings out pointedly a very common condition.

Oil that furnishes a poor piston-ring seal always allows the escape of gasoline into the crank-case.

And it takes very little gasoline in the crank-case to seriously impair the oil's lubricating efficiency.

Motorists repeatedly report that Gargoyle Mobiloils, used as specified in our Chart, cut their usual gasoline consumption from 10% to 20%. Why?

Because when the proper grade of Gargoyle Mobiloil is used, the combustion chambers are sealed gas-tight and power-tight. Oil of correct body keeps the gas in the combustion chambers where it belongs. It keeps the gas out of the crank-case where it *does not* belong.

Write for new 56-page booklet containing complete discussion of your lubrication problems, list of troubles with remedies and complete Charts of Recommendations for Automobiles, Motorcycles, Tractors and Marine Engines.

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. If the dealer has not the grade specified for your car, kindly write our nearest branch, giving dealer's name and address.

GARGOYLE

Mobiloils

A grade for each type of motor

CORRECT AUTOMOBILE LUBRICATION

Explanation: —The four grades of Gargoyle Mobiloils, for engine lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A" **Gargoyle Mobiloil "E"**
Gargoyle Mobiloil "B" **Gargoyle Mobiloil "Arctic"**

In the Chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A," "Arc" means Gargoyle Mobiloil "Arctic," etc. The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

Model of CARS	1917 Summer	1917 Winter	1916 Summer	1916 Winter	1915 Summer	1915 Winter	1914 Summer	1914 Winter	1913 Summer	1913 Winter
Abbott-Detroit	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
" " (8 cyl)			A	A	A					
Allen	A	Arc.	A	Arc.	A	Arc.	A	A	A	A
" (Mod. 33-34-35)										
Apperson	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	A	A	A						
Auburn (4 cyl)			A	Arc.	A	Arc.	A	A	A	A
" (6 cyl)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.		
Avery			A	A	A	A	A	A	A	A
" (Mod. 5 & C 1 ton)			Arc.	Arc.	Arc.	Arc.	Arc.	Arc.		
Briscoe	A	Arc.	A	Arc.	A	Arc.	A	Arc.		
" (8 cyl)			A							
Buick	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	Arc.
Cadillac							Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	A	A	A	Arc.	Arc.				
Case	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Chalmers			Arc.	Arc.	Arc.	Arc.	A	A	Arc.	Arc.
" (Mod. 6-40)			Arc.							
" (Mod. 6-30)	A	A	A							
Chandler Six	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.		
Chevrolet	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	A
Cole			Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	A	A	A	A					
Dart	A	Arc.	A	Arc.	Arc.	Arc.	A	A	A	Arc.
" (Mod. C)	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.
Detroiter	Arc.	Arc.	Arc.	Arc.	A	A	A	A	Arc.	
" (8 cyl)					Arc.	Arc.				
Dodge	A	Arc.	A	Arc.	E	E				
Dort	A	Arc.	A	Arc.	A	Arc.				
Empire (4 cyl)	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (6 cyl)	Arc.	Arc.	Arc.	Arc.						
Federal	Arc.	Arc.	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Ford	E	E	E	E	E	E	E	E	E	E
Franklin	A	A	A	A	A	A	A	A	A	Arc.
Grant	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.		
Haynes	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (12 cyl)	A	A	A	A						
Hudson			Arc.	A	Arc.	Arc.	Arc.	Arc.	A	Arc.
" (Super Six)	A	Arc.	A	A						
Hupmobile	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
1 H.C. (air)					B	A	B	A	B	A
1 H.C. (water) (2 cycle)			A	A	A	A	A	A	A	A
1 H.C. (water (4 cycle)			A	Arc.						
Interstate	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Jeffery	A	Arc.	A	Arc.	A	Arc.	A	A		
" (6 cyl)	A	A								
" Com'l	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.
King					A	Arc.	A	A	A	E
" (8 cyl)	A	A	A	Arc.	Arc.					
" Com'l	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.		

Model of CARS	1917 Summer	1917 Winter	1916 Summer	1916 Winter	1915 Summer	1915 Winter	1914 Summer	1914 Winter	1913 Summer	1913 Winter
Kissel Kar	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" " Com'l	A	Arc.	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.
" (Mod 48)			A	A	A	A	A	A		
Lexington	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.				
Locomobile	E	E	E	E	E	E	E	E	Arc.	Arc.
Marmon	A	A	A	A	A	Arc.	A	Arc.	A	Arc.
Maxwell	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Mitchell	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Mitchell (8 cyl)			A	A						
Moline									A	Arc.
" Knight	A	A	A	A	A	A	A	A		
Monroe	A	A	E	A	Arc.					
Moon (4 cyl)					Arc.	Arc.	A	Arc.	Arc.	Arc.
" (6 cyl)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.		
National	Arc.	Arc.	A	Arc.	A	Arc.	A	A	A	A
" (12 cyl)	A	A	A							
Oakland	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
" (8 cyl)			A	A						
Oldsmobile			Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	A	A	A						
Overland	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Packard					A	Arc.	A	Arc.	Arc.	Arc.
" (12 cyl)	A	A	A	A						
" Com'l	A	A	A	A	A	A	Arc.	Arc.	Arc.	Arc.
Paige					A	Arc.	A	A	A	E
" (6-46)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.		
" (6-36 & 38)	A	Arc.	A	Arc.	A	Arc.				
Pathfinder	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
" (12 cyl)	A	A	A	A						
Peerless	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl)	A	A	A	A						
Pierce Arrow	A	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" Com'l	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Premier	A	A	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Regal	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (6 cyl)	A	A	A	A	Arc.	Arc.				
Reo	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Saxon	E	E	E	E	E	E	E	E		
Stearns-Knight	A	A	B	A	B	A	B	A	A	A
" (8 cyl)	A	A	B	A						
Stephens	Arc.	Arc.	Arc.	Arc.						
Studebaker	A	Arc.	A	Arc.	Arc.	Arc.	A	Arc.	A	Arc.
Stutz	A	A	A	A	A	A	A	A	Arc.	Arc.
Velie (4 cyl)					A	Arc.	A	Arc.	A	Arc.
" (6 cyl)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.		
Westcott	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
White	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Willys Knight	A	A	B	A	B	A	A	A		
Willys Sax	Arc.	Arc.								
Winton	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.

YOUR TRACTOR

also may be lubricated efficiently with Gargoyle Mobiloils. On request we will mail you a separate Chart specifying the correct grade for each make and model of tractor.

VACUUM OIL COMPANY, Rochester, N. Y., U. S. A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world.

Domestic Branches: Detroit, Boston, New York, Chicago, Philadelphia, Kansas City, Kan., Minneapolis, Des Moines, Pittsburgh, Indianapolis

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

IN 1916 there were 1,067,332 more motor cars registered in the United States than in 1915. This was an increase of 43 per cent. The gross total of registered cars, including commercial cars, was 3,512,996; the number of motorcycles registered was 250,820. The several states collected in registration and license fees, including those of chauffeurs and operators, a total gross revenue of $25,865,369.75. Of this amount 92 per cent, or $23,910,811, was applied directly to construction, improvement, or maintenance of the public roads in forty-three states, according to figures compiled by the Office of Public Roads of the United States Department of Agriculture, in Circular 73, "Automobile Registrations, Licenses and Revenues in the United States, 1916."

The figures for 1916 correspond very closely with the annual percentage of motor car registration of the last three years. This yearly increase has averaged 40 per cent in the number of cars and 50 per cent in revenues.

When viewed over a period of years, the increase in motor car registration and gross revenue has been remarkable. In 1906 the total state registrations were approximately 48,000 cars, on account of which the several states collected in fees and licenses a total gross revenue of about $190,000. Only a small part of this was applied to road work. In 1916 the $25,865,369.75 collected formed nearly 9 per cent of the total rural road and bridge revenues of the states.

Recent years have shown an increasing tendency to put the spending of the motor car revenues directly in the hands of the state highway departments. Of the total amount applied to road work in 1916, 70 per cent, or $16,411,520, was expended more or less directly under the control or supervision of state highway departments. Only thirteen states did not exercise any direct control over the expending of net automobile revenues.

Kansas Mobilizes Tractors

A campaign is on to produce two hundred million bushels of wheat next year in Kansas. The time to prepare the ground is as soon after the harvest season as possible. In Central Kansas where there will be little harvest, the rush work of the corn harvest will be over by the middle of July.

The Kansas Council of Defense is working on plans to mobilize the tractors of the state so as to use them to the limit in the preparation for wheat seeding. J. C. Mohler, secretary of the council, has sent to more than 2,000 tractor owners in the state a set of blanks asking all about the machines they own.

The council wants to know how many tractors there are in the state, the exact location, the capacity of each and the amount of work each machine has to do around home. A good many tractors are busy on their home farms only a week or so each spring and fall. Some of them never leave the home farms, while many others do plowing for neighbors. There are a few tractors in the state which do custom work all the time and are available for plowing by anyone at any time.

The information from the tractor owners is being compiled by A. A. Potter, secretary of the horse and machine power committee of the council, and shows all details concerning the ownership and size of tractors in the state, the make, model, age, condition, number of days used last year, etc. This information will be used in connection with the efforts being made to prepare for wheat seeding in the best manner possible.

Watch Tractor Lubrication

Practical and experienced machinists point out that proper lubrication of the farm tractor will save many a costly and annoying repair bill—to say nothing of the delay. Here are just a few timely notes on tractor lubrication that will be helpful to those who are new to the job of handling such machinery:

Make a thorough study of the lubrication system used on your tractor. If possible, remove the plate or plates accessible to the crank case and trace the flow of oil.

In all tractors where the splash or pump systems are used, either alone or in combination, there is an indicator which should be watched closely. Keep the oil to the proper gauge height.

If possible, operate the pump by hand to make sure the system is working right.

Before starting on a day's run, examine the oil system. See that all grease cups are filled and tightened.

Operate the engine for a few minutes. Then stop and examine all bearings, if possible, to make sure they are being well lubricated.

Change the oil in the crank case as often as recommended by the manufacturer. When burning kerosene as fuel, the lubricating oil will thin out, and in time lose its value. If a heavy grade of gas engine oil is advocated, use no other.

Too much attention cannot be given to tractor lubrication. Spend a little time each day in this work and the life of the machine will be very materially increased.

Many Entries for Tractor Meet

The management of the National Tractor Farming Demonstration to be held at Fremont, Nebraska, August 6 to 10, reports that this year's meet promises to be the biggest working display of power farming machinery ever seen. Already eighty-six manufacturers have entered, and many more have signified their hope to be present, if conditions permit.

A. F. Hildebrand, the manager, is looking forward to an attendance of 350,000, and states that if the weather conditions should be exceptionally favorable he would not be surprised if the number exceeded half a million.

Following is a list of the exhibitors who have entered up to this time:

TRACTORS AND TRACTOR PLOWS

Allis Chalmers Co., Milwaukee, Wis.
Advance Rumley Co., LaPorte, Ind.
Albaugh Dover Mfg. Co., Chicago.
Albert Lee Tractor Co., Albert Lee, Minn.
Aultman-Taylor Co., Mansfield, Ohio.
Avery Co., Peoria, Ill.
Avery & Sons, B. F., Louisville, Ky.
Big Four Drive Co., Big Rapids, Mich.
C. L. Best Co., San Leanardo, Cal.
Bull Tractor Co., Minneapolis, Minn.
Bullock Tractor Co., Chicago, Ill.
Case Plow Works, J. I., Racine, Wis.
Case T. M. Works, J. I., Racine, Wis.
Cleveland Motor Plow Co., Cleveland, O.
C. O. D. Tractor Co., Minneapolis, Minn.
Collins Plow Co., Quincy, Ill.
Dunham Co., Berea, Ohio.
Dauch Mfg. Co., Sandusky, Ohio.
Deere & Co., Moline, Ill.
Electric Wheel Co., Quincy, Ill.
Emerson-Brantingham Co., Rockford, Ill.
Gile Tractor & Engine Co., Ludington, Mich.
Grand DeTour Plow Co., Dixon, Ill.
Gray Tractor Co., Minneapolis, Minn.
Happy Farmer Co., LaCrosse, Wis.
Hart-Parr Co., Charles City, Iowa.
Hoke Tractor Co., South Bend, Ind.
Holt Mfg. Co., Peoria, Ill.
Huber Mfg. Co., Marion, Ohio.
Interstate Tractor Co., Waterloo, Iowa.
International Harvester Co., Chicago, Ill.
Janesville Machine Co., Janesville, Wis.
Joliet Oil Tractor Co., Joliet, Ill.
Kinnard Haines Co., Minneapolis, Minn.
Kardell Tractor Co., St. Louis, Mo.
Lauson Tractor Co., New Holstein, Wis.
Lyons Atlas Co., Indianapolis, Ind.
LaCrosse Plow Co., LaCrosse, Wis.
Minneapolis Steel & Machinery Co., Minneapolis, Minn.
Moline Plow Co., Moline, Ill.
Nilson Farm Tractor Co., Minneapolis, Minn.
Oliver Chilled Plow Co., South Bend, Ind.
Parlin & Orendorff Co., Canton, Ill.
Parrett Tractor Co., Chicago, Ill.
Peoria Tractor Co., Chicago, Ill.
Pioneer Tractor Co., Winona, Minn.
Rock Island Plow Co., Rock Island, Ill.
Roderick-Lean Mfg. Co., Mansfield, Ohio.
Russell & Co., Masillon, Ohio.
Sanders Co., Newell, Chattanooga, Tenn.
Simplex Tractor Co., Minneapolis, Minn.
Vulcan Plow Co., Evansville, Ind.
Velie Motor Plow Co., Moline, Ill.
Waite Tractor Co., Chicago, Ill.
Wallace Tractor Co., Racine, Wis.
Waterloo Gas Engine Co., Waterloo, Iowa.

ACCESSORIES EXHIBITORS

Balso Oil Co., Toledo, Ohio.
Buda Motor Co., Harvey, Ill.
Byrne-Kingston Co., Kokomo, Ind.
Champion Spark Plug Co., Toledo, Ohio.
Climax Engineering Co., Clinton, Iowa.
Doman Motor Co., Oshkosh, Wis.
Diamond Chain Co., Indianapolis, Ind.
Eiseman Magneto Co., New York.
Erd Motor Co., Saginaw, Mich.
Holly Bros. Co., Detroit, Mich.
Hyatt Roller Bearing Co., Chicago, Ill.
K. W. Ignition Co., Cleveland, Ohio.
Keystone Lubricating Co., Philadelphia.
Mally Auto Specialty Co., Detroit, Mich.
Pierce Governor Co., Anderson, Ind.
Standard Oil Co., Omaha, Neb.
Sumter Electric Co., Chicago, Ill.
Timken Roller Bearing Co., Canton, Ohio.
Vacuum Oil Co., Clinton, Iowa.
Waukesha Motor Co., Waukesha, Wis.

Spark Control

When on a hard pull and the motor starts emitting black smoke from the exhaust, the spark should be retarded until this is cleared up. When you get through the hard spot, advance the spark.

Carry the spark as far advanced as possible all the time, to get the best power, but it must be advanced and retarded in accordance with the load.

If you will take the time to care for your tractor that you would have to take in caring for one team of horses, you will get results.

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KANSAS FARMER

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EVERY FARM A FACTORY

In studying the economics of farming, the question of why the farmer should ship his products to market in the form of hay and grain is sure to come up. There is but one correct answer to this question. He should not do it if it is possible to market the crops in a more condensed form. Yet the average western farmer does not begin to market as much as is possible of what he produces in a finished form. The practice of selling corn, wheat, hay, and other farm crops from the land year after year is sure to result in a gradual but constant loss of soil fertility. It costs no more to till soil capable of producing forty bushels of wheat to the acre than to till soil which is so worn that it will produce but twenty. This is a fundamental principle of farming and one of the strongest arguments in favor of a well worked out system of live stock farming. The feeding of farm animals means that from eighty-five to ninety per cent of the fertilizing value of the crops fed can be returned to the land. It also makes it possible and desirable to grow such forage crops as alfalfa, clover, or cowpeas along with kafir, milo, and corn. These leguminous crops add more nitrogen to the soil than is sold from the land in the shape of meat or milk products, and the result is to build up the soil instead of to tear it down.

Every farm should be a factory. The dividends will depend largely upon the cost of marketing. Live stock furnishes a home market for the crops grown. Feeding live stock is a means of condensing a product to about one-eighth of its original weight. Seven pounds out of every eight are thus marketed on the farm, reducing the freight charges for transporting grain by 87½ per cent and likewise doing away with the usual haul to the local market or elevator. The keeping of live stock also makes possible the utilization of waste roughage, material that otherwise would have no market whatever. In a system of live stock farming it is also possible to have a more seasonable distribution of labor, and there are many other points in favor of this type of farming for the dry-land sections of our state.

CHILDREN AS PARTNERS

In talking over farm affairs in the presence of the children, it would be far better if the parents spoke of what WE ought to do or are doing instead of constantly using the pronoun I. Where this is the practice the children cannot help acquiring the feeling in the course of time that they have little part in carrying on the work of the farm outside of the labor they perform. Consulting with them regarding the various farm operations will arouse their interest. Their advice may not be worth very much at first, but it will encourage thinking and suggest the idea that all members of the family are interested in the methods of conducting the farm business.

Parents on the farm are continually racking their brains to find means of arousing the interest of their children in the various activities of farm life. There is probably no one thing so likely to bring about this result as taking them into a limited partnership in some feature of the farm activities. The boy may be given a special piece of ground to cultivate for himself or be intrusted with the ownership and care of some of the farm animals. The girl in like manner may be given a part in carrying on some of the things related to the work of the home or the farm.

It has been our observation that the parent who simply orders a child to do certain things without ever offering a suggestion of the whys and wherefores of the work, is doing little to arouse interest in the task. Boys and girls oftentimes have visionary ideas about things with which they would like to experiment in connection with farm life. Too often we are inclined to throw cold water on their little schemes. Better encourage them, even though you know their little experiments will not work. Even though it may cost something, the small loss will be well repaid by the education and training which it gives to the boy or girl.

CORN GROUND FOR WHEAT

An unusually large acreage of corn is planted throughout Central and Western Kansas. Much of this was listed into land where wheat had winterkilled. While corn is a somewhat uncertain crop through some of this territory, it was recognized by those planting it that the tending of corn was ideal preparation for a fall seed bed for wheat. This corn land will furnish the best possible place to seed wheat this fall. The preparation of the ground for corn and the cultivation given are releasing plant food much of which will not be used by the corn plant. This is sure to follow in case the rainfall is short. This accumulated store of plant food will be ready for the wheat crop.

Those who are now tending corn should keep in mind the fact that the cultivation given will not be lost even though the corn crop should be very poor. This ground will need very little additional preparation to make it ready for wheat. In the fall a good disking after the first good rain and such additional work as is needed to keep down the weeds until seeding time will be all that is necessary to prepare an ideal seed bed for wheat. A seed bed prepared in this way is very often better than one prepared by plowing early in the season. The subsoil does not contain any reserve of soil moisture, and for that reason it is important to continue the cultivation of the crop. This not only helps to hold moisture, but keeps the soil in better condition to take in moisture when rain comes.

Ten Million Acres to Wheat

"TEN million acres, two hundred million bushels, and two dollars a bushel," is the slogan of the Kansas Council of Defense. To make this slogan a reality is a tremendous task, but we are being asked these days to do extraordinary things. We are now at war with the greatest military power the world has ever known, and an abundant wheat supply is a vital need both of our nation and of our allies. We are not asked to do the impossible in the matter of wheat production. A big wheat year has almost invariably followed a poor wheat year. Only once in twenty years have we had two poor wheat years in succession.

Normally we would not consider planting such an acreage of wheat, but this year as an act of patriotism we are asked to go the limit and increase our acreage to ten million acres and to spare no effort in giving the ground early and careful preparation. We are abundantly able and willing to sow a normal acreage of wheat this year. It will require no special effort to do this, but the demand for increased acreage will fall heavily on the farmers of a few of our great wheat producing counties. Unaided they should not be expected to assume the added risk. To lighten this burden and distribute the risk it is important that the whole state share in this undertaking of increasing the wheat acreage so as to make possible the two hundred million bushel production which has been set as a mark by the Council of Defense.

In the furtherance of this distribution of the added risk, the Council of Defense is working out a plan whereby a two million dollar loan fund will be available to provide seed for the extra acreage over and above what would normally be planted. The needs of those who respond to this patriotic appeal will be met either by direct loans at the going rate of interest secured only by the crop, or seed will be purchased and furnished under a contract to return one-fifth of the crop to the Council committee handling the loan fund.

The handling of the loan fund will be placed on a strict business basis and there will be a minimum of overhead expense. The State Bank Commissioner will collect the money and turn it over to the State Treasurer as custodian. The State Auditor will audit all accounts. Local committees will supervise the handling of the money and seed wheat in the counties where increased areas will be sown as a result of putting this plan of sharing the risks into operation.

P. W. Goebel, president of the American Bankers' Association, heads the committee of the Council that will work out the details of the seed wheat campaign and put it into operation. L. H. Wulfekuhler, of Leavenworth, is vice-chairman. Other members of the committee are: Governor Capper; Walter Wilson, bank commissioner; Thomas B. Kennedy, president Kansas Bankers' Association; Thomas J. Sweeney, president Kansas State Bankers' Association; Henry Lassen, of Wichita, and H. J. Waters, president of the Council.

The Council knows exactly where the good wheat is located. A list has been prepared giving the name of every man whose wheat has been inspected, the estimated yield, and its condition as to purity and freedom from smut or rye. The results of this investigation of the Council are given on page five of this issue.

It is of the greatest importance that this good seed wheat be prevented from getting into the regular channels of trade until the demands for seed have been met. Local committees in counties needing seed should at once canvass the situation in detail. T. W. Topping, secretary of the Kansas Millers' Association, will establish headquarters in the State House in Topeka and act as a clearing house between the localities having good seed and those in need of good seed to meet the demand for increased acreage.

The Kansas Council of Defense is unanimously in favor of having the Government guarantee a minimum price of $2.25 a bushel based on Chicago. This would mean two dollars a bushel to the Kansas farmer. Owing to the increased cost of farm machinery and labor and increases in almost everything the farmer must buy, he cannot feel safe in going the limit in wheat production without this guarantee. Two dollars a bushel now does not mean as much as $1.50 a bushel a year ago. Urgent telegrams went to members of Congress, setting forth the need of Government guarantee of this minimum price of two dollars a bushel to the farmer.

We feel sure Kansas will rise to the emergency and as an act of patriotism put out the ten million acres of wheat this fall. It would be a simple matter, however, to increase the acreage if we could be assured of a price of not less than two dollars a bushel.

PURE WATER FOR HOGS

There is nothing more important in handling hogs than an abundant supply of pure water. A pig cannot make its best growth unless it has free access to pure water at all times. The greater portion of every animal's body consists of water, and this is the cheapest material that goes into the makeup of the animal. It would be poor economy to deprive hogs or any other live stock of pure water when this is so essential to their proper growth and development.

Many hog breeders use automatic hog waterers of various kinds. These are so made as to keep water before the animals at all times providing the source of supply is kept up. In the long run the most economical means of distributing water is to have a system of piping connected with a central reservoir. On a farm so equipped the water is at hand by the mere turn of a valve in any lot where it is needed. There is no chore more tedious in hot weather than having to carry water to hogs or other animals. When the rush of farm work is on, the tendency will always be to give the animals less than they really need. Where it is necessary to carry water to hogs they will usually get into the trough during hot weather and later when they need water to drink there is none there.

An abundant supply of fresh water should be made one of the first considerations in preparing to handle hogs successfully.

FURNISH PEDIGREES PROMPTLY

The breeder of pure-bred animals should never fail to deliver the pedigree of the animals sold the day the sale is made, if possible. In selling hogs or other animals by mail the records should be in such shape that the pedigree properly signed can be filled out in a few moments and mailed to the man buying the animal the same day it is shipped. Those buying pure-bred animals have a right to know at once exactly what they are getting.

Being prompt in this matter of delivering pedigrees is a big asset to a breeder's reputation. Failure to receive the pedigree promptly is sure to arouse suspicions. We have known personally of many instances where a long, tedious correspondence was necessary before the buyer received the pedigree he should have had in hand when the animal was delivered. The breeder who permits such a thing to occur can count on losing any future custom from buyers who have had this experience. If you expect to make a success in breeding pure-bred animals, make this matter of keeping your records up to date and supplying pedigrees promptly one of the cardinal rules of your business.

In order to insure your communications receiving prompt attention, they should always be addressed to Kansas Farmer Company, and not to individuals. Business letters sent to individuals may have to be held for several days because the person to whom they are addressed is away from the office. Address business letters to Kansas Farmer Company.

HOOVER MEETS DAIRYMEN

Importance of Dairy Cow as Conservation Agent Recognized in National Meeting

THE dairy interests of the country recently had a meeting with Herbert Hoover and secured his recognition of the importance of the dairy business. The National Dairy Council took the initiative in bringing this meeting about. Numerous reports were abroad indicating that because of high feed prices many were dropping out of the business of milking cows.

The Council called upon every quick available avenue of information to run the rumor down, to be able to confirm or refute it, as the case might be, and in order to have the whole matter threshed out at one and the same time, with other problems of interest, those asked to gather the available data on dairy disaffection and cow slaughter, and the causes therefor, were called to a meeting together with others of the industry, in Washington, on Monday, June 25, for the purpose of reaching practical conclusions on present dairy conditions, that Mr. Hoover might be informed upon the subject, and that the industry might know, from him, what he would have it do to help him in his great patriotic work for food conservation and distribution.

The results of this meeting were summed up in a document that was presented to Mr. Hoover on June 26, and is given below:

"We wish to assure you at the outset that we have come before you prompted solely by a spirit of patriotism and an earnest desire to help you in every way possible to successfully carry on the great undertaking of conserving and distributing human food. We are most desirous of showing that we are worthy of the splendid heritage of human liberty and human rights left to us through the glorious sacrifice of our forefathers.

"A meeting was called by the National Dairy Council yesterday in this city, composed of representatives from the dairy and its allied industries. In this meeting were men who are leaders in the production, manufacture and distribution of all the products of this great industry. They delegated to the committee now before you the duty of offering this service and the presentation in a brief way of what this industry means to the life and energy of the people of this country and those with whom we are allied in this great crisis.

"The dairy industry today produces 18 per cent of all the human food consumed in this country. In addition to this, there is dependent upon it and produced by the farmers owning the cows a very large additional percentage of human food, namely: Poultry, eggs and pigs, the development and production of which is directly dependent on and connected with the production, distribution and consumption of dairy products and the by-products derived therefrom.

"All of the interests involved in the production, manufacture and distribution of dairy products are organized through the National Dairy Council, the influence and use of which organization we tender to you at this time. Through this organization we have been conducting some investigations that disclose conditions which vitally affect not only the conservation, but future production of this great industry. We have found, through this investigation, that during the past twelve months the dairy cows in this country have been slaughtered to an alarming extent. A careful survey made under the direction of Professor Erf, the head and chief of the dairy husbandry of the State of Ohio in its University, shows that the dairy cows have been decreased more than 19 per cent. A survey made in the State of Minnesota, which we believe to be absolutely reliable, shows the decrease in that state to be more than 20 per cent during the same period of time. A similar survey of Delaware, Montgomery, Chester, Bucks County, and counties of New Jersey south of Trenton in the area supplying milk to the city of Philadelphia, shows a decrease of 25 per cent. A like survey in the State of New York, for the area supplying milk to New York City and other large cities in the state, shows a decrease of 24 per cent. Surveys in other localities of the country show a similar decrease with these sections.

"With such a condition confronting the industry, we feel that you can render one of your greatest services by giving your earnest attention to an effort to conserve this most vital food producing machine, namely, the dairy cow.

"The vital importance, as well as the indispensability of the product of the dairy cow, is disclosed in many ways. The terrific infant mortality in all European countries now at war, excepting England, is most startling. Reports received from the Red Cross Society, the reliability of which has been unquestioned, shows that the death rate of children under two years of age in these countries ranges from 58 to 98 per cent. England has escaped this terrific misfortune largely because of the supply of milk through cow conservation assisted by condensed and milk powders which she has received from this country. It is an accepted fact that there is no substitute for butter fat contained in milk as a human food. This product of butter fat is so absolutely essential to the maintenance of the human race that no governmental or individual effort should be spared in maintaining it. In addition to the butter fat and the products manufactured therefrom, milk contains food nutrients of inestimable value, grouped under the general head of solids not fat.

"The economic value of milk and dairy products as human food compared to other important human foods, is too well known to require repetition. It must therefore be apparent that the question of conservation and distribution of dairy products for human food is seriously menaced and directly involved by this destruction of the dairy cow which is undermining the entire industry.

"We believe that this great industry which supplies the greatest single human food, justifies you in placing under your command a representative to furnish you with all available information and assist you in conserving the dairy cow and her products and economically distributing same, and we herewith tender you the service of such a man, to be named by you, whose services will be given without charge. Such a person should be one not only identified with, but thoroughly informed as to production, manufacture and distribution of dairy products and allied products heretofore mentioned and not identified with any other industry.

"We are urged to make this request for the reason that there are too many points of conflict between the meat animal industry and the dairy industry. We have men with us today competent to give counsel on the dairy cattle industry; the cost of production and distribution of milk; the cost of feed; we have the maker of butter; and the distributor of butter and the storer of same; the ice cream manufacturer, and the man who can give data on the price of milk sold for all purposes. We have brought some figures with us on disposal of dairy cattle by slaughter in a few states. We have men who can advise on dairy cattle feed conditions as regards the present crop prospects; and we are all enlisted in the common cause of our country, ready to lay aside personal interests and ambitions for the good of the whole cause.

"And in making this offer of service and suggestion, we wish to assure you we are prompted to do so solely from a profound patriotic spirit and an earnest desire to be of assistance to you in conserving and distributing this most vital and necessary human food."

The meeting of the dairymen was presided over by M. D. Munn, president of the National Dairy Council. On a call of those present it was found that the leading dairy cattle clubs were represented by their war emergency committees. The milk producers were represented by delegates from six organizations covering the supply territory of the larger cities of the country. The International Milk Dealers' Association had their executive committee present. The American Association of Creamery Butter Manufacturers, the National Creamery Butter Makers' Association, the National Association of Ice Cream Manufacturers, each had representatives in attendance. The National Dairy Union was represented by the president and secretary of that association. The butter distributors were represented by the Poultry, Butter and Egg Dealers' Association, and many unattached individuals identified with the dairy industry were present, taking an active interest, that they might do their bit, and at the same time give their views on subjects up for discussion.

When the statement was read to Mr. Hoover by Mr. Munn, Mr. Hoover showed that he had a powerful grasp of the whole situation, and that he knew full well the importance and indispensability of dairy products, and told the committee that he had witnessed some of the terrible afflictions that had followed the destruction of fat-bearing animals in the warring countries, and that every energy would be directed to prevent a repetition in this country. He called upon the dairy industry as a whole to analyze every feature affecting the progress of the industry, and to formulate a plan to not only prevent any depreciation in production, but devise means of increasing it, and whatever could be done would be. He asked that a committee of five or seven be immediately formed, from which committee he could select a man to sit on his commission, and through whom he could secure all information concerning production and distribution. Mr. Hoover expressed concern over the conditions in the industry which were leading to an unrest, and said he was anxious that some method of relief be found at once that would insure the dairy farmers profitably continuing in the business, and in the meantime he felt assured that the value of dairy cattle would be so enhanced as to justify the farmers practicing some patriotism at the hour by not permitting the visible supply of cattle to go lower.

Kansas dairymen have not been seriously affected by some of the conditions which have prevailed in other parts of the country. In spite of the high prices of feed, dairy cows have been a profitable means of marketing the farm-grown feeds of this state. It is worth while for the farmers of Kansas who milk cows and sell cream or milk to become familiar with the dairy business from the national angle. A report of what took place at this national meeting gives this nation-wide view of the business. It certainly is no time to retrench in the milking of cows in this state. For the Kansas dairyman it is rather a time to do better and more dairying.

Constructive breeding is often difficult for the small breeder because of the great expense involved. In this respect the breeder of pure-bred live stock suffers most. The bull association offers an excellent opportunity for the skillful mating of superior animals and for intelligent, long-continued line breeding.

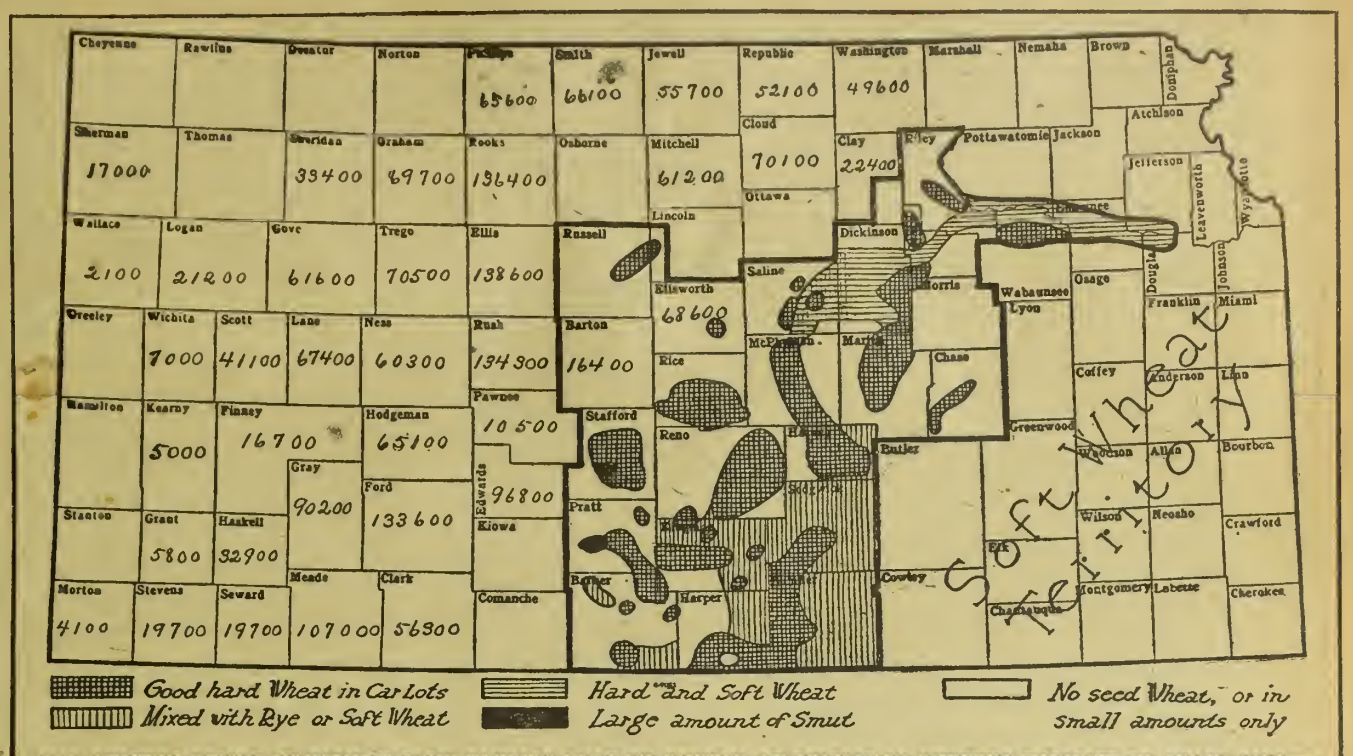
An extension roof on a sixteen-foot silo will increase its capacity eight to ten feet, or fifteen tons. The extension roof costs forty or fifty dollars more than an ordinary roof, which makes the increased capacity cheap compared with the cost of constructing eight to ten feet of silo. An extension roof will help meet the need of more silage capacity.



DOING THEIR "BIT" IN FOOD CONSERVATION. — HERD OF KANSAS DAIRY COWS OWNED BY C. A. BROCK, JEFFERSON COUNTY

PREPARE FOR WHEAT EARLY

To Grow Record Crop, Concentrate on Early Preparation, Good Seed, Large Acreage



MAP SHOWING RESULT OF FARM-TO-FARM CANVASS MADE BY COUNCIL OF DEFENSE IN COUNTIES ENCLOSED BY HEAVY LINE.—FIGURES SHOW CORRESPONDENTS' ESTIMATES OF BUSHELS REQUIRED FROM OUTSIDE TO SEED ACREAGE EQUAL TO THAT OF 1916

PREPARATION for fall wheat seeding is now the paramount task in doing our part in feeding our allies and our own army. In making the report of the committee on agricultural production to the Kansas Council of Defense, W. M. Jardine, its chairman, pointed out that the council's big job now, and possibly the biggest that will confront it, as the committee sees it, is to aid the farmers of the state wherever it can and in every way it can, in the planting of a large acreage of winter wheat this fall. To accomplish this, it is imperative that these three things be concentrated upon: The early and thorough preparation of the seed bed, the securing of an ample supply of good seed, and the encouragement of the planting of a large acreage.

To secure definite information as to the amount of land it was expected would be sown to wheat this fall, and the kind of crop it was to follow, the following questions were sent out in the form of a questionnaire to five thousand correspondents: What is the estimated acreage that will probably be sown, and how much will be sown on ground now growing corn, on stubble, and on fallow land?

From the more than two thousand replies received, a summary reveals that 3,315,000 acres will be planted in corn ground, 3,651,000 acres in stubble, and 1,075,000 in fallow, or a total acreage of 8,042,000 acres. About 800,000 acres will be sown after other crops, such as the sorghums, potatoes, beans, millet, and on newly broken sod. These returns indicate that a total sowing of about 8,850,000 acres for the state as a whole is contemplated, which is approximately 650,000 acres less than last fall's sowing when 9,500,000 acres were seeded. The decreased acreages anticipated by reporters is largely in the counties that lost their 1917 wheat crop.

EARLY PREPARATION INCREASES YIELDS

There is an abundance of evidence on every hand to show conclusively that wheat sown on stubble land that was plowed in July produces anywhere from five to ten bushels to the acre more than wheat on the same kind of land that was not plowed until September or just before planting. In normal times a large proportion of the wheat planted in the state is on September plowed land. This is the primary reason why we have such a low acre yield in this state. The thing that should be done now is to prepare the stubble land early for fall sowing of wheat. It is the easiest, the most practical and the most inexpensive way of substantially increasing the acre yield and the total harvest of wheat in this state. It is by far more feasible than to increase the acreage, with our limited man-power and seed. We should first emphasize the importance of putting in well what wheat we sow and only put in as much as we can plant well. It would be a mistake for anyone to advocate putting in an extensive acreage at the sacrifice of thorough and careful preparation. Man-power and horse-power are entirely too scarce and valuable to take a chance on losing labor and seed by scattering the wheat over a large area poorly prepared. This year especially when the seed is very scarce and very expensive and when many farmers have their entire supply of seed to buy, they should give special attention to the preparation of the seed bed. The Council of Defense ought to exhaust every means at its disposal within the next month to promote a sentiment in favor of early preparation of the seed bed for wheat.

"'Early plowing and early disking' should be our slogan," said the chairman of the committee. "We ought to talk it at all times wherever we may be and before all kinds of audiences. We should urge deep plowing in July and early August and where plowing is out of the question, early disking."

Corn-stalk ground, next to summer fallow and early plowing, furnishes the best seed bed for wheat. All that can be done now until planting time is to see that the corn is well tilled and free from weeds, and most farmers are doing everything that their equipment, time and labor will permit.

YIELDS GOOD ON FALLOW LAND

The million acres of fallow ground is probably double the amount that has ever been fallowed before for wheat. This year a good crop has been produced wherever wheat was sown on fallow land. Yields of twenty-five to thirty bushels are being reported by isolated farmers in Western Kansas who sowed on fallow ground. At the Hays Station several thousand bushels of wheat on fallow land will make twenty bushels to the acre where other methods have resulted in practically nothing.

PLENTY OF SEED LOCATED

Considerable uneasiness has been manifest for some time regarding the supply of good seed. Many counties of the state where an excellent quality of hard wheat is grown, lost their entire crop and will have to import their seed. Less than 3,500,000 acres of wheat will be harvested in the state this year. A part of this is in the eastern third of the state where soft wheat mainly is grown. The committee decided it was highly important that as many fields of good hard wheat be located and listed for seed as possible. Hence, in the last twenty days it has undertaken in co-operation with the Agricultural College, the State Board of Agriculture, the government man located in Kansas, and the agricultural commissioner of the Santa Fe, to locate farmers producing pure hard red winter wheat. Twenty-odd men were assigned to this task. Four men in four motor cars were assigned to each county, beginning in the counties of the southern border and working northward, covering the counties indicated on the map. Care was exercised to ascertain fields that were free from rye and other varieties of wheat. On the map is indicated by means of different shading the areas where the seed may be found in carload lots pure, where it is mixed with soft wheat, and again where it is mixed with rye, etc. Names of the farmers have been ascertained and the estimated number of bushels each will have for sale, aggregating for the whole 4,670,000 bushels of good seed. The amount available in the different counties inspected ranges from 810 bushels in Morris to 692,521 bushels in Harper County.

INCREASING ACREAGE

The primary obstacle standing in the way of the planting of ten million acres of wheat is the cost of providing seed wheat and the difficulty of securing it. The counties that lost their wheat crop this year are the counties that report a probable reduced acreage this fall. The main reasons for this are lack of seed and lack of money with which to buy expensive seed. Even men accustomed to sowing 1,000 to 1,500 acres and who lost their wheat this year are hesitating to pay $2.50 to $3 a bushel for seed and consequently are showing a tendency to curtail their normal acreage. Many of the wheat growers of the state are tenant farmers and it is going to be up to the landlords or someone else to furnish the seed or the collateral or take a part of the risk, if we are going to get out even a normal acreage, to say nothing about increasing the acreage.

SEED REQUIREMENTS

The investigations of the committee indicate that some forty counties do not expect to raise enough wheat for seed. Based on the area sown last year and estimating a bushel to the acre as the average requirement in sowing, between 2,000,000 and 2,500,000 bushels of seed will have to be shipped into deficient counties. The studies made further indicate that the payment on about two-fifths of this quantity will have to be deferred until the 1918 harvest. The 2,000,000 to 2,500,000 bushels of wheat for seed that will need to be imported to these counties should be contracted for at once from the farmers who are producing good seed. Otherwise it is going to be moved through the regular channels and mixed with the seed from inferior fields and Kansas will lose its chance to secure a first class seed supply. This seed must be reserved now before the wheat gets away from us. This will require quick action, as it is not likely to be in the hands of farmers very long. The crop in the counties raising a surplus has been or is now being harvested and threshing will soon begin.

SEED SITUATION SERIOUS

Kansas cannot expect at the outside a wheat crop this year of more than about 42,000,000 bushels. This amount in itself is less than the average annual consumption of our flour mills alone. With the world's need for wheat and the keen competition for it, the urgent need for making sure of our seed is apparent. If we are to sow ten million acres—and the world has a right to expect that Kansas, the nation's premier wheat state, will in this emergency sow that much—it will mean an amount equivalent to one-fourth of this year's crop.

To maintain last fall's acreage, the investigations of the committee indicate it will be necessary to import seed that will cost probably not less than $4,000,000 and may amount to $7,500,000, depending on the exact quantity and the price per bushel. It is estimated that three-fifths of the amount will be promptly paid for on delivery, as the majority of the farmers are abundantly able financially to do so. Some plan must be devised to finance the seed wheat proposition. Growers are not inclined to increase their obligations very extensively. Terms to renters must be liberal if a maximum acreage is sown. If the crop of next year should be an average in production, the wheat raised in two counties of the state would equal if not exceed the total outlay for financing the seed this fall. An investment of say $5,000,000 for seed may return wheat valued conservatively at $60,000,000.

It is a prime duty for Kansas to sow ten million acres of wheat. Every farmer having a well prepared seed bed should be provided with the necessary seed through some plan subject to such terms as local county organizations determine.

If the war is to be won with food, Kansas has a heavy responsibility. As the leading wheat state, her obligation is great to produce breadstuffs in the largest possible quantities. The first essential to this is a large acreage sown on the best seed bed that can be made ready. We should sow at least ten million acres, which is little more than was sown last fall.

"Business as usual" does not apply to the agricultural industry in this emergency. Unusual measures must be employed to accomplish the end sought, and these measures must be taken at once if we are to succeed in rendering the service to humanity that the nation and our allies have a right to expect.

While the report of the Agricultural Production committee of the Council of Defense had to do mainly with the wheat situation, some most interesting reports were made on the spring planting. According to the June report of the State Board of Agriculture, supplemented by information from special agents sent into the field to investigate conditions generally, and from farmers, county chairmen, county agents, bankers, millers, grain men and others in a position to know, there was planted to crops in Kansas as many acres in the aggregate for the year 1917 as in the previous year. To do this it was necessary for the farmers to plant, in addition to the usual acreage available for spring crops, most of the six million acres of land on which wheat failed. The committee's facts reveal that of the nearly six million acres of winter wheat that failed, 5,500,000 acres were planted to spring crops, as corn, oats, barley, and the sorghums, with the remaining acres lying fallow. This is splendid evidence that the farmers of Kansas are fully awake to the food situation and nobly responded to the present emergency, just as they have in the past risen to meet unusual conditions. The following statement shows, in detail, the acres in the crops named in 1916 and 1917, aggregating in each year about 18,400,000 acres:

	ACRES 1916	1917
Wheat	7,782,570	3,525,320
Corn	6,964,724	9,200,000
Oats	1,461,127	2,225,414
Rye	64,057	105,800
Barley	376,416	890,000
Saccharine sorghum	510,536	777,000
Milo	133,413	369,000
Kafir	1,090,807	1,448,000
Total	18,383,650	18,540,534

(Continued on Page Fourteen)

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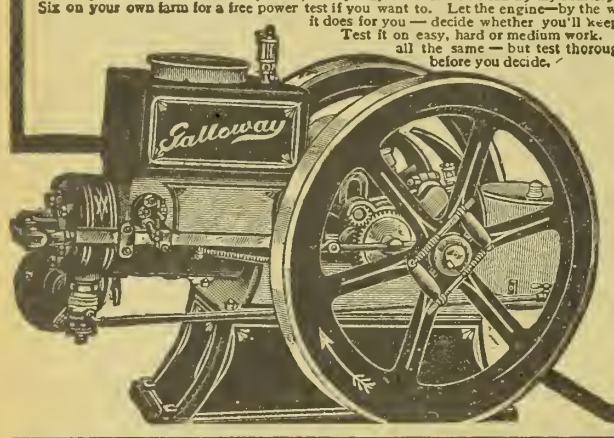



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2 Plows



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We have several thousand subscriptions expiring in June. It would be a saving of much time to us and avoid missing copies by the subscriber if the renewal could reach us before the expiration. The best way to do is to send in $2 when you renew and have your subscription paid three years in advance.

Kansas Farmer Dairy Club

Feeding For Milk

MILK cows must be fed as individuals. This is one of the most important lessons for the dairyman to learn. Dairy club members are interested in feeding a single cow and it will be easy for you to get this fundamental principle of profitable dairy feeding firmly fixed in your minds before the end of the year. If you carry this lesson with you when you grow up and have a whole herd of cows to feed, you will be almost sure to avoid the mistake too often made by dairymen of feeding all the cows in the herd alike.

If cows are to be fed economically, each animal should be fed according to its capacity for production. The average production of the Kansas milk cow is low and one of the principal reasons for this is that she is not properly fed. It requires a high degree of intelligence to feed a cow so as to get the most profitable returns. There is probably no better teacher than Nature, and economic feeding thus becomes to some extent a study of the lessons which Nature teaches. Cows usually make their largest and most economical production in the early summer when they can get all the fresh grass they want. In Kansas this period is comparatively short. By doing our best to supply these early summer conditions the year around, we will obtain the largest and most profitable returns from the cows we feed for milk.

In a recent article in the Kansas Industrialist, O. E. Reed, professor of dairying at the Agricultural College, says that the quantity of milk that a cow gives or is capable of giving is an indication of the quantity of feed she must have.

The first use to which the animal puts its food, whether producing milk or not, is to maintain the functions of the body. The feed in excess of this amount is used for producing milk, storing fat, or for growth of the fetus.

COWS OFTEN UNDERFED

Underfeeding is perhaps more common than overfeeding. The effect of underfeeding may not be noticed at once, as the cow will produce milk for a time by converting the surplus flesh of her body into milk. Hence, if a cow declines in weight while she is producing milk, it is an indication that she is not receiving enough feed. On the other hand, the over-fed cow may put fat on her body or she may get off feed.

Feeds like grass which contain the natural juice of the plant are called succulent feeds. A succulent ration should be maintained during the winter. Such a feed serves to keep the digestive organs in good condition. This succulence may be secured by feeding silage or roots. Silage makes the best succulent feed in this state because it is possible to obtain large yields of corn, cane, or kafir, which makes excellent silage.

BULK AND NUTRIENTS NEEDED

The feeds in a ration must be such as to provide a sufficient bulk to satisfy the appetite and feeding capacity of the animal, and to furnish the amount of nutrients needed by the cow. An animal may be fed enough nutrients in the form of grain to perform her work, but she may receive too little bulk to be satisfied.

The roughage should form the foundation of the dairy ration. By roughage we mean hay, fodder or silage. A cow should have all the roughage she can clean up, and the grain ration should be regulated by the amount of milk produced. A cow should be fed one pound of grain to each three pounds of rich milk produced and one pound of grain to four pounds less rich milk.

RATION MUST BE BALANCED

The three substances which must be considered in making up the ration of the dairy cow are protein, carbohydrates and fats. These substances are found in all feeds but in varying proportions. The protein, or nitrogenous substance, is the most expensive. It is used by the animal in the production of hair, hoof, hide, horn, blood, and muscle. Alfalfa, clover hay, cottonseed and linseed meal, bran, oats, and gluten feeds contain a high per cent of protein. The carbohydrates and fats produce heat and furnish energy to make the fat that is stored up in the body and in the milk. Corn, kafir, cane, corn silage, timothy hay, oats, and wheat straw contain a high per cent of carbohydrates.

A balanced ration must contain both protein and carbohydrate foods. Alfalfa and clover furnish protein in form of roughage. In order to balance the ration it is best to feed a grain rich in carbohydrates. If the roughage consists of cane or kafir, then a grain ration such as bran or oats must furnish the protein. The protein feeds are the most expensive feeds on the market. If alfalfa, cowpeas, and clover can be grown in the locality, it is cheaper to use them in the dairy ration.

Dairy Club Prizes

The following prizes are offered for work in the Kansas Farmer Dairy Club:

Beatrice Creamery Company, hinge-door silo.

R. J. Linscott, Holton, Kansas, pure-bred Jersey bull calf.

Empire Cream Separator Company, cream separator.

Beatrice Creamery Company, cream separator.

Hinman Milking Machine Company, two-unit milking machine.

Hunt-Helm-Ferris Company, complete cow stall.

N. A. Kennady Supply Company, twelve-bottle Babcock milk tester.

In our May 20, 1916, issue, KANSAS FARMER offered the following special prizes:

To the member who wrote us oftenest telling of the interesting things that happen in connection with the club work and things learned from it, and who sent us the best pictures, we offered $3 and one year's subscription to KANSAS FARMER. To the one ranking second, $2 and a year's subscription to the paper; third, $1 and a year's subscription; fourth and fifth, one year's subscription each.

Young people who contemplate attending business college or auto training school this fall or winter will find it to their advantage to write us. KANSAS FARMER has some information that will be of genuine interest to you. Address DESK D, KANSAS FARMER, Topeka, Kan.



HERE IS DORA BRADER AGAIN, THIS TIME WITH HER WHOLE HERD—CREAMY, INEZ, AND MABEL



Advanced Registry Records

BREEDERS of dairy cattle in Kansas are becoming greatly interested in advanced registry tests for their cows. It is only by having these advanced registry records that the productive capacity of dairy cows can be established where the owners are not known. There are some herds in Kansas where many cows capable of making good advanced registry records are found, but the owners have for various reasons not attempted to put their cows on official test. Making advanced registry records is one of the things that must be done in handling pure-bred cattle. Many good records are now being made in Kansas herds.

Any cow that is registered is eligible for advanced registry tests. The yearly requirement for making the advanced registry is the same for the Holstein, Jersey, and Guernsey breeds. If the test begins the day the cow is two years old or previous to that day, she must produce within a year 250.5 pounds of butter fat. For each day the cow is over two years of age at the time the yearly official record begins, the amount of butterfat she must produce in a year is increased by one-tenth of a pound. This ratio of increase continues until the cow is five years old at the beginning of the test, at which time the butterfat requirement is 360 pounds. This is the amount of butterfat required for all cows five years old and over, of these three breeds.

In making these yearly records a representative of the agricultural college of the state or someone recommended by the institution visits the herd and milk from the cow on test is weighed for two days. Each milking is sampled by the tester in charge and the Babcock test made at once. The owner of the cow keeps a record of the weight of milk produced on the other days of the month. The butterfat test for the two days the tester has charge is used as the basis for the month's production of fat. The tester's weights for the milk are used as a check on the weights recorded by the owner.

The Ayrshire yearly standard of production required for advanced registry is 214.3 pounds of fat when the cow begins the record at two years of age, with the addition of .06 of a pound of fat for each day over that age up to three years, when the standard calls for 236 pounds of fat. From three years of age up to five an addition of .12 of a pound of fat is made for each succeeding day. The requirement at five years of age is 322 pounds of fat.

The different dairy breed associations have established certain abbreviations to designate the rank of cows in the advanced registry. A. R. stands for advanced registry of Guernseys and Ayrshires. R. M. is the register of merit for Jerseys. A. R. S. O.—advanced registry official—is used to indicate Holstein cows which have met the requirements for a year's record. A. R. O. is used to indicate Holstein cows that have met the requirements in a seven-day test.

Breeders of pure-bred cattle should by all means endeavor to make as many advanced registry records as possible. These records increase the value of the individual largely through enhancing the value of offspring that may be offered for sale. Nearly all buyers of bulls of dairy breeds are now insisting that the dams of the bulls they purchase have good advanced registry records. While private records are very valuable in building up high-producing dairy herds, the advanced registry records are almost necessary in order to have the official stamp of approval on the records that have been made. Advanced registry records are so closely supervised and checked by the record associations that they are accepted as reliable. The reliability of private records depends entirely upon the reputation of the man making them, and while a man's reputation may be sufficient to guarantee the accuracy of his private records in his own neighborhood, they will not be accepted by strangers at a distance.

Cow Test Report

The following is the record of the cows in the Dickinson County Cow Testing Association that reached the forty-five pound mark in butter production for the month ending March 30:

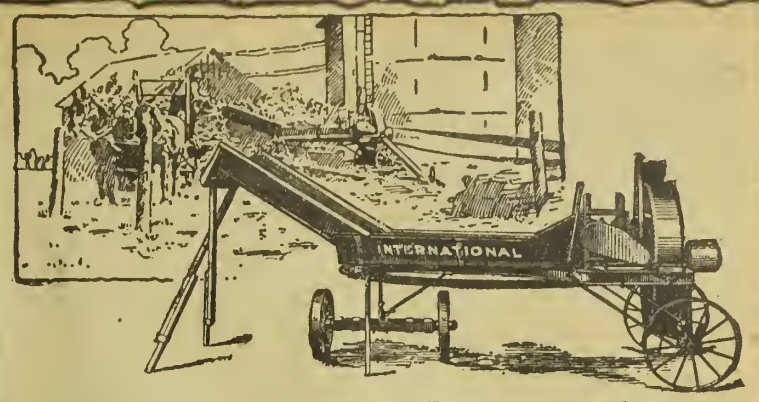
Owner—	Pounds Milk	Per Cent of Fat	Pounds Butter 80% Fat
J. A. Engle, H.	1,140	3.3	47.0
J. A. Engle, H.	1,215	3.0	45.6
J. A. Engle, H.	1,161	3.9	56.6
Fred Muench, J.	1,005	4.9	61.5
Fred Muench, J.	717	5.7	51.1
Fred Muench, J.	951	5.0	59.5
Fred Muench, J.	837	4.6	48.1
A. L. Eshelman, H.	1,650	3.1	64.0
A. L. Eshelman, H.	846	4.3	45.5
A. L. Eshelman, H.	705	3.5	45.5
A. L. Eshelman, H.	1,218	4.3	65.5
J. M. Gish, H.	897	4.4	49.4
J. M. Gish, H.	1,161	3.6	52.3
Mott & Seaborn, H.	1,020	3.8	48.5
Mot t& Seaborn, H.	1,005	3.6	45.2
Mott & Seaborn, H.	1,278	3.4	54.4
Mott & Seaborn, H.	1,557	3.1	60.4
Mott & Seaborn, H.	966	3.8	45.9
Mott & Seaborn, H.	1,446	3.4	61.5
Mott & Scaborn, H.	1,002	3.6	45.1
J. A. Weishar, H.	1,095	3.8	52.0
Lenhert & Son, H.	1,293	3.7	59.8
Ira Zercher, H.	867	4.5	48.7
Wllcox & Son, H.	1,974	2.8	69.1
Wllcox & Son, H.	1,776	3.3	73.3
Wllcox & Son, H.	1,494	3.3	61.6
Wllcox & Son, H.	1,443	3.4	61.4
Wllcox & Son, H.	1,395	3.6	62.7
Wilcox & Son, H.	1,842	3.8	88.0
Wllcox & Son, H.	1,308	3.1	50.6
Wllcox & Son, H.	1,575	3.5	68.9
Wllcox & Son, H.	1,158	3.2	46.4
George Lenhert, H.	1,236	3.2	49.5
George Lenhert, H.	1,188	3.2	47.5
H. S. Engle, H.	1,293	4.0	64.6
H. S. Engle, H.	1,119	3.6	50.3
H. S. Engle, H.	1,308	3.1	50.6
H. S. Engle, H.	1,014	3.9	49.4
H. S. Engle, H.	1,035	4.1	52.5
H. S. Engle, H.	1,038	4.0	51.6
D. S. Engle & Son, H.	1,227	3.3	50.6
D. S. Engle & Son, H.	819	4.7	48.1
E. S. Engle & Son, H.	1,599	3.5	70.0
E. S. Engle & Son, H.	1,329	3.8	63.1
E. S. Engle & Son, H.	1,392	3.1	54.0
E. S. Engle & Son, H.	1,233	3.1	47.7
E. S. Engle & Son, H.	1,050	3.7	48.6
E. S. Engle & Son, H.	1,095	4.1	56.1
E. S. Engle & Son, H.	2,502	2.63	82.3
E. S. Engle & Son, H.	1,566	3.12	61.1
E. S. Engle & Son, H.	1,218	3.12	47.5
E. S. Engle & Son, H.	1,443	3.73	67.4
E. S. Engle & Son, H.	1,811	3.27	74.0
E. S. Engle & Son, H.	1,464	3.31	51.0

In the preceding table "H" stands for Holstein and "J" for Jersey.

Make your hoe this summer keep your can opener busy next winter.



HOLSTEIN CALVES ON W. W. FINNEY FARM, LYON COUNTY



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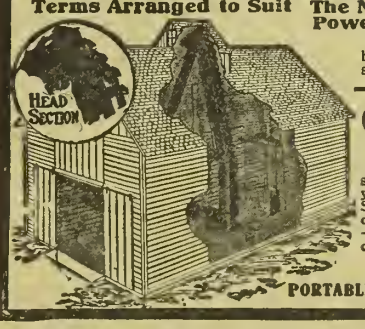

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Electric Wheel Co., 34 Elm St., Quincy, Ill.



Feed Crops Still Safe

THE crop report from the weather bureau covering conditions all over Kansas up to July 3 states that corn and grain sorghums—and in the southwest counties, broom corn—are practically the only crops that have not been damaged yet by lack of rain. They are all behind the season and much of them have had to be replanted, but as a rule they are clean and well cultivated and have a good color. The acreage of each is also quite large. In the northeastern counties corn made a satisfactory growth this week, but elsewhere its growth was slow and will be still slower unless rain comes soon.

In view of the newspaper reports that crops were burning up in Western Kansas, this report from the weather bureau giving the condition of the corn and grain sorghums is most encouraging news. It is evident that feed crops are a long way from gone. The acreage of these crops is greater than in years, and, if reasonable conditions prevail and the crops are given good cultivation, Western Kansas may easily grow a record-breaking feed crop. A large use should be made of the silo in preserving these crops in order that they be made to yield the largest possible cash returns when fed to stock. The silo, feed crops, and good live stock are the surest things for keeping the Western Kansas farmer from having to borrow money to pay the grocery bills while he waits for another crop to grow. It does not require much money to get a silo, since the pit silo can be used with the greatest of success all over Western Kansas.

The Corn Ear Worm

The corn ear worm is a most serious pest in the corn field. It is especially objectionable in a sweet corn patch, but in the aggregate causes a heavy loss in field corn. In the garden patch of sweet corn it is practical to control the pest with powdered arsenate of lead. The amount of injury can be greatly reduced by thoroughly dusting the silks with this poison.

The eggs of the corn ear worm are laid on the silks. When the eggs hatch, the larvæ work down into the ear and feed on the silks and kernels. The average number of ears of corn injured by this pest in Kansas during the six years preceding 1915 ranged from 85 to 95 per cent. In the year 1915 at the Manhattan Experiment Station the damage was reduced to 63 per cent by dusting the silks with powdered arsenate of lead, and on ears that were injured the damage was so slight as to be almost negligible. In almost every case only one or two grains were injured on each ear, and the usual molds and fungi which accompany corn ear worm work were not present. The normal grain damage is three to five per cent on field corn and ten per cent on sweet corn where the silks are not dusted, while it is only one or two per cent where they are dusted.

Silks should be kept dusted from the time they appear until dry. The preparation consists of three parts of powdered arsenate of lead and one part sulphur. Lime or flour may be substituted for the sulphur. Five or six applications should be made. A good method of application is to apply with a cheesecloth bag or by means of a perforated can.

Bermuda Grass and Bindweed

L. J. E., a KANSAS FARMER reader living just across the line in Oklahoma, writes that he noticed an article on the bindweed in KANSAS FARMER and asks if a specimen which he inclosed is bindweed. He asks to have it identified, how to best destroy it, whether anything will eat it, whether it will crowd out the prairie grass and shrubs in the yard where the ground is hard. He also asks what is the best grass to plant.

We sent this specimen to Prof. H. F. Roberts of the Agricultural College, who identified it as the field bindweed. The best way to destroy it is to salt it at the rate of ten tons of salt to the acre. We discussed this in some detail in a recent issue of KANSAS FARMER. Pigs will eat the weed, and in some cases it has been killed out by pasturing it very heavily with pigs. It will crowd out prairie grass, but is not likely to trouble shrubs. Professor Roberts states that it is a pretty good competitor for almost anything that grows and is in fact the worst weed we have.

We believe Bermuda grass is the best grass our correspondent can plant about his house, and likewise for pasture. This grass does not make as attractive a lawn as Kentucky bluegrass, on account of its dull color and running stems, which make it hard to clip with a lawn mower, but for a hot climate and especially where there is little shade it will make the most satisfactory lawn grass that can be planted. The Bermuda grass is about the only grass that will keep the bindweed busy as a competitor.

Poison the Grasshoppers

Grasshoppers are hatching in many parts of Western Kansas. Prompt and vigorous action in using the poisoned bran mash flavored with fruit juice, which has been thoroughly tested in the state in the last few years, will check their ravages. The ingredients used are twenty pounds of bran, one pound of Paris green, white arsenic or London purple, two quarts of syrup, three oranges or lemons, and three and one-half gallons of water.

Mix the bran and Paris green, white arsenic, or London purple, thoroughly while dry in a wash tub. Squeeze the juice of the oranges or lemons into the water and chop the remaining pulp and the peel to fine bits and add to the water. Dissolve the syrup in the water and wet the bran and poison with the mixture, stirring at the same time to dampen the mash thoroughly.

The damp mash or bait should be sown broadcast in the infested areas early in the morning, or at the time the grasshoppers are beginning to move about after their night's rest. It should be scattered in such a manner as to cover from four to five acres with the amount of bait made by using the quantities of ingredients given in the formula.

Since little of the bran mash is eaten after it becomes dry, scattering it broadcast in the morning, and very sparingly, places it where the largest number will find it in the shortest time. Sowing it in this manner also makes it impossible for birds, barnyard fowls, or live stock to secure a sufficient amount of the poison to kill them.

In order to secure the best results on alfalfa fields, the bait should be applied after a crop has been removed and before the new crop has started. If the insects are moving into the corn, alfalfa, new wheat, or garden, a strip of the poisoned bran mash should be scattered early in the morning along the edge of the crop into which they are moving. If they have already spread into the fields the bran mash should be spread over the infested portions. Inasmuch as the grasshoppers may keep coming into the crops from adjoining fields, it will be necessary in several cases to make a second and even a third application of the bait at intervals of from three to four days.

Value of County Agent

A member of a county farm bureau in a neighboring state gives this estimate of the value of the county agricultural agent:

"I pay about $150 taxes and I figure that the county agent last year cost me just 19½ cents. In figuring the benefit that I have got from the office, I gave the agent credit for the extra profit that I made on the first beef that I sold through the public market. He was responsible for starting the market, so I gave him credit on just one of the animals that I sold.

"My sheep were dying and Mr. Robb came out and found that they had septicemia, and got me some vaccine and vaccinated the flock. No more of them died and so I gave Mr. Robb credit for just one sheep, although I might have lost the whole bunch without his help. Mr. Robb told me to take my goats out



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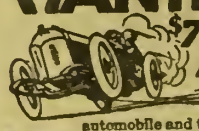

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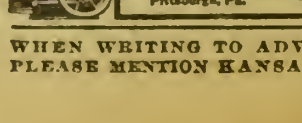

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of the swampy pasture or they would probably get leeches. They were nice and fat and I didn't think it would hurt them if I left them there, but they got leeches all right and some of them died. I didn't give Mr. Robb any credit for that, although his advice was worth something.

"He told me how to avoid wireworms in my corn by growing it after a crop on which wireworms don't work. I didn't give him any credit for that. In all my figuring I gave him just as little credit as I possibly could, and I find that he has made me enough money on this basis to pay my part of the tax for his office for two hundred years."

Do Not Neglect Gardens

Keep everlastingly at it!

Now that the garden has been planted, start the fight on weeds and insect pests and keep it up throughout the whole season. Don't be a quitter in the campaign for increased food production.

Many persons lose their enthusiasm in garden work in hot weather, when cultivation and good care is needed most. Individuals usually find it easy to garden in April or May, but mighty hard work in July or August. "Cultivation, first, last, and all the time," should be the slogan of every patriotic man and woman.

In cultivating, use efficient tools, either hoes and other hand tools or horse cultivators, depending on the size of the garden. Cultivation is important, for it saves moisture, kills the weeds, admits air into the soil, and increases the supply of plant food.

Watering is another important point. It is advisable irrigate or sprinkle vegetables in the evening to prevent loss of moisture through evaporation. A good plan for a small garden is to make shallow furrows with a hoe and allow the water to run into these shallow ditches between the rows. Save the moisture by cultivation whenever possible.

Insect enemies are also to be guarded against in the garden. The flea beetles attacking the radish can be killed by dusting with one part powdered arsenate of lead mixed with ten parts flour, or with arsenate of lead dissolved in water at the rate of one ounce to one gallon of water. The green aphis, or plant lice, which suck the sap on under side of leaves, are best controlled by "Black Leaf 40" applied at the rate of one teaspoonful to a half gallon of water plus a small piece of soap. One pound of soap to six gallons of soft water will also control it.—M. F. Ahearn, K.S.A.C.

Alma, Kansas, now has a feed and sales barn built by the public-spirited men of the town and surrounding country. The building is for the convenience of the growers of pure-bred cattle and other live stock in that community. It cost $3,000, and will shelter 250 head of cattle; feed pens outlying for as many more. In one end is a pavilion, seats rising in tiers for 1,500 persons, where sales are conducted. The institution was dedicated February 10, when 150 head of Hereford steers were sold at auction, bringing $46,000. It stands within 100 yards of the Santa Fe Railway station. Wabaunsee County is famous for pure-bred beef cattle, and Alma is one of the most attractive little towns in the state.

National Grange Master Visits Kansas

KANSAS is again to welcome Oliver Wilson, Master of the National Grange, who will spend the week from July 23 to 28 in meeting six or seven gatherings in different selected Grange points in our state. He begins at Valley Falls July 23, the Northeast Kansas annual Grange event.

Brother Wilson, as he prefers to be called, does not 'deliver addresses' by his own statement, but meets the people at such gatherings with a plain heart-to-heart talk. Few men have ever presented a more powerful message than National Master Wilson. His whole soul is thrown into it, and without flourish of trumpets he brings his hearers face to face with the most practical issues of life on the farm and in the farm community.



OLIVER WILSON, NATIONAL GRANGE MASTER

Although thirty-two years a Grange officer, he has never sought positions—they have sought him. He is the only man who has been Master and Lecturer of Subordinate, Pomona, State and National Grange. And, through it all, until compelled to move nearer facilities for doing his work, he has lived continuously upon the farm, which he even now owns and directs, and outside of which he has no other interest whatever.

When the law was passed in Illinois establishing the Farmers' Institute, he was selected as the first superintendent. It was in 1873 that he joined the Magnolia Grange No. 179, Putnam County, Illinois, and two years later was elected its master. Ten years later he was lecturer of the State Grange, and held the office eight years, and that of Master of the State Grange sixteen consecutive years. He was lecturer of the National Grange two years, and then began his term as National Master, now finishing his sixth year in that position, having been twice re-elected.

As spokesman for two others, State Masters, upon the national legislative committee representing the needs and rights of the American farmers, he is a well known figure in Washington, conferring with congressional committees and with the President as need arises. With all of the remedial and constructive laws that affect the farmer during recent years he has had much to do, and to the Grange in the thirty-five states where it is organized and to the great body of unorganized farmers also his service has been invaluable. The recognition of the standing of the agricultural interests of the country has been accomplished by the tireless work of a small group of the heads of the farmer orders, and not by outside forces.

National Master Wilson is one of the country's clearest thinkers, ready in terse and simple expression that all can grasp, with a manly force and wholesouled earnestness that wins. He comes to Kansas with a message that none can afford to miss. A trip of many miles to hear him will be time and money well spent, for Farmer Wilson of Illinois and America knows the farmers' problems, and comes at them from within the farmers' own ranks, all his interests, outside of the duty in Grange work to which he has been called, being on his farm.

Not only farmers but other citizens of all classes would be benefited by hearing Mr. Wilson, who as the national head of an organization of more than a million members, now at the end of a half century of life and growth, is one of the leading exponents of agricultural conditions and possibilities, a theme that is commanding more attention than any other at this time.

The schedule for the week is as follows: July 23, Valley Falls; July 23, night meeting, Topeka, Memorial Hall; July 24, Ottawa; July 25, Independence; July 26, Oswego; July 27, Newton, and July 28, Winfield.

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WHEN you begin to consider the purchase of a tractor, whether for a farm of 80 acres or more, there are a number of questions you will need to ask yourself before you buy. ●Here are some of them:

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Here is the tractor that answers these and all other farm power problems of the average farm most practically and profitably. A tractor that is heavy enough to do all farm work that horses will do, yet light enough to be handy and work on plowed ground without packing your soil.


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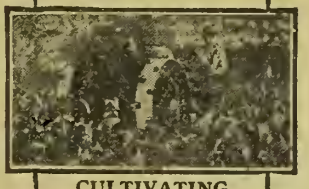
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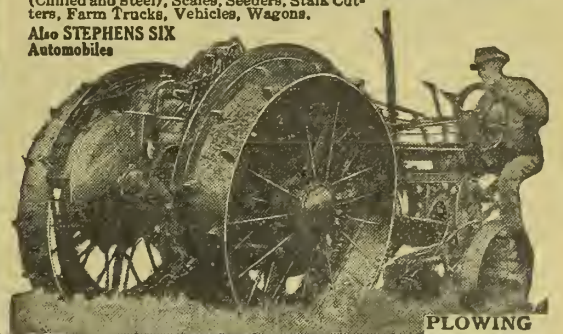
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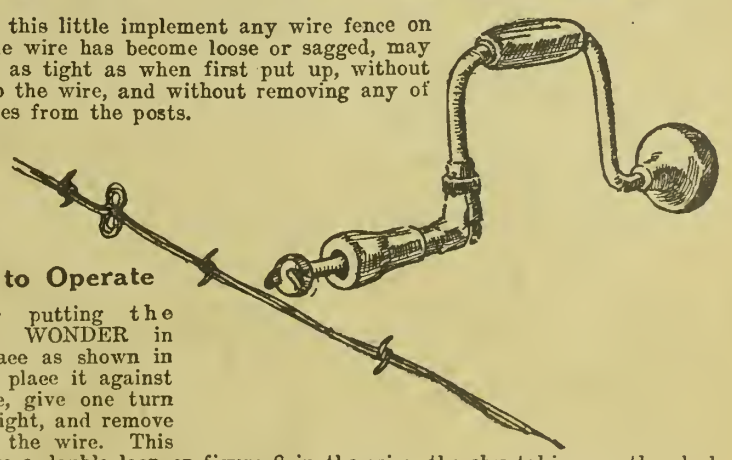

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After putting the LITTLE WONDER in your brace as shown in the cut, place it against the wire, give one turn to the right, and remove it from the wire. This will leave a double loop or figure 8 in the wire, thereby taking up the slack without injuring the wire in the least.

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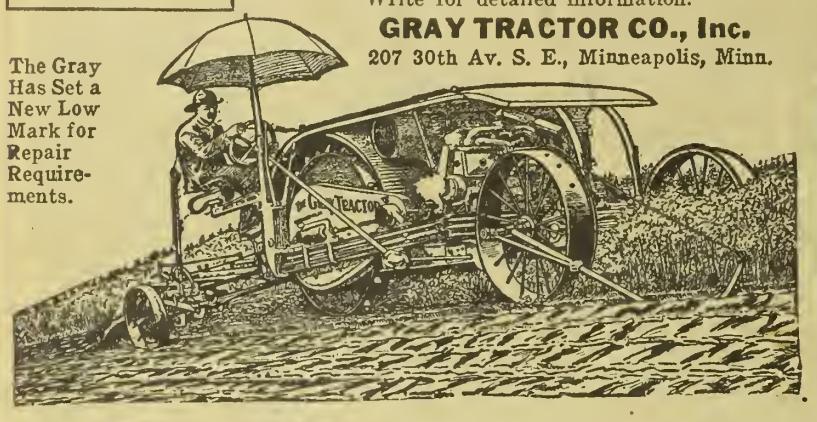

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No more popular classification in the live stock shows has been made than that of the futurity classes, admitting junior and senior bull and heifer calves, made by the American Shorthorn Breeders' Association at a number of the leading fairs and shows. At four of these shows—the Iowa State Fair, Des Moines; the Ohio State Fair, Columbus; the American Royal, Kansas City, and the International, Chicago—the Shorthorn Association has appropriated for the futurity classes alone a total of $7,000. In the junior and senior bull and heifer calf classes at the Iowa and Ohio State Fairs, fifteen moneys are offered in the futurity stakes. The first, second, third and fourth winners each draw $25; the fifth, sixth, seventh and eighth winners, each $20; the remainder $10 each. At the American Royal and the International, the first winner draws $65, with a slight decrease down the line, the twentieth winner receiving $20. It should be understood that these prizes are in addition to the appropriations offered in the regular classifications for Shorthorns at these shows. The appropriations made by the Association for 1917 at the various fairs and shows aggregate $50,000. The purpose of these futurity appropriations—and this purpose is suggested in the number of prizes offered—is to encourage as many breeders as possible to exhibit their calves at these important shows—a substantial means of advertising. In order that the small breeder may have an equal chance with the larger breeders and experienced showmen, the rules do not admit of substitution after the entries have been made. The distribution of the prizes at the larger shows is an encouragement to breeders to participate. At the last International, for instance, the prize winners represented twenty different states and Canada.

When writing advertisers, please mention KANSAS FARMER.



Live Stock and Sweet Clover

WITH the exception of alfalfa on fertile soils, no other leguminous crop will furnish as much nutritious pasturage from early spring until late fall as sweet clover, when it is properly handled. Live stock thrive on it. Animals which have never been fed sweet clover may refuse to eat it at first, but this distaste can be overcome by turning them on the pasture as soon as the plants start growth. There is practically no danger from bloat from sweet clover, according to Farmers' Bulletin 820, "Sweet Clover: Utilization," which has just been issued by the United States Department of Agriculture.

When sweet clover has been seeded two years in succession on separate fields, the fields sown the first year may be pastured until the middle of June, when the stock should be turned on the spring seeding. When handled in this manner excellent pasturage is provided throughout the summer and a hay or seed crop may be harvested from the field seeded the previous season.

Some of the best pastures in Iowa consist of a mixture of Kentucky bluegrass, timothy, and sweet clover. On one large farm stock is pastured on meadows containing this mixture from the first part of April to the middle of June. From this time until the first part of September the stock is kept on one-half to two-thirds the total pasturage acreage. The remainder of the pasture land is permitted to mature a seed crop. Usually from two to four bushels per acre of recleaned seed is obtained from this portion of the pasture. After the seed crop is harvested, the stock again is turned on to this acreage where they feed on the grasses and first-year sweet clover plants until cold weather. The seed which shatters when the crop is cut is usually sufficient to reseed the pasture.

It is essential that sufficient stock be kept on the pastures to keep the plants eaten rather closely, so that at all times there will be an abundance of fresh shoots. Grazing induces the plants to send out many young shoots close to the ground, so that when the plants are permitted to mature seed a much larger number of stalks are formed than would be the case if the first crop were cut for hay. Excellent stands of sweet clover will produce an abundance of pasturage for two to three mature animals per acre, from early spring to the middle of June. Cattle which are pastured on sweet clover alone crave dry food. Straw or hay should be present in the meadow at all times.

Experiments by many farmers in the Middle West show that sweet clover is an excellent pasture far dairy cattle. When cows are turned on sweet clover from grass pastures the flow of milk is increased and its quality improved. Other conditions being normal, this increase in milk production will continue throughout the summer as the plants produce an abuncance of green forage during the hot, dry months. If pastures are handled properly they will carry at least one milk cow to the acre during the summer months. Tainting of milk and butter, sometimes reported, may be avoided by taking the cows off the pasture two hours before milking and keeping them off until after milking the following morning.

Sweet clover has proved to be an excellent pasturage crop for hogs. It is usually seeded alone and pastured for two seasons. The hogs may be turned on the fields the first year as soon as the plants have made a six-inch growth. From this time until late fall an abundance of forage is produced as pasturing induces the plants to send out many tender, succulent branches. Pasturing the second season may begin as soon as the growth starts in the spring. If the field is not closely grazed the second season it is advisable to clip it occasionally, leaving an eight-inch stubble, so as to produce a more succulent growth.

An acre of sweet clover pasture ordinarily will support twenty to thirty shoats, in addition to furnishing a light cutting of hay. For the best growth of the hogs they should be fed each day two pounds of grain per hundredweight of the stock. Hogs are very fond of sweet clover roots and should be ringed before being turned on the pasture. The tendency to root may generally be overcome by adding some protein to the grain ration. Meat meal serves this purpose very well.

Sheep relish sweet clover and make rapid gains when pastured on it. Care must be taken to see that pastures are not overstocked with sheep, as they are likely to eat the plants so close to the ground as to kill them. This is especially true the first year before the plants have formed crown buds. Yellow biennial sweet clover probably will not suffer from this cause as much as the white species, because the plants make a more spreading growth and are not likely to be eaten so closely to the ground.

Horses and mules do well on sweet clover pastures. On account of the high protein content sweet clover provides excellent pasturage for young stock. No cases of slobbering have been noted with horses.

The sooner into the can, the fresher the taste next winter.



THE twenty or more members of the Boy's Hampshire Pig Club of Kansas are here shown getting outside of a picnic lunch, the principal portion of which consisted of sandwiches of barbecued Hampshire pig. The big man seated at the end of the table is E. C. Stone, secretary of the American Hampshire Swine Record Association. George Ela, who organized the club, is acting as waiter. Each boy has a Hampshire sow pig and all are full of enthusiasm and are doing the best they can to win the prizes. Mr. Stone stated that he wanted the boy winning in the state contest to be his guest either at the National Swine Show in Omaha or he International Live Stock Show in Chicago. Carl Thompson of the Agricultural College gave the boys a most practical talk, emphasizing the need for keeping the pigs free from worms and internal parasites of all kinds and telling them how to care for the sow and pigs at farrowing time.

The Kansas Hampshire Breeders' Association had a meeting, and a large crowd sat down to the dinner of barbecued pig, but the livest feature of the day was the meeting of the boys shown in the cut.

Equipment for Farm Sheep

WE RECEIVE many inquiries concerning the care of sheep on the farm. Equipment for raising sheep on farms need not be expensive. Elaborate and expensive structures do not insure economy in management and are not essential to the welfare of the flock. In mild latitudes little housing of any sort is needed, but where winters are longer and more severe, some protection from storms is required. Under such circumstances the buildings in which it is proposed to house the sheep should be dry, well ventilated, and free from drafts, but no special provisions for warmth are required.

Where the flock contains a hundred or more ewes, it is desirable to provide a separate building for it. Smaller flocks can be cared for in sections of barns which contain other stock. In Farmers' Bulletin 810, "Equipment for Farm Sheep Raising," a new publication of the U. S. Department of Agriculture, a number of plans are given for different kinds of sheep barns, and also for such other equipment as pens, feeding troughs, hurdles, and fences. A good supply of feed racks, grain troughs, etc., says the bulletin, can be provided at a small expense and will both save labor and prevent waste of feed.

Because of the wide differenecs in climatic conditions under which sheep are raised, it is impossible to recommend a particular type of building for universal use. A few fundamental principles, however, should be followed, no matter what type of building is to be constructed. In the first place, the site should be dry and well drained. Ample yard space should be available adjacent to the main barn or shed, and it is desirable that this should have a southern slope with sandy soil. If, too, the sheep barn is located conveniently to the farmhouse or to other barns, much time will be saved in the performance of routine labor. This is important because through a part of the year the flock requires attention many times a day.

In planning a barn it is well to remember that shade and protection from heat are necessary for sheep, and that these can not always be obtained in pastures. The building that is cool in summer, therefore, will often give greater comfort to the animals than they can obtain out of doors. More important requisites, however, are dryness and light. Sheep can not possibly thrive in quarters that are damp and dark. In fact, the flock should be shut in only during storms. One square foot of window to each twenty square feet of floor space is considered necessary. The windows should be placed at a height to insure a good distribution of light and, in particular, of direct sunlight for the lambing pens during the period the ewes are lambing.

The ewes suffer greatly if confined in poorly ventilated pens. It is, therefore, necessary to provide some means of securing fresh air without creating drafts. Where the building is very large with numerous doors and windows, it is sometimes advisable to build one or two partitions from floor to ceiling. By opening muslin-screen windows on the side opposite to that from which the wind is blowing, fresh air can be admitted without causing drafts. In very cold sections or where lambs are to arrive in the winter months, specially arranged outlets of foul air and inlets of fresh air will be necessary.

Level and well-drained clay-surfaced floors are cheap and satisfactory, the only objection to them being that they do not exclude rats. For alleys and feed rooms concrete floors are required.

In the bulletin already mentioned is a discussion, accompanied by drawings, of the plan of a barn intended for the exclusive use of sheep, designed to meet the needs of those permanently engaged in sheep raising on a large scale. The working drawings and bills of materials for this and for the other buildings discussed in the bulletin may be obtained from the Office of Public Roads and Rural Engineering, Department of Agriculture, Washington, D. C. As the supply of the drawings for free distribution is limited, however, it is expected that only those will apply for them who are seriously contemplating building.

The building referred to has eight large pens, each capable of holding twenty ewes, allowing twelve square feet of floor space and fifteen inches of rack space for each ewe, and a small pen for the accommodation of four or five bucks. The partitions between the pens are formed by movable feed racks so arranged that the attendant can walk down the center to distribute feed. Storage space for fifty-five tons of loose hay or straw is provided in the mow, and for 1,100 bushels of grain in the storage room on the second floor. This is enough feed, with the exception of silage, it is said, to carry for a period of five months all the sheep that can be put in the barn. The silo should have a capacity of thirty tons.

The estimated cost of such a building with materials and labor obtainable at prices prevailing in May, 1916, should be approximately $2,400. These figures do not include feed racks, and the bulletin is careful to state that they should be considered only as a rough guide, because it is impossible to state exactly what the prices of material and labor will be in any locality. The amount of farm labor employed is also an important item in the total expense of construction.

Another set of drawings shows a combination horse, cattle and sheep barn designed to accommodate ten horses, five cows, and sixty-three sheep. Still another design calls for a simple type of closed sheep shed, which is especially adapted for farms in which the main barn has large feed capacity but not sufficient floor space foh the live stock. Allowing twelve square feet of floor space per animal, this shed will hold twenty-six sheep. This shed affords good protection for sheep under any conditions and may be used for winter lambing if the width is increased from sixteen to twenty feet. This will enable detachable lambing pens to be set up next the wall and still leave room for a feeding rack for the other ewes.

The bulletin also discusses in detail with illustrations a number of designs for grain troughs, feeding racks, fences, hurdles, lamb creeps, and other equipment. Growers are cautioned that fences that will exclude dogs should be used, although a less expensive fence would suffice for the sheep themselves.

"You Could Have Saved All Those Hogs With Hog-Tone"



It was worms that killed those hogs. 90% of hog deaths are caused directly or indirectly by worms. And the U. S. Dept. of Agriculture declares: **"Nearly every hog is infested with worms."** And **"More hogs may be lost from worms this year than from hog cholera, and many cases of apparent cholera are only worms,"** says Dr. J. T. Dinwoodie, Veterinary Specialist of the South Dakota State College. The Malignant Thorn Head Worms—Stomach Worms—Liver Worms—Lung and Bronchial Worms are stealing away the lives of an untold number of hogs every year. They weaken the hogs—make them subject to Cholera, Scours, Thumps, Rheumatism, Enteritis and Gastritis. They affect every sow's litter. Even if they don't kill your hogs, they rob you of your just profits. They make your hogs unthrifty—prevent them from putting on fat—lower their market value. You can prevent all this loss of hogs and money. You can banish the deadly worms. You can do it without risking a penny of your money.

We are going to give you the same opportunity to prove this that we gave H. O. Michael, R. No. 2, Markle, Ind. He writes: **"My first bottle of HOG-TONE made me one hundred dollars ($100.00) as it saved more than that many dollars' worth of hogs for me. I will not be without HOG-TONE, as I think it is wonderful what this remedy will do for hogs."**

If **Avalon Farms HOG-TONE** doesn't make your hogs make you more money—produce more pounds of pork for you from the same amount of feed—we don't want your money!

Avalon Farms HOG-TONE is the only Veterinary Remedy ever sold with a guarantee to produce a definite percentage of profit. **We guarantee it to produce 400 per cent profits on the cost of the remedy—no matter how healthy your hogs appear to be—and prove it to your own satisfaction.** If it doesn't do it, we don't ask you to pay a cent. Now, here is our remarkable offer: Simply fill out the coupon below, send it to us—**with NO money**—and we will immediately ship you

60 Days' FREE Treatment of

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The Liquid Worm Killer and Hog Conditioner
For ALL Your Hogs—SEND NO MONEY!

We will ship you one $1.00 bottle of Hog-Tone for each eight hogs in your herd—the day the coupon below, filled in, reaches this office. That will be sufficient to treat your hogs 60 days or more, according to size. This will mean just 12½c per hog for all the treatment and that treatment is guaranteed by us to give you a 400 per cent profit over and above the cost of the Hog-Tone treatment at marketing time. This is the same opportunity that these men grasped—and made money as a result.

Perry Stratton, famous breeder of Berkshires, Momence, Illinois, writes: "I took a couple of shoats that did not seem to be doing well from a larger bunch of hogs and began by feeding them some of your Hog-Tone, and in about five weeks' time you would not have believed they were the same hogs. They grew so rapidly and made such fast gains that now I have them back with the other hogs, and when feeding time comes they are the biggest scrappers in the bunch."

Herman A. Behrens, Palmer, Iowa, writes: "Enclosed find money order for $5 for five (5) more bottles of your AVALON FARMS HOG-TONE. I have been treating my hogs with AVALON FARMS HOG-TONE for sixty days and see wonderful improvement in their condition. I am satisfied that AVALON FARMS HOG-TONE is showing me 400 per cent profits."

Guy Hoopingarner, R. No. 1, Uniondale, Ind., writes: "A bunch of seven hogs of mine took sick and two died. Three would not eat at all. After the first dose of Hog-Tone they commenced to improve and continued to do so. I thought these hogs had the cholera, as they acted like it, and the neighbors had it all around me and their hogs died. My hogs never missed a feed after feeding Hog-Tone and they made good hogs."

Avalon Farms Hog-Tone is a highly concentrated liquid medicine for hogs only. It contains highly important medical ingredients which are liquids and which cannot be combined in medicated salts, stock foods or condition powders of any kind.

Avalon Farms Hog-Tone is safe. It is very easy to treat your hogs with Avalon Farms Hog-Tone. It is easily mixed with any kind of slops, with the drinking water or dampened feed. It is only given every third day for the first six weeks and after that only once a week. 100 PER CENT STRONG.

Thoroughly proved on Avalon Farms near Fort Wayne, Ind. Cleans out every kind of worms that infest hogs. By doing so it gives protection to your hogs from easily contracting Cholera, Rheumatism, Thumps, caused by worms and indigestion, Scours, Enteritis, Indigestion and other diseases that destroy literally millions of hogs.

A Simply Wonderful Tonic and Conditioner—

Gives hogs voracious appetites, aids digestion, helps them thrive, grow and put on fast increases of flesh.

Splendid for Pregnant Sows, Helping to Produce Sturdier, Thriftier Pigs



Don't Send a Penny! Just Mail the FREE Coupon

Simply tell us how many head of hogs you have—write down your name and address and mail to me. We will immediately ship you enough Avalon Farms Hog-Tone to treat your hogs for 60 days! You simply pay the transportation charges. Treat your hogs according to directions. If at the end of the treatment you are not completely satisfied—simply return the labels to us and you don't owe us a cent.

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I own _____ hogs. Ship me immediately enough AVALON FARMS HOG-TONE to treat them for 60 days. I am to pay nothing now except transportation charges. I agree to report results to you at end of 60 days and pay for the Hog-Tone at that time if it has done all that you claim. If it does not, I will return the labels, you agree to cancel the charge.

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The Alligator Wrench requires no adjustment; simple; always ready for use; never slips. Works in closer quarters than any other wrench. It is light, strong, compact. Easily carried in the pocket.

THREE DIES FOR CUTTING or cleaning threads in bolts used on farm machinery. It is drop-forged from the best steel, scientifically tempered, nothing to get out of order.

OUR SPECIAL FREE OFFER We will send the handy Alligator Wrench free and postpaid to all who send $1.00 for a one-year subscription to Kansas Farmer, and 15 cents extra to pay packing and postage—$1.15 in all. Address

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Advertising **"bargain counter."** Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks**, for bona fide seekers of employment on farms.

HELP WANTED.

WANTED—MAN AND WIFE TO TAKE charge of farm from July 10 until November 1. Address Joe Bell, McDonald, Kansas.

FARMERS, 18 OR OVER, WANTED (men-women) U. S. Government jobs. $90 month. Hundred vacancies. Common education sufficient. Write immediately for free list of positions. Franklin Institute, Dept. E-82, Rochester, N. Y.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FIVE HIGH-GRADE GUERNSEY HEIFERS from tested dams with cow testing association records. J. W. Marley, Oswego, Kansas.

REGISTERED HOLSTEIN BULL READY for service. Two of his dams averaged 100 pounds milk in one day and 35 pounds butter in seven days officially. $100. Wisconsin Live Stock Association, Appleton, Wis.

FOR SALE — VERY CHOICE HIGH-grade Holstein calves, either sex, three to six weeks old, at $20 per head, crated for shipment. Or if you want dairy cattle of any age, I will buy them at a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked. $23, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

TRACTORS.

40-80 AVERY TRACTOR AND PLOW rig. Shidler Brothers, Lake City, Kansas.

HORSES AND MULES.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

ALFALFA.

ALFALFA SEED, $8 PER BUSHEL. Good purity and germination but dark color. Better grades for more money. Write for free samples and prices. Henry Field, Shenandoah, Iowa.

BEST FARM PAPER IN KANSAS.

We note from the label on our paper that our subscription expired in February. We are of the opinion that we paid two dollars for three years' subscription when last renewed and supposed our subscription was paid in advance for some time, but we know that time flies so swiftly that we fail to realize how swiftly it is passing until it is past.

We have been a Kansas Farmer reader for about twenty years and think it the best farm paper in Kansas. I have had the pleasure of meeting Mr. Wheeler at Manhattan, Kingman, and other places, in farmers' institute work.

I am very much interested in the dairy business and have brought in many good pure-bred and high-grade Holsteins from Wisconsin's and New York's best herds to our state in the past year.

Inclosed please find check for two dollars for three years' subscription. Wishing the "Farmer" a glorious future, I am,

G. M. FRISBIE,
Kingman County.

PLEASE MENTION KANSAS FARMER WHEN WRITING TO ADVERTISERS

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

DOGS.

FOR SALE—COLLIE PUPPIES, HANDsome, useful. $7. Frank Barrington, Sedan, Kansas.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

WANTED

WALNUT LOGS WANTED, FOURTEEN inches and up. Give number and size first letter; distance to R. R. W. A. Schwartz, Louisburg, Kansas.

THE STRAY LIST.

TAKEN UP—BY BARNEY McCABE, RESiding seven miles north of Iola, Allen County, Kansas, June 12, 1917, one bay mare, about twelve years old. The mare has a white face, black mane and tail, three white feet and some harness marks. Appraised at $40. Geo. Seymour, County Clerk, Allen County.



This genuine Victrola for $15 will play any music in the Victor Record catalog.

Write to us for the handsome illustrated Victor catalogs, and the name and address of nearest Victor dealer.

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Victrola IV, $15

Other styles up to $400



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

There's not a blessed thing in this world worth having without sacrifice. The big people, the people that have the big things of life, are those that have paid or are prepared to pay the big price for them.—WILLIAM J. LOCKE.

Girls Volunteer for Service

"Can Co-eds can? Can Co-eds can? Can Co-eds can? Kansas Co-eds can! Can! CAN!! CAN!!!

With this slogan, the young women of our state educational institutions are going to farm homes to assist in the preserving of garden and orchard products. Not to be outdone by the young men, who are aiding in food production, the young women are offering their services to the Council of Defense to relieve the shortage of labor in farm kitchens during the summer months. Most of them are country girls and experienced cooks. Some are paying their own expenses while in college. If their help is not needed in their own homes, these girls are willing to work in other households, preferably in their own counties.

To Miss Glee Stallard, of Ottawa University, belongs the credit for starting this movement. It has now spread to the other colleges and universities of the state and hundreds of young women are volunteering for this work.

"These girls will take pride in helping their respective counties rank high in preserving food," explained Miss Stallard. "They do not aim to force their assistance on the farmer or his wife, but they are anxious to be of service in the biggest battle we can fight—the battle against starvation."

The dean of women at any Kansas college will be glad to put those desiring assistance in touch with capable young women.

Drying Peas

Mrs. J. B. D., Pottawatomie County, asks how to dry green peas, when they should be gathered, and how to prepare them for the table. As this inquiry was accompanied by postage, a reply was furnished by return mail. Thinking others of our readers may be interested in knowing how to dry garden peas and other vegetables, we give below the instructions furnished.

Select tender peas of the size you would choose for cooking fresh, or the very young and tender sugar peas, in which case the pod may be dried also. The four methods of drying described in the following paragraphs have all proven successful.

The simplest process consists of shelling the peas, spreading them on trays with covers of screen wire or mosquito netting for protection from flies and other insects, and drying in the sun. Once or twice a day they should be turned with the hand so that they will dry evenly. This is an inexpensive method and there is little danger of the product becoming overheated. Dust is likely to blow into the trays, however.

A good method if one has a dryer with which artificial heat can be used is to shell full-grown peas with non-edible pod, blanch by placing in boiling water from three to five minutes, remove water remaining on the peas by placing between two towels or by exposing to the sun and air for a short time, spread in single layer on trays and dry from three to three and one-half hours. Begin drying at 110 degrees F., raising the temperature very slowly in about one and one-half hours to 145 degrees F. Continue drying one and one-half or two hours at this temperature.

Another form of drying is to shell the peas, pass through a meat grinder, spread on trays, and dry either in the sun or over artificial heat. Whole peas take longer to dry, but when cooked they resemble fresh peas. The ground peas dry more quickly, but make a product which can be used successfully only in the preparation of soup or puree.

When drying the very young and tender sugar peas, use the pod also. Wash and cut in quarter-inch pieces. Blanch in boiling water six minutes. Remove surplus moisture. Dry from two to three hours, beginning with a temperature of 110 degrees F. and raising the temperature gradually to 145 degrees F. It is not necessary to use soda in blanching peas, as is sometimes done in blanching beans.

It will be found advisable to "condition" practically all dried vegetables and fruits by placing the material in boxes and pouring it from one box into another once a day for three or four days, so as to mix it thoroughly and give to the whole mass an even degree of moisture. If the material is found to be too moist, it should be returned to the drying trays for a short time.

In preparing the peas for the table, the water which has been dried out of them should be replaced by soaking in water several hours or over night, after which they may be cooked in the same ways as fresh peas.

The recipes given above were taken from Farmers' Bulletin 841, "Drying Fruits and Vegetables in the Home," which has just been published by the United States Department of Agriculture, Washington, D. C. This bulletin may be obtained free by addressing the Division of Publications, U. S. Department of Agriculture, Washington, D. C. It contains directions for drying the various fruits and vegetables that are adapted to drying, and recipes for their use. It also shows how to construct several forms of home-made dryers. The June 23 issue of KANSAS FARMER contained an article entitled "Dry Fruits and Vegetables," which gives plans prepared by our own Agricultural College for two types of home-made dryers.

Ways of Serving Lettuce

Two very good reasons why more lettuce should be eaten are that it acts as a conditioner to the system and it is usually plentiful and when it is used some other vegetable may be saved. By using lettuce, beet tops and other greens are left for canning, and through this practice we are helping to conserve food.

We believe more lettuce would be eaten if more care were given to its preparation for the table. There are many ways to serve it. One is to add to fresh bacon fryings a little vinegar, sugar, salt and pepper, and pouring this hot mixture over the lettuce leaves after having chopped them.

Lettuce served with boiled salad dressing is very appetizing. The dressing may be made as follows:

¾ cupful vinegar
¾ cupful water

Heat this in double boiler. Mix

½ cupful sugar
½ tablespoonful salt
1 tablespoonful mustard
2 heaping tablespoonfuls flour
2 eggs.

Add this to vinegar and water, stirring in slowly and cooking until thick. A small lump of butter may be added or the dressing may be thinned with thick cream. This dressing should be chilled and served at the table.

If the men folks do not eat lettuce ordinarily, try crisping it by letting it stand in cold water, chopping, and serving with one of these dressings. You may be surprised at the result and may have help in using the patch of lettuce that will be wasted otherwise.

Child Training

Children who receive daily training seldom need to be reminded of their "company manners." On the other hand, manners are seldom used on the special occasion if that is the only time they are required.

Within the past two weeks we have had opportunity to study both types at close range. We could not help pitying the child who had been allowed to disregard manners and the feelings of other people to the point of becoming selfish and willful and unattractive for these reasons, though she was pretty and bright. She is the idol of all other mem-

bers of the family and their love for her has blinded them to the unlovely qualities they are helping to develop in her and which will cause her unhappiness as she grows older and loses friends on account of them.

The other type was brought to our attention by two children of eight and six years, respectively, who recently spent the night in our home. No member of their family was with them and yet there was not an action or a word of which their mother might not have been proud. From the time they were placed in our custody their thought seemed to be of their hostess and of making her as little extra work as possible. Every little thing done for them was just right and appreciated by them and all the while they talked interestingly in their childish way, frequently expressing delight. It was very evident they were not thinking of "company manners" but were just acting naturally. It was also evident that back of these free, likable manners was the careful home training which alone could produce such results.

To be sure, there are different temperaments which must be dealt with differently, but they are all worth studying in order that the best possible training may be given. This early training is the foundation for the future man and woman and the more substantial the foundation is, the more durable will be the structure built upon it.

What a pity that we ever allow our desire to please the child to stand as a stumbling block to him later.

Dry bread can be made into French toast, or fried bread, with the addition of an egg and a little milk. This is a very good breakfast dish.

Pieces of soap which are too small to use should be placed in a small muslin sack about four by six inches. When the sack is almost full it should be tied securely at the top and the soap can then be used in dish water or bath water.

For a change, or when the family tires of fresh radishes, try slicing and boiling them. When tender pour off the water and add a white sauce. They resemble turnips in taste, and may be served in this way when too large to be palatable without cooking.

Can nothing that can be kept without canning. Dry such vegetables as corn, string beans, navy beans, mature lima beans, okra, etc.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8158—Child's Coat: Cut in sizes 2 to 12 years. In this roomy coat there is a wealth of style, inviting any little girl to see herself at her best for the call of outdoors. The fullness is gathered to a round yoke at front and held in at lowered waistline by a separate belt fitted with a pocket at each side; the strap cuff finish to the sleeve is a new style note. **No. 8139—Ladies' Shirtwaist:** Cut in sizes 36 to 42 inches bust measure. The frill of lace along the edge of the handsome collar and down the front helped this blouse to win a reputation as a genuine beauty. Its cut shows the V neck in first favor, the preferred front closing and the fullness bloused at the waistline. The back is plain with a stay belt at the waistline to hold the gathers. **No. 8177—Girls' Dress:** Cut in sizes 2, 4, 6 and 8 years. This model will interest any woman who has a child to dress. The frock is cut in one piece and, to give it style appeal, has front closing in diagonal effect. The fullness is becomingly belted with self material and the neck daintily finished with a square collar of contrasting goods. **No. 8175—Misses' Dress:** Cut in sizes 16, 18 and 20 years. A simple but lovely frock, made noticeable by a separate yoke belt of contrasting goods and a collar of unusual cut, to match; a trimming fold on the cuff is another detail with charm. The waist is cut very full, bloused at regulation waistline where a three-gore skirt with panel front is joined. **No. 8157—Ladies' Skirt:** Cut in sizes 24 to 34 inches waist measure. Just out—this five-gore skirt, for the woman who aims to be well dressed with a waist and skirt combined. The back is laid in plaits from the raised waistline that is so becoming; the front is plain with a tailor stitched seam down the center and trimmed with buttons to emphasize the straightness of line. **No. 8146—Ladies' Dress:** Cut in sizes 36 to 42 inches bust measure. With a generous measure of style, this model is cut with the panel and yoke in one piece and has the side sections laid in plaits—the plaits being held in place by a wide belt of self or separate material. The fullness of the sleeve is massed at the elbow and the buttoned cuff effect shows the newest sleeve finish.

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KANSAS FARMER READERS CAN BE OF GREAT HELP TO THEIR FAVORITE FARM PAPER NOW

KANSAS FARMER comes to you through the mails. It is distributed under the jurisdiction of the Post Office Department, which has made some new rulings which the publishers of KANSAS FARMER must observe in respect to the procuring and continuation of subscriptions. During these critical times the rulings may be changed at any time, at the option of the Post Office Department.

The Postmaster General has made a ruling which makes it necessary that certain classes of subscriptions may not be carried after expiration. It has always been customary and permissable for the publisher to carry, at his option, subscriptions for a short time after they expire, in order that the subscriber might have an opportunity to renew his subscription and thus prevent his missing any copies of the publication.

The new rule, however, requires that this practice must be stopped.

We feel that you want KANSAS FARMER, because it is strictly a Kansas paper and is striving to help you in your work, and you certainly do not want to miss the good things that this old paper carries each week for the betterment of farm conditions. We do not want to discontinue your paper. We are very anxious to retain every one of our subscribers. In order to do so, we must urge that you send us your renewal subscription at once.

Here are four distinct offers which we submit to you. We will greatly appreciate your acceptance of any of them:

1. May we immediately have your renewal for one year at $1.00?

2. If you send us $2.00, we will renew your subscription for three years—a saving of $1.00.

3. If you will send us the subscription of two of your neighbors for one year for $1.00 each—$2.00 in all—we will renew your own subscription one year without additional charge in appreciation of this service rendered.

4. If you will send us the subscriptions of four of your neighbors at $1.00 each—$4.00 in all—we will extend your subscription for a period of three years without additional charge.

We have provided a special blank below to be used in sending in your renewal subscription or the subscriptions of your neighbors. May we again urge you to co-operate with us by accepting one of the offers provided?

Special Club Subscription Blank

KANSAS FARMER, Topeka, Kansas.

I enclose $.....for.....subscriptions to KANSAS FARMER for one year each. For this service I am to receive KANSAS FARMER for {1 year / 3 years} without additional charge.

Name .....

Address .....

Name .....

Address .....

Name .....

Address .....

Name .....

Address .....

Special Renewal Blank

(To be used in case Club Offer is not accepted.)

KANSAS FARMER, Topeka, Kansas.

Enclosed please find {$1.00 / $2.00} to pay for my renewal to KANSAS FARMER for {1 year / 3 years} as per offer above.

Name .....

Post Office .....

R. F. D..... Box..... State.....

Patriots and Loyal Citizens Will Want to Show Their Colors



"Your Flag and My Flag"

"Long may it wave
O'er the land of the free
and the home of the
brave"

The big demand, the scarcity of good dyes and the high price of cotton have made it hard to secure flags. We have been fortunate enough to secure a few high-grade printed flags 3 feet by 5 feet with canvas heading and brass grommets, colors fast.

You May Have One of These Flags If You Act Promptly
HERE IS OUR OFFER

For only $1.50 we will enter your subscription or extend your subscription for one year and send you this beautiful flag, postpaid. Or for $2.00 we will renew your subscription for one year and one new subscription for one year and send you one flag postpaid.

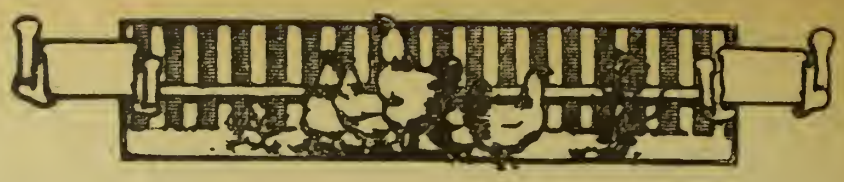
Don't Delay—Send Your Order NOW, Before It Is Too Late

FLAG OFFER BLANK

Name.....R. F. D.....

Postoffice..... State .....

DESK D, KANSAS FARMER, TOPEKA



Keep Pullets For Winter Eggs

THE prevailing high prices of grains coupled with the fact that spring chickens are bringing very attractive prices, will tend to put many thousand frys on the market within the next few weeks. Very few if any of the poultry raisers of Kansas are in a position to say whether this is a wise move or not. Before any of the pullets are disposed of a person should be in a position to state what they have cost and what the reasonable expectations may be for their profitableness the coming winter.

It is too early in the season to state positively what it will cost to mature a pullet. By taking the figures of former years and comparing grain prices with the same grains this year, we can approximate very closely. Under ordinary conditions where the chickens have ample room for range and are given good care, the cost is low enough to justify the breeder in keeping his pullets even this year. Recent published experiments from one of the experiment stations show that it takes four eggs set to raise one pullet. Basing our calculations on this statement and allowing two cents each for the eggs set, which has been a little under the average price for this year, we have the pullet costing eight cents as soon as she is out of the incubator. With grain at the prices that prevail in an ordinary year, it costs about fourteen cents to feed a chick till it is twelve weeks old, at which time it will weigh around one and one-fourth pounds. This is for Leghorns. These figures are all based on this breed of chickens. Taking the same authority as a basis, it costs fifty-four cents to raise a Leghorn pullet to the laying age. The cockerels in this case were all marketed as soon as they weighed a little over one pound and the proceeds from the sale applied on the cost of maturing the pullet. It should not cost the average farmer as much to raise the pullet, because the living of the farm-raised chicken is gathered from the waste material about the place.

The price of eggs this winter will certainly be such as to justify all raisers of poultry in keeping the pullets if they can be raised as cheaply as this. As grain is nearly twice the usual price, it is to be supposed that the cost of maturing a pullet will be nearly or quite twice that given here. If other breeds than the Leghorns are raised, the cost will be about one-fourth more, but they will weigh considerably more at the age of twelve weeks.

Department of Agriculture Bulletins

The following publications of the U. S. Department of Agriculture relating to poultry raising and egg production are available for free distribution:

The Guinea Fowl and Its Uses as Food (Farmers' Bulletin 234).

Poultry Management (Farmers' Bulletin 287).

Pheasant Raising (Farmers' Bulletin 390).

Marketing Eggs Through the Creamery (Farmers' Bulletin 445).

Capons and Caponizing (Farmers' Bulletin 452).

Hints to Poultry Raisers (Farmers Bulletin 528).

Important Poultry Diseases (Farmers' Bulletin 530).

Organization of Boys' and Girls' Poultry Clubs (Farmers' Bulletin 562).

Poultry House Construction (Farmers' Bulletin 574).

Natural and Artificial Incubation of Hens' Eggs (Farmers' Bulletin 585).

Shipping Eggs by Parcel Post (Farmers' Bulletin 594).

Natural and Artificial Brooding of Chickens (Farmers' Bulletin 624).

A Simple Trap Nest for Poultry (Farmers' Bulletin 682).

The Community Egg Circle (Farmers' Bulletin 656).

Squab Raising (Farmers' Bulletin 684).

Duck Raising (Farmers' Bulletin 697).

Goose Raising (Farmers' Bulletin 767).

Turkey Raising (Farmers'. Bulletin 791).

How to Kill and Bleed Poultry (Bureau of Chemistry Circular 61, revised).

The following bulletins are for sale by the Superintendent of Documents, Government Printing Office, Washington:.

The Commercial Fattening of Poultry (Department Bulletin 21), price 10 cents.

Lessons on Poultry for Rural Schools (Department Bulletin 464), price 10 cents.

The Food Value and Uses of Poultry (Department Bulletin 467), price 5 cents.

Eggs and Their Value as Food (Department Bulletin 471), price 5 cents.

Fattening Poultry (Bureau of Animal Industry Bulletin 140), price 10 cents.

The Improvement of the Farm Egg (Bureau of Animal Industry Bulletin 141), price 10 cents.

The Care of the Farm Egg (Bureau of Animal Industry Bulletin 160), price 15 cents.

A System of Poultry Accounting (Bureau of Animal Industry Circular 176), price 5 cents.

Last year poultry and eggs were so high that many cold storage plants chose to wait for a slump, but the slump did not come. The result was a shortage of nearly 25 per cent of storage eggs held for the 1916-17 season. This year looks still more promising. Both patriotism and profit should stimulate production. True, grain is high priced. But eggs have increased in price accordingly, and there is every prospect that it will continue to be highly profitable to produce them.

There is no form of life that seems to enjoy hot weather as does the little red mite. The hotter the weather, the more rapidly do they multiply. The hot days of July and August are when we should keep the closest watch for them. Nothing is better than kerosene to keep down this pest. If the roosts and nests are thoroughly sprayed with this once each week or ten days, they will do no harm in the poultry house.

This is the time of year when the young pullet is retarded or even stunted in growth by being kept in too close quarters at night. The chicks grow, but the coops do not, and before we know it they are too large for their quarters. Better go out and see how they look tonight when they go to roost.

Of course there are farms where there is lots of grain scattered about the yards where fowls can pick up a decent living, but the number of them is small compared to the places where the hens cannot live without being supplied with a daily ration.

This is the season of the year when the lice and mites reap their harvest of blood drawn from the bodies of the hens. All this blood is manufactured from the grain we feed. A little attention now will cut down the price of maintenance of your flock of poultry.

Prepare for Wheat Early

(Continued from Page Five)

While these figures indicate that the acreage of wheat exceeds last year's by 2,235,000 acres and barley and oats by 1,277,000 acres, a large percentage of the increase is in the western counties where wheat failed and where the crops are now suffering for rain and where recent reports—telegrams and letters and personal visits by members of the committee—indicate that much of the barley and oats have already completely perished and that the yields of corn and sorghums, but corn in particular, are going to be substantially reduced if not entirely lost unless abundant rains fall within a few days. Although growing conditions are unfavorable in the western half of the state for crops in general, they are unusually favorable in the eastern half, where oats and wheat and corn never looked more promising than they do today. In this portion wheat and oats are made and now being harvested, and corn is growing fast, the fields being well cultivated and clean.

Real Estate For Sale

Will Trade Iowa Farm for Cattle

We will exchange a good Iowa farm for a top quality herd of Hereford cattle. Write, giving full particulars, to
AMOS BURHANS, Waterloo, Iowa

STOP, LOOK and LISTEN!

Deal direct with the owner. Half section improved and half section unimproved. Eastern Elbert Co., Colorado, well located at a bargain. Guarantee full and accurate details in first letter.
F. E. JANKE - STRATTON, COLO.

Forty Three Acre Farm

High class little 43-acre farm, 6 miles from Topeka. Good improvements. Only $3,800; terms. Can fit you out in any size farm desired. J. E. THOMPSON (The Farmer Land Man), Tecumseh, Kansas.

If you would buy a farm for less than value of crops raised this year, write us. Corn, oats, and wheat, almost perfect crop. SOUTHERN REALTY CO., McAlester, Okla.

FARM WANTED

Married man with family wants to buy a good farm in Kansas on crop payments. Will give largest part of crop each year in payment. Want three or four horses, a few cows and hogs, or will take charge of farm as manager on satisfactory arrangements. Was raised on a farm.
Jess Glitton, 2715 Alice, Kansas City, Kan.

PURE BRED POULTRY

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNDRED. Nora Lamaster, Hallowell, Kansas.

BARRED ROCKS — SEVENTY-THREE premiums. Breeders for sale. Eggs half price. Mattie A. Gillespie, Clay Center, Kansas.

SEVERAL BREEDS.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

LEGHORNS

SINGLE COMB BROWN LEGHORNS—Pullet mating only. Tiff Moore, Osage City, Kansas.

POULTRY WANTED.

PAYING 32c DOZEN NON-FERTILE eggs; 30c fresh candled; hens, 16c; cases and coops loaned free. The Copes, Topeka.

MINORCAS.

S. C. WHITE MINORCAS—EGGS FROM pure-bred birds, $3 and $2 per setting. Correspondence solicited. A. Goodwyn, Minneapolis, Kansas.

SHETLAND PONY FOR SALE

Shetland pony mare, not registered, coming three years old, bred to a registered Shetland stallion. Broke to ride. Will sell at a bargain if taken soon. Address

D, CARE KANSAS FARMER.

JERSEY CATTLE.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

JERSEY CATTLE

One four-year-old cow, milked 35 pounds 5 per cent milk with second calf. Will freshen in December to service of our great son of Sans Alol. Also four splendid Finance Interest bulls from four to six months old. Write for pedigrees and descriptions.
BISONTE FARM - LAWRENCE, KANSAS

Jersey Calf Bull dropped January 4, 1917, out of a rich-milking good-typo dam. A bargain. W. T. Ballagh, Nevada, Missouri.

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

Jersey Cows For Sale

Eighteen head of choice, young, registered Jersey cows fresh and coming fresh. Priced for quick sale.
N. L. DUCHESNE, GREAT BEND, KANSAS

We should be pleased to have a copy of Kansas Farmer for June 23 for our files in this office. We consider your paper a great help to our boys and girls engaged in club work.

GEORGE E. FARRELL,
Assistant Boys' and Girls' Club Work, U. S. Department of Agriculture, Washington, D. C.

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

EDGEWOOD FARM

REGISTERED ANGUS BULLS. HAVE FIFTEEN STRONG YEARLING BULLS FOR SALE.

D. J. White, Clements, Kansas

POLAND CHINAS

POLAND CHINAS.



Faulkner's Famous Spotted Polands

The world's greatest pork hog are raised exclusively on

HIGHVIEW BREEDING FARMS

The largest registered herd of old, original, big-boned, spotted Polands on EARTH.

Spring Boars Now Ready to Ship, Pairs and Trios No Kin.
Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.

H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

OLD ORIGINAL SPOTTED POLANDS
Choice March and April pigs of both sexes. H. A. MATTOX, Route 2, Burlington, Kan.

Langford's Spotted Polands. Gilts bred for fall farrow. Future herd boars. Satisfaction guaranteed. T. T. LANGFORD & SONS, Jamesport, Missouri

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

TOWNVIEW HERD BOARS
Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

POLAND CHINA BOARS
Twenty-five choice spring boar pigs sired by Caldwell's Big Bob, Big Hadley Jr., King Price Wonder, Columbus Defender, Big Bob Wonder and Fessey's Tim. Some fine prospects and priced reasonable. Immune.
BERT E. HODSON, ASHLAND, KANSAS.

OLD ORIGINAL SPOTTED POLANDS
Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

Henry's Big-Type Polands
Spring pigs, either sex. Juno delivery. Sired by Mammoth Orange, King Price Wonder, Big Wonder. Choice of lot, $25. Trio, $100. Others, $25. First check, first choice.
JOHN D. HENRY, LECOMPTON, KANSAS

DUROC JERSEYS.

JONES SELLS ON APPROVAL
February, March and April Durocs, pairs and trios and herds unrelated. First class pigs at reasonable prices.
W. W. JONES, CLAY CENTER, KANSAS

LONE TREE DUROC FARM
Herd Boar Graduate Prince by Graduate Col. Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.
GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNE DUROC-JERSEYS
Forty-five head spring boars and gilts, March and April farrow, by Gano Pride 2d by Gano Pride, out of a Graduate Col. sow. Herd sows best of breeding. Write for prices. T. F. DANNER, Winfield, Kansas.

IMMUNED DUROCS
With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

GALLOWAY CATTLE.

GALLOWAY BULLS
SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
B. B. FRIZELL, Frisell, Pawnee Co., Kansas

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER B. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

BERKSHIRE HOGS.

KING'S BERKSHIRES — Twenty good Berkshire fall boars. One good yearling boar. E. D. KING, Burlington, Kansas.

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

GUERNSEY CATTLE.

Choice Guernsey Calves—Ten heifers, 15-16ths pure, beautifully marked, from heavy-producing dams $20 each. Satisfaction guaranteed. L. Terwilliger, Wauwatosa, Wis.

GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising. O. W. Devine, Representative

Address All Communications to Kansas Farmer, and Not to Individuals

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CLAIM SALE DATES.

Holsteins.
Oct. 16 — The Nebraska Holstein Breeders' Consignment Sales Co., Omaha, Neb.; Dwight Williams, 103 Bee Bldg., Omaha.

Poland Chinas.
Aug. 15—H. L. Faulkner, Jamesport, Mo.
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Oct. 17—Walter B. Brown, Perry, Kansas.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.

Red Polled Cattle.
Sept. 4—Milton Pennock, Delphos, Kansas.

Durocs.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.

Hampshire Hogs.
Oct. 12—Kansas Hampshire Swine Breeders' Association and Halcyon Hampshire Pig Club sale at Valley Falls, Kansas. George W. Ela, secretary and manager.

O. I. C. Hogs.
Sept. 4—Milton Pennock, Delphos, Kansas.

Robert H. Hazlett, of El Dorado, Kansas, is fitting a string of his Herefords that will be out at the leading fairs this fall. Mr. Hazlett takes great pride in showing cattle of his own breeding. There is now in his herd eighty head of choice young bulls that are herd prospects and 125 mature herd cows, many of them tracing to Beau Brummel 10th. The herd bulls now in service are the grand champion Bocaldo 6th, assisted by Caldo 2d, Publican 4th, and Beau Baltimore.

C. W. Taylor, of Pearl, Kansas, is making a great success with his herd of Scotch and Scotch-topped Shorthorns. The herd now numbers over 100, consisting of seventy-five cows and twenty-five heifers. A number of extra well bred stock bulls are used in the herd, including the pure Scotch bull, Village Heir by Imported Villager. His dam was Rosetta Grassland out of Imported Rosetta 12th. Village Heir is one of those short-legged low-down well-proportioned bulls of the right sort. A feature of the herd at this time is the choice lot of yearling bulls, both Scotch and Scotch-topped.

Ross & Vincent, of Sterling, Kansas, are claiming November 6 for a fall sale of their big-type Poland Chinas. They have raised ninety-five head of extra good spring pigs mostly sired by Mammoth King by Cowie's Orange by Mammoth Orange. Mr. Vincent, on the farm, has done a good job feeding his pigs this spring and they promise to be one of the good offerings of Poland China boars and gilts that will be sold this fall.

John D. Ziller, Hiawatha, Kansas, is claiming October 25 for a fall sale of Poland Chinas. On this date Mr. Ziller will offer fifty head of fall and spring boars. The herd is headed by Jumbo Wonder 2d by Jumbo Model 3d by Smooth Black Bone. Mr. Ziller has made a great success of Poland Chinas and seed corn for thirty years on the same farm.

L. W. Terwilliger, of Fernwood Farm, Wauwatosa, Wisconsin, reports a heavy demand for young Holsteins. During the past few weeks Fernwood Farm has shipped a large number of choice Holstein calves to Kansas and the Southwest. A feature of Fernwood herd at this time is the choice lot of pure-bred and high-grade youngsters.

E. S. Engle & Son, Abilene, Kansas, owners of one of the great producing Holstein herds, report their herd doing fine and in the near future they will be able to report some splendid semi-official yearly records. This is one of the consistent producing herds now assembled.

N. L. Duchesne, Great Bend, Kansas, owner of one of the largest herds of pure-bred Jersey cattle in the West, reports his herd making a good record this year. This is one of the richly-bred herds and a feature at this time is the very fine lot of young cows of record breeding.

William D. Brigham, manager of Addams Farm, Gashland, Missouri, the home of one of Missouri's good Guernsey herds, reports the herd making a good record again this year. This is one of the heavy producing herds and is headed by Itchen Royal of Overland 29217. His sire is Imp. May Royal 22242; dam; Imp. Daisy of the Hall 35212, A. R. 3473, 581.18 pounds butterfat, average for year 5.11 per cent. Several of the cows are sired by Goodwill's Raymond of the Preel 14107, thereby being granddaughters of Imp. Masher Sequel 1266. One cow is sired by Glenwood Lad of Westlawn 14845 and another is sired by Ambler 2d 11352.

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm — F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS
BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, bou from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING
of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

HOLSTEIN FRIESIANS



E. S. Engle & Son, Abilene, Kansas, just want you to know that we have been breeding, developing and milking high-producing Holsteins since 1909. It is a very busy time now to talk cows, but a little later we shall tell you about some nice semi-official yearly records that are being made at our farm. Members Dickinson County Testing Association since 1913.

E. S. ENGLE & SON - - - - ABILENE, KANSAS

MAURER'S HOLSTEIN FARM

Has just received another choice lot of young pure-bred cows and springing heifers. Also some extra good registered yearling heifers and a fine lot of registered calves of both sexes. Write for pedigrees and prices, or call.

T. R. MAURER & CO - - - - EMPORIA, KANSAS

FIFTEEN HEAD HOLSTEIN COWS AND HEIFERS
Three in milk, one due in a few days, balance yearling heifers. All popular breeding and some A. R. O. cows. Three high grades due this fall, bred to pure-bred bull.

B. P. SMITH, Miltonvale, Kansas

PECK'S HOLSTEINS We have a choice lot of extra large high-grade Holsteins, including fresh cows, heavy springing cows and heifers, and young calves. Registered bulls. Come and see our herd. We meet you at train and guarantee satisfaction.



M. E. PECK & SON, SALINA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

GREENSWARD HOLSTEINS.
Choice bull calves, heifers, cows. Registered and best breeding. Herd tuberculin tested. We are breeders, not dealers.
MAX J. KENNEDY, FREDONIA, KANSAS

Breeders' Directory

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

HORSES AND MULES.



PERCHERONS, BELGIANS, SHIRES.
Ten stallions ready for heavy stand; also yearlings and twos. Young fillies, also mares with colt by side and bred again. All registered. One hundred individuals of first rank for sale.
FRED CHANDLER, R. 7, Charlton, Iowa
Just above Kansas City

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

SHORTHORN CATTLE.

Sycamore Springs Shorthorns
Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

Sunflower Herd of Shorthorns
A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Plevna, Kansas, July 3, 1917.
Kansas Farmer, Topeka, Kansas.
Dear Sirs: Enclosed find check to balance my advertising account. We are well pleased with the trade our ad in Kansas Farmer brought us. Was rushed with orders from February 10 up to June 4 and sold over 4,000 eggs this season. Have raised nothing but Silver Wyandottes for seven years, and have been with you for several years. Have shipped to thirteen different states ranging from California to Tennessee and from El Paso, Texas, to Minnesota. Expect to be with you again in the future.
Yours very respectfully,
MRS. EDWIN SHUFF.

When writing to KANSAS FARMER live stock advertisers, please mention this paper.

MOTT'S HOLSTEINS
Seventy-five head of high-grade and registered coming 2-year-old Holstein-Friesian heifers for sale, bred to a registered bull. Six choice pure-bred Holstein bulls old enough for service. Come to Herington or send us mail order. We guarantee to please you.
W. H. MOTT - - HERINGTON, KANSAS

Butter Bred Holsteins
Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

HOLSTEIN CALVES
We offer for sale choice, beautifully-marked heifer or male calves, 15-16ths pure-bred, and all from extra large heavy-milking dams, as follows, crated f.o.b. cars: One to two weeks old, $15 each; two to three weeks old, $17 each; five to six weeks old, $20 each. First check takes them. Write
W. C. KENYON & SONS, ELGIN, ILLINOIS

Braeburn Holsteins Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.
H. B. COWLES, 608 Kan. Av., Topeka, Kan.

Holstein and Guernsey Calves—Both sexes, 6 weeks old, nicely marked, fawn and white, black and white, mostly 15-16ths. $25 each, crated for shipment. Satisfaction guaranteed.
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HIGH GRADE HOLSTEIN CALVES
Five to six weeks old, nearly pure, well marked, $20, express paid.
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Registered and high grades, cows and heifers. The milky strain, service bulls, carloads or less. High grade heifer calves, $18 each, crated. Write me. I have what you want.
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Nicely marked high-grade Holstein calves, price reasonable. O. Canuteson, Route 4, Delavan, Wisconsin.

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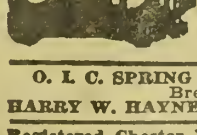

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Bred gilts.
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(On Mo. Pac. Ry., 17 miles S. E. of Topeka)

A Raw Deal for Farmers

Read Carefully THEN Act Today

THE WAR REVENUE BILL recently passed by the House of Representatives increases postage rates on farm papers and other publications in such a way that it costs more to mail them to farmers, who mostly live at a considerable distance from the big publishing centers; than to city people, who live near those centers.

The House refused even to give a hearing to publishers, in spite of repeated warning that the proposed action would discriminate especially against people living in rural districts.

Congress resounds with frenzied appeals to the farmer to raise more crops and help win the war. Isn't it about time Congress gave the farmer some consideration instead of trying to pass legislation of this kind that puts an unnecessary and unfair tax upon subscribers for the papers they read?

WHAT THE PUBLISHERS ARE UP AGAINST

Sworn statements were recently presented to Senate Finance Committee from fifty-five of the biggest farm publications. They showed that their combined profits in 1916 were an average of only a little over $10,000 apiece. They stated that for 1917 they must pay for paper nearly double their 1916 profits, and that labor, ink and other items had gone up in proportion. This means that publishers are going to run behind even if postage rates are left as now. If those rates are increased, it means that many publications must suspend, and that the few that are able to survive must try to get a higher subscription price. Subscribers in most cases are now paying all they can afford, and it is unfair to ask them to pay more, particularly when the U. S. Government does not need to increase second class postage rates in order to get the necessary War Revenue.

Let War Revenue be obtained by taxes on profits!

Let those who are making the biggest profits pay the biggest taxes!

Under that plan those publishers and other business men who are making profits will have to pay, as they should do and are willing to do, while those who already are struggling hard to keep going do not have put upon them a burden that they cannot stand.

Publishers cannot pay any increase in second class postage, and subscribers ought not to be asked to pay more. Therefore,

Write a "red hot" letter to each of the two Senators from your State and to your Congressman and ask them to work and vote against any increase in second class postage rates.

Don't Delay a Minute! Do It NOW!

Address your Senators at The Senate, Washington, D. C.; your Congressman, at The House, Washington, D. C.

CHAS. C. YOUNGGREEN, General Manager THE KANSAS FARMER COMPANY

630.5
KAF

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 29. TOPEKA, KANSAS, JULY 21, 1917. Established 1863. $1 a Year

STOCK FARMING DEPENDABLE

A Diversity of Crops and Good Live Stock Safe and Profitable Combination

THE general principles of good farming are very much the same everywhere whatever may be the local problems. After once thoroughly understanding the principles of farming, the matter of farming in different sections consists largely in adapting local conditions and crops to these fundamental principles. The following was written by George Freriehs, of Illinois, a farmer who has made a success largely through his understanding of general principles and his adherence closely to the rule that good live stock must be combined with crop production in order to secure the largest returns and keep up yields. He says:

"Thirty-five years ago I landed in this country with twenty-seven dollars. Since then I have raised eight children and now own over 700 acres of land worth $300 per acre. Careful live stock farming has made the money.

"I first took to the growing of big crops, for without that no man can make a success of farming. A half crop won't do. Some people seem to think that if they get a good living that is enough. If the farmer only stops to think, he can plainly see that it takes a good deal of money to carry his farm from one year to the next, and that if his farm is not made to produce maximum crops it is not making all for its owner that is possible to get out of it. If you own your own farm, your money is invested in that land. If you make the soil respond in big crops, you may credit your profits in terms of interest on the investment. If you only half farm it, the expense is greater than the crop will bring when sold. In that case, a farmer is not only being deprived of his interest, but he is being compelled to use up some of the principal. I need only to mention this fact, for all of us know dozens of farmers of our own acquaintance who are standing still financially and some of them going backwards for the very reason I have pointed out.

"To grow big crops it is necessary to have rich soil and to have the land properly tilled. After that comes the careful preservation of the ripened product, grain, hay, or whatever it may be. Rich soil is made where manure and leguminous roughages are found in abundance. Live stock farming provides for both of these. We ordinarily have around 300 acres of small grain to thresh, and instead of seeing how much of this straw we can have on hand the next spring, we see how much of it we can use. We sell straw to teamsters in Gilman, near by, at $2 a load, and they return us a load of manure when they come for more straw. We bed all our live stock generously during the winter, so that we usually have little straw left the following June. We keep a good many horses and cattle, which makes a good deal of manure, and by using plenty of straw we are able to save this manure and get it onto our fields, instead of leaving it to deteriorate or to be lost entirely around the barn lot. Because we need lots of alfalfa and clover hay for our Percheron horses and Shorthorn cattle, we have an abundance of leguminous roughages to keep up the fertility of our land. Here again maintaining the productive power of the soil and the growing of live stock work together most advantageously. The more live stock we keep, the more of this kind of feed we need, which means more nitrogen returned to the soil from whence it came. Live stock farming, rightly carried on, never robs the fertility of the land, but always adds to its richness.

"We are able to till our land well because we use big draft horses. They are able to pull the big machinery, and we don't have to be afraid to let our plows in the ground or set the harrows up straight. When five and six of these big mares, weighing 1,700 pounds or more, are hitched to one implement and driven across the field, one can see what has been done. It is not only a big advantage to a crop to be placed in a seed bed that has been thoroughly pulverized, but there is the added factor of having the crop in on time. By using plenty of horse power we stir our soil up well, and we do it in a hurry. With the seasons like they have been for the past three or four years, we find that we can outdo our neighbors who use small horses, because our equipment in horses and tools enables us to get our crops planted in better shape and in a good deal less time. We have the same advantage when it comes to harvesting a crop. There was a time when a young man thought all he needed to start farming was a twelve-inch walking plow, a ten-foot harrow, a wagon and a pair of plug horses. That won't do any more, though. One can't rent a farm in the better farming sections unless he has better equipment than this. The reason is that with present prices of all food products and the expense of operating a farm, no man can make any money for himself, or his landlord, either, unless he is equipped to till the farm well and get crops in at the right time. I feel positive that a great deal of the money I have made should be credited to our good outfit of horses and tools.

"The crop, once raised, should be marketed through live stock. Instead of selling off the fertility of the soil, every possible bit of richness should be turned back to the land. Even when crops are fed to live stock and the manure is carefully saved, only about 75 per cent of its fertilizing value can be returned to the fields. Leguminous crops, so beneficial to our soil, are the most desirable roughage for growing draft colts and cattle. I have kept an account of the amount of oats our foals have eaten over a period of years, and the figures show that I have gotten a dollar for every bushel of oats the youngsters have consumed. Grow plenty of grasses, pasture them off, and get the manure out on the land without any expense or trouble in handling it. Cover crops conserve soil moisture in the fall and make excellent feed for growing animals when the regular grasses are burned up with the blazing August sun. Grasses, and roughages particularly, bring several times their value if fed into good live stock instead of being sold on the market as a separate product.

"The kind of live stock one keeps determines the profits from the farm business. The best always make the most money in the end, if rightly handled. Cattle and hogs go together. The fat or lard type of hog fits in best with the cattle business under corn belt conditions. I have always been a strong advocate of the cow that will produce a good beef calf and in addition enough milk to raise it well and have some left for the table. If more of this kind of cattle were used through the country we wouldn't have the present shortage in beef. The cutting up of ranches in the west into smaller holdings, and poor crops through the corn belt states have curtailed this industry alarmingly. The time is upon us when every farmer ought to be raising a few good beef calves every year, and there is no mother that will do it so well nor so cheaply as a good milking Shorthorn cow.

"I have always been interested in good horses and I suppose I always will be. When I came to this country I set about to breed the best class of draft horses I could produce. In fact I was the first man to sell a grade draft horse out of this county for $300, and, so far as I know, I am the only man who ever sold a grade team of drafters from this community for $775 for the pair. I have bought and sold weanling Percherons for $400 to $500 a head. Last fall I sold a six-year-old imported Percheron stallion for $7,000. It is true he is a good individual and a great breeder, but I would never have been able to consummate this sale if I hadn't selected good mares to mate with him and then given the offspring the very best attention in feed and care. The great secret in producing draft horses successfully is to know how to develop them. Breeding is equally as important as feeding in making good draft horses, but the average man needs to pay more attention to the feed. Most anybody knows that the better animals we mate together, the better colts we will get, but people almost invariably neglect nourishment after the youngster leaves the teat. If a man knows how to take care of draft horses, the better kind he keeps the more money he will make. Corn belt land has become too high priced to use common grade stock and make the greatest profits possible. I am referring now to horses in particular, but the same rule applies to all other classes of farm animals. I could use good grade draft mares and do my work just as efficiently as I do it with pure-breds, but the colts the grade mares would produce wouldn't bring over one-third as much as average pure-breds. If you had an extra good pure-bred he would sell right off the mare for five or six times as much as a grade colt. The one kind does not eat any more than the other; it is just as much trouble to raise a grade colt as if he were a pure-bred; but there is a wide margin in the selling price. Furthermore, pure-bred colts, if they have been well fed, sell readily at weaning time, whereas grade colts have to be top-notchers to sell very easily at that age. They wouldn't bring over $75 to $100, and the other kind find good homes at $300 to $500, and even sometimes above that figure. I have enough confidence in the horse business to believe that even a renter, if he takes good care of his horses, can well afford to use pure-bred mares. I am very certain that if I were to begin all over again I would begin that very way. The one question a farmer should ask himself and decide upon before going into the pure-bred draft horse business is, 'Do I know how to take care of horses rightly?' If you do, then you can't go wrong. Select the breed you like best. I chose the Percheron because it is the most popular breed in America, and I know every time I produce a good colt of that parentage, I won't have to hunt or beg for a buyer."



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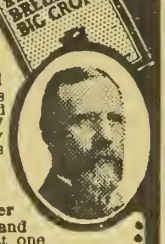

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Every animal should be a factory for turning into food material inedible for human beings. This will necessitate changes in many feeding formulas and practices long followed, but these changes can be made.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

ONE of the big farm machinery companies announced early in the season that it had under way plans to assist farmers to repair old farm machinery instead of buying new. It was explained that it is almost impossible to get sufficient material to fill orders for new machinery and this systematic effort to repair old machinery seems almost a necessity.

Do not screw spark plugs in too tight. Some plugs are constructed of extremely brittle material and in screwing them in the cylinder head very small cracks are developed in the insulating material of the plug. If the thread of the spark plug and the thread of the cylinder head are anywhere near true, a wrench six inches long will screw the plug in as tight as is necessary. A little graphite in the cylinder head will keep the plug tight as is necessary, and also make removal easy.

Clean Out Clogged Radiator

When a tractor engine becomes overheated, the difficulty can quite often be traced to a clogged cooling system. Very few operators systematically flush the radiator of their engines. They are constantly being filled from all kinds of buckets and pails and in the course of time become clogged with dirt and sediment. When left too long, this accumulated sediment cannot be removed by simply flushing out the radiator. When this happens, try filling the radiator with water in which one pound of carbonate of soda has been dissolved to each gallon of water. This will soon loosen the sediment and it can be flushed out and the radiator will perform its cooling function as intended.

Tractor Demonstration

The committee in charge of the National Tractor Demonstration to be held under the auspices of the National Tractor & Thresher Association, has selected a tract of land for the demonstration containing more than 3,000 acres, all of which is within two miles of a central headquarters. This is the same location that has been used for demonstration purposes at Fremont, Nebraska, during the past four years.

A. E. Hildebrand, who had charge of the series of national demonstrations held last year, has been appointed manager of the 1917 event, which will be held at Fremont, Nebraska, the week of August 6.

Watch Spark Lever

In order to use gasoline economically, keep the spark lever advanced as far as possible without causing the engine to knock or labor. When the spark is well advanced, combustion occurs at the point of highest compression, when the gasoline is thoroughly vaporized. This gives a maximum of power.

Hill climbing is easier with a retarded spark, but it heats the engine and of course uses more gasoline. This is necessary whenever the load is heavy.

It is always a good plan to accelerate carefully. It is poor policy to accelerate quickly, causing the car to shoot forward quickly under the rapidly increased flow of gas. The motor cannot derive all the power the gas contains because it will not vaporize thoroughly. This is a means of showing off in a spectacular way, but it is a wasteful practice and is not a mark of good driving.

Feed Threshers Carefully

Improper feeding of threshing machines causes larger losses of grain each year. It will pay to watch how this work is being done and insist that workmen use proper care. The bundles should be fed head first—never butt first—and in a constant stream. By feeding properly no unequal strains are placed on the separator, belt, or tractor. The cylinder, rack and shoe can perform their functions properly without being first overloaded and then underloaded.

By feeding heads first the cylinder can do the work for which it is intended. If butts are fed first, the threshing at the cylinder is decreased, and consequently some of the grain finds its way to the stack. A machine adjusted for a certain amount of straw cannot handle much more or less efficiently. Even feeding makes it possible for all parts of the machine to do their share.

The threshing machine should run at a constant speed to do good work, but the proper speed cannot be maintained unless the feeding is uniform. If every farmer will insist that his men pitch the bundles head first and evenly, a great loss will be stopped.

Getting Service from Tires

Automobile tires are getting higher and higher in price. It is becoming a matter of considerable importance to make them last as long as possible. The service a tire gives depends to a considerable extent on the way the car is handled by the driver. If the tires wear out regularly with two or three thousand miles of driving, the driver is usually to blame.

There are many ways in which the driver can increase his tire mileage, whatever the make of tires used. It will save tires to use the brake as little as possible. In stopping the car, throw out the clutch so it will stop naturally rather than by friction on the tires. Of course the driver must make a study of this method of stopping. In starting, always throw in the clutch easily. Turn corners slowly so there will be no skidding on the pavement or road. There is four times as much tendency for the tires to roll off in turning a corner at a speed of twenty miles an hour as there is at ten miles.

In the summer time many tire troubles can be prevented by keeping the tires cool. Speed makes the tires hot and also increases the pressure. If the air pressure becomes too great, there will be an increased tendency for blowouts. Always keep the tires at the pressure recommended by the manufacturer.

When driving on a very hot day, it will often save money in tires to turn the hose on them occasionally. Some drivers make a practice of pouring a bucket of water over the tires every twenty-five miles when driving on a hot day.

Tire mileage can be increased by changing tires from front to the rear. The rear tire always has the hardest service, and by placing the rear tire on the front wheel it is given a rest and will last longer. It is claimed by some that the spare tire frequently carried will give much better service when finally used if it is put on and run for a hundred miles before being placed in the tire carrier.

Disk Follows Binder

Seldom is there power enough available to plow wheat land immediately following harvest. According to the Hutchinson News, Grover Lee of Pratt County is cutting, binding and shocking his 1917 wheat and at the same time disking the ground for the 1918 crop, all in one operation.

Mr. Lee is using a big oil-burning tractor, which is operated at a cost of fourteen to sixteen cents per acre for fuel, he figures. The tractor pulls the binder and shocker and also a tandem disk. The wheat was all cut and well bound and shocked.

The disk was doing extra good work and the shocker was placing the shocks on the disked ground as the big engine kept going along never having to stop and rest.

It was an eight-foot binder and shocker and a tandem disk with thirty-two disks. The ground was put in fine condition to conserve moisture, and it was in good order for the work.

It was estimated that it would require fourteen horses and at least four men to do the work that the two men and the tractor were doing.

Everybody means to plow immediately after harvest, but by the time he gets the work started a lot of moisture is gone and it is soon "too dry to plow." This disk following the binder does the work "right now," and the results for good are expected to show up in the next crop.

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Published Weekly by The Kansas Farmer Company, at Topeka

KANSAS FARMER

THE FARM PAPER OF KANSAS

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Member Audit Bureau of Circulations

Member Associated Farm Papers

Subscription Price, $1.00 Per Year

YOUNGGREEN GOES TO WAR

Charles C. Younggreen, business manager of KANSAS FARMER, handed his resignation to the officers of the company last week to take effect immediately. Mr. Younggreen resigns to enter military service in the aviation corps. He will go into training on one of the aviation fields at once and expects to be in France in a few months.

Mr. Younggreen, who is a native-born Kansan, is a stockholder in the Kansas Farmer Company and has been identified with its business management since leaving Kansas University in 1912. He started as assistant advertising manager, was promoted to advertising manager, and when in August, 1916, Albert T. Reid, president of the company, asked to be relieved of the active management of the business, Mr. Younggreen was the logical man to assume these responsibilities. At the annual meeting of the company held in January of the present year, he was formally selected by the officers of the company as manager, which place he held until his resignation last week.

In his capacity of advertising manager and business manager, Mr. Younggreen has become widely known among advertisers and advertising agencies all over the United States. He has given addresses on various phases of agricultural advertising before advertising clubs and the students in journalism at the Kansas Agricultural College. He was one of the managers of the big tractor demonstration conducted at Hutchinson during the summer of 1915 and worked hard to make this big show a success. He has been connected with the management of the Topeka Free Fair for the past seven years, having had charge of the concessions and shows during that time. He is a member of a number of clubs and organizations, such as the Rotary Club, Press Club, and the Topeka Chamber of Commerce.

Although Mr. Younggreen's going into military service makes it necessary for him to retire abruptly from his work with KANSAS FARMER, we can assure our readers that the management of KANSAS FARMER will continue in good hands. W. J. Cody, secretary-treasurer of the company, who has for a number of years had charge of all live stock advertising, and since last summer has also been assistant advertising manager, takes up the duties Mr. Younggreen lays down to serve his country in our war with Germany.

WHY KAFIR FAILS

We recently had a conversation with C. C. Isely, of Gray County, Kansas, who told us that the kafir, milo, and feterita seeded in this county this spring is in very poor condition. He said that the seed failed to germinate and then hail and heavy rainstorms covered up or cut down what had started. His conversation indicated that the corn was in much better condition in that section than the grain sorghums. Mr. Isely seemed to take the view that farmers were unwisely urged to put out large acreages of the grain sorghums.

This report on the condition of the grain sorghum crops in that section served to emphasize the absolute necessity of planting seed kafir, milo, or feterita instead of planting just grain of these crops. KANSAS FARMER has preached in season and out for many years that seed of the grain sorghums must be carefully selected and stored in the head. In no other way can thoroughly dependable seed be obtained. Careless handling is much more serious with the grain sorghums than with corn. There is no questioning the adaptability of these crops to stand more dry weather than corn, but in order to get them started right the seed must be handled so as to be strong and vigorous in its germination. We have seen demonstrations in the field time and again that proved the value of saving seed of these crops as suggested. Poor vitality of the seed commonly planted is one of the serious drawbacks to success in growing grain sorghums. Properly handled seed will give a good germination and the plant will survive adverse conditions when bin-stored seed absolutely fails. The grain-sorghum farmer might just as well make up his mind that he stands big chances of failure unless he selects and plants seed of these crops. That usually planted is not seed—it is simply grain.

SILO BUILDING CAMPAIGN

A new kind of silo building demonstration is being conducted by the extension division of our Agricultural College in co-operation with the Fort Hays Branch Experiment Station. A ton and a half auto truck, carrying models of different types of silo construction, is touring a number of counties of Western Kansas. The first county covered was Ellis. A series of school-house meetings had been arranged by W. A. Boys, district agricultural agent having his headquarters at Hays. These meetings were well attended and much interest was taken in the silo as a means of saving the feed crops so as to get a larger cash return from them.

Two men thoroughly familiar with silo construction and the use of silage are traveling with this silo-truck. They are not only attending meetings, but actually demonstrating to farmers along the road the different types of construction suitable for silos in that part of the state.

Seventy requests for stops were received following the first announcement of this cross country method of bringing up-to-date silo information to the farmers of Western Kansas. We feel that this is most valuable work and hope our readers in the localities covered by the silo truck will take advantage of the opportunity to get first hand information about silos and the use of silage. The silo is one of our great conservation agencies and practically every farmer in that section of the state can afford to have some kind of a silo. In fact he cannot afford to be without a silo, for in no other way can he be assured a feed supply that will make it unnecessary to ever sacrifice live stock because there is not enough feed to carry them over or keep them profitably producing.

KANSAS WEATHER

The report of the weather bureau covering conditions over Kansas up to and including July 10 shows that, while showers have been general over Kansas, only in scattering areas aggregating about a fifth of the state, mostly in the western part, has the precipitation been heavy enough to overcome the dry condition. In these areas heavy local rains have totaled from an inch to an inch and a half and in some cases two inches. The report goes on to state that the corn is clean, well cultivated, and in most places is standing the dry weather well, but is needing rain in all parts except the few localities mentioned above. It is growing slowly and is generally from two to four weeks behind the season, but no reports of actual damage from dry weather were received except from a few north central counties. We refer to this report because it shows how much dry weather corn and the sorghums can stand at their present stage of growth. Of course to stand dry weather at this time the fields must have been well prepared and kept free from weeds by proper cultivation. With a reasonable amount of rain these crops all have the chance to make profitable yields.

PRICE GUARANTEE FOR WHEAT

Nothing would give Kansas farmers a greater feeling of security in going the limit to produce a big wheat crop than a Government guaranteed minimum price. Growers must be protected against any change in conditions which might result in loss. Last week H. J. Waters, chairman of the Kansas Council of Defense, sent the following telegram to Senator T. P. Gore, chairman of the Senate Committee on Agriculture, in reply to a message asking his judgment on the matter of fixing a minimum price on the 1918 crop of wheat:

"Because of high-priced seed, labor, and machinery, farmers hesitate to sow even normal wheat acreage unless they are protected against disastrous decline in prices if war ends before crop is sold. They consider $2 at their station, or $2.25 at Chicago, as a reasonable minimum price. This is about equivalent to $1.75 last year and perhaps more than $1.25 at their station two years ago.

"An accurate survey shows that Kansas farmers will sow one million acres less than last year unless a reasonable minimum price is fixed soon. Preparation of land and arrangements for seed must be made now. Comparison is frequently made between wheat prices here and in Europe. Wages, rents, machinery and standards of living are higher than there. It is as fair to try to base American wages on European wages as to attempt to base wheat prices on European prices."

CULTIVATE TO KILL WEEDS

It looks as though we might have to revise some of our ideas about corn cultivation. The general impression has been that keeping the surface of the ground stirred was the important factor in keeping the corn growing and in thrifty condition. For several years our experiment stations have been raising corn in plots where absolutely no cultivation was given after the corn was planted except such as was necessary to keep the weeds down. This was done by cutting the weeds off with a sharp hoe, taking care to disturb the soil as little as possible. The evidence is accumulating that destruction of weeds is the important function of cultivation.

We spent one day last week visiting the agronomy farm of the Kansas Experiment Station at Manhattan, and we noticed that the corn in the plots where nothing had been done except to cut the weeds was just as large and looked just as healthy as corn alongside cultivated in the usual manner. The corn at the time of our visit was almost waist high, and in looking over the field it would have been impossible to tell where the uncultivated rows began and left off. There had not been enough rain for several weeks and the ground was getting dry, but the cultivated plots were showing the effects of dry weather fully as much as the uncultivated plots. We remember observing this same condition a year ago. Professor Call told us that in the matter of yield there was not much difference. Of course the ground had all been given good tillage in advance of planting the crop.

This experimental work seems to point to the conclusion that corn cultivation should be of a character to keep weed growth under control. It most assuredly is an injury to corn to have a lot of its roots torn off by the cultivator. Tillage has a most important part in crop production, but in the growing of corn as much of this work should be done before the crop is planted as possible. This not only serves to make plant food available, but makes it easier to keep down the weeds.

A sixty-page book entitled "Field Management of Alfalfa" has just been published by the Emerson-Brantingham Implement Company. Its author is A. M. Ten Eyck, who is well known as an authority on this subject. The book is fully illustrated. Alfalfa is one of the important crops of Kansas and handling it is one of the problems of farm management. This book will be very helpful to those having alfalfa. It will be furnished free on request to the Agricultural Extension department of this company at Rockford, Illinois.

FARMHOUSE IMPROVED

The Kansas Engineering Experiment Station has just issued the best bulletin we have ever read on the construction of the farmhouse. Its author is W. A. Etherton, professor of rural architecture at the Agricultural College. This bulletin is not merely a book of plans, although some plans are given. In the first chapter the author states that the house plan needed by the farm owner cannot often be found. It must be made. The few plans given represent careful and original work and are introduced primarily for the purpose of explaining the text.

In the introduction it is stated that this first bulletin on farmhouses has been prepared by the Engineering Experiment Station for the purpose of answering collectively many questions which heretofore have had to be answered individually. It is designed to furnish first aid in building the new house or remodeling the old one. A careful study of its pages will help the prospective builder to a better conception of the importance of the house problem, its magniture, its difficulties, and its possibilities. It is a matter of common experience that a lack of knowledge about such matters or overlooking some of the items pointed out in the bulletin accounts for many blunders in building. This bulletin is thus a book of reminders—not of all building items, but of many that the layman needs first to know about. The hints and suggestions offered should persuade the reader that the building of a house—a home for the family—at a cost of hundreds and perhaps thousands of dollars, is too important and difficult a task to undertake without the help of a specialist in this kind of work.

We have been watching for this bulletin for some time and find on reading it that it surpasses our expectations. It is to be regretted that it cannot be distributed free. As yet the Engineering Experiment Station has no funds for publishing bulletins, as does the Agricultural Experiment Station. This book on the farmhouse has been published through the co-operation of the National Lumber Manufacturers' Association, and Dean A. A. Potter of the Engineering Division at the Kansas Agricultural College can supply copies at a cost of fifty cents each. The book is worth far more than this necessary fee, and we would urge all who are interested in building or improving houses already built to secure a copy.

The International Soil-Products Exposition, which is held annually in connection with and under the management of the International Farm Congress, is planning a sweepstakes show at Peoria, Illinois, September 18 to 29. The International Farm Congress originated in Denver in 1907 as the Dry Farming Congress. An exposition has been held each year in connection with the sessions of the congress, the last being at El Paso, Texas. At the coming exposition fifteen state, provincial and national governments have reserved space for official exhibits. The congress and exposition are gaining in prestige and importance. Some may wonder why the exposition is to be held east of the Mississippi River. It has been so broadened in its scope since it started as a dry farming congress that it is thoroughly appropriate to hold it at this eastern location. The National Vehicle Show and the Peoria District Fair have been held as a combined event for several years, and the present year these shows also will be combined with the International Soil-Products Exposition. Kansas is represented on the Board of Governors of the Farm Congress by H. M. Bainer, agricultural commissioner of the Santa Fe Railroad. W. I. Drummond, of Oklahoma, is the chairman. For detailed information concerning this great farm congress with its combined expositions, address International Farm Congress, Peoria, Illinois.

KANSAS A DAIRY STATE

Developing Economic Conditions Forcing Buyers West and South for Dairy Products

WHEN Secretary J. C. Mohler asked George W. Marble, of Fort Scott, to give an address before the State Board of Agriculture last winter, he suggested that he take for his topic, "Can Kansas Become a Dairy State?" Now Mr. Marble is a newspaper man, but he is also tremendously interested in dairying, not only from a theoretical standpoint but in a practical way. As a business man he realized how dependent all other occupations are upon the prosperity of the people who till the soil and market its products in some form or other. His interest in the fundamental industry of Kansas led him to study most seriously the economic phases of dairying and he has now become a dairy farmer in addition to following his profession as a newspaper man. For this reason he is in a position to speak not merely as a theorist, but as a man who is meeting with the same problems that confront the average dairyman.

In his address before the State Board he said in part:

"The selfish interest I had as a business man in the prosperity of the farmer led me into a thoughtful investigation of the conditions on the farms in our part of the state, with a view to determining from an economic standpoint what branch of farming would be most profitable. This investigation naturally led me into the support of dairying as the most profitable line of agriculture because it is best adapted to our soil and our climate. Many farmers who have made money feeding cattle in years gone by have lost money in that branch of farming in the past few years. The fluctuating market conditions and the uncertain crop conditions have made stock feeding a precarious business. I know of a number of men who prospered at it a few years ago who have abandoned it of late and are now looking to the dairy cow and dairying as the most feasible line of agriculture for the Kansas farmer. The more you go into this matter, the more you investigate its possibilities, the more, I am sure, you will be convinced of the permanency of it and of the money there is to be made in it.

"Dairying is not only best from the standpoint of money-making, but from the standpoint of conserving the soil, and it at the same time tends to so improve the social conditions on the farm as to become a wonderful factor in benefiting the farmer and his family.

"Now a promoter is always expected to have a prospectus setting forth his project, and I have taken the pains to compile some figures based on estimates taken from my own county—Bourbon—as a unit of average Kansas communities.

"Bourbon County has about 2,500 quarter sections of land; it is about the average in size of Kansas counties. I have estimated that, on the average, on 160 acres in Kansas a man can grow the feed for and keep fifty cows. This is a very strong statement. I doubted it at first myself. It is true that the figures I am giving you are based on the maximum possible production under efficient management and the necessary labor. The average farmer could not today take and care for fifty cows on 160 acres, but I am a promoter in presenting these figures, remember, and as such am simply saying what it is possible to work up to. The day will come, in my judgment, when the Kansas farmer will keep fifty cows on 160 acres. The farmer who does that will be able to produce at the present market price $5,500 worth of milk a year. And if every farmer in a county like Bourbon should do that, the aggregate income of the county would be $13,750,000 a year—an increase of $11,000,000 over the present estimated farm production of the county.

"I was interested in the statement made by Judge Lobdell of the Federal Farm Loan Board to the effect that land values must ultimately be based upon land production. That is a fact we do not all recognize. We have land valued at $100 an acre that will not yield returns upon any such valuation. Then that is not the legitimate value of the land. When you go to borrow money the basis of the loan value must be upon what the land will yield in cash returns each year. Land is worth what it will yield returns on.

Dairying yields the quickest, the most regular and the largest average cash returns of any line of agriculture, in communities where the soil is fit and the market is available. And it is to this phase of the subject that I have given extended study and research.

"With a view of determining, not what conditions in Kansas are favorable to dairying, but, on the contrary, what conditions obtain in this state that would be an obstacle to that industry, I have visited the principal dairy sections of Illinois and Wisconsin on several occasions. I have studied breeding, cropping, feeding, marketing, and other conditions bearing on the industry, and have come back to Kansas a more enthusiastic advocate of dairying than before. I have found, to my satisfaction, that we can at least grow the dairy crops as abundantly as in the most intensive and the most prosperous dairy sections of Wisconsin or Illinois. We can grow the grasses—bluegrass, white clover, timothy hay, red clover, etc.—almost as abundantly as they can, if not quite so. We can grow corn to the silage stage as abundantly as they. We cannot grow it to maturity as surely as they. It is the common experience in Kansas that the dry weather of late July and August cuts our mature corn yield almost invariably. But to the silage stage we can and do every year grow corn that is the equal of the crop in the center of the corn belt. We grow alfalfa much more abundantly than it can be grown in Illinois or Wisconsin. Alfalfa and corn silage are recognized the world over as the two foundation dairy feeds, and there is no place where they grow as they do in Kansas. We have a distinct advantage in this state over the northern dairy states in the matter of alfalfa. As a matter of fact, they have developed dairying without alfalfa. It is but in recent years that they have begun to grow it extensively, and they get but three cuttings a year in a favorable season, while we get four cuttings and often five.

"Our pasture season is longer than in the northern states, our winters less rigorous and of shorter duration, and our land is cheaper. All these things contribute to an economic advantage for Kansas that it seems to me makes dairying positively our very best bet.

"It is a matter of common observation that in every developed dairy community minimum land values of $100 an acre are found, while the average value of lands in such communities is probably $150, with lands closer to markets or to towns running up to $200 and even $300 an acre. This is a natural sequence of the development of an industry on the farm which realizes to the farmer such a substantial cash and regular income as the sale of dairy products brings him.

"Taking a possibility of the maintenance of a dairy herd of fifty cows on an average Kansas quarter section, I have worked out the following for my prospectus:

"Total revenue from fifty cows at $110 each, per year, $5,500; expense for help (two men at $700 each and $100 additional for help), $1,500; corn and feed, $500; interest, taxes, and insurance, $1,300; repairs and depreciation, $400—total expenses $3,700. Net balance for farmer on 160 acres, $1,800.

"To this might be added the value on an annual increase of ten cows a year to his herd at $75 per head, or $750, giving him a total profit of $2,550.

"Do not understand that I recommend that you go home and get fifty cows and go to milking them to demonstrate this showing. I have given you a maximum possibility to work up to. It is a long way from where we are now to a realization of these possibilities.

"I used to say three things are necessary to develop a dairy community, namely, dairy crops, dairy-bred cows, and markets. I have discovered, however, that to these three essentials to successful dairying must be added a fourth, namely, dairy-bred men and women.

"Investigation leads me to say to you, without fear of successful contradiction, that twenty milk cows could be sustained on the waste feed of the average 160-acre farm in Kansas—twenty cows in addition to the stock that is now kept on the farms. Included in this waste of feed I take account of the difference in the value of corn fed as fodder or permitted to rot in the field, unfed, and its value for feed utilized as silage. This is one of the pitiable wastes on Kansas farms. There are others. The savings that might be effected from these wastes would keep twenty milk cows in addition to what stock is now kept.

"Rapidly developing economic conditions are forcing buyers west and south for dairy products. This condition has developed until it is today possible for any Kansas community that has the milk to sell to get the market; in fact, the dairy markets are eagerly looking for supplies. There are four principal markets for dairy products. They are the creamery, the condensery, the cheese factory, and the metropolitan or town retail trade. It is necessary to have a wholesale market. I have found that all these markets buy on a competitive basis. In Wisconsin and Illinois I found the prevailing price paid for milk by all markets in 1915-16 to be about eleven and three-fourths cents per gallon for milk. The products were coming from farms the average value of which per acre was not less than $150, and the farmers were all prosperous. That farmers in a country where corn and oats and rye could be raised to maturity so much more abundantly than we can raise them to maturity in Kansas were all in the dairy business, seemed to me to be conclusive proof that we in Kansas ought not to try to depend upon grain crops when the economic conditions with respect to the production of milk are so much more favorable. In the Wisconsin and Illinois dairy districts every farm is a dairy; there is no exception. One silo and one barn are exceptions. They nearly all have two of each. Land is becoming too valuable to be used for pasture in the developed dairy districts. The farmers there are coming to feed silage the year round and to make the silo take the place of the pasture. Many big milk producers in the states named have practically no pasture.

"Robert C. Krueger, the well-known dairy-cow breeder of Burlington, Kansas, said to me the other day, 'The Kansas farmer doesn't want to dairy, but he has to.' This statement emphasized a situation which every thoughtful farmer must sooner or later appreciate. The farms of Kansas are being rapidly worn out. The soil is being depleted by the constant hauling of it to market. It is getting so we cannot produce the grain we used to produce because we have exhausted the soil. It is imperative that something be done to renew our soil. And after all the other advantages of dairying have been stated, it remains to be said that the greatest matter of consideration in this respect is that dairying builds up the farm—makes it more instead of less productive. In the railway stations and public places of Wisconsin I observed a striking bulletin issued by the agricultural college of the University of Wisconsin. It was an illustrated comparison of the three farm markets and showed these startling facts:

"With every ton of grain sold at the elevator the farm loses $5 to $6 in fertility; with every ton of grain sold at the stock yards the farm loses $1 to $1.20 in fertility, while with every ton of grain sold at the creamery as butterfat the farm loses twenty cents in fertility.

"I have not had time to emphasize the very important consideration of improved social conditions on the dairy farm. Next to chickens, the farm women and the farm boys are most easily interested in cows. This contributing fact, together with the other important fact that a steady and regular and ready cash income always increases the conveniences, stimulates interest in the home and community life, and, in short, enables the farm to compete with the cities and towns for the likings and tastes of the boys and girls. One going into a developed dairy community will be quickly impressed by the wholesome home and community ties that bind the people together and remove much of the drudgery of the farm.



GLORIA BENEDICTINE, GRAND CHAMPION COW AT 1916 NATIONAL DAIRY SHOW HELD IN SPRINGFIELD, MASSACHUSETTS

Ayrshire Production Record

The seven-year-old Ayrshire cow, August Lassie, has completed an official yearly record of 19,582 pounds of milk, 831.50 pounds of butterfat, test 4.11 per cent.

August Lassie was born August 8, 1910, and already has three official records to her credit. On February 1, 1915, she completed her first official Advanced Registry record, producing 10,047 pounds of milk, 398.24 pounds butterfat. On March 13, 1916, she finished her second record with 17,784 pounds milk, 720.03 pounds butterfat, test 4.05 per cent, and her third record just completed 19,582 pounds milk, 831.50 pounds butterfat, test 4.25 per cent.

The completion of this last record gives August Lassie a three-year cumulative average record of 15,791 pounds milk, 649.92 pounds butterfat, 4.11 per cent test.

Young people who contemplate attending business college or auto training school this fall or winter will find it to their advantage to write us. KANSAS FARMER has some information that will be of genuine interest to you. Address DESK D, KANSAS FARMER, Topeka, Kan.

Feeds not available or needed for human consumption can be used largely in feeding live stock.

Feed cheap roughages to live stock.

ROASTING EARS FOR WINTER

Enjoy Green Corn Year Round by Canning Generous Supply

WE ARE all enjoying our roasting ears or stewed corn now and wish we might have it the year round. This can be made possible by canning a generous supply. Corn seems to give home canners more trouble than most products, but with care and study it may be canned as easily as any other product grown in the garden. A little experience in selecting the ear and the ability to recognize corn that is just between the milk and the dough stage are important.

Can the same day as picked. Do not remove husks and silks until you are ready to begin canning. Blanch on cob from two to five minutes, then plunge quickly into cold water. Cut the corn from the cob with a thin, sharp knife. Pack corn at once in sterilized jars to within one and one-half inches of top, leaving room for expansion in processing. Add to each quart one level teaspoonful of salt, three to five teaspoonfuls of syrup made by using equal parts of sugar and water, and enough hot water to finish filling the jar to one and one-half inches of the top. Place rubber and top in position, and seal partially but not tightly. If using Mason jars, seal as tightly as can be done with the thumb and little finger. If using jars which have wire bail clamps, place only the top bail in position, as shown in cut. If this is too tight, either loosen it or use string or some other means to hold the lid on during the sterilization period, for when the products in the tight-lid jars of this kind get hot and steam is formed inside, some of this steam must have a way to escape. Sterilize pints three hours; quarts three and one-half hours, if using hot-water bath outfit. Sterilize seventy-five minutes if steam pressure under ten to fifteen pounds of steam is used. For two-quart jars add one-fourth more time. Remove jars and tighten covers as soon as it is safe to open the canning outfit.

The best results are obtained when one person cuts the corn from the cob and one person fills the jars. If one person is working alone, sufficient corn to fill one jar should be cut off at one time, packed in the jar, and put into the canner or hot water at once. Water-logged or soaked corn indicates slow and inefficient packing. Corn that has reached the dough stage before being packed will have a cheesy appearance after canning. Corn should never be allowed to remain in the cold-dip water, and large quantities should not be dipped at one time unless sufficient help is available to handle the product quickly.

To can sweet corn on the cob, follow the same directions, but pack whole ears in jars instead of the cut-off corn.



FOR STERILIZING, PLACE TOP BAIL ONLY IN POSITION.—AFTER STERILIZATION, IMMEDIATELY FORCE BAIL TO FINAL RESTING PLACE AS SHOWN IN JAR AT LEFT OF CUT

Can Fruit Without Sugar

No surplus fruit should go uncanned this season because of the high price of sugar. While the addition of sugar at canning time is an improvement, the sugar can be added when the fruit is opened for use. When put up without sugar most of the fruits do not keep their natural flavor, texture, and color as well as when sugar is used. However, such fruit is very much better than no fruit, and at a time such as the present crisis all possible should be saved for future use.

Following is the United States Department of Agriculture's method of canning fruit without sugar:

Can fruit the same day it is picked. Cull, stem, or seed, and clean it by placing in a strainer and pouring water over it until it is clean. Pack thoroughly in glass jars or tin cans until they are full. Use the handle of a tablespoon, wooden ladle, or table knife for packing. Pour boiling water over the fruit, place rubbers and caps in position, partially seal if using glass jars, seal completely if using tin cans. Place the jars or cans in a sterilizing vat such as a wash boiler with a false bottom, or other vessel improvised for the purpose. If using a hot water bath outfit, process for thirty minutes, counting time after the water has reached the boiling point; the water must cover the highest jar in the container. After sterilizing, remove jars or cans, seal glass jars, and wrap in paper to prevent bleaching. Store in a dry, cool place.

If canning in tin cans it will improve the product to plunge the cans quickly into cold water immediately after sterilizing. When using a steam pressure canner instead of the hot water bath, sterilize for ten minutes with five pounds of steam pressure. Never allow the pressure to go over ten pounds.

Silo Needed on Every Farm

WE DO not begin to have enough silos in Kansas. It is a generally accepted fact that live stock farming is the most dependable type of farming to follow. It involves considerably less risk than straight grain farming providing an abundant feed supply is assured. Handling live stock is a risky proposition, however, if the feed supply depends entirely on the vagaries of the season. In Western Kansas at least there will always be years when conditions will not favor the growing of large quantities of feed.

Even in the poor feed years the silo is a wonderful conserver of feed value. Many a man has been able to hold the stock and keep on selling cream by having a silo, while his neighbors were sacrificing their animals for lack of feed. In the West where the poor feed years are sure to come occasionally there will also be years in which big feed crops are just as sure to come. By planning to store in silos the surplus grown in these big years, there need be no sacrificing of stock in the poor years. This idea of tiding over the poor years with a reserve food supply stored in the good years is no new principle. Joseph, the food dictator of Egypt, used this method of equalizing the food supply. The silo makes it possible to follow this plan in stretching the big feed years over the poor feed years. In no other way can a surplus of rough feed be kept and used with profit a year or two after it is grown. Without the silo the surplus of the good feed years is lost.

Plan for some kind of a silo this year if you have live stock of any kind to feed. There are silos to be had at a cost that will fit every pocketbook, ranging from the mere pit to the most expensive types. The essential features of a well designed silo can be summed up briefly as follows:

The walls should be practically air-tight.

The inner surfaces of the walls should be smooth and perpendicular.

The inner surfaces of the walls should be free from corners. Round silos are more efficient and economical than other types.

The walls should be sufficiently non-conducting to prevent excessive freezing—especially so when the silage is to be fed during cold weather.

The walls would be sufficiently firm or sufficiently well anchored to prevent cracking due to settling or racking due to wind.

The doors should be so designed that a minimum amount of silage has to be removed before they can be opened.

A good ladder should be provided with steps from fifteen inches to eighteen inches apart and at least three and one-half inches away from the silo or walls of the chute.

The foundation should be heavy, well made, and reach below the frost line.

A good roof makes the silo more durable, adds greatly to its appearance, and if tight assists materially in keeping the silage from freezing.

Silos which have the above features will be found convenient, cause little trouble, and when properly filled will keep the silage in perfect condition.

How to Use Sweet Clover

Sweet clover may be utilized for feeding purposes, as pasturage, hay, or silage. With the possible exception of alfalfa on fertile soil, sweet clover, when properly handled, will furnish as much nutritious pasturage from early spring until late fall as any other legume. It seldom causes bloat.

Stock may refuse to eat sweet clover at first, but this distaste can be overcome by keeping them on a field of young plants for a few days.

As cattle crave dry roughage when pasturing on sweet clover, they should have access to it. Straw answers this purpose very well.

An acre of sweet clover ordinarily will support twenty to thirty shoats.

On account of the succulent growth, it is often difficult, in humid climates, to cure the first crop of the second season into a good quality of hay.

Sweet clover should never be permitted to show flower buds before it is cut for hay. It is very important that the first crop of the second season be cut so high that a new growth will develop. When the plants have made a growth of thirty-six to forty inches it may be necessary to leave the stubble ten to twelve inches high.

In cutting the first crop of the second season it is a good plan to have extension shoe soles made for the mower, so that a high stubble may be left. In some sections of the country sweet clover as a silage plant is gaining in favor rapidly.

This crop has given excellent results as a feed for cattle and sheep. Experiments show that it compares favorably with alfalfa.

Sweet clover has proved to be a profitable soil-improving crop. The large, deep roots add much humus to the soil and improve the aeration and drainage. As a rule, the yield of crops following sweet clover is increased materially.

Being a biennial, this crop lends itself readily to short rotations.

Sweet clover is a valuable honey plant, in that in all sections of the country it secretes an abundance of nectar.

Farmers' Bulletin No. 820 just published by the U. S. Department of Agriculture discusses in full the utilization of sweet clover. A discussion of the growing of the crop may be found in Farmers' Bulletin 797.

STACK the wheat. It is sure to rain some time and it may come in a deluge. Remember the fall of 1915. Wheat worth $2.40 a bushel should not be allowed to depreciate in value by long exposure in the shock.

Cultivate the corn and kafir all time will permit. Cut out the weeds and conserve the moisture. These crops cannot compete with weeds and yield profitable returns.

Plant additional feed crops for fall use.

Save the live stock, especially the young stuff and the females.

A. A. Borman



BUYING A

DE LAVAL SEPARATOR NOW

Is real thrift and geniuine economy

"THRIFT" means saving wisely. "Economy" means spending wisely. There is no economy in going without money-saving and labor-saving equipment.

It is poor economy to try to do without a De Laval Cream Separator—a machine which would not only save you a lot of time-wasting work, but would add from 15 to 25 per cent to your cream crop by putting a stop to your butter-fat losses.

This country is at war. The nation cannot afford, and you as an individual cannot afford, to allow the present enormous waste of one of our most valuable foods—butter-fat—to continue an unnecessary day.

See the local De Laval agent today. Get him to explain to you how the De Laval saves butterfat that is lost by gravity skimming or the use of an inferior or half-worn-out separator. If you do not know the De Laval agent, write to the nearest De Laval office for new catalog or any desired information.

Every New De Laval is equipped with a Bell Speed-Indicator

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Elmer F. Bagley, Secretary, Topeka, Kansas.

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READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

Kansas Farmer Dairy Club

Dairy Club Achievements Please Bankers

THE achievements of the members of the Kansas Farmer Dairy Club are a great encouragement to those who have co-operated in making the work possible. A Leavenworth County boy who has just closed his year's work writes that he will not enroll for the second year's work, but says: "I haven't quit the milk business by any means, as I am going to get five more good Holsteins." The father of another boy told us recently a number of good cows had been purchased by men in his neighborhood as a result of their watching and careful record work done by his boy. This member of the club purchased a high grade cow for $140 and made a record of over five hundred pounds of butterfat in the year. He made a profit of $103.83 over the cost of feed in eleven months. By selling the calf he was able to easily pay his note before the end of the year.

The bankers who supplied the money to these boys and girls have been surprised in many instances to have the notes paid in such a short period of time. Such results are most gratifying to the men who financed these young people in their work. They can take much satisfaction in feeling that they have furnished a real opportunity to these boys and girls who have for the past year been milking cows and keeping records of the milk produced and all feed consumed, under the close supervision of KANSAS FARMER. We feel that these banks are entitled to special mention as constituting a roll of honor.

The Citizens Bank of Abilene helped a boy to purchase a grade Holstein cow for which he paid $100. He thought he would be doing well if he could pay half his note the first year from the profit made over the cost of feed, but at the end of the year his profits amounted to $80.05, and he could easily have paid the entire debt if the cow had not lost her calf by abortion and thus got a bad start. As it is, he figures that an investment that pays 80 per cent interest is a pretty good one.

The Abilene National Bank loaned $125 to a girl with which to buy a Holstein cow. The Rawlins County State Bank at Atwood furnished money to a fourteen-year-old girl for the purchase of a Red Polled cow, allowing her two years to pay the note, and were surprised when the principal with ten per cent interest was paid in a little less than nine months with the profits made from selling cream and the money received for the calf. They have offered to advance her money for the purchase of another cow whenever she wishes it.

The Berryton State Bank loaned money to a boy who bought a pure-bred Jersey and after ten months wrote us that he had only fifty-one cents still to pay.

The De Soto State Bank has financed two young people, and the State Bank of Douglass one boy. J. A. Middlekauff, cashier of this bank, writes: "This was a very satisfactory arrangement for the bank; the paper was taken up promptly and the security at all times was in good condition. I shall be glad to aid another boy or girl to do the same thing."

While the State Savings Bank of Leavenworth has made a loan to only one boy up to the present time, this boy is a natural born leader and is looking up other members for the club. He has also organized a company of Farm Boy Cavaliers in his community.

Otto Wulfekuhler, president of the Wulfekuhler State Bank of Leavenworth, has always taken a great interest in enterprises of this kind, and last year had the banner club in the state, consisting of seven members. One of these has enrolled for this year's work also and one new member has already enrolled with this bank.

The Midland National Bank of Newton assisted a boy to buy a pure-bred Holstein cow which made an exceptionally good record. The calf sold for $150, and the milk produced in seven months and twenty days sold for $269.90, leaving a balance, after paying for the cow, $12 interest on the note, and, for all feed consumed, of $15.59, with four and one-third months of the year still to come.

The First National Bank at Oakley loaned $300 to a sixteen-year-old boy for the purchase of another pure-bred Holstein cow. This boy paid for his cow in a few days over seven months. He sold his calf for $150, and to this end the money received from the sale of milk added money made by trapping skunks and selling their hides.

The Oswego State Bank, of which J. W. Marley is cashier, furnished money to a fourteen-year-old girl for the purchase of a Jersey cow, and she now has a whole dairy herd—a cow, yearling heifer, and heifer calf. A boy of the same age borrowed $100 from the Security State Bank of Ottawa and bought a grade Jersey cow. In eight months he has made a profit of a little more than $88.

A boy to whom the Citizens Bank of Scott City loaned money last summer finished paying for his $130 Holstein cow in nine months from the profit made from the sale of milk above the cost of feed. He has borrowed money to buy a Jersey cow and is planning to get a Guernsey also. He still has his grade Holstein calf.

C. R. Hoyt of the Thayer State Bank made loans to two boys last year, one of whom paid for his Jersey cow in six and one-half months in addition to paying for all feed used. This was done entirely from the money made by the sale of the cow's products and from the sale of the calf. The boy has enrolled in the advanced class for another year, and the bank is also helping two new boys this year.

The boy financed by the Bank of Topeka in ten months paid $125 for his cow, purchased all the feed consumed in that time, and had a balance of $3.85 to his credit in the bank. He wants to get a pure-bred cow for his work this year and will sell his grade Holstein to a new club member.

The Colony State Bank, the Fort Scott State Bank, the State Bank of Keehi, the State Bank of Leon, the First National Bank of Norton, the Security State Bank, the State Bank of Parsons, the Peabody State Bank, the First Na-

Schedule of Feed Prices for New Club

IN calculating the cost of feed all members of the second Kansas Farmer Dairy Club are to use the figures here given. If any feeds are used that are not found in this list, write to KANSAS FARMER for the price to use.

GRAINS AND CONCENTRATES

	Per cwt.
Corn chop	$3.25
Kafir meal	3.25
Milo meal	3.25
Feterita meal	3.25
Corn and cob meal	2.65
Head meal of grain sorghums	2.50
Oats	2.15
Ground oats	2.25
Wheat bran	1.85
Shorts	2.50
Cottonseed meal	2.90
Cold pressed cake	2.60
Linseed oil meal	2.90
Alfalfa meal	1.60
Molasses-alfalfa feed	2.25
Grain-molasses-alfalfa feed	2.80

ROUGHAGES

	Per ton
Alfalfa hay	$10.00
Clover	10.00
Hay from sorghums	5.00
Sudan hay	7.00
Other hay	7.00
All stovers	2.50
Silage	4.00
Straw	1.00
Green fodder	3.00
Green alfalfa	3.50
Roots	4.00
	Per month
Pasture	$ 1.00

tional Bank of Scott City, and the Sedgwick State Bank, have each supplied one boy or girl with the necessary funds to buy a cow. The Halstead State Bank made a loan to one boy last year and to another this year.

Five members of last year's club have enrolled for another year's record work up to the present time, and doubtless quite a number of others will do so as soon as their year's records are finished.

In addition to the banks previously mentioned as co-operating in this work for the ensuing year the following have so far reported from one to three enrollments: The Basehor State Bank, the Emmett State Bank, the State Bank of Meriden, the State Bank of Navarre, the First National Bank of Overbrook, the Farmers and Merchants Bank of Tonganoxie, the State Bank of Walton, and the Peoples Home State Bank of Chanute. Will Wayman, president of the Emporia State Bank, is loaning money to four boys and girls, charging them only four per cent interest. F. C. Newman of the Citizens National Bank at Emporia has provided forty members with cows and promises to send us several more names. This is the club for which three carloads of Holstein cows and heifers were shipped in from Ohio as described in our issue of June 23.

A number of other bankers of the state are interested in this work and are looking for dependable boys and girls to take it up. The Dairy Club work is certainly bringing about increased interest in dairying in many localities and is training the boys and girls in business methods. In the beginning it was somewhat of an experiment, but we feel that the results this year have proven its value.

Feed Prices for First Club

Feed prices have greatly increased since the feed schedule being used by members of the first club was adopted last fall. Since a number of the members are not through with their records, we have decided to make no change in the feed prices. It would not be fair to require those members who started late to charge their feed at the present high prices for the remainder of the year when so many of the members finished their records early and used the lower prices. We do not want any of our club members to fool themselves, however, and get to thinking they have done something which they have not really accomplished. In finishing your records and using the old schedule of feed prices, bear in mind that these figures are to be used comparatively. It would be fine practice for each individual member to figure on the basis of present feed prices just what it is costing to produce milk.

Wants to Join Club

I have been thinking I would like to join the Kansas Farmer Dairy Club and get a cow of my own. C. T. Neihart, president of the First National Bank at Lyndon, has promised to loan me the money to buy my cow. I think I will get a good Ayrshire cow.

We have taken KANSAS FARMER for a long time and I can hardly wait until it comes to see how the Dairy Club is getting along. I always like to read about it. I hope to be a Dairy Club member soon.—HAZEL SHRIVER, Osage County.

Pays Out in Nine Months

The only boy that took hold of the Dairy Club project with us—Lester Kincaid, who bought a Holstein cow for $300—has paid out in full on same and has been making a nice record. I surely would like to see more of the boys take hold of the business, and would willingly help them.

You may count us in for another year, and we will try to get more boys into the game.—V. JAGGAR, Cashier First National Bank, Oakley, Kansas.

This letter was written only nine months after Lester's enrollment in the Dairy Club. He paid ten per cent interest on his note.

Need for Production Records

Dairymen cannot afford to feed high-priced feed to low-producing cows. At no time during the last ten years has it been more necessary to weigh and test the milk from dairy cows than at the present time. This was the burden of the talk made at the auxiliary meeting of the Kansas State Dairy Association held in Lawrence, June 30, by Prof. J. B. Fitch, in discussing the problem confronting the man milking cows. A great many complaints are being made that there is little or no money in milking cows with feeds as high in price as they are now. Most of these complaints can be traced to keeping too many of the wrong kind of cows. A few unprofitable cows can easily make the whole herd unprofitable under such conditions. By keeping a check on the production of each cow, the dairyman can tell which ones are earning the right to be well fed.

It is also a great help in feeding cows to have individual records, since cows should be fed in proportion to their capacity. By taking a composite sample of the milk for two or three days some time during the month and testing it by the Babcock test, which gives the per cent of butterfat, it is possible to calculate from the total weight of milk produced by the cow the amount of fat produced for the month.

In feeding a cow in proportion to her capacity for production, Professor Fitch suggested that the milk sheet should be watched closely and the cow, if of the Jersey or Guernsey breed, fed one pound of a good grain mixture to each three pounds of milk produced, and if an Ayrshire or Holstein, a pound of the grain mixture to each four pounds of milk produced. Of course it is always important that milk cows be fed all the good hay and silage they will eat. Many of the low producers will produce milk to their full capacity on roughage alone provided it is of good quality and properly balanced. A well balanced grain mixture to go with alfalfa and silage is four pounds of corn chop, two pounds of bran, and a pound of linseed oil meal, or cottonseed meal. If oats are available, it will cheapen the ration, since oats are now cheaper than corn, to use two pounds of oats and two pounds of corn instead of the four pounds of corn. A cow that is producing more than fifteen to twenty pounds of milk a day should usually be fed in the way indicated.

In case no records are kept, the low-producing cows that would produce to their fullest capacity on hay and silage alone are too often fed the same as the animal of large capacity. When a whole herd is fed in this way the high-producing cows cannot produce up to their full capacity and the poor cows store the feed as body fat. When cows are on pasture it is frequently necessary to feed grain during the dry part of the summer and fall in order to keep up their milk flow.

If cows are allowed to become thin on account of grain being so high in price, they are likely to cut down their production during the next lactation period. J. W. Bigger, of Topeka, who was present at this meeting, pointed out that in feeding cows according to their production it might easily be possible to feed the cow approaching the end of her lactation period too small an amount. He is a firm believer in feeding good cows well during the dry period. It is his experience that there is little danger in feeding a good cow too much at this time. The fat she puts on her back during this period comes back in the pail when she starts milking again.

This period of high-priced feed may have one good effect on the dairy business in that it will act as an incentive to keeping records so that the low producers can be weeded out. In sections where whole milk is sold there is seldom as much interest as there should be in the forming of cow test associations. Men selling whole milk seem to have the idea that all a cow test association is for is to help increase butterfat production. The facts are, however, that a knowledge of the amount of milk a cow is giving is worth more than a knowledge of her butterfat test. It is in the sections where whole milk is sold that we hear most complaint regarding the profits from the dairy business under present conditions. This would seem to indicate that there are entirely too many cows being milked in these sections that should be discarded. The cow test association is a cheap way of finding out what the cows are doing.

Eighth Dairy Cattle Congress

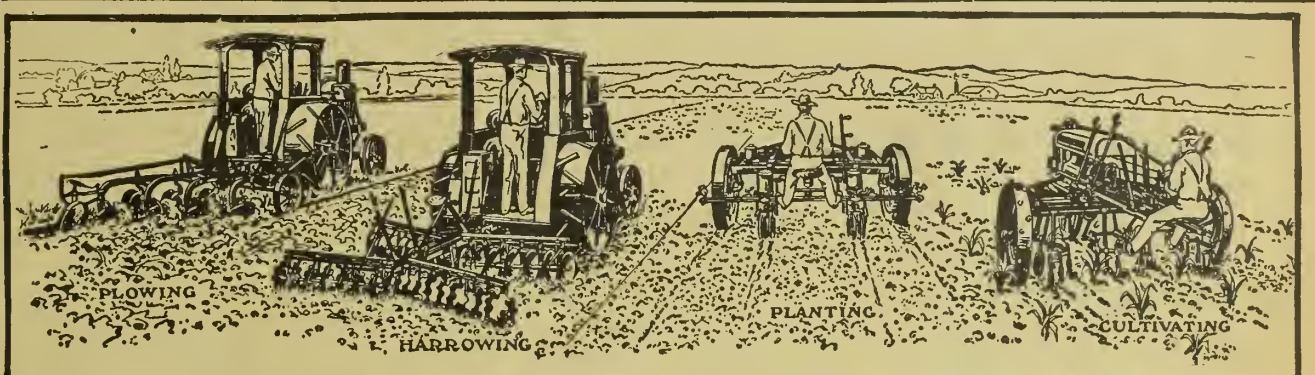
The important part which the dairy industry plays in the nation's welfare will be demonstrated more forcefully than ever before at the eighth annual Dairy Cattle Congress to be held October 1 to 7 inclusive at Waterloo, Iowa. A large number of new features, demonstrations and exhibits have been planned to show that it is a patriotic duty for every dairyman and farmer to produce the largest amount of dairy products in the most economical manner.

The exhibition space for machinery, dairy supplies and equipment is being reserved by manufacturers from every section of the country. Those who are interested in equipping their homes and farms in the most up to date manner will find everything they want in the exhibition halls or on the grounds.

The Dairy Cattle Congress is for all dairymen, creamerymen and farmers. It is for those who are interested in better dairy conditions not only in the Mississippi Valley but throughout the nation. Its prize money is open to all breeders in the world and the man who enters cattle will be pleased not only with the treatment accorded him, but also with the success both in the ring and in the stable.

Don't Sell Breeding Animals

Don't sell your breeding animals unless you can replace them immediately with better ones. Don't let the temptation of high prices now being offered for live stock or undue fear of the prices asked for many popular feeds mislead you into selling a cow or sow that will drop the golden calf or litters. Such near-sighted profit-taking or lack of courage, if widespread, would strike at the foundation of the country's live stock industry and cripple it for years to come. As there is a shortage of meat animals throughout the world, we can not hope to import new breeding stock to replace those we foolishly have killed off. Our own breeding animals, therefore, must be regarded as the seed essential to the domestic meat supply of the nation.



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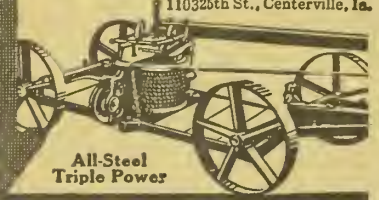

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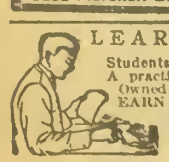

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If the fumigation is thoroughly done, all of the destructive insects will succumb to this simple and effective treatment. The carbon bisulphide fumes are highly inflamable and explosive, and this necessitates that all fire and artificial light be kept away from the bin while fumigating.

The amount of carbon bisulphide used will vary with the temperature. At the average temperature with the building fairly tight, five pounds will fumigate a thousand cubic feet of space, or one pound for every twenty-five bushels of grain. At sixty degrees or below, the results are unsatisfactory with any amount of carbon bisulphide. The cracks and doors should be made as tight as possible before fumigation is started.

Since the vapors of carbon bisulphide are heavier than air, it is advisable to start distributing pans of the liquid at the bottom and work toward the top, if there is an exit there. If the carbon bisulphide is distributed from the top toward the bottom, one should work as rapidly as possible.

Shallow pans with a large evaporating surface should be used. The pans should be well distributed throughout the bin. Where the grain is deep, in order to hasten the fumigation the carbon bisulphide may be introduced into the grain by a piece of gas pipe with a removable plug in one end. This pipe is pushed down into the grain and the carbon bisulphide poured into it. The plug is pushed out and the pipe removed. This treatment has no injurious effects upon the grain.

When fumigation has continued for thirty-six hours and as long as forty-eight hours, if the grain is not to be used for germinating purposes, the doors and windows are opened and the building allowed to ventilate two hours before entering. Some fumes will still remain in the corners but will disappear in a short time.

The above procedure is that worked out by George A. Dean, entomologist at the Kansas Experiment Station.

Must Do Our Part

Faith in the beneficence of Nature is a characteristic of mind and heart that every good farmer should cultivate. In some sections of the state corn, kafir, cane, and other groups may not now look as though they would amount to much, but that is no excuse for settling down with the fatalistic feeling that we have no part in the ultimate outcome. There is no surer way of courting absolute failure. We have many times noted how the most unpromising fields of cane or kafir have come out later and produced returns in feed far beyond our expectations. They cannot do it, however, if we surrender unconditionally at the very opening of the campaign. It may require considerable faith to go into such a field of kafir and spend labor in cultivation, but we have seen farmers go into such stunted fields as late as September 1 and give them a good cultivation following a rain and get big returns for their labor. Without the cultivation the weeds would have absolutely smothered the crop.

All over Western Kansas there are fields of these crops that look anything but promising now. It is a mistake, however, to assume that a crop is gone because there is not moisture enough at the present time to keep it growing. If there is a reasonable stand and the crop is kept free from weeds there is always hope of having good returns for the labor invested. If we give up and let the weeds take them, we can be sure they will amount to nothing. On the other hand, if we go ahead and do our part, we can be equally sure that if conditions become more favorable later we will not lose out because we have neglected to perform the necessary cultivating. We cannot afford to be fatalists in the farming game.

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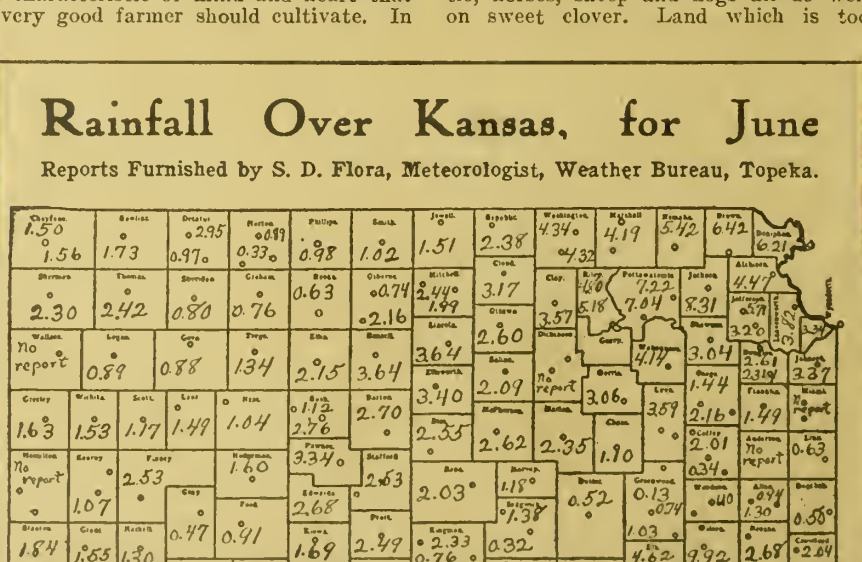
"Grow sweet clover" is the answer for poor soil or worn-out pastures which no longer support live stock profitably. Thousands of acres of sweet clover are furnishing annually abundant pasturage for all kinds of stock on soil where other crops made but little growth.

In many portions of the Middle West sweet clover bids fair to solve serious pasturage problems, according to Farmers' Bulletin 820, "Sweet Clover: Utilization," just issued. Native pastures which no longer provided more than a scant living for a mature steer on four or five acres, when properly seeded to sweet clover, will produce sufficient forage to carry at least one animal to the acre throughout the season. Dairy cattle, horses, sheep and hogs all do well on sweet clover. Land which is too

Rainfall Over Kansas, for June

Reports Furnished by S. D. Flora, Meteorologist, Weather Bureau, Topeka.



THIS month was marked by almost record breaking drouth and hot winds in Western Kansas, but was a favorable month in the northeastern counties. It was the fourth dryest June on record in Kansas and in the western part of the state makes the tenth successive month with deficient precipitation. Only a few counties in the western half of the state had as much as fifty per cent of the normal amount of rainfall this month.

Oats, barley, and even wheat were greatly damaged in the western part of the state, but corn and grain sorghums, while late, made a good growth and were looking well in all parts when the month closed.



Grain Smuts

The U. S. Dept. of Agriculture recommends the use of Formaldehyde for cleansing seed grain before planting. It guards against the development of stinking smut and loose smut in wheat—

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rough or too depleted for cultivation, or permanent pastures which have becomo thin and weedy, may be improved greatly by drilling in after disking a few pounds of sweet clover seed per acre. Not only will the sweet clover add considerably to the quality and quantity of the pasturage, but the growth of the grasses will be improved by the addition of large quantities of humus and nitrogen to the soil.

Sweet clover has proved to be an excellent pasturage crop on many of the best farms in the North Central States. In this part of the country it is often seeded alone and pastured from the middle or the latter part of June until frost, or it may be sown with grain and pastured after harvest.

Saving Waste Patriotic Duty

Stopping waste will at once place this country on a basis of war-time economy. That act alone would go far towards paying all war costs without interfering in the least with customary expenditures of the people. It is the logical thing to do and if done business will go on as usual.

Production is important. It is an urgent problem, and yet it is no more urgent than the problem of conserving that production in a way that will give to the people the fullest measure of use. Who will say that fire loss is necessary? Who will say that it cannot be prevented? When products on the farm are needlessly destroyed by fire through neglect to construct fireproof buildings, all expenditure in both time and money towards greater production has been destroyed. Stopping this stupendous fire waste is a matter toward which efforts should now be directed. Although fire is always calamatous, in war times it is even more so, for the losses sustained can be ill-borne and the burdens thereby developed are added to the country's war responsibilities.

Barns, elevators, warehouses, canning factories, cereal mills and other places where the raw products are kept until turned into food for ourselves and our allies should be so constructed as to insure the greatest degrees of safety possible. It is just as patriotic to exercise care in the sound construction of these buildings as it is to make our acres produce greater crops.

Waste may be eliminated in other ways. The man who owns eighty acres of land and permits twenty of it to remain idle because of poor drainage is wasting. Drainage would very soon put that twenty acres in crop-producing condition and so increase the production of soil that the cost of the drainage system would soon be paid for by the products of the soil, ultimately placing the twenty acres in a condition to add to the world's supply of food each season. Better drainage will lessen land waste and is therefore a patriotic duty.

Still another way of eliminating waste is by getting a greater amount of food value out of the soil for live stock. The building of a silo on every farm will make one acre of corn feed twice as many cattle and keep them in better condition. The saving from this source alone would amount to millions of dollars annually. If you have no silo, build one; if you have one, build two.

The old-time fence strip is also a source of waste that should be taken into account now when every square foot should be devoted to crop production. Fence strips that have been neglected and allowed to grow weeds and patches that have been overgrown with brush should be cultivated this year. Good fences, and fences on which the expensive repairs are eliminated by good construction at the start, will add their share towards greater crop production.

It is the patriotic duty of every American, farmer or townsman, to take this matter straight home to himself and see where he can stop waste on his property. Putting time and money into buildings that are easily destroyed by fire, or buildings that soon decay, buildings that fail to properly protect grain, is a source of waste which undoubtedly can be stopped by better construction; and better construction is a war-time economy which will add to instead of hinder business.

Bees Are Easily Moved

Farmers who have bees to move will find the following suggestions from Bulletin 138, Missouri College of Agriculture, helpful:

In moving bees, close the entrance with screen wire before day, when all bees will be inside. Take a strip of screen wire three inches wide and two inches longer than the bee entrance, bend over the ends so that it is exactly the length of the entrance, then bend the strip lengthwise into a V-shape, and push it tightly into the entrance. This closes the entrance and serves for ventilation. Be sure that there are no other openings left. Run a baled hay wire lengthwise around the hive, drawing and twisting it up gently. Run another crosswise in the same way. Have a wagon close at hand with plenty of hay, straw, or small brush to relieve the jar. Set the hives crossways, far enough apart to crowd a partly filled sack of straw, leaves or brush between them and the sides of the wagon bed. When all is carefully done, hitch the team to the wagon and drive to where the bees are to be placed. Unhitch before doing anything else. Then set all the hives in permanent place as nearly a rod apart as convenient. Take off the baled hay wires. Place a wisp of loose hay, straw, grass or fine brush close up in front of the entrance and open the entrance about two inches at first. The trash in front of the entrance causes every bee to take notice and mark the new location. If the entrance were thrown wide open, the bees would come out too fast and soon find themselves lost in mid-air, and if not too far removed from the original place, would go back and find themselves homeless. Move bees in the cool of the day. Either a single queen or a carload of stands can be transported with ease and safety.

Late summer gardens may be made to supply the table with fresh vegetables. Turnips and rutabagas should be sown in July after a rain. The ground should be free from weeds. Three to four pounds of seed to the acre is sufficient. These plants require no cultivation. These do especially well on ground which has been carefully prepared after digging potatoes. An application of well rotted manure on this ground will give good returns. String beans do well if the weather is not excessively hot. They should not be planted later than August 15.



60 Days' Treatment to Rid ALL Your Hogs FREE of Worms

Mr. W. O. Gandy
President
Avalon Farms Company

If I don't make your hogs make **you more money**—produce more pounds of pork for you from the same amount of feed and prove it to your own satisfaction—I don't want your money! I am thoroughly in earnest in this offer. I am making it to **prove** my faith in the remarkable value of Avalon Farms HOG-TONE. I want you to accept it.

Perry Stratton, the Berkshire Breeder, Accepted This Offer! So Should You!

Mr. Stratton, whose Berkshire farm near Momence, Ill., is famous throughout the land, writes: "Avalon Farms Hog-Tone, being in the liquid form, is so easily fed in the swill that you obtain the desired results without difficulty. I took a couple of shoats that did not seem to be doing well and began by feeding them Hog-Tone. In about five weeks' time you would not have believed they were the same hogs! They grew with the other hogs and when feeding time comes they are the biggest scrappers in the bunch."

Accept This Offer! Think What It Means to You!

The price of hogs is going higher every day—and is bound to go higher from now on. There is a **serious** hog-shortage. Especially a shortage of high-grade porkers—**hogs absolutely free from worms—big hogs with sound, clean flesh!** "Nearly every hog is infested with worms," declares the U. S. Dept. of Agriculture. The malignant Thorn Head Worms—Stomach Worms—Liver Worms—Lung and Bronchial Worms weaken the hogs—affect every sow's litter—make millions of hogs easy victims of cholera, scours, thumps, rheumatism, enteritis, gastritis—rob surviving hogs of nourishment their food should bring, cut down their weight and quality at marketing time.

Use HOG-TONE—and rid your hogs of **all** worms—bring them all to market in high-grade, high-weight, worm-free condition.

AVALON FARMS HOG-TONE

The Liquid Worm Killer and Hog Conditioner

FOR ALL YOUR HOGS—SEND NO MONEY!

I will ship you one big $1.00 bottle of Hog-Tone for each eight hogs in your herd—the day the coupon below, filled in, reaches this office. That will be sufficient to treat all your hogs 60 days or more, according to size. This will mean just 12½ cents per hog for all the treatment, and that treatment is guaranteed by me to free your hogs of all worms—to enable them to put on more weight from the same feed—to fill them with strength and vitality—to resist disease attacks.

This is the same offer that these men named below grasped—and were glad they did.

"Sometime ago I received your AVALON FARMS HOG-TONE and used it on one pig that I separated from rest of the bunch which was a good average one. Sold the bunch at seven months old which averaged 226½. The one that I used your Hog-Tone on weighed 260 lbs. This hog was sold 38 days before the bunch."
EMERA H. MILBURN, Lapel, Indiana

"Find enclosed check for the Hog-Tone you sent me. It sure did the work on my pigs. The second day after the first dose the pigs began to pass worms—'round ones.' I tried out two hogs and they got awful fat. I am well satisfied with Hog-Tone." J. T. LEECH, Pampa, Texas

"I have purchased six bottles of Hog-Tone and am feeding it to my hogs. Have not been feeding it very long, but am sure surprised at the results. I can see a great change in their appearance and the way they eat. I never had Fall pigs do so well. HOG-TONE will do all you claim for it." (Signed) GEO. BRASFIELD, Swayzee, Ind.

Avalon Farms Hog-Tone is a highly concentrated liquid medicine for hogs only. It contains highly important medical ingredients which are liquids and which cannot be combined in Medicated Salts, Stock Foods or Condition Powders of any kind. Avalon Farms Hog-Tone is safe. It is easily mixed with any slops, with drinking water or dampened feed. It is only given every third day for the first six weeks and after that only once a week. 100 per cent strong.

It cleans out every kind of worms that infest hogs. By doing so, it gives **protection** to your hogs from easily contracting Cholera, Rheumatism, Scours, Thumps, caused by worms and indigestion, Enteritis, Indigestion and other diseases that destroy literally millions of hogs. A simply **wonderful** tonic and conditioner—gives hogs voracious appetites, aids digestion, helps them thrive, grow and put on fast increases of flesh. **Splendid for pregnant sows—the litter is stronger and thriftier, too.**

I Don't Want You to Send Me a Cent!

Simply tell me how many head of hogs you have—write down your name and address—and mail to me. I will immediately ship you enough **Avalon Farms Hog Tone** to treat your hogs for 60 days! You simply pay transportation charges. Treat your hogs according to directions. If at the end of the treatment you are not **completely** satisfied—simply return the labels to me and you don't owe me a cent.

Just Mail Me This FREE Coupon

Avalon Farms Co.
W. O. Gandy, Pres.
694 Rand McNally Bldg.
Chicago
Illinois

SEND NO MONEY—TAKE NO RISK

W. O. Gandy, President, Avalon Farms Co., 694 Rand McNally Bldg., Chicago, Ill.

I have _____ hogs. Ship me immediately enough AVALON FARMS HOG-TONE to treat them for 60 days. I am to pay nothing now except transportation charges. I agree to report results to you at end of 60 days and pay for the Hog-Tone at that time if it has done all that you claim. If it does not, I will return the labels to you and you agree to cancel the charge.

Name _____

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Farming records prove early plowing produces larger yield.

Hard ground or hot weather often prevents early plowing with horses. But a real tractor like Plow Boy or Plow Man does the work regardless of such conditions. It solves your labor problem—reduces farming cost per acre—permits working more acres—furnishes ample power for all farm purposes.

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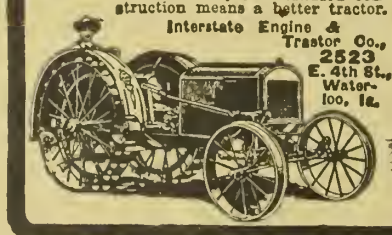

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STANDS HOT AND COLD WATER 10c



HOG SURVEY IN KANSAS

THE Kansas State Board of Agriculture is conducting an exhaustive investigation of the hog industry of Kansas, and as a part of that investigation they are mailing out thousands of blanks to hog raisers throughout the Sunflower State, also to packers and live stock commission firms in all the great markets of the middle west. Information and data will be drawn from every available source, and will be carefully analyzed, compiled, and published in the form of a report probably of several hundred pages, suitably illustrated.

It is the purpose of this investigation to cover the subject from every angle, and to secure complete and thorough information on every phase. It is to be hoped that much new and previously unappreciated information will be brought to light, and that the report will be of such value as to have a powerful and far-reaching effect for the good of the industry.

As a reward for filling out the blanks, hog raisers will be furnished, free, with a copy of the report. It is to the interest of every Kansas hog man who does not receive a blank for filling out, to write for one to J. C. Mohler, Secretary of the State Board of Agriculture, Topeka, Kansas, in order that he may be assured of a copy of the report when complete.

Kansas hog men are urged to get behind this investigation and to help and aid in every way they can to make it a success, for their mutual benefit and profit. They should put their shoulders to the wheel for the common good of all. In matters of this kind—in fact in all the business of agriculture—farmers must join hands, must co-operate and exchange ideas and experiences, just as do men in other businesses, if they are to advance and improve. The Kansas Board of Agriculture is placing a rare opportunity before the hog raisers of that state.

Summer Care of Colt

It is during the first summer that the colt is most subject to scours. This disease can easily be checked if treated immediately, but if allowed to run its course it may prove serious and even fatal.

The colt should never be allowed to suck while the mare is warm and sweaty as the milk at this time is apt to cause scours. If the mare has gone for some time without suckling her colt she should be partially milked by hand before the colt is allowed to feed. Overheating or excitement on the part of the mare is likely to cause digestive disorders in the colt and anything that interferes with his normal growth at this time detracts from his size at maturity.

Don't take the colt to the field and wear him out following his mother, but keep him in the barn in a well ventilated box stall that has been darkened to protect him from the flies. Feed him liberally and in case he does get the scours cut his milk and feed in half and give him a two-ounce dose of castor oil followed by a teaspoonful twice daily of a mixture of one part salol and two parts subnitrate of bismuth.

Feeding Barley to Pigs

I have never written to you since I have been receiving your paper, but I want to say that it is a fine paper for the farm and we like it very much. The articles on hogs and alfalfa interest me a great deal.

I am sending you a picture of an eight-foot self-feeder that I built myself at a cost of $9.50, including everything—paint, nails, lumber, and hinges. The bottom is made of two-inch planks. The self-feeder is filled with ground corn, shorts and tankage, all mixed together. I also feed the pigs a little soaked corn twice a day, with plenty of good slop. They have oats for green pasture with self-water, stock powders, and an oiler handy by the feeder.

I believe there will be good money in hogs this fall, but of course feed is high. I have twelve acres of barley on bottom land that will be ready to cut soon. I will grind it and mix shorts with it and put it in the feeder in about three weeks.

I am going out after the prizes this fall if my luck continues.—C. E. Rose, Washington County.

Three Years of Lamb Feeding

For three years the Kansas Experiment Station has been conducting tests to determine the relative value of Kansas feeds for fattening lambs. Three hundred lambs have been fed each year, or nine hundred in all. Western range-bred lambs have been purchased for this work. They have averaged fifty-eight pounds in weight when put into the feed lot in the fall. The feeding period the first year was sixty days, the second eighty days, and the third forty, or an average of sixty days for the three tests.

A comparison of corn and kafir has been one of the problems studied. In the tests where corn, cottonseed meal, alfalfa, and silage were fed in comparison with kafir, cottonseed meal, alfalfa, and silage, the cost of a hundred pounds of gain in the lots receiving a corn ration was $6.38. In the lots receiving the kafir ration the cost of a hundred pounds of gain was $6.80, the corn ration thus making one hundred pounds of gain forty-nine cents cheaper on the average than the kafir ration. It should be noted, however, that the feeds in each test have been charged at prevailing market prices. Ordinarily kafir sells for about ten per cent less than corn, but in one of the tests the kafir cost more than the corn. Kafir is grown on land somewhat lower in price than corn land, and for that reason the ordinary expectation would be that it could be produced somewhat cheaper than corn.



PIGS ON FARM OF C. E. ROSE, WASHINGTON COUNTY, EATING MIXTURE OF GROUND BARLEY, SHORTS, AND TANKAGE, FROM A SELF-FEEDER

SUBSCRIPTION BLANK

Kansas Farmer, Topeka, Kansas.

Gentlemen: Please find enclosed $.....for which send me

KANSAS FARMER.....year.....

One year for $1.00; two years for $1.50; three years for $2.00.

Name .....

Post Office .....

State..... R. F. D. No.....

Are you already taking KANSAS FARMER? .....

Such is the case over much of Kansas, and normally kafir will not sell for quite so much on the market as corn.

The average gain per lamb in the lots fed corn was 21.7 pounds, and in the lots fed kafir, 20.7 pounds. The small difference in the gains made by the two different rations is an indication of the relative value of the two grains. In these tests the average profit per corn-fed lambs was $1.37. This is actual profit, since feeds were charged at exactly the cost price on the market. It is evident from these figures that sheep make good use of kafir and that it is very close to corn in feeding value when properly supplemented.

Observations were also made in these tests on the effect of using silage in the ration for fattening lambs. The average cost of a hundred pounds of gain in the lots fed corn, cottonseed meal, alfalfa, and silage, was $6.37, and in the lots where the silage was left out, the ration being corn or kafir, cottonseed meal, and alfalfa, the cost of a hundred pounds of gain was $6.60. The lambs fed silage made cheaper gains, but the gains were not as large as where alfalfa hay was the only roughage fed.

A bunch of range lambs has been fed the past season at the experiment station, and the results of this test will soon be available. This experimental work in feeding lambs will be of great value to feeders in Kansas, many of whom have had little or no experience in handling sheep.

Dairy Products and Food Supply

NO industry is of greater importance than dairying in supplying the world's food requirements. At no time in history has this fact been so vividly brought to our attention. The present world's crisis has brought out in startling form many conditions affecting the existence of the human race, not only as individuals but as nations. Many fundamental principles of food conservation have been brought into prominence, and the relationship of the dairy cow to these questions stands out with most pronounced clearness.

In a recent statement W. B. Munn, president of the American Jersey Cattle Club, pointed out that the terrific destruction of human life now going on affects most immediately the present generation of the European countries, but the reports being made public, little by little, showing the fearful mortality of infant life in European countries affects the world's welfare for generations to come, and it is here that the vital necessity of preserving and developing the milk supply of the world is most strikingly displayed.

These reports show that in many countries in Europe, now engaged in warfare, the death rate of children under two years of age ranges from 48 to 98 per cent, owing largely to the lack of milk supply for food. Never in the world's history has the importance of the food contents of milk and its need for the sustenance and building up of the human race been brought to the attention of humanity so forcefully as today.

These things are of interest to the man on the Kansas farm because they show so clearly the importance of dairying as a world industry. In view of these facts it should be considered almost a crime to permit a good dairy heifer to go to the shambles. In fact the conditions are such that every young female breeding animal is almost worth its weight in gold and should be retained.

All of the questions relating to the dairy industry and its numerous relationships to agriculture and human life will be discussed in all its phases at the National Dairy Show at Columbus this year. Every feature relating to the success and value of this industry will be pictured in words, charts, machinery and exhibits—in fact in every form as far as known today. Every patriotic citizen who desires to help in the development and preservation of this tremendously important industry should attend the National Dairy Show and acquire every possible form of knowledge or information obtainable in order that he may do his or her share at this critical time.

Cool Your Cream

It is of the greatest importance to keep dairy products cool during the summer months. A satisfactory cooler for the milk and cream can be made at a small cost.

If the milk house is near the windmill or hand pump all that is necessary to keep the milk or cream cool and in good condition is a large barrel with pipe connections from the pump to the stock tank. A kerosene barrel, deodorized by burning, will answer the purpose. The inlet pipe from the pump should be near the bottom and the outlet pipe near the top of the barrel. This should lead to the stock tank.

The cans may be hung in the water so that the top of the cream or milk in the can is well below the surface of the water. It is necessary, however, to stir the contents of the cans so that the milk or cream will be evenly cooled. Thick cream should be stirred every fifteen minutes or half hour for two hours. The new cream should be cooled before it is mixed with the old cream.

If you are building a new milk house you will find it convenient to build the cooling tank of concrete. This may be set two feet in the ground and eighteen to twenty-four inches above the ground. It is not necessary for the windmill to keep pumping continuously in order to keep the dairy products cool enough with this arrangement. If the water is changed a few times each day they will keep.

Surtax on Idle Land

In addition to the emergency of food bills in Congress, the country is in need of a land program that will permanently insure maximum use of our food resources. The farmer's greatest difficulty has been inadequate facilities for marketing and distributing his products. The new legislation will go far toward solving these problems, but there is another side to the food problem.

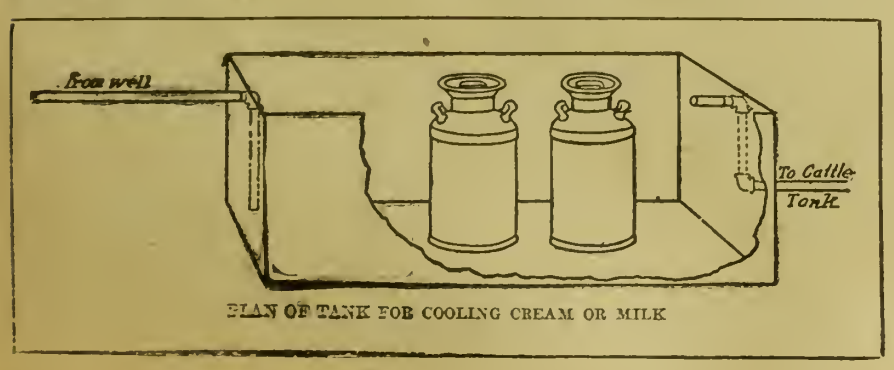
Millions of acres of farm land are being held out of use and other millions of acres are being cultivated on a wasteful and inefficient basis. Land values have risen at an unprecedented rate. They are based not upon what the farm will earn at the present time, but on an expectancy of what it will be worth in the future. The farmer's son or the tenant farmer, with little or no capital, cannot hope to acquire possession of a farm when the price of land is so high that his earnings would not pay the interest on the investment. The result is that land remains idle or in the hands of tenants and thousands of farmers' boys desert the country for the city.

We cannot expect to get them back on the land unless we hold out to them the hope of becoming farm owners. The economic condition of many farm tenants is below that of the skilled or semi-skilled day laborer of the industrial centers.

What we need, and need badly, is a program of taxation which, without throwing additional burdens on the bona fide farmer, will place land now idle within the reach of men of limited means who possess the ambition and the ability to cultivate it.

A proposal has been introduced in Congress by Senator Kenyon to direct an investigation by the Federal Tariff Commission or some other competent body into additional sources of revenue, including the possibility of levying a surtax on idle land and other natural resources held out of use.

A doubt exists as to the possibility under the constitution of a Federal surtax on idle land. There is a sharp difference of opinion as to whether or not such a tax could be levied. The situation should be clarified by an investigation and a report from some competent body. If a constitutional amendment is necessary it should be initiated without delay. In the meantime, state and local governments should direct their attention to this phase of the food problem and take what steps are wise and practicable to place unused land within the reach of all who are willing and able to cultivate it.—CARL VROOMAN.

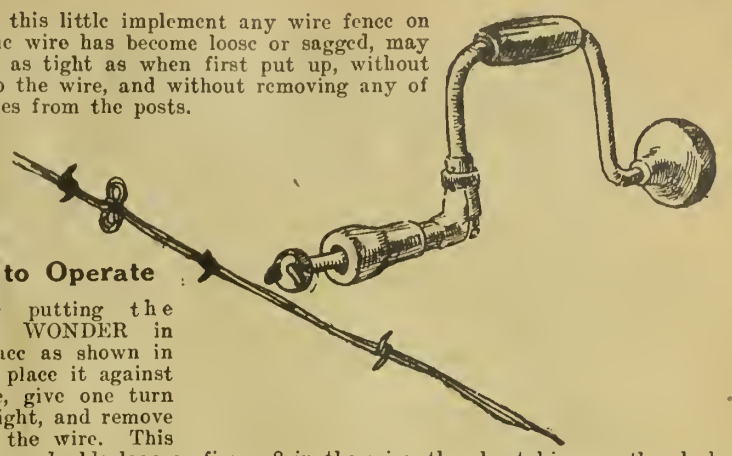


PLAN OF TANK FOR COOLING CREAM OR MILK

Young people who contemplate attending business college or auto training school this fall or winter will find it to their advantage to write us. KANSAS FARMER has some information that will be of genuine interest to you. Address DESK D, KANSAS FARMER, Topeka, Kan.

THE LITTLE WONDER

With this little implement any wire fence on which the wire has become loose or sagged, may be made as tight as when first put up, without injury to the wire, and without removing any of the staples from the posts.



How to Operate

After putting the LITTLE WONDER in your brace as shown in the cut, place it against the wire, give one turn to the right, and remove it from the wire. This will leave a double loop or figure 8 in the wire, thereby taking up the slack without injuring the wire in the least.

THE WIRE CAN BE TIGHTENED AND A HALF MILE OF FENCE REPAIRED IN A FEW MINUTES

THE LITTLE WONDER sent postpaid for 50 cents. Agents wanted.

NOVELTY MFG. CO., Suite 36, Columbian Bldg. **Topeka, Kans.**

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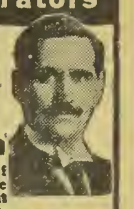

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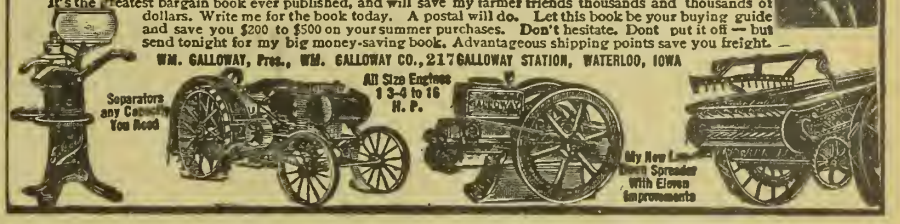

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TAKEN UP—BY BARNEY McCABE, RESiding seven miles north of Iola, Allen County, Kansas, June 12, 1917, one bay mare, about twelve years old. The mare has a white face, black mane and tail, three white feet and some harness marks. Appraised at $40. Geo. Seymour, County Clerk, Allen County.

ALFALFA.

ALFALFA SEED, $8 PER BUSHEL. Good purity and germination but dark color. Better grades for more money. Write for free samples and prices. Henry Field, Shenandoah, Iowa.

MISCELLANEOUS.

FERRETS—FEMALES, $2.50; MALES, $2; pair, $4. H. G. Hardy, Wellington, Ohio.

MAIL YOUR BROKEN GLASSES TO REGester Bros. Optical Co., Norton, Kansas. Any lens duplicated promptly.

MAKE YOUR LAUNDRY SOAP. MY recipe makes 25 pounds beautiful white soap for 50c. Price, 25c. C. V. Liggett, Pueblo, Colo.

HONEY.

HONEY—NEW CROP. SEND FOR PRICE list. Bert W. Hopper, Rocky Ford, Colo.

Bathing the Baby

Baby should have his own tub, towels, soap, and wash cloths for his daily bath. A bath thermometer is inexpensive and convenient. During the first few months the temperature of the bath should be about ninety-five degrees Fahrenheit. By the end of the year it may be lowered to ninety or eighty-five degrees. If a thermometer is not available, test the water with the elbow. When the water is pleasantly warm to the elbow, it is just right. If tested with the hand for temperature, it will probably be too hot. The temperature of the room should be about seventy-two degrees, and all drafts should be carefully avoided.

If given properly, baby's bath is a pleasure to both mother and child. As nearly as possible the bath should be given at the same time each day. In order to gain speed and dexterity, follow a regular routine, doing it in the same way each time. Do not frighten the infant, but handle him gently. Avoid all unnecessary delays which exhaust his small store of strength and patience. The whole set of clean clothing should be laid out ready to be put on as soon as the bath is completed. If you are going to weigh the baby, have the scales at hand.

As baby lies on a large bath towel folded on the table, or on an apron of soft toweling in your lap, he is ready for the first step in bathing. With a soft cloth wash his face and head before undressing him. Just a little soap is needed, which should be completely rinsed off. Do not rub the delicate skin, but pat it thoroughly dry with a soft towel. Talcum powder is not necessary, but if it is desired only the best quality should be used.

Now baby must be undressed. Take his clothes off over his feet. Then soap him thoroughly from neck to toe. Lift him gently into the tub, supporting his back and head with the left hand and arm. Lift his feet with the right hand.

Baby's back must not be strained. Keep it supported by the left hand while you sponge with the right hand. Rinse off every particle of soap, as it irritates his tender skin. Lift baby out and pat his body gently with the towel until dry.

A bran bath soothes baby in sultry weather. Put several cupfuls of bran in a thin cloth, wet it, and squeeze the bag into the water until it becomes milky. A soda bath is cooling and comforting for prickly heat.—Edna L. Boyle.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Little things are little things,
But faithfulness in little things
Is something great.
—St. Augustine.

We are in such haste to be doing, to be writing, to be gathering gear, to make our voice audible a moment in the silence of eternity, that we forget that one thing of which these are but the parts—namely, to live.—Robert Louis Stevenson.

Rubber rings! You'll need good ones while the jars are still hot.

Let empty cans and jars wait for fruit. Don't try to make fruit wait long for containers.

When the white shoe laces become soiled, wash them in soap and water. They will look like new ones.

If the grown-ups think canning is a difficult process, the children will show them how.

Value of Recreation

A friend who is a busy farm woman recently recounted the duties of one day upon our questioning her on this subject. After breakfast she helped her husband hitch the binder and ran the machine while he got the automobile out of the shed. She then did her outside work for the morning and her house work and was soon on her way to town in the car, for more binding twine. Upon returning, dinner was the thing that claimed her attention first, and when the meal had been prepared she went to the field and ran the binder while her husband ate his dinner. When her dinner work was finished she dressed and attended the meeting of her home improvement club. After preparing supper she again took charge of the binder while her husband ate, and when the supper work and chores were finished the two went to the wheat field and by the light of the moon shocked wheat until ten o'clock.

Many farm women have as full days as this one, but the remarkable thing about this young woman's story is that she took the time to go to her club in the afternoon. Undoubtedly there were things at home to be done, but neglect of them was not harmful as they could be done at another time, and the club meeting was very helpful and refreshing. While there, her tired body was resting and the heart-to-heart talks of her neighbors on home improvement "fell on fertile soil," the effort made by her to hear them being proof of her interest in the subject.

Many will say this story will do to tell, but they could not follow this woman's example, for the chickens must be watered two or three times during the afternoon and there are other things that must be done. We agree that there are times when work cannot be left, and we have no doubt our friend recognizes such times, but she is not forming the habit of allowing her work to crowd into every minute of her day and her life. Later when she told us she felt she could not be happy any place but on the farm, we could not help wondering if an hour or two each day to be spent in recreation would not increase the happiness of many other farm women.—Janette Long.

Home-Made Refrigerator

A refrigerator can be made of two dry goods boxes, one placed inside the other. The outside box should be considerably larger than the inside one. A good size for the outer box is 36 inches wide, 48 inches high, and 20 inches deep. The inside box should be 14 inches wide, 32 inches high, and 14 inches deep.

Place the smaller box inside the large one. Fill the space left between the two with fine pine shavings pounded tightly into it. This disposes of the spaces at the top, bottom and two sides of the inside box. The entire chest should then be turned over, a board removed from the back, and the space there packed snugly with shavings. Place the chest on legs six inches high, made of 4 x 4 lumber.

The next step is finishing the interior of the inside box. If the pieces fit well, this may be given several coats of enamel. If not, line the interior of the box with tin or galvanized iron and enamel heavily so that a hard, smooth surface may be obtained. A partition for the ice should be placed in one of the upper corners, in order to insure a good circulation of air. The floor of this partition should slant toward the back for disposing of water, which may then be carried to a drip pan at the bottom of the refrigerator by means of a small tin pipe.

The efficiency of the refrigerator depends as much on the fitting of the doors as on insulating material in the walls. After packing, the space between the two boxes should be closed and the surface made smooth to receive the door, which should be made with double walls, and packed as the walls of the box. Some sort of fastening to hold the door tightly against the box is essential.

Cooking in Large Quantities

Did you ever cook for threshers or hay balers? If so you have wished for recipes that give ingredients in larger quantities than does the home cook book.

No book is to be found on the market that gives large recipes in a satisfactory manner. Foods prepared by simply multiplying the amounts given in the small recipe often fail.

When it devolves upon the housewife to prepare for several times the usual number, convenience in preparation is as important as correct proportions. The following recipe for corn pudding can be recommended:

- 3 quarts canned (cooked) corn
- 6 tablespoons sugar
- 2 tablespoons salt
- 3 quarts milk
- 12 eggs beaten slightly
- 3 quarts stale or dry bread crumbs, broken or crumbled, not ground or rolled
- ½ cup butter
- 1 teaspoon pepper.

Mix. Bake in buttered pans one hour or until knife comes out clean. Serve in baking dishes or in side dishes. Makes forty servings.

An economical and convenient meat dish may be prepared by purchasing fifteen pounds of beef, ground as for hamburger steak, and making meat loaf as follows:

- 15 pounds meat
- 6 tablespoons salt
- 2 quarts cracker crumbs
- 2 tablespoons sage
- 3 whole eggs or 5 yolks
- 3 quarts milk.

Mix seasoning. Work in gradually. Add milk, eggs, and crumbs alternately. Make into 24-ounce loaves. Pack into oiled one-loaf pans. Bake one hour. This makes eight loaves or seventy-two slices, keeps well, and is good cold.

Plain paste for nine one-crust pies may be made as follows: Use three quarts flour, four teaspoons salt, three cups lard, and enough cold water to handle. Cream filling for nine pies:

- 8 cups sugar
- 8 pints milk
- 6 tablespoons butter
- 2½ cups cornstarch or 3½ cups flour
- 14 yolks.

Mix the cornstarch or flour and the sugar and stir into the milk, heated almost to boiling. Stir until it thickens and cook in a double boiler one-half hour. For the frosting use fourteen whites beaten stiff to which has been added somewhat gradually, when nearly stiff, fourteen tablespoons sugar.—Mary M. Baird.

Can Beet Tops

None of the young beets that are pulled for thinning should be allowed to go to waste, but should be canned for use next winter. The beets and the tops can be canned together. They should be washed thoroughly before steaming.

For steaming they can be tied in a clean cloth and set on a false bottom in a vessel in which the water is boiling, and should be left there for fifteen minutes after the water again begins to boil. When taken out they should be plunged into cold water and then packed in the jars. Beets and beet tops in pint jars should be sterilized two hours in the hot-water bath and when packed in quart jars require two and one-half hours.

Vinegar may be added at the time of canning if this is desired—one tablespoonful to one quart of tops.

For beet greens, the beets should be used when they are about the size of the end of a finger. If the little beets are canned with the tops, they should be skinned after they have been steamed and plunged. The tops may be cut in lengths ready for serving.

Germ middlings recently were highly recommended to us as breakfast food. The friend telling us about this wheat product and who has used it exclusively for eight years, cooks it as she would oatmeal. If started at night in a double boiler and covered well, it will be necessary only to reheat the food in the morning. Care should be taken to have the water in the outside vessel boiling hard and the middlings should be stirred into water that is boiling. After cooking a short time it can be set back and the steam will finish the cooking.

One-Egg Cake

1¼ cupfuls butter
1 cupful sugar
½ cupful milk
1 egg, well beaten
1⅔ cupfuls flour
1½ teaspoonfuls baking powder

Cream butter and sugar and add other ingredients in order named, sifting baking powder and flour together.

Baked Ham and Potatoes

Place slice of ham and potatoes in covered roaster. Put in enough sweet milk to cover ham. Bake in slow oven until potatoes are cooked. When ham and potatoes are taken out, thicken milk with flour.

If ham is very salty, potatoes will need none.

An old-fashioned hair net with a rubber in it makes comfort possible for a woman when riding in an automobile. Use the net as a veil, letting it come just below the nose, and see to it that it covers the hair. This will keep the hair out of the eyes and will add greatly to the enjoyment of the ride.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8293—Ladies' Waist: Cut in sizes 34 to 42 inches bust measure. The point which distinguishes this waist from all others is that the back and front are in one. This is done in order to have the two tucks in a straight line. The fronts are slightly gathered at the shoulders. An interesting note which lifts the blouse out of the commonplace is the plain vest which gives the new square neck outline at the top. **No. 8288—Children's Pajamas:** Cut in sizes 2, 4, 6, 8 and 10 years. To keep the young hopeful of the family in good health as well as good spirits it is essential that we have the right kind of sleeping garments. The pajamas shown are sensible and practical because of the fact that the coat and pants are united in a single garment. The back is finished with a belt and has an opening on both side seams. **No. 8297—Ladies' Shirtwaist:** Cut in sizes 36 to 44 inches bust measure. This waist would be worthy of notice for its clever collar, if for no other reason. It is as wide as the shoulders in the back, and gradually slopes in until it reaches the revers in front, where the ends form pointed tabs which slip through slots. The revers are cut in one with the fronts of the waist. **No. 8295—Misses' Dress:** Cut in sizes 14 to 20 years. This charming little frock has more than one good point and they are all emphasized by tassels. It is so simple and the directions for making are so clear that any girl may safely attempt to make it herself. Long sleeves are used. The waist is without fullness across the back, but the gathers in front are concealed by two narrow belts. The skirt has three gores. **No. 8294—Ladies' Skirt:** Cut in sizes 24 to 32 inches waist measure. It seems almost incredible that this is nothing more than a straight one-piece skirt, but such is the case. It is a welcome addition to the skirt family because of its simplicity. The material is plaited to form four panels, each one stitched down to the hip line. The rest of the skirt is gathered to the slightly raised waist line between panels. **No. 8299—Misses' Dress:** Cut in sizes 16, 18 and 20 years. What girl can resist the appeal of this little frock, with its simple but effective braiding? The loosely fitting waist in this case extends several inches below the regular waist line and is given a trim appearance by the shallow plaits which hold the soft girdle in place. The one-piece skirt may be plaited or gathered.

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The Postmaster General has made a ruling which makes it necessary that certain classes of subscriptions may not be carried after expiration. It has always been customary and permissable for the publisher to carry, at his option, subscriptions for a short time after they expire, in order that the subscriber might have an opportunity to renew his subscription and thus prevent his missing any copies of the publication.

The new rule, however, requires that this practice must be stopped.

We feel that you want KANSAS FARMER, because it is strictly a Kansas paper and is striving to help you in your work, and you certainly do not want to miss the good things that this old paper carries each week for the betterment of farm conditions. We do not want to discontinue your paper. We are very anxious to retain every one of our subscribers. In order to do so, we must urge that you send us your renewal subscription at once.

Here are four distinct offers which we submit to you. We will greatly appreciate your acceptance of any of them:

1. May we immediately have your renewal for one year at $1.00?

2. If you send us $2.00, we will renew your subscription for three years—a saving of $1.00.

3. If you will send us the subscription of two of your neighbors for one year for $1.00 each—$2.00 in all—we will renew your own subscription one year without additional charge in appreciation of this service rendered.

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We have provided a special blank below to be used in sending in your renewal subscription or the subscriptions of your neighbors. May we again urge you to co-operate with us by accepting one of the offers provided?

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Enclosed please find { $1.00 / $2.00 } to pay for my renewal to KANSAS FARMER for { 1 year / 3 years } as per offer above.

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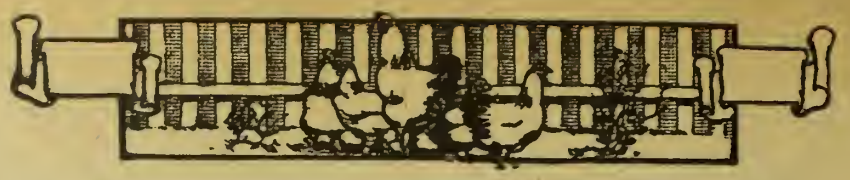

A Small Beginning in Poultry

AS AN illustration of what can be accomplished with a very small beginning in the poultry business, it might be interesting to our readers to have the story of how Mrs. E. B. Gilliland of Wichita started in last year with one hen and one rooster. She writes as follows in telling how she started in raising poultry and producing eggs:

"On the first of March, 1915, my sister was moving from Wichita to Iowa. She had one particular pet hen which she could not bear to sell with the rest of her flock. I was not keeping chickens at the time, although I had an excellent place in my back yard. She offered to give me the hen—nay, she even begged me to take her—not for my sake nor the hen's sake, but just so she would be able to sleep nights without dreaming that someone was making a pot-pie of 'Blackie.' Well, I confess, I didn't want the hen and it was with very luke-warm thanks that I accepted the gift, and then only conditionally, the condition being that if I took the hen she would give me a rooster, too. She did, and the next job she had on hand was to persuade her brother—my husband—that it was his duty to make a martyr of himself and lug those two chickens in a sack four miles on the street car to their new home. It wasn't an easy job, either. It took a lot of diplomacy and persuasion, but she has a winning smile and generally gets whatever she wants, so after many mutterings and maledictions from the man on all chickens in general and those two miserable black chickens in particular, they were finally deposited in a shed in my back yard.

"The next evening when the man came home I proudly exhibited the most beautiful, great big, snow-white egg I had ever seen. 'Hm!' He wasn't interested. White eggs didn't taste as good as brown eggs, anyway, and as for a black chicken, they were an abomination. You couldn't dress one so it would look fit to eat on account of the black feathers leaving a black deposit under the skin.

"Well, at the end of five days I had five eggs, none having been sacrificed to the frying pan because we bought brown eggs to eat. The sixth day Blackie missed, then five more eggs, another miss, and then five more. Then I bought a setting hen from a neighbor, put those fifteen eggs under her and began to save up for another setting. I kept the eggs in the cellar and turned them every evening when I added that day's egg. The first setting hatched fifteen of the prettiest, liveliest little coal black chickens I had ever seen, and the best part of it was that the hen raised every one of them—five pullets and ten roosters. The next hatch was fourteen chicks out of fifteen eggs with twelve raised to maturity. The next setting—two hens at one time—I got twenty-five chicks out of thirty eggs, only raising nineteen of them. I lay this to the fact that I gave all twenty-five to one hen and I think she had more than she could well take care of. The next hatch came off June 21 and only eleven out of fifteen eggs, the next one July 12 and only ten out of fifteen eggs, the next and last one August 4 and only eleven out of fifteen eggs. The eggs were all fertile and some of those which did not hatch had fully developed chicks in the shells. I think the hot weather was the cause of the poor hatch. Out of 105 eggs set I hatched eighty-six chicks and raised seventy-four of them. Most of the chicks were roosters but I saved seventeen fine pullets out of the lot. I could have saved more, but that was all that I had room to keep through the winter.

"As I only had this one hen on the place I could easily keep track of the eggs she laid. She never once offered to set. The hens which I bought to raise the chickens were Buff Orpingtons and Rhode Island Reds, so I had no trouble to know Blackie's eggs from the others when they began to lay after weaning their chickens. From March 1 to October 1 that one hen laid 143 eggs. Then she took a rest and I could not say when she began laying again, for the first of November the pullets from the first hatch began to lay and as the eggs were all alike I could not tell one from another. As I have not time to use trap nests, I cannot tell whether the daughters equal the mother's egg record or not, but I do know that I seldom get less than fifteen eggs a day from the eighteen hens, and that record has been kept up since March. Some of the pullets did not begin laying till March, as they were hatched very late.

"These chickens are White-faced Black Spanish. We are entirely reconsiled to black chickens and white eggs. I found that it was no more trouble to dress a black chicken so it would look fit to eat than it was to dress a white one. The only thing necessary was to have plenty of water to wash them after picking and to press out the black secretion either with your fingers or the handle of a spoon. Don't use a knife or you will tear the tender skin.

"Last August my rooster went blind. He had such a heavy white face that it grew over his eyes and as he could not see to eat, we had to kill him. I tried to get another this spring but could not find anybody who kept this breed, so I did not raise any young chickens this year. This fall I intend to hunt up someone who has pure-bred White-faced Black Spanish and get a good cockerel and mate him with six of the best pullets—and of course old 'Blackie' goes into that breeding pen, too. Next year I am going to fill incubators instead of setting the hens with the eggs I get from these pullets and 'Blackie.'"

Cheap Winter Eggs

Here is a story of what a town man did last winter in producing eggs for his own use. While most of his neighbors were paying from thirty-five to forty cents a dozen for eggs, H. L. Kempster, who is poultryman at the Missouri College of Agriculture, was producing his for eighteen cents a dozen.

He had a small poultry plant in his back yard. His chicken house, six feet square, was built for less than four dollars. The laying flock, consisting of ten White Leghorn pullets, was placed in the new house November 1. No male bird was included in the flock. No space was available for a yard, but the confinement, which is not advisable for breeding stock, did not seem to reduce egg production.

The ten hens produced 409 eggs from November 1 to March 31. Mr. Kempster considers this production good since only two of the hens were old enough to lay before January 1. Only forty-four eggs were laid the first two months, while 365 were laid during January, February and March. Even then the 409 eggs were produced at a food cost of seven dollars, or less than eighteen cents a dozen. At market prices which averaged thirty-five cents a dozen, the eggs were worth $12.13. In other words, the hens returned a profit of fifty cents a bird above cost of feed. During March the feed cost of a dozen eggs was less than nine cents. It is thus seen that the longer the hens are kept, the lower the feed cost of a dozen eggs will be. By July 1 it will be not more than thirteen cents a dozen for the whole period. The test has demonstrated that laying hens can be kept on any back yard, no matter how small, without becoming an objection to the neighbors, and that eggs can be economically produced.

The birds may be used for meat as soon as they become broody and cease laying. The market value usually increases until June so that the initial investment with interest can be obtained at any time by selling the birds.

If your hens are compelled to roost in tight, poorly ventilated houses these hot nights, they will not be in fit shape to lay heavily. Hens that set on the roosts half the night with their wings spread out and panting for breath, are not going to get a good night's rest. Consequently they are not ready for a day of activity in gathering feed from which to manufacture eggs.

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Mrs. W. A. Sproat, 518 Topeka Ave., Topeka

SHETLAND PONY FOR SALE

Shetland pony mare, not registered, coming three years old, bred to a registered Shetland stallion. Broke to ride. Will sell at a bargain if taken soon. Address

D, CARE KANSAS FARMER.

PURE BRED POULTRY

PLYMOUTH ROCKS.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

BARRED ROCKS — SEVENTY-THREE premiums. Breeders for sale. Eggs half price. Mattie A. Gillespie, Clay Center, Kansas.

SEVERAL BREEDS.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

POULTRY WANTED.

ALWAYS QUICK RETURNS FOR EGGS and poultry. Coops and cases loaned free. The Copes, Topeka.

JERSEY CATTLE.

B. C. SETTLES
Jersey Cattle



Pedigrees Public Sale
Catalogs - Management
Palmyra - Missouri

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

JERSEY CATTLE

One four-year-old cow, milked 35 pounds 5 per cent milk with second calf. Will freshen in December to service of our great son of Sans Alol. Also four splendid Finance Interest bulls from four to six months old. Write for pedigrees and descriptions.
BISONTE FARM - LAWRENCE, KANSAS

Jersey Calf Bull dropped January 4, 1917, out of a rich-milking good-type dam. A bargain. W. T. Ballagh, Nevada, Missouri.

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

Jersey Cows For Sale

Eighteen head of choice, young, registered Jersey cows fresh and coming fresh. Priced for quick sale.
N. L. DUCHESNE, GREAT BEND, KANSAS

The old hen's body is over sixty per cent water. The body of the growing chick ranges as high as seventy-two per cent water. During these long hot days a liberal supply of water should always be provided. Do not expect the hens to go to the horse trough to drink. Each dozen eggs contains one pint of water. Here, too, is a demand for plenty of water.

If you will keep the poultry house clean, and provide a proper dust bath, the hens will enjoy making their toilet and keep their bodies clean and free from vermin. Dry, sifted coal ashes on the floors of the poultry houses is one of the best things for this purpose. Dry earth is also very good, and is preferred by the hens to the ashes.

EDGEWOOD FARM
REGISTERED ANGUS BULLS. HAVE FIFTEEN STRONG YEARLING BULLS FOR SALE.
D. J. White, Clements, Kansas

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POLAND CHINAS.



Faulkner's Famous Spotted Polands
The world's greatest pork hog are raised exclusively on

HIGHVIEW BREEDING FARMS
The largest registered herd of old, original, big-boned, spotted Polands on EARTH.
Spring Boars Now Ready to Ship, Pairs and Trios No Kin.
Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.
H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

OLD ORIGINAL SPOTTED POLANDS
Choice March and April pigs of both sexes.
H. A. MATTOX, Route 2, Burlington, Kan.

Langford's Spotted Polands. Gilts bred for fall farrow. Future herd boars. Satisfaction guaranteed. T. T. LANGFORD & SONS, Jamesport, Missouri

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150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
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TOWNVIEW HERD BOARS
Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

POLAND CHINA BOARS
Twenty-five choice spring boar pigs sired by Caldwell's Big Bob, Big Hadley Jr., King Price Wonder, Columbus Defender, Big Bob Wonder and Fessey's Tim. Some fine prospects and priced reasonable. Immune.
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OLD ORIGINAL SPOTTED POLANDS
Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

Henry's Big-Type Polands
Spring pigs, either sex. June delivery. Sired by Mammoth Orange, King Price Wonder, Big Wonder. Choice of lot, $35. Trio, $100. Others, $25. First check, first choice.
JOHN D. HENRY, LECOMPTON, KANSAS

DUROC JERSEYS.

JONES SELLS ON APPROVAL
February, March and April Durocs, pairs and trios and herds unrelated. First class pigs at reasonable prices.
W. W. JONES, CLAY CENTER, KANSAS

LONE TREE DUROC FARM
Herd Boar Graduate Prince by Graduate Col. Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.
GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNE DUROC-JERSEYS
Forty-five head spring boars and gilts, March and April farrow, by Gano Pride 2d by Gano Pride, out of a Graduate Col. sow. Herd sows best of breeding. Write for prices. T. F. DANNER, Winfield, Kansas.

McBRIDE'S DUROCS
Bred gilts for September farrow and boar pigs for sale from four to six months old.
W. T. McBRIDE - PARKER, KANSAS

IMMUNED DUROCS
With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

GALLOWAY CATTLE.

GALLOWAY BULLS
SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

BERKSHIRE HOGS.

KING'S BERKSHIRES — Twenty good Berkshire fall boars. One good yearling boar. E. D. KING, Burlington, Kansas.

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

POLLED DURHAM CATTLE.

FOR SALE—Two red and white bull calves, 10 months old, sired by Chief, a son of True Sultan. Priced to sell.
D. C. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 miles S. E. of Topeka)

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising
O. W. Devine, Field Representative

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CLAIM SALE DATES.

Holsteins.
Oct. 16 — The Nebraska Holstein Breeders' Consignment Sales Co., Omaha, Neb.; Dwight Williams, 103 Bee Bldg., Omaha.

Poland Chinas.
Aug. 15—H. L. Faulkner, Jamesport, Mo.
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Oct. 17—Walter B. Brown, Perry, Kansas.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.

Red Polled Cattle.
Sept. 4—Milton Pennock, Delphos, Kansas.

Durocs.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.

Hampshire Hogs.
Oct. 12—Kansas Hampshire Swine Breeders' Association and Halcyon Hampshire Pig Club sale at Valley Falls, Kansas. George W. Ela, secretary and manager.

O. I. C. Hogs.
Sept. 4—Milton Pennock, Delphos, Kansas.

R. I. Little, of the Illinois Horse Company, of Walford and Des Moines, Iowa, report the demand for choice stallions increasing. Mr. Little has been engaged in the draft horse business for years and has many winnings to the credit of his show herd. A feature of the herds at the farm near Walford, Iowa, and in the barns at Des Moines, is the choice lot of stallions including prize winners.

Dr. B. P. Smith, of Miltonvale, Kansas, has collected together a small herd of registered Holstein cows and heifers that are very promising. A number of the cows have A. R. O. tests and the ten head of two-year-old heifers are a feature of the herd at this time.

W. W. Jones, of Clay Center, Kansas, is making great success with his Durocs. He has a number of herd sows that come from Ira Jackson's herd and are of the O'Brian, Cherry Chief and Illustrator breeding. About fifty spring pigs are coming along fine. Among them is a choice lot of herd header prospects.

T. R. Maurer & Co., of Emporia, report their big herd of Holsteins doing well and a steady demand for the high class kind. A feature of their herd at this time is a large number of choice heifers closely related to the world's champion, Segis Fayne Johanna. A lot of them have been bred to their great herd sire, Canary Mercedes Sir Wadnah, whose dam produced 26.90 pounds butter and 541.70 pounds milk in seven days.

Breeders of pure-bred swine should not overlook the present opportunity to sell their surplus breeding stock. The prospect for an unprecedented demand was never brighter than at this time. Market hogs are high and hogs are scarce and all reports now are favorable to continued high prices for fat hogs. This condition never fails to create a demand for breeding stock. The use of a little space in Kansas Farmer will reach a very large number of prospective buyers and the breeder who advertises will be the first to sell his breeding stock. The advertising locates the stock for the buyer. This saves him time and trouble and he naturally goes to the herd he has located instead of losing valuable time in an endeavor to locate other herds. Reports from the corn belt in Kansas—in fact from the entire corn belt—are ata this time very favorable for a big corn crop, and this always means an additional demand for breeding hogs even when hog prices are far below the present figures and prospects for continued demand and high prices not near so promising.

The National Duroc Jersey Record Association has just purchased Liberty War Bonds to the extent of $1,000, and has authorized the further purchase of bonds to an equal amount when the second issue is made. This action illustrates in a practical way the attitude of the members of the National Duroc Jersey Record Association in the present crisis.

A treatise on hog raising from the viewpoint of the packer has been compiled and is being sent out to the swine raisers of the country by Armour & Company. The booklet is the work of E. R. Gentry, general hog buyer for Armour & Company, assisted by Dr. R. J. H. DeLoach, director of Armour's Bureau of Agricultural Research and Education. It is not intended to supplant the excellent treatises on swine breeding put out by the government and by other learned authorities; on the contrary it is designed to make those works more valuable to the man who desires to raise hogs for the market. It describes the various classes and grades which are standard at the various big markets and explains the types which the packers are most anxious to get and for which they will pay the highest prices. The various cuts and the dressing percentages from the different grades are described and their bearing on the market values shown. The booklet is in no sense aimed to induce the farmers to turn toward certain breeds of swine, the intent being merely to acquaint the hog raisers with the needs of the pork packer. The losses borne by farmers as the result of disease among the droves is dwelt upon and advice is given on how to minimize this loss. A chapter is devoted to the matter of government inspection and another to the interesting by-products phase of the industry.

I can't go back on Kansas Farmer, although I haven't any time to read just now. It certainly is a help. I enclose one dollar to renew my subscription.—E. V. FRITTS, Miami County.

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm — F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS
BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING
of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.
GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM
In order to clear our pastures for our grade cows and heifers that will soon arrive for fall trade, we are offering sixty-five head of pure-bred Holsteins, with the choicest of breeding, from calves to mature cows, at bargain prices. Many of our heifers are closely related to the world's champion, Segis Fayne Johanna, and a lot of them have been bred to our herd sire, Canary Mercedes Sir Wadnah 145366, whose dam produced 26.90 pounds butter and 541.70 pounds milk in seven days, while his sire's dam holds the world's milk and butter record as a ten-year-old, producing 1,300 pounds butter and nearly 30,000 pounds milk in a year. We have some fine bull calves sired by a son of Rag Apple Korndyke 8th and by a son of Pontiac Korndyke, with record dams. Also a few good grade cows and heifers. Do not delay, but write or wire when we can expect you. Farm located a mile west of town on Sixth Avenue. Phone 688.
T. R. MAURER & CO - - - - EMPORIA, KANSAS

PECK'S HOLSTEINS We have a choice lot of extra large high-grade Holsteins, including fresh cows, heavy springing cows and heifers, and young calves. Registered bulls. Come and see our herd. We meet you at train and guarantee satisfaction.



M. E. PECK & SON, SALINA, KANSAS



HOLSTEINS AND GUERNSEYS
High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.
F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.



Purebred Registered
HOLSTEIN CATTLE
Prof. Carlyle of the Wisconsin Experiment Station asserts that "It will be readily seen that the Holstein cow has the ability to digest coarser feeds and work them over to a better advantage than Jerseys and Guernseys and this is a strong point, in which I contend that the Holstein has a great advantage over any of our smaller breeds, and it is a point which is going to appeal to the farmer in the future far more than it has in the past." There's big money in the big "Black and White" Holsteins.
Send for FREE Illustrated Descriptive Booklets.
The Holstein-Friesian Association of America
F. L. Houghton, Sec'y. Box 114, Brattleboro, Vt.

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

MOTT'S HOLSTEINS
Seventy-five head of high-grade and registered coming 2-year-old Holstein-Friesian heifers for sale, bred to a registered bull. Six choice pure-bred Holstein bulls old enough for service. Come to Herington or send us mail order. We guarantee to please you.
W. H. MOTT - - HERINGTON, KANSAS

Butter Bred Holsteins
Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

HOLSTEIN CALVES
We offer for sale choice, beautifully-marked heifer or male calves, 15-16ths pure-bred, and all from extra large heavy-milking dams, as follows, crated f.o.b. cars: One to two weeks old, $15 each; two to three weeks old, $17 each; five to six weeks old, $20 each. First check takes them. Write
W. C. KENYON & SONS, ELGIN, ILLINOIS

Braeburn Holsteins Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.
H. B. COWLES, 608 Kan. Av., Topeka, Kan.

Holstein and Guernsey Calves—Both sexes, 6 weeks old, nicely marked, fawn and white, black and white, mostly 15-16ths. $25 each, crated for shipment. Satisfaction guaranteed.
Edgewood Farms - Whitewater, Wisconsin

HOLSTEINS
Registered and high grades, cows and heifers. The milky strain, service bulls, carloads or less. High grade heifer calves, $18 each, crated. Write me. I have what you want.
RAY C. JUDD - ST. CHARLES, ILL.

High Grade Holstein Calves 12 heifers 15-16 pure bred, 4 to 6 weeks old, beautifully marked, $20 each. Safe delivery and satisfaction guaranteed.
FERNWOOD FARMS, WAUWATOSA, WISCONSIN

HOLSTEIN CALVES
Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

Nicely marked high-grade Holstein calves, price reasonable. O. Canuteson, Route 4, Delavan, Wisconsin.

Breeders' Directory

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

HORSES AND MULES.



PERCHERONS, BELGIANS, SHIRES.
Ton stallions ready for heavy stand; also yearlings and twos. Young fillies, also mares with colt by side and bred again. All registered. One hundred individuals of first rank for sale.
FRED CHANDLER, R. 7, Chariton, Iowa
Just above Kansas City

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

Choice young Belgian and English Shire Stallions, also mares, Percheron and Coach stallions. Many first prizes. Long time 6% notes. Illinois Horse Co., Good Block, Des Moines, Iowa.

SHORTHORN CATTLE.

Sycamore Springs Shorthorns
Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

Sunflower Herd of Shorthorns
A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

CHESTER WHITE HOGS



FOR SALE
Spring Pigs in Pairs and Trios Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

O. I. C. SPRING PIGS, BOTH SEXES.
Bred gilts.
HARRY W. HAYNES, GRANTVILLE, KAN.

GUERNSEY CATTLE.

Choice Guernsey Calves—Ten heifers, 15-16ths pure, beautifully marked, from heavy-producing dams. $20 each. Satisfaction guaranteed. L. Terwilliger, Wauwatosa, Wis.

GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

When writing to KANSAS FARMER live stock advertisers, please mention this paper.

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JUL 2 3 1917

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 30. TOPEKA, KANSAS, JULY 28, 1917. Established 1863. $1 a Year

BUILD A SILO OR SELL CATTLE

Store All Feed Grown in a Silo and Hold Your Live Stock

THE silo is rapidly becoming a badge of agricultural prosperity wherever live stock is kept. Enough rough feed can be grown in Kansas every year, no matter what the season, to carry our stock through the winter if properly preserved. By storing in the silo all rough feed grown it would even be possible to increase the live stock of the state, for there are big feed years followed by poor feed years, and silage stored in the years of surplus feed can be used to supplement the supply of feed in the lean years.

The primary purpose of a silo is to conserve the forage part of the crop. Making the most of the by-products of grain farming is a profitable practice at all times. In a year when fodder may be the whole crop, having a silo may easily make the difference between profit or loss in farming. Corn, kafir, and others of the feed crops are seriously in need of rain at the present time. If the moisture supply continues short through the balance of the season, feed crops are sure to be short, and in some sections grain may fail entirely.

The partly grown or stunted feed crop may not seem to be worth much, but if neglected it will be a total loss. If given every chance possible through proper cultivation and then stored in a silo when it can do no more, its maximum value can be realized and a profit made from what would otherwise have been lost completely.

Karl Knaus, county agricultural agent of Cloud County, has been studying the present situation in the light of his experience and observations of former years. Here is what he says on the silo and live stock question:

"We are facing a short crop in North Central Kansas. In checking up our available roughages, it would seem that we will have an abundance in spite of the continued dry weather. The first cutting of alfalfa was good except in districts which were visited by the hailstorm June 5. The second crop of alfalfa was very short and unless we have rain there will be no third crop to speak of. Many fields of oats are not worth threshing and are being put in the barns or stacked for winter feed. The corn and kafir acreage, however, is much larger than usual this year and even if they do not mature grains they will add to our supply of rough feed.

"To the man who has no reserve of silage the present prospect is rather gloomy. Pastures are drying up rapidly and cattle are beginning to lose instead of gaining. Milk cows are falling off materially in their milk flow and must be fed in addition to what they get on the pasture. Our farmers are undecided whether to try to hold on a little longer or sell their stock now before prices tumble badly. I hear dairymen worrying for fear they will be compelled to sell some of their good producing cows.

"This is just a repetition of what happens every time this country is a little more dry than usual. We are compelled to sell our cattle when feed gets short and usually in such cases prices are low because everybody is in much the same condition. Then we have to begin all over again and slowly build up our herds from what breeding animals are left or by buying when everyone else wants to buy and prices are high. One of the most profitable things we ever did on our home farm was to hold all the cattle we had during the dry year of 1902. Next year these cattle were in big demand. The fall before no one wanted them.

"The silo is one of the very best means of conserving our supply of rough feed. Dairymen having small silos filled with silage are keeping up the milk flow from their cows right now. Nine years in ten it is profitable for dairymen to supplement the pastures with a little silage in late July and through August. In fact many dairymen say that pasture is the most expensive feed they have.

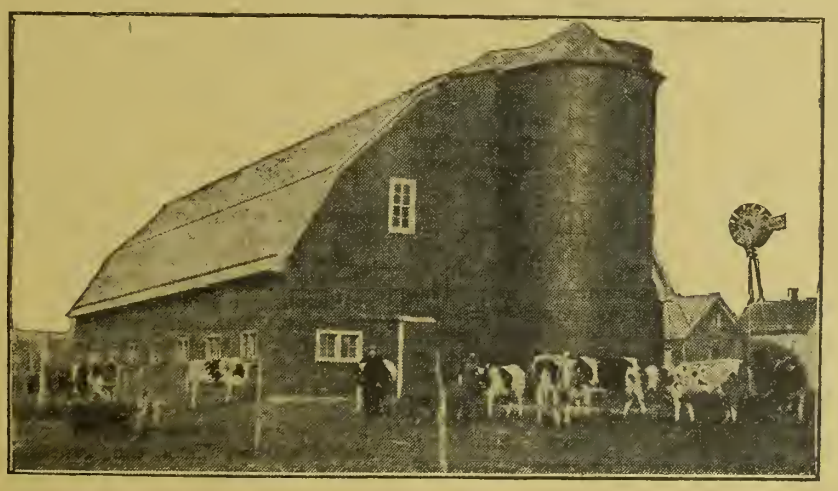
"If corn and kafir are stored in the silo, the crop will feed much farther than if fed as fodder or pastured. Loss of food nutrients from the silo will run very little if any over ten per cent, while loss from shock fodder quite frequently runs as high as forty per cent if left in the field until late winter. This difference of thirty per cent will help wonderfully in carrying cattle through the winter until grass is in good condition. This does not take into consideration the facts that the silage is more palatable or that cattle must handle less bulk of feed to get the same nourishment. Another thing, cattle fed silage seem to crave some dry feed and will eat considerable straw, while if fed on dry feeds entirely they would not eat much straw unless compelled to.

"There is only one type of live stock farmer that may have no use for a silo, and that is the man who buys feeders and finishes them as quickly as possible. Cattle handled this way require a very concentrated ration in which there is no place for silage. Unless we get rain soon, however, farmers of this type will be hard to find in Kansas this year."

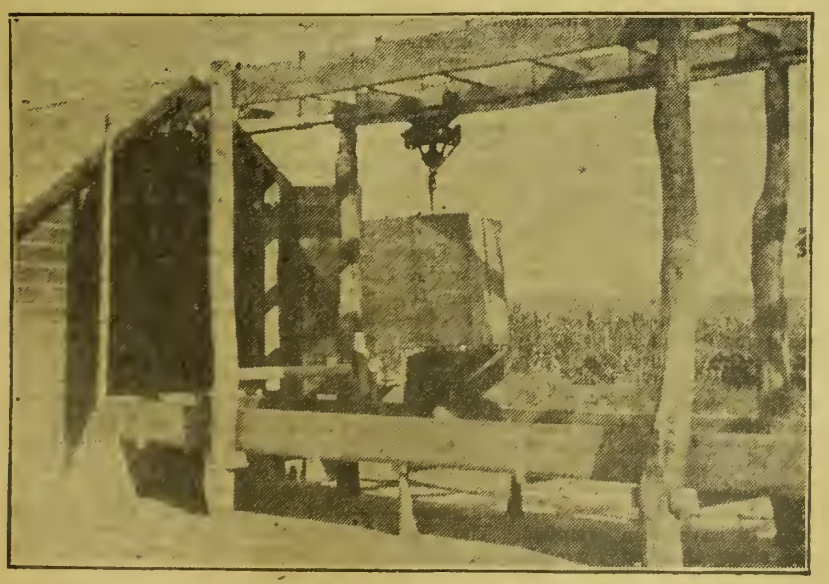
Mr. Knaus has arrived at logical conclusions on the place of the silo in our farming system. Too great emphasis cannot be placed on the now well established fact that placing corn, kafir, or cane in the silo at the proper stage makes of this low-grade roughage a feed of far greater value than if stored as fodder in the shock. The fundamental principle of a silo is that it so conserves the feeding value of roughages—the by-products of grain farming—that they can be fed to animals and return a profit.

Farming is a business that depends much on weather conditions over which no man has any control. We can only accept conditions as they come and make our plans accordingly. While we cannot be sure of the weather, there is one line of procedure that is always in order, and that is to plan for the fullest utilization possible of the rough feed that grows even under adverse conditions. If we are equipped to do this, and have good live stock, we need not worry over the consequences of a poor crop or one of low quality. We can be sure of making some money from the roughage even in a year when grain fails entirely.

We feel sure that the logical thing for the live stock farmer is to plan now to make the most of the forage part of the crop. Whether you build a silo or not, you will have to pay for one in the loss sustained. Will you build a silo and make live stock farming safe, or sell your stock at a sacrifice and then have to slowly build up your herd and face the possibility of going through the same experience again in a few years?



MODERN BARN AND SILO ON RICE COUNTY WHEAT FARM.—DAIRYING IMPORTANT PART OF FARM BUSINESS



PIT SILO, ELEVATING DEVICE AND FEED BUNK ON FARM OF E. V. ELFSTROM, CLOUD COUNTY

Big Yield on Early Plowing

A splendid demonstration of the value of early plowing in producing large wheat yields was reported recently in the Chetopa Advance. Bert Greene and his son Raymond, who are among the most successful farmers in that part of the state, have just harvested a field of wheat where early July plowing and late plowing were in the same field. They were plowing this field last summer in July in preparation for wheat, but something happened that called them from the field before it was all plowed. They finished the plowing just before sowing the wheat in the fall. On the July-plowed land the wheat will thresh out about twenty-five bushels to the acre, while on the part plowed just before seeding the yield will not be more than eight bushels to the acre. The line where the July plowing ended in the field is distinctly marked as the wheat stands in the shock. Absolutely the only difference in the two parts of the field is in the different dates of plowing. It cost no more to plow in July than it did in September, so the twenty-five bushel yield has not cost any more than the eight bushel yield.

Your tractor is only as good as your engine!

If you do not take the proper care of your engine you are inviting speedy depreciation to the extent of a goodly share of the profits on the season's crop.

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

OIL and grease on a tractor are cheaper than repairs plus time lost in obtaining them and getting started again.

Looking over all parts of the machine regularly is just as important as regular feeding and watering of horses.

The wrong kind of lubricating oil wastes power and fouls every working part. Get instructions from the builders as to kind and quantity of oil.

These are tractor suggestions from the horse and machinery committee of the Kansas Council of Defense.

Sharp plows, it is further pointed out by the committee, call for less power from the engine to do good work, hence less cost to operate and longer life for the tractor. Lengthening of hitches between engine and plow will often eliminate a large part of side draft, which is another way of reducing the cost of the work.

A good headlight, moreover, will greatly increase the usefulness of the engine.

Purchasing Farm Tractor

Extensive preparation for the seeding of a large acreage of fall grain is creating a larger interest in farm tractors. Many farmers are thinking of purchase and yet are at a loss to know what constitutes a durable and economical machine and one adapted to their particular needs.

The problem of selecting a farm tractor is one requiring the most careful investigation and study before the purchase is made or much dissatisfaction and loss is sure to result.

It is very unwise to decide solely from what a public demonstration shows. The clever operator knows how to hide the weakness as well as display the good points of his machine.

There are many different types of tractors, one of the commonest of which is the four-wheel type with gears all enclosed and running in oil.

Many tractors give a good account of themselves at plowing and are of little value in other work. A single small narrow rim steering wheel will fail at harrowing in mellow or soft land, although perfectly satisfactory for other work. Some types can be satisfactorily turned only in one direction. Any machine will need occasional adjustment and repair. Accessibility to all the working parts is a factor that is generally overlooked, yet is a very important consideration. There is less vibration and more steady power with the four-cylinder automobile type motor, but the two-cylinder opposing type motor is the better adapted to the burning of kerosene. Opinions differ as to whether kerosene is more economical than gasoline, all things considered.

Farmers Own Half of Autos

It is pointed out in a recent issue of the Implement and Tractor Trade Journal that the farmer is playing a more important part in the automobile industry than formerly and that his importance is becoming more and more apparent as the industry develops. Outside of New York City more automobiles, comparatively speaking, are owned in the farming districts than in the cities. The farmer finds a motor car more of a necessity than the person in the city who has street cars, subways, elevated railroads, omnibuses and other means of travel at his command. Statistics show that more than one-half of the motor cars owned in this country belong to farmers. The latest available figures indicate one motor car to every forty persons in this country and there are more than three million automobiles registered, which means a fraction more than one motor car for every mile of highway in the United States, and a fraction more than fifty per cent of these are owned by farmers.

Some interesting figures for Minnesota for 1916 have been compiled. The figures show that on November 1, 1916, 62,757 motor cars were owned by farmers. In the cities and towns 56,192 automobiles were owned on that date. This gave the farmers an appreciable edge in the Minnesota census for 1916. Of the 56,192, 30,096 were owned in Minnesota's three largest cities, Minneapolis, St. Paul and Duluth. In all the other towns combined 26,096 cars were owned on November 1. The total number of cars actually owned in Minnesota was 118,949 at that time. With the farmers owning 62,757 of this number, the lead of the farmers is forcefully shown. The same conditions prevail throughout the Middle West.

Keep the Car Clean

It is a sound method of procedure never to allow dust and dirt to collect in the top, in the interior, on the floor, in the upholstery, or upon any part of the skeleton of the car, says Dr. Leonard Keene Hirshberg, writing in the current issue of American Motorist. If the owner will remember that each spot of dust or dirt injures the car and shortens its career; if he will understand that one loose bolt, made so by grit and dirt, caused the collapse of the Quebec bridge, better personal attention will be given by him to the near godliness of cleanliness.

Alignment of Mowers

Quite often trouble with mowing machines may be traced to "non-alignment"—a condition where the sickle and the pitman have become thrown out of a straight line with each other. This, together with poor lubrication of the working parts, or a dull or battered sickle section, make the days of the sharp scythe seem Paradise in comparison.

When the outer end of the cutter bar drops back, much of the power is consumed by the increased friction on the inside shoe parts. This friction causes increased draft. Non-alignment is thought to be caused by wear in the hinge joints between the cutter bar and mower frame, and usually does not develop until a machine has been used for three or four seasons.

Mowers sometimes have special aligning adjustments, which make it quite easy to bring the cutter bar in line with the pitman. It is a mistake to think that an adjustment of either the push bar or drag will do the work right. The shortening of the drag bar tends to interfere with the sickle registering properly, and is a method of remedying non-alignment which will not accomplish the desired result.

Mowers that do not carry special aligning devices can often be fixed up well enough to replacing worn parts with new ones. The purchase of new inside shoe pins, or bushing the front or rear pin hole—a job for a skilled mechanic—should be resorted to at times.

Tighten the shears of the mower so that material cannot become crushed or wound between them, thus causing binding of the cutter.

Failure to clean and attend to the cutter bar parts regularly may cause side draft. Replace badly worn clips, wearing plates and ledger plates at once and save trouble.

Be sure that the sickle centers properly. Try it carefully, and note how it slides. When the sickle does not center well the stubble will be ragged in spots. By centering is meant that at the termination of the stroke the points of the sickle sections should rest in the center of the guards.

Never use oil on the blades of the cutter, as these come in contact with the juices from the grass and clover, and soon form a bad gum that clogs the parts and causes heavy draft. Oil may be used, however, on the sickle head, and plentny of it should be applied here and at other wearing joints.

While the tractor does not tire like the horse, it must have intelligent, conscientious care if it is to be kept busy night and day. With a suitable lighting equipment it is possible to operate the tractor successfully and economically twenty hours a day without undue wear and tear upon it or the equipment with which it is used. To do this, however, it is necessary to have the men in charge exercise more than the usual amount of caution because there is always a tendency in rush times to neglect looking after little repairs.

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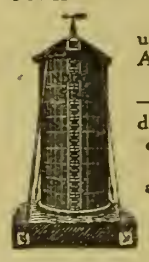

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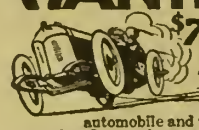

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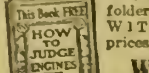



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STACKING SMALL GRAIN

This is a year in which every kernel of grain should be saved. Stacking wheat or oats is a practice economically correct from the standpoint of saving waste. There is always more or less uncertainty in waiting for the threshing machine to come and thresh grain from the shock before it has been damaged by storms. It does not take much of a wind to blow down shocks of grain, and this is sure to result in loss.

Grain can be put into the stack very soon after it is harvested. Stacking has the advantage of improving the quality of the grain because of the sweating process which it goes through in the stack. All the small grain, whether in the stack or the elevator, must go through this sweat or curing process. This improves its quality and actually adds to the weight of grain.

It does not take as large a crew to thresh from the stack and some threshers make a difference in price in favor of stack threshing. If the stacks are well put up the grain will be much better protected than when it stands in the shock for weeks, as it sometimes does, waiting for the machine. It is no uncommon sight to see the tops of grain shocks green with sprouted grain. This is sure to result in waste and grain that is lowered in quality.

Stacks are sometimes struck by lightning, but this risk can be lessened by making several stack yards. As high in price as grain is at the present time, it would be good business to insure wheat in the stack if a general farm policy is not already carried which covers grain so stored.

One of the difficulties in stacking grain is that since the advent of shock threshing the art of stacking has been lost. It is a difficult matter to give definite instructions on stacking, and we will not attempt to do so. In practically every neighborhood there are probably a few men who know how to stack grain. We believe these men should be sought out and, if they are not now physically able to work, get them to instruct and direct some of the younger men in the art of stacking grain so it will keep. Stacking grain is a part of farm practice that should be revived, and we believe it possible to do it by systematically taking it up in the various communities and enlisting the aid of such men as still know how to stack.

HOME-MADE DRIERS

"Home-Made Apparatus for Drying Fruits and Vegetables" is the name of a bulletin just published, in which G. E. Bray, industrial engineer in the extension division of the Agricultural College, gives instructions in detail for making the three types of driers described in his article in our issue of June 23.

The materials required for making the driers are inexpensive, and the instructions are so clear and the bulletin so well illustrated with cuts and working plans that a boy or girl who is handy with tools should be able to make the first two devices suggested at least, and might not find the third too difficult. Drying houses, municipal or co-operative drying plants, and the storing of dried fruits and vegetables are also discussed.

This bulletin may be obtained free of charge from the Extension Division of the Agricultural College at Manhattan, Kansas, or from the Kansas State Council of Defense, Topeka.

BREED DAIRY CATTLE

It has been authoritatively stated that as high as seventy per cent of the dairy cattle in some sections of the East have been sold to the butcher because of the high price of feed, scarcity of labor, and the strong demand for meat. The dairy industry of our nation is being threatened by the rapidity with which producing herds are being reduced in the eastern sections of the country. The dairy cow is a wonderful conserver of food value and the character of her product ranks so high as a human food that it would be a national calamity to have any material reduction in dairying take place.

If eastern dairymen are selling off their dairy cattle, the shortage must be made good from some other section of the country or dairying as a national industry will suffer a serious slump. This suggests an opportunity for the dairymen of Kansas. In view of the depletion of these eastern herds, it would be good business policy for us here in Kansas to increase our production of dairy cattle. There is no other class of live stock in Kansas and the Southwest generally finding a more ready sale than well bred dairy heifers. Every dealer bringing in stock from other states finds that there are more buyers for really good dairy-bred cattle than he can supply.

Our state has many advantages for growing stock cheaply. Even though grains are abnormally high in price, by preparing to store feed crops as silage and growing alfalfa sweet clover, and other legumes, the cost of feed can be reduced to a minimum.

Get good pure-bred dairy sires with production records back of them and get into the game of producing these high class dairy-bred animals right here in Kansas. It is not only good business to do this, but it is an act of patriotism, for there is nothing that can be substituted for the products of the dairy cow as human food.

FACING NEW CONDITIONS

Never before has it been necessary to market our wheat crop under the conditions now prevailing. In his report to President Wilson, Herbert Hoover says:

"It seems to be overlooked in some quarters that the marketing of this year's wheat is surrounded with circumstances new to history and that the old distributing safeguards are torn away by isolation from the reciprocal markets abroad and the extinction of a free export market and free export transportation."

As showing Mr. Hoover's understanding of the situation, we quote the following statement from the same report:

"The Government must buy the surplus wheat at some reasonable minimum price, allowing the normal domestic trade of the country to proceed with proper safeguards against speculation. Nor would the services of the speculator be necessary, for the Government should be able to stabilize the price of wheat without his assistance and can control the price and quality of export wheat. We are practically helpless to safeguard the farmer or the consumer until pending legislation is passed."

The present indications are that the Government will not only place the marketing of wheat and some other commodities in the hands of a man like Herbert Hoover or a commission of two or three men, but also fix a guaranteed minimum price to the producer. The senate favors a guaranteed price of not less than two dollars a bushel for wheat.

BUY SILO NOW

We have devoted considerable special effort in KANSAS FARMER to pointing out the value of the silo as a means of getting the fullest cash returns from our roughage crops. Many of our readers have realized the economy of the silo and thousands of them have been built in Kansas during the past few years. Even yet, however, only a small proportion of Kansas farms are equipped with silos. This is a year in which the silo will be found of even more importance than in ordinary years.

From the information we have been able to secure from silo manufacturing companies, the supply of silo material is limited. Material contracted for last year in many instances has not yet been delivered. Some companies will not be able to do more than fill the orders they have already booked.

Many of our readers feel the need of a silo as a means of cutting down the cost of feeding live stock. We trust none will be disappointed and be unable to get the silo for conserving their feed crops in this year when it is so important to get the largest return possible from the roughage grown. If you do not have a silo and cannot get one, you are sure to suffer loss of valuable feed material. Do not delay ordering a silo or making plans to build one of some home-made type of construction.

WHEAT CONTROL

One of the important matters under consideration in Congress is that of regulation of wheat marketing in view of the war conditions existing. In discussing the Government control of wheat marketing before the New York Produce Exchange, Herbert Hoover stated that the extra profits between the price of wheat and the price of flour on the crop of 1916 amounted to about $159,000,000. By this he meant that this amount of profit was made in excess of normal business profit. No authority was given for these figures.

Mr. Hoover also pointed out that the daily quotations on flour are based on the daily changes on the cash wheat market and not on the price at which the bulk of the crop was sold.

The remedy for this is to price flour on the basis of the cost of the crop as a whole. "In England the price of wheat and flour was regulated on the cost of the entire supply and had nothing to do with the high prevailing price in America or anywhere else," said Mr. Hoover. This is an entirely new system of economics, and it could not be put into operation without having a fixed and constant price for wheat.

The Produce Exchange Committee in its report makes the following statement: "It is evident that the merchandising of the wheat crop is to be controlled from the producer to the consumer with as little interference as possible with the regular channels of distribution. The effort to eliminate abnormal profits or expenses in the handling and distribution of wheat and flour will be thorough and comprehensive. Normal profits are expected."

The growers of wheat should by all means be consulted in the preparation of any plans necessary for handling this matter of wheat marketing. Apparently Mr. Hoover is ready to consider counsel from those who offer it in the right spirit. Only a few days ago he was in consultation with representatives of the big farmers' organizations. The Farmers' Union of Kansas was represented by its president, Maurice McAuliffe.

NEW COUNTY AGENT IN JEWELL

A. E. Jones began work as county agricultural agent in Jewell County July 1, to fill the vacancy created by the resignation of A. D. Folker early this spring. Mr. Folker stayed with the county until several days after Mr. Jones was on the job and helped him to get started in the work.

Mr. Jones is a graduate of the Kansas Agricultural College in the class of 1916. He was reared on a farm and had the responsibility of operating the home farm until his graduation. Since that time he has been employed as teacher of farm mechanics in the Reno County High School at Nickerson. He helped organize the extension work of the high school among the farmers of the county, addressing farmers on the Hessian fly situation, tractor management, and other agricultural subjects, organized calf clubs, and assisted in a farm survey of the county.

Even Mexico is in the market for dairy cattle. Information recently came from Mexico City that 5,000 head of registered dairy cattle had been purchased in Missouri and adjoining states for shipment to Mexico. Ten carloads of these cattle went by the Brownsville-Matamoras gateway June 29. The remainder are to follow in a few weeks. Apparently these dairy cattle are going to build up the depleted dairy herds near the large cities of Mexico.

Crude or medicated oil will keep hogs free from lice. Arrange a rubbing post so the hogs can oil themselves, or get one of the patent oilers. A single oiler will be enough for twenty or thirty hogs.

The Lyon County Dairy Club is still growing. Three new enrollments came in this week, bringing the total up to forty-seven.

Do You Want Seed Wheat?

THE Kansas Council of Defense is now raising a two million dollar Crop Share Fund to be used in buying seed wheat to put out on a fifth share basis. If you want some of this seed wheat, inquire of your county committee which is being formed.

This is a straight business proposition. The big business interests of the state realize that the farmer is willing to do his share for his country and they are going to put their money into this big seed wheat pool and let it take chances along with the labor and investment of the wheat grower.

This seed wheat fund will make it possible to put out a larger acreage of wheat than it would be safe to risk ordinarily. If the farmer wins, the investor wins. If he loses, the investor also loses.

Kansas records for the past twenty years show there have never been two wheat failures in succession, and in almost every case a poor crop has been followed by a bumper crop. This is due to sound scientific causes.

Everything points one way. The year 1918 is due to be one of the big years for wheat in Kansas. Uncle Sam only asks that we do our best.

On another page of this issue are the plans in detail which will govern the handling of this proposition of sharing with the farmer the increased risk of putting out maximum acreages of wheat.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

AT A recent meeting of the seed wheat committee of the Kansas Council of Defense, a member of the committee asked W. M. Jardine, director of the Kansas Experiment Station, how much seed wheat should be allowed to the acre. Director Jardine replied by saying that most farmers sow a peck too much. Much more depends on the seed bed preparation than upon the amount of seed to the acre. A half bushel sown in the latter part of August will equal a bushel in September and eight pecks in November. He stated that ordinarily two pecks of wheat will give maximum yields if sown early and will do as well as six pecks sown later. This is an important point to take into consideration in conserving our seed supply. With wheat at present prices, a large amount of money will be required to provide the seed for this fall's planting.

These statements made by Director Jardine were based on careful experimental work in dates and rates of seeding covering a period of several years. While visiting the agronomy farm at Manhattan recently, we took special note of the appearance of the plots where these tests are being made. In looking them over very little difference could be noticed between the different rates of seeding where they were planted at a reasonably early date. The later the planting, the more apparent became the results from reducing the amount of seed to the acre.

In order to economize in the amount of seed necessary, it is highly important that seed bed preparation begin at once in order that soil conditions be favorable so that the wheat can be planted at the proper time this fall. This is just as important in the eastern part of the state as in the western and central parts.

Grain to Cows on Pasture

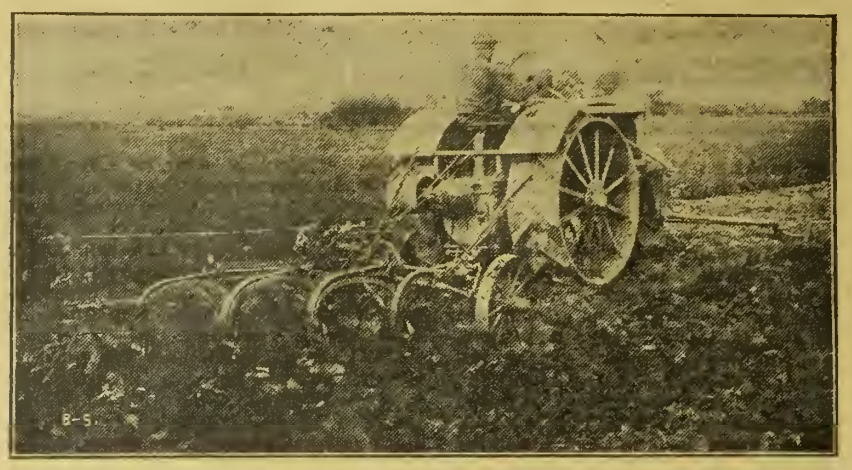
A question which always comes up at this time of the year is whether it pays to feed grain to cows on pasture. This depends largely on the amount of milk the cow is giving and the condition of the pasture. In most cases it will hardly pay to feed grain when pastures are at their best, and this will be especially true this year when grains are so abnormally high in price. If the cows are capable of producing a large flow of milk it will be necessary to supply some grain or they will not give milk to their full capacity. A cow should be able to get enough feed from good grass to make twenty-five to thirty pounds of average milk a day. If a cow is capable of giving more than this quantity of milk or more than a pound and a half of butterfat daily, it will usually pay to feed her about five pounds of grain a day in addition to good pasture. When the pastures become poor, as they often do in late summer, it may be necessary to feed considerably more grain in order to keep up the milk unless there is some good substitute for pasture, such as silage or green feed of some kind that can be cut and fed to the cows. The dairyman who would keep his cows up in milk during the pasture season must almost of necessity be in a position to feed them silage. A small silo to be used only for summer feeding is becoming common on well established dairy farms.

Weevils Infest Stored Barley

J. C. W., of Sheridan County, asks if weevils and other stored grain insects work on barley as they do on wheat. He has 500 bushels of old barley stored in a frame bin with shiplap sides and wishes to carry this over for feed and seed. He asks how to use the carbon bisulphide in protecting this stored grain.

According to Prof. G. A. Dean, entomologist of the Kansas Experiment Station, the stored grain insects will work on barley the same as on wheat. This barley may already be infested with weevils.

In our issue of July 21 we gave brief instructions for treating stored grain with carbon bisulphide to destroy the weevils or other insects infesting it. Circular No. 47 of the Kansas Experiment Station, entitled "Insects Destructive to Grain and the Grain Products Stored in Bins and Granaries," will be sent free on application to Professor Dean or to the Director of the Experiment Station, Manhattan, Kansas.



"EARLY plowing and early disking should be our slogan," said Dean W. M. Jardine in his report to the Kansas Council of Defense. "We ought to talk it at all times wherever we may be and before all kinds of audiences. Deep plowing in July and early August, and where plowing is out of the question early disking, will increase the wheat yield."

How to Prevent Winter Killing

A wheat grower in Cloud County asks if there is anything he can do in preparing for wheat that will lessen the danger from winter killing.

Last winter nearly all the wheat in that part of the state failed. The principal reason was that the fall was dry, which delayed preparation work, and after the ground was plowed and the wheat planted it continued dry so the seed bed did not get settled. Wheat always winter kills badly on a poorly settled seed bed. Farther west where rainfall is often deficient in the fall it is sometimes a difficult matter to get even early plowing settled enough so as to make a satisfactory seed bed. It is to overcome this condition that the subsurface packers are used.

A method of seeding that has been tested out experimentally for several years at Hays is to plant the rows of wheat in furrows similar to the manner in which corn is planted in lister furrows. These furrows are run preferably in a direction at right angles to the prevailing winds. Some specially designed drills have been used so arranged that each row of wheat is planted in a small furrow. These drills have not as yet been placed on the market commercially. The distance between the rows is eleven inches in the drills that have been used. They require considerably more power to operate them than the ordinary drill, and for that reason some farmers object to them. As a means of avoiding winter killing, this planting of wheat in furrows seems to give excellent results. It is especially noticeable at Hays this year when so much of the wheat sown in the ordinary manner killed out.

This idea of planting wheat in furrows is by no means new. It was tested out in a small way at the Kansas station a good many years ago, and we have had several conversations with a man who formerly farmed in Lincoln County, in which he told us of his observations along this line. He had long noted that whenever a corn stub or some other obstruction caused the ordinary drill to leave the furrow, the wheat in the furrow always came through the winter in better condition than that in the ordinary drill rows. With the ordinary drill, the seed in the outside rows is usually left in a deeper depression than the seed in the remainder of the drill rows. In seasons when there is bad winter killing, it has been noted that these outside rows come through the winter in much better condition than the other rows that are not planted in a furrow or depression. It would seem that this method of planting wheat gives great promise of being a means of avoiding much of the danger of winter killing.

Spreading of straw on wheat fields is a practice that has saved a good many acres of wheat from being killed out during the winter. We talked with farmers in the wheat belt last summer who stated that they could tell to a line where the straw spreading stopped. In some instances the spring winds blew the straw off the field, but it had remained long enough to afford the wheat the protection necessary to prevent its being killed by the winter conditions. The practice of burning straw is far too common in the wheat sections of our state. If this straw could all be spread on the land, it would have a remarkable effect in keeping the soil supplied with organic matter, and by spreading it on wheat fields in the fall and early winter it would serve the additional purpose of lessening the danger of winter killing. A good straw spreader should be part of the equipment on every wheat farm.

Ridging Up Corn

While driving out in the country recently, we noted a field of corn which had apparently been laid by in such a manner as to leave a very high ridge. We can recollect how years ago in our early experience as a boy on the farm this was the approved method of laying corn by. It was considered that at this last plowing as much dirt should be piled around the corn as possible. Therefore the shovels were set to go deep and to throw dirt toward the row. In the light of a better knowledge of the principles of corn cultivation, it seems now that there could be no worse way of finishing the job. Such a method is bound to injure the corn unless much more than the usual amount of rain falls after the corn is cultivated the last time. The roots of corn or kafir are near the surface at this stage of its growth and many of these roots will be cut off by this deep plowing.

Since the disk cultivator has come into use there has been a tendency to ridge corn or the grain sorghums too much at the last cultivation. This type of cultivator does nice work, but used in this way it throws all the loose dirt in a ridge, leaving the space between the rows almost bare of loose soil. This high ridge will dry out more quickly than if the soil had been left in a level condition. In the light of our latest experimental knowledge in cultivating corn or the grain sorghum crops, the results would indicate that keeping the weeds down with the least possible disturbance of the soil is best for the crop. This of course assumes that the soil was given the proper kind of tillage before the crop was planted. Proper cultivation is an important factor in growing corn or grain sorghums, and owing to the lateness of these crops over much of the state there is probably considerable cultivating yet to do. Remember that destruction of weeds is the purpose of cultivation and this must be done in such a way as to avoid injuring the plants of the crop being cultivated. Where wheat is to be sown this fall on corn land it is also well to keep in mind that the cultivation given the corn is good seed bed preparation for wheat. Even though the corn crop fails, the labor of cultivation has by no means been thrown away.

"There never was a time when the farming business required more thought and attention than today. If you have a good practical way of doing a thing that pays, let us know about it and pass it on to the next man." These lines are from the first news letter of Ambrose D. Folker, Shawnee County agricultural agent. This thought would be a good one to be adopted as a motto by every farm bureau member. We wish KANSAS FARMER readers would help us by telling about practical things they have learned by experience.

What Early Plowing Does for Wheat

THE yields per acre from different methods of seed bed preparation have been determined by the Kansas Experiment Station at Manhattan in a series of tests covering a six-year period. The same kind of wheat was sown on all plots at the same rate per acre and on the same date, which ranged from September 28 to October 5, depending on the weather and season. The results of these tests have been most striking. Early preparation of the seed bed is the secret of increasing wheat yields. The average yields of the different plots and net returns are given below.

Yields, Cost and Value of Wheat, Various Methods of Seed Bed Preparation

	Aver. Yield per Acre 1911-1916 Bushels	Cost per Acre for Preparation	Value of Crop at 80c per Bushel	Value of Crop Less cost of Preparation
Disked, not plowed	8.0	$2.14	$ 6.40	$ 4.26
September plowing, three inches deep	13.8	2.83	11.04	8.21
September plowing, seven inches deep	15.1	3.15	12.08	8.93
September plowing, seven inches deep, double disked previous July	19.1	3.95	15.31	11.36
August plowing, seven in. deep	21.1	3.94	16.95	13.01
August plowing, seven in. deep—not worked until September	19.3	3.05	15.50	12.45
July plowing, seven inches deep	22.3	4.73	17.86	13.13
July plowing, three inches deep	17.6	4.30	14.14	9.84

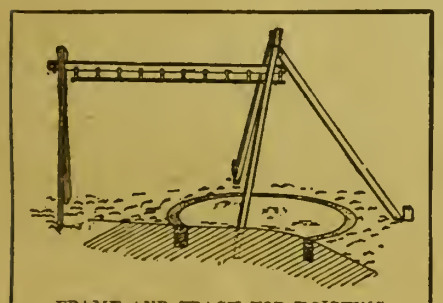
PIT SILO INEXPENSIVE

There are Silos at Prices to Fit Every Pocketbook

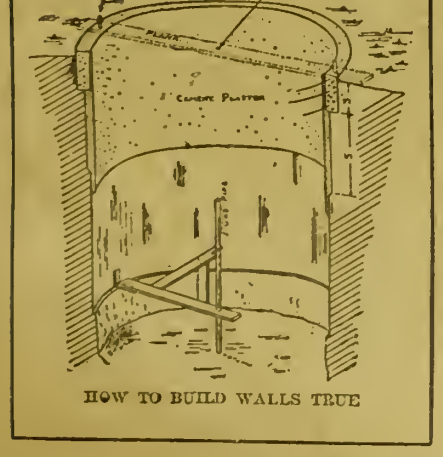
THE pit silo is the least expensivo type of silo that can be built. Theso silos cost little in actual money, are durable, easily kept in repair, and preserve silage as well as any other type of silo. Their great disadvantage is that the silago is down in the ground and there is considerable labor attached to getting it out for feeding. There is also the possible danger from tho formation of carbonic acid gas. This is a heavy gas which forms as a result of the decomposition of the fodder material on the surface. In a windy country like Western Kansas the rapid movement of the air creates a suction which tends to keep the air in the silo pure. The greatest danger is probably at filling time. This gas forms rapidly for a day or so after the filling begins and it is always a wise precaution to let the silage cutter run a few minutes before going into a pit silo partially filled at filling time. The presence of gas in a silo can bo detected by letting a lighted lantern down into it. If the lantern goes out, this is an indication that carbonic acid gas is present and it would be unsafe to go into the silo until the air had been sufficiently agitated to cause the gas to be carried out by the blowing of the wind across the top.

Pit silos should not be made where there is any danger of water seeping in. For that reason they are not to be recommended for the more humid section of our state. In most of Western Kansas there is no danger from this source providing some care is used in locating them so surface water cannot get into them during heavy rains. The Western Kansas farmer need not go without a silo because he cannot afford to put up one of the more expensive kind built above ground. He can have a pit silo which costs little outside the labor required in excavating and plastering. In localities where cisterns can be made by plastering directly on the earth and where there is no ground water to seep in, making a pit silo a simple matter.

A recent bulletin from the Nebraska College of Agriculture describes three types of pit silos: the simple hole in the ground having its sides plastered with cement plaster, the hole in the ground with a portion from four to twelve feet high above ground, and the semi-pit, or bank silo in which the hole is dug in a bank or hillside and retaining walls are made on the open side acting as a chute. The bank silo has a row of doors from top to bottom on the exposed side. Sometimes silos of this type are made in connection with bank barns and the retaining walls connect the silo with the barn.



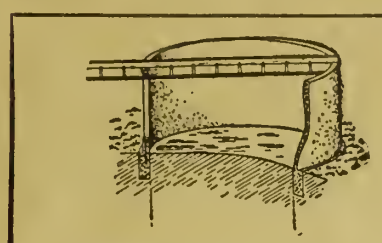
FRAME AND TRACK FOR HOISTING DIRT



HOW TO BUILD WALLS TRUE

In building pit silos, tho process employed in building silos above ground is reversed, the pit silo being begun at the top and made a section at a time as the excavation progresses. In building a silo in this way the ground acts as a staging upon which tho plaster stands, so no lumber or labor is required for that purpose.

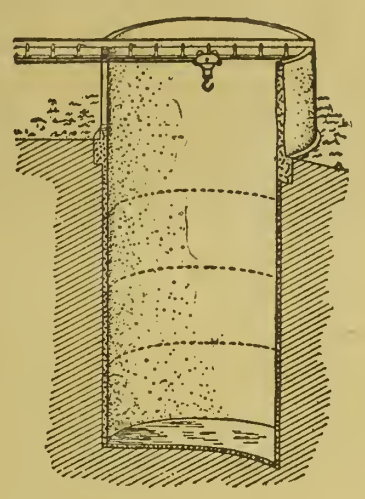
The first step in building a pit silo after its site is located is to dig a trench about three feet deep similar to the one shown in the illustration on this page. This circular trench is to be filled with concrete, forming a ring or collar which protects the top of the silo and serves as a foundation for that portion built above ground. After the collar has set, dig down about six feet and after the walls have been made true, following the method illustrated in the cut, plaster that section. Then dig another section and plaster in the same manner, continuing until the desired depth is reached.



SEMI-PIT SILO READY FOR EXCAVATION



BARREL USED FOR HOISTING DIRT



VARIOUS STAGES OF EXCAVATING SEMI-PIT SILO

It is important to use properly proportioned plasted. Use a mixture of one part Portland cement and two and one-half parts screened sand. A small portion of hydrated lime not to exceed one-tenth the amount of cement, will make the plaster work much better. The walls should be wet before applying the first coat of plaster. The first coat should be left rough and immediately followed with a second coat before the first coat has had time to thoroughly set. If the work is carefully done, it does not require a very thick coating of plaster to stand, although it is usually advisable to cover the dirt with a layer at least an inch to an inch and a half thick.

There are several methods of building the part above ground. A short stave silo can be set up on the foundation or walls of concrete, concrete blocks, or clay tile may be built. An easy way of making a cement wall a few feet high for the part above ground is to use metal lath and plaster on this with cement plaster. One form of metal lath is reinforced by a rib and can be purchased on the market in any diameter desired. This type of metal lath can be set up on the foundation without any support and plastered with enough coats of cement to make a wall three inches thick, the lath being completely covered up in the process. The ordinary metal lath can be used by setting up 2 x 4 studding about every two feet on the foundation and tacking the lath to the inside edge of these supports. After two or three coats of plaster have been placed on the inside of the lath, the 2 x 4 supports can be removed and a coat or two of the same kind of plaster placed on the outside.

There are a number of methods that can be used in hoisting the dirt from a pit silo. The hoisting frame illustrated on this page has been used successfully by a pit silo builder in Nebraska. It consists of a tripod made of poles set up at one side of the silo and a scissor frame consisting of two poles at the other side. These support a 2 x 12 plank which carries a track, and an ordinary hay carrier car is used to elevate the dirt and run it out to the side of the pit where it is dumped. Sawed-off barrels were used to pull up the dirt. These were made into buckets by boring a one and three-quarter inch hole through the staves below the center and passing a one and one-half inch pipe through these holes. A chain fastened to the ends of this pipe served as a bail. To hold the barrels from dumping their load while they were being pulled up, a wagon rod was put through the top of the barrel parallel with the pipe support, the ends of the chain bail passing the rod on opposite sides. This is clearly shown in the cut. When the barrel was to be dumped, the wagon rod was simply pulled out far enough to free the chain on one side and the barrel dumped itself. M. C. Anderson, the Nebraska man who used this device, stated that they could fill a wagon in eight minutes. This is getting out dirt at the rate of a cubic yard every five minutes. Neighbors exchanged work so that a gang of seven men with two teams on the wamons and one on the hoist worked at once. Three men worked at filling the barrels, one looked after the hoisting and returning of the barrels, and one drove the hoisting team. This silo was fourteen feet in diameter and twenty-four feet deep. The material cost $15.30. The labor would have been valued at $44.85, making the total cost including the labor $60.15, or a cost per ton capacity of but eightyeight cents. We are indebted to the Nebraska bulletin above referred to, which was prepared by L. W. Chase, for the information given and the illustrations shown.

The author states that a number of pit silos which have been in use for different periods ranging from one year up to eighteen years have been inspected and they are all giving satisfaction. He found one which was being remodeled, but this was because it had been built with square corners, and this meant that a good deal of time must be taken in filling the silo in order to have it tramped enough in the corners so it would not spoil. The silo which had been used eighteen years was made by plastering the earth of the lower part with natural cement and protecting the upper walls with brick. The cement had peeled from the walls in some places, but the owner did not consider it sufficiently detrimental to make repairs necessary.

As a result of this study of the pit silo in use, it is recommended that all such silos be built round with the walls smooth and perpendicular. The walls should extend at least three feet above the surface of the ground and the collar or border should extend at least three feet below the surface. Below this point the walls should be plastered with not less than three coats of rich cement mortar, and in loose sandy soil more should be added. In the silos visited where the plaster was from five-eighths of an inch to an inch thick the walls were in perfect condition regardless of the length of time the silo had been in use.

Build Silo with Care

From the information the writer has obtained there will be a great many silos erected in Kansas this summer. One type of silo which has rapidly gained recognition and prominence is that which is built of hollow tile. Especially at this time of the year a few words on the construction of this type of silo should not come amiss. We do not intend to go into the construction details of this silo at this time, but merely wish to bring up a few of the points which should be emphasized.

On account of the lateral pressure during the first few weeks after filling, the silo walls must be well reinforced. Reinforcing rods should be placed in every course of tile, but this point we will leave to the manufacturer in his particular silo.

Without a doubt the weakest point in the hollow tile silo is the vertical mortar joint. In order to get these joints air-tight and water-tight great care must be taken. A number of silo manufacturers have an improved double wall, which is a great help in this respect. Be sure to get those joints full and well pointed. If the silo is to be plastered on the inside, the blocks should be laid true to the outside of the wall, but if it is not to be plastered, the inside wall should be smooth and perpendicular. This point cannot be emphasized too strongly, for if the walls are rough, the silage will not settle as it should. See to it that the walls are smooth inside.

In order to make the mortar work well and spread evenly, a small proportion of lime has to be used in with the cement and sand. Authorities differ on the kind of lime to use for this purpose; the lump or barrel lime is preferred by a great many masons and is very good providing it is used correctly. Some masons make the mistake of slaking this lime as they use it. This is a great mistake. If barrel lime cannot be obtained and slaked at least a week ahead, it should not be used in connection with silo work. Hydrated lime which comes already prepared in sacks is often used in connection with this work. Not more than ten per cent, by weight, of this lime should be used to the sack of cement.

Most all concerns selling silo blocks send out printed instructions for the erection of their particular silo. The writer has known of cases where these instruction books were never referred to either by the farmer or the mason. This is too much like having your wife pay five dollars a yard for dress goods and then secure the services of a poor dressmaker to put it together with no set pattern or idea in mind. Remember that the hollow tile silo is a permanent building on the farm and cheap or incompetent labor should be avoided. This silo, if properly erected, will stand for a long time. If it is not properly erected it will be most unsatisfactory. By selecting good material and then competent workmen, you should be able to construct a building of which you will be proud and which will last you as long as you need a silo. — BERT R. MULLER.

Wichita always does things in a large way. They now report a mother-daughter canning club with 526 members on its roll. This is the largest club of its kind in the United States so far as we know. It holds regular meetings in the different school buildings of the city. In addition to canning all the surplus products within their own reach, the older members of the club have become missionaries in food conservation and are devoting considerable time to demonstrating new canning methods in nearby communities where the housewives have not been able to attend the public demonstrations given by Otis E. Hall, state club leader, and others.

The farmers are going to get a good price for wheat next year. Figures talk. You can't repeal the law of supply and demand.

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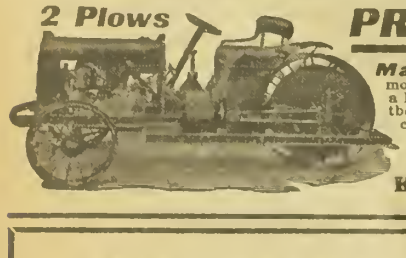

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Kansas Farmer Dairy Club

Weight of Gallon of Milk

RAYMOND CAULK, of Leavenworth County, asks the following question: "How much does a gallon of milk way? The books say 10.33 pounds, but I am told it is the custom to figure milk at from eight to eight and one-half pounds to the gallon."

Perhaps other members of the Dairy Club may not know how much milk weighs. We do not know where Raymond got his figures giving the weight of a gallon of milk as 10.33 pounds. It may be that he got the figures for the weight of the English gallon.

Milk is of variable composition and for that reason varies in weight. Doctor Babcock, one of our American authorities, gives the following as the composition of average milk: Water, 87.17 per cent; fat, 3.69 per cent; casein, 3.02 per cent; albumen, .53 per cent; sugar, 4.88 per cent, and ash, or mineral matter, .71 per cent. When you separate the cream you take out practically all the fat and small portions of the casein, albumen and other constituents. The casein and albumen are the parts that thicken and get solid when you make cottage cheese. The sugar and the mineral matter are dissolved in the whey, which looks almost like water as it separates from the curd when milk sours. Some of these solids contained in milk are heavier than water. Therefore a gallon of milk is heavier than a gallon of water, and its exact weight will depend upon the amounts of these solids it contains.

The specific gravity of milk at a temperature of sixty degrees Fahrenheit ranges from 1.029 to 1.035, the average being about 1,032. This means that a gallon of average milk weighs 1.032 times as much as a gallon of water. Water weighs 8.35 pounds to the gallon, therefore the gallon of average milk weighs 8.6 pounds.

What to Feed

We have just received a letter from Joe Herman of Tonganoxie in which he says his cow has fallen off a good deal in milk during the past two weeks. He wants to know what to feed at this time of the year and how much. His cow has not shed all her winter coat yet. He says the flies are bad, but he is spraying her morning and evening. The following is the reply the editor sent to Joe:

"You did not send any feed record with your milk, so I do not know what your cow is getting to eat now. You should always make out a feed record even though your cow gets nothing but pasture.

"Cows nearly always drop off badly in milk at this time of the year. The hot weather and flies combined with short pasture is the cause. About the only way to overcome it is to give them some extra feed at the barn. If you have some good alfalfa hay, give your cow some of that. Of course it would be fine if you had some silage for her, too, during the hot weather, when the pasture is short.

"Grain is very high in price now, but good cows usually have to have some in order to keep them giving milk up to their full capacity. Be sure to read all the articles in KANSAS FARMER on feeding and caring for milk cows.

"I am glad to learn that you are spraying your cow to keep off the flies. This will help some. If she has not shed all her long hair yet, it seems as though she must not be in quite as good condition as she should be. A little linseed oil meal—say a half pound a day—would do her good."

Grain Ration for Cow

Emma Mae Lenhert, one of the new Dairy Club members in Dickinson County, writes that her cow is doing fine and is gaining steadily in milk. She is feeding her a mixture of bran and corn chop and asks if it would be better to mix in some oats. Oats makes a fine feed for a milk cow, but ordinarily they are too expensive. At the present time corn is so very high in price that it will probably cheapen the ration to use some oats in place of part of the corn chop. We believe that it would pay to add either linseed oil meal or cottonseed meal to the grain ration. These feeds both contain large amounts of protein and most farm rations are deficient in this particular nutrient. Alfalfa hay is rich in protein for a rough feed, but cows with a large capacity for milk production cannot eat enough hay to supply the protein they must have.

A standard grain mixture that we always like to recommend is made up by mixing four parts of corn chop, two parts of bran, and one part of either linseed oil meal or cottonseed meal, all by weight. If oats are cheaper by the pound than corn chop, replacing part of the corn chop with oats will cheapen this mixture. All cows should be fed all the good, palatable roughage they will eat, and some will not profitably use grain. This can only be found out by watching the milk record and feeding the cow in proportion to her capacity for giving milk. If the addition of the grain causes enough increase in the milk to pay for the grain, it will be profitable to feed it. Good milk cows should not be so poorly fed as to run down in condition while giving milk. This means that they are actually using up part of their own bodies in making milk. This can go on for a time, but when the limit is reached they will fall off in production and must be fed up again before they are in the right condition to produce milk up to their full capacity.

We hope all our Dairy Club members will make a close study of this question of feeding their cows. By keeping a record of the production from day to day this kind of a study can be made very profitable. It is really impossible to feed cows intelligently without having accurate information as to the milk they are giving.

Butter that is not fresh may be greatly improved by working it over with cold water.

Important to New Members

IF YOU wish to join the Kansas Farmer Dairy Club, send in your enrollment coupon as soon as you have arranged with your banker to borrow the money for your cow. It is not necessary to wait until you get the cow. In fact it is better to enroll before getting her, as in that case we can send you instructions which will help you to select a good one, and sometimes we may be able to put you in touch with near-by people having good cows for sale.

Upon receipt of the enrollment coupon, two other blanks are sent you, one for information about the cow and one to use in notifying us of the time when you begin keeping records. As soon as your cow is purchased, fill out and return to us the one telling about her. When she commences to give milk fill out and send in the one headed "Notice of Starting Year's Record." If she is giving milk when you get her, of course you can fill that out right away. When we get this notice we will send you the blanks on which to keep records of the milk your cow gives and the feed she eats each day.

The blank asking questions about the cow has been sent to quite a number of new members who have not returned it, though we know that some of these have their cows. This makes our records incomplete. Please send us all blanks promptly, because that enables us to keep our records up to date and also to send you helpful material when you are ready for it.

Plan of Seed Wheat Distribution

THE fund to be used in increasing our wheat acreage is to be subscribed and administered under the direction of the Seed Wheat Committee of the State Council of Defense.

The rules adopted by the committee are as follows:

1. The purpose for which such committee is created is to provide a fund with which to purchase seed wheat during the year of 1917 and to distribute the same to such county organizations as the committee may designate and which comply with these rules.

2. The fund so created shall be known as the "Crop Share Fund." It shall be under the direct supervision of the State Seed Wheat Committee of the Council in conjunction with the state auditor as hereinafter provided. The estimated amount to be secured for the fund is two million dollars, or so much thereof as may be necessary.

3. The state bank commissioner is hereby designated as the trustee of this fund, the state treasurer as custodian, and the state auditor as the auditor of the fund. Should the present state bank commissioner or state treasurer or state auditor retire from his office, then his successor in office shall succeed him in the position as designated in this rule. Should the state bank commissioner at any time be unable to act as trustee, his successor shall be named by a majority vote of the State Seed Wheat Committee.

4. In case of any vacancy in the membership of the State Seed Wheat Committee the remaining members of such committee shall elect others to fill such vacancy.

5. The State Seed Wheat Committee reserves the right to refuse or accept any funds subscribed, or make any distribution of seed wheat requested, or part thereof, as in its judgment may be best.

6. In view of the fact that the subscriptions to this fund are voluntary, it is agreed by the parties who subscribe thereto, or who derive benefit therefrom, that the committee shall not be liable personally, except for want of the use of its best judgment in the management of the funds.

7. The State Seed Wheat Committee may appoint such agents or representatives as in its opinion may be necessary to buy seed wheat and attend to the distribution and sowing of the same, and the care, harvesting and sale of the crop derived therefrom.

8. All moneys subscribed to said fund shall be paid to the bank commissioner of Kansas, as trustee, and by him deposited with the state treasurer as custodian, subject to the order of said trustee, and audited by the state auditor. All moneys due said fund repaid by those receiving seed wheat or derived from the sale of crops shall be paid to the trustee, who shall deposit the same in said fund with the state treasurer as custodian as aforesaid. All of said fund shall, on November 1, 1918, or as soon thereafter as practicable, be distributed pro rata to those who have advanced money for such fund.

9. Residents of any county desiring that seed wheat (to be purchased with said fund) be furnished within such county shall form a county organization to be known as ———— County Seed Wheat Committee, which shall be subject to the approval of the State Seed Wheat Committee. Such county organization shall consist in the main of at least two bankers, two farmers, the county farm agent, if any, and such millers, grain men and other individuals as the State Seed Wheat Committee may approve. The County Seed Wheat Committee shall organize by electing a chairman, a secretary-treasurer and such other officers as they may desire.

10. The several members of such County Seed Wheat Committee shall personally sign a certificate acknowledging their membership in such committee and certifying to the names and addresses of the chairman and secretary-treasurer upon blanks furnished by the State Seed Wheat Committee, and forward the same to the bank commissioner, trustee, Topeka.

11. The duties of each County Seed Wheat Committee shall be as follows:

(a) To organize its county, determine the seed wheat requirements of the farmers in excess of the local supply or ability to supply, and place orders for the same with the State Seed Wheat Committee, at Topeka.

(b) To collect a fund and deposit same in a bank within said county subject to the draft of the trustee provided for in these rules. Such fund shall be at least 20 per cent of the total amount to be furnished for seed wheat in said county, under the plan contemplated by these rules.

(c) When shipment of seed wheat arrives at its destination in the county the responsibility for its custody and distribution shall rest with the County Seed Wheat Committee.

(d) The County Seed Wheat Committee shall be responsible to the State Seed Wheat Committee for the proper preparation of the seed bed, sowing of the seed furnished, cultivation, harvesting, threshing and sale of the State Seed Wheat Committee's share of the crop, and the payment of the proceeds to the said trustee.

(e) The County Seed Wheat Committee shall see that the State Seed Wheat Committee is protected in its share of the crop, and in case of a tenant that the State Seed Wheat Committee be protected co-ordinately with the landlord; that the proper share crop agreements are executed by the farmer in favor of such trustee and countersigned by the chairman of the County Seed Wheat Committee, and in case of a tenant that the landlord's agreement be duly executed; such agreement to be made in triplicate before any seed is delivered and upon blanks to be furnished by the State Seed Wheat Committee, one copy to be retained by the farmer, one by the County Seed Wheat Committee, and the third to be delivered at once, when signed, to the bank commissioner at Topeka.

12. Seed wheat will be furnished to the County Seed Wheat Committee at its actual cost, plus freight and the necessary expense of delivery, postage, telegraph, telephone, clerk hire and travel.

13. No seed wheat shall be furnished in a county in which the County Seed Wheat Committee has not furnished a substantial amount of money to be used for the purchase of the seed wheat for that county. Such amount shall not be less than 20 per cent of the total amount of seed wheat fund needed in the county, or a larger per cent as the State Seed Wheat Committee may require. Such per cent required shall, by the County Seed Wheat Committee, be deposited in banks in such county, subject to the draft of the trustee herein named, to be used for the purchase of seed wheat. The County Seed Wheat Committee shall at all times keep the trustee informed of the amount of such deposit in each bank.

14. It is understood that the State Seed Wheat Committee will furnish as much of the seed wheat in any county entitled thereto as its available funds permit pro rata with the general fund for the state.

15. Immediately upon collecting the proceeds of the sale of any share of a crop it shall be the duty of the County Seed Wheat Committee to remit to the said trustee at Topeka such portion thereof as the money furnished by said trustee from the State Seed Wheat fund in such county bears to the total amount invested for seed wheat furnished in such county from the said fund and the fund created within such county.

16. In case any wheat purchased by the assistance of the fund and delivered to any county be not used, the same shall be disposed of as may be directed by the State Seed Wheat Committee and the proceeds thereof be remitted to the trustee and the county fund in proportion to the respective amounts invested therein from said funds respectively.

17. All communications shall be addressed to the State Seed Wheat Committee, Council of Defense, Topeka, Kansas.

18. All crop share contracts shall be on the basis of one-fifth of all crops in favor of the trustee, f. o. b. cars or elevators at the station designated in the contract; and all deliveries of the one-fifth share crop must be made to such station before November 1, 1918, unless the State Seed Wheat Committee shall extend the time in writing, and the County Seed Wheat Committee shall sell the said one-fifth share of the crop at the market price on the day of delivery at the station and forward the funds due the State Seed Wheat Committee immediately to the said trustee. The County Seed Wheat Committee shall be responsible for the faithful, prompt and efficient supervision and collection of proceeds due the State Seed Wheat Committee and the remittance thereof.

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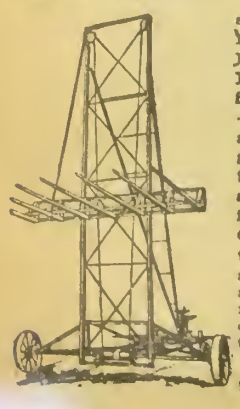

are superior for easy Loading, Stacking or Pitching Hay in Barn No other has Steel Teeth. Wanted—every man, woman and child on the globe to sign petition for one share of stock (Ten Dollars) in their own Home County Branch of the World Bank and Market Co., a safe, paying investment. Send P. O. order 25c for Petition and By-Laws to

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Ethical Code For Breeders

IN NO other occupation will be found higher standards of ethics than in the business of breeding and selling pedigreed live stock. This is as it should be. We have said several times in KANSAS FARMER that the pedigree of the man from whom cows are bought is more important than the pedigrees of the cattle. Most breeders of live stock realize that the very foundation of the business of breeding pedigreed animals of all kinds depends upon the honor and integrity of the men engaged in it. Probably ninety per cent of the pure-bred males in use are ordered by the purchasers on the basis of their faith in the reliability of the breeder from whom they make their purchases. This is evidence in itself of the high standards that prevail among breeders of pure-bred stock.

The Western Guernsey Breeders' Association, which represents the Guernsey breeders of the middle states, has had a committee at work on a "code of ethics" to govern transactions in pure-bred stock. Although the ethical standards of the pure-bred stock breeders are high, it is a good thing to set down in black and white some definite rules of action and use every effort possible to the end that all breeders conform to the standards of the majority. The code as published by this committee of the Guernsey Association suggests ideas that might well be adopted by breeders of all classes of pure-bred animals. These rules are as follows:

"All prices are f. o. b. seller's station. Animals to go by express and be crated by seller, and the crate to be returned at expense of seller.

"All animals to be shipped with a strong halter on.

"Every bull over one year old guaranteed a breeder, providing buyer's cows are in good condition. If not a breeder, to be replaced by one equally as good or to be returned to seller and purchase price refunded at option of the seller. In case of such exchange, buyer and seller each to pay transportation charges one way, or, if taken back and price refunded, seller to pay transportation charges.

"Every heifer sold over one year old guaranteed a breeder, or taken back or exchange made on same basis as for bulls.

"Every cow sold guaranteed a breeder or exchanged on same basis.

"Seller must call attention to any unsoundness as to udder or otherwise.

"If an animal sold as a heifer proves to have a defective udder when calved, loss is purchaser's.

"Registry and transfer certificate and tabulated pedigree to accompany every sale.

"As regards tuberculosis, it is recommended that in states where provision is made for state-accredited herds, all members have their herds so enrolled. Where buyer tests an animal inside of three months after purchasing and finds the animal tubercular, with no other reactors in the herd, then the loss should fall on seller, unless he is able to show a test of his herd inside of ninety days before sale and that then there were no reactors in his herd."

These rules might be made even broader than they are, especially as they pertain to guaranteeing animals as breeders. A non-breeding pure-bred is not worth a cent more than it will bring on the block, and even young heifers under a year old are bought with the expectation that they will become breeders and reproduce. If they fail to do so, the buyer is disappointed.

In selling pure-bred live stock it is a good business principle to make every effort possible to have only satisfied customers even though it may cost something at the time to adjust complaints. A dissatisfied customer can easily do a breeder more harm in a business way than the total cost of the animal in question.

Wichita Pig Feeding Tests

Last Friday the second feeding demonstration conducted by the Wichita Stock Yards Company came to a close. Nearly 250 hogs were fed in fourteen different lots, each lot receiving a different ration. On May 21 when the tests began the hogs weighed about 120 pounds apiece.

The biggest gains were made by hogs fed corn, shorts, meat meal, and alfalfa pasture, the average daily gain per hog in this lot being 1.69 pounds. The corn, shorts, and meat meal lot was a close second with an average daily gain of 1.65 pounds per hog. The cost of a hundred pounds of gain in the lot making the heaviest gains was $12.04, and in the lot coming second $12.35. The alfalfa pasture lot sold highest, bringing $15.45 a hundred, the dry lot on this same ration bringing $15.30 per hundred.

The folly of feeding hogs corn alone was clearly shown. The hogs in the lot so fed gained at the rate of only .77 pound daily per hog at a cost of $17.28 a hundred. They sold for $14.60 a hundred, this being the lowest price received.

Corn, buttermilk and alfalfa pasture, and corn and buttermilk without the pasture gave economical returns. The hogs in the pasture lot gained at the rate of 1.50 pounds per head daily, the cost of a hundred pounds of gain being $12.92. The selling price of the hogs in this lot was $15.15 a hundred.

Corn was priced at $1.68 a bushel, shorts $2.50 a hundred, meat meal $3.50 a hundred, buttermilk three cents a gallon, and alfalfa pasture $10 an acre for the two months of the test.

Illinois Has New Dog Law

Sheep growers everywhere maintain that the dog risk makes it unsafe to keep a flock of sheep on the farm. A new law has recently been passed in Illinois that makes it possible for sheep men of that state to protect themselves against sheep-killing dogs much better than formerly. This law requires that a license fee be paid annually for each dog and that all dogs so licensed wear their license number on a collar. It also provides for the payment of up to fifteen dollars a head for sheep killed by dogs. Any dog found roaming at large without a license number attached may be killed at once. Dogs caught in the act of chasing sheep or other domestic animals may be pursued and killed, and in addition any dog trespassing on premises where sheep are kept, unattended by its owner or keeper, may be killed while so trespassing whether licensed or not. As with all laws, the results will depend largely upon the sentiment back of its enforcement. We believe that as the interest in sheep increases and more farmers attempt to keep them, the sentiment will be such that sheep-killing dogs will not be permitted to run at large in any community.

The Chicago Drovers' Journal of July 14 tells about a side industry conducted by A. A. Webber, of Stark County, Illinois, who was on the Chicago market last week with hogs and cattle. While there Mr. Webber bought a carload of breeding ewes to take home with him. He reported that farmers in his section were becoming keenly interested in sheep, in view of the very great profits to be derived from them, and said that he had disposed of several carloads of breeding ewes among his neighbors within the past few months, distributing them in small lots, six to a dozen head to each buyer. Since the sheep and wool situation became so acute many farmers new to the industry are becoming interested. Mr. Webber himself purchased a drove of sheep a few months back, sold the wool clip at 63 to 70 cents a pound, and later turned the sheep at a profit above their original cost.

It might be a good plan for enterprising stockmen in various sections of Kansas to take a tip from the experience of Mr. Webber in Illinois. When shipping live stock to market a carload of breeding ewes could be brought back, and disposed of among the farmers of the neighborhood, a few in a place, and it would not only mean a profit on the transaction, but would mean money for the farmers who buy the ewes, and increased prosperity for the whole neighborhood.

The Cow Knows—but SHE can't talk. Ask the Dealer.

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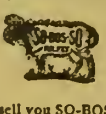
Because it does away effectively with the Fly Nuisance—

Keeps the cows and horses in good humor—enables cows to produce more milk and horses to do more work.

SO-BOS-SO KILFLY keeps the flies away from the cows in the pasture and in the stable. Every horse owner should use SO-BOS-SO KILFLY, for it relieves horses of fly bother, thus preserving their vitality for productive work. SO-BOS-SO KILFLY can be used on hogs and hog pens. And in a similar way it can be sprayed in hen houses. It is a sure bane to lice and vermin.





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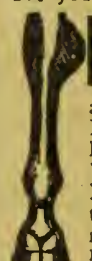

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SANTA FE TELEGRAPH SCHOOL
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Pointers in use of Milking Machine

A RECENT circular from the New York Experiment Station states that in selecting a milking machine you should use the same business judgment that you would in buying other machines. "If the agents tell you the same stories that they have told to us," says its author, "many of them should be accepted with a grain of salt. The longer a machine has been in successful operation, the surer you can be that it is a mechanical success. A record of three years of successful operation is none too long to make sure that a machine is worth buying; and the record should have been made independently of the manufacturer."

As a general rule, the simpler the construction of a machine, the more likely it is to be a success. This statement applies especially to teat cups. If of complicated construction, it is very difficult to keep them bacteriologically clean. Do not accept statements that machines which will allow stable air to pass into the machine with the milk are failures because they are unsanitary. Tests by the New York Experiment Station show that not more than one or two bacteria per cubic centimeter are added to the milk in this way.

OPERATING A MACHINE

Even if you have installed a machine which is as good as there is to be had, you may be sure it will not be a success on your farm unless you operate it properly. It is as necessary to use judgment and care in milking a cow by machine as by hand. The cow is not a machine and never can be made over into one. If you fail to make a success of a machine which others have used successfully for three or more years, the probabilities are that the trouble is with you. Instead of getting discouraged, study the machine and try to discover what is wrong. We should be glad to pass on to you any information of value which we have gained from our ten years of experience with machine milking.

The question is often asked, Can you get as much milk by machine as by hand? This experiment station says, yes. The records given in one of their bulletins are by far the most extensive that have ever been gathered.

KEEP THE MACHINE CLEAN

This is just as important as operating it properly. Very few farmers who are using machine milkers are keeping them bacteriologically clean. Where this is not done, the milk usually has a germ content of 50 to 10,000 per cubic centimeter as it enters the teat cups and leaves them with a germ content of 200,000 to 5,000,000 per cubic centimeter. Such milk sours quickly and is not fit to be sold as market milk, or for butter or cheese making.

The pail can be kept clean in the same way that any milk pail is kept clean. Steam or scald it and dry it out thoroughly. Rubber parts can not be kept clean in this way, and they should be kept in a disinfectant solution. Various germicides have been tried out for the purpose, and several of them are useful. Very few have been tried out thoroughly to justify recommending them. The one found to be most useful and sure to give satisfaction, if directions are followed, is ordinary chloride of lime—bleaching powder—purchasable at any drug store. This is equally as good as, or better than, the patent preparations on the market frequently recommended by manufacturers of milking machines, for all of which you pay double prices.

PREPARING DISINFECTANT SOLUTION

Do not buy more than one or two twelve-ounce cans of chloride of lime at any time, and do not accept any in broken or rusted packages, or any that is moist. It should be a dry powder if it is fresh and of good strength. Prepare a stock solution by adding all the powder in a can to a gallon of water in a pitcher or tall glass jar. This will give you a greenish colored liquid with a heavy, white sediment of lime.

Fill a second crock holding twenty to thirty gallons with water and add one pint of the stock solution to this twice a week. Double this quantity will do no harm. The solution in the big crock loses strength quickly on using, and in a few days will become useless if the new chloride is not added. It is advisable to add enough salt to the crock to make a strong brine, as this keeps the solution from freezing in cold weather, and brine is of itself a good solution in which to keep the teat cups. The salt, however, is not necessary if attention is given to keeping up the strength of the chloride solution. This solution may be used indefinitely if its strength is maintained by adding fresh chloride of lime solution as directed.

PROCEDURE FOR CLEANING

Immediately after each milking, prepare three pails. Fill Pail 1 with clean cold water, Pail 2 with hot sal soda water, and Pail 3 with clean hot water. While the teat cups are still attached to the machine, immerse them in these pails successively, at the same time sucking the water through them. Then take the teat cups and stanchion hose and either suspend them or immerse them in the solution in the large crock. Care should be taken when putting the tubes into the solution to make sure that all air bubbles are out of the tubes and that they are completely immersed.

Neither rubber nor properly made metal parts are injured by the solution recommended. In case you have trouble from corrosion of the metal parts, it will show you that the manufacturer from whom you have purchased your machine has given little thought to making his machine a sanitary as well as a mechanical success. Machines at the New York Experiment Station, handled as above outlined, have been found by many tests to be as near sterile as it is practicable to make them. Milk drawn through machines cared for in this way is cleaner and freer from bacteria than hand-drawn milk.

Once a week the rubber teat-cups should be taken apart completely and each part thoroughly cleaned. No disinfecting solution will take the place of cleaning.

Just before beginning to milk, suck a pail of clean water, either hot or cold, through all of the teat cups. Otherwise traces of the disinfectant may be carried over into the milk. Even if this does happen and traces are carried over, harmless compounds are formed like some already present in the milk. The action is such that it would be necessary to add large quantities of the disinfectant if anyone should attempt to use it fraudulently as a preservative in milk. If this is done the milk has such an unpleasant odor and taste that it is unsalable. Chloride of lime is also a very valuable disinfectant for use in caring for unfiltered city water supplies, and large quantities of it are used in this way.

DO MILKING MACHINES CAUSE GARGET?

It is frequently claimed that they do, but there is no satisfactory evidence upon which to base such a claim. Thus far very few records have been secured upon which to base an intelligent opinion. There has been no more trouble with garget in the station herd in the case of machine-milked cows than in the case of hand-milked cows. Moreover, such records as have been gathered in the course of milk control work, where the milk, from thirty-six to forty farms—eight of which have used or are using machines of four different makes—do not indicate that garget is spread any worse in the machine-milked than in the hand-milked herds. In the course of two years four herds have been badly affected with garget. Two of these were hand-milked, two machine-milked. Machine milking was discontinued on one farm partly on account of the garget. On the other farm machine milking was continued and the garget infection cleared up fully as quickly as it did on the farms where hand milking was practiced. Further information secured under carefully controlled conditions must be obtained before it will be clear whether or not this claim that garget is spread by machine milking is true. There is no evident reason why it should be so.

FINAL WARNING

The labor shortage has caused and will cause machines to be put upon the market which are intended to sell rather than to give satisfaction. Deal only with responsible firms whose business reputation is worth more to them than the few thousand dollars which can be gained by selling a few milking machines.

Watch the back-cast cousin's eyes bug out when he sees Kansas send a wallop to the kaiser's jaw by raising a 200,000,000-bushel wheat crop next year.



Could anyone fool you on a Rose —with your eyes blindfolded?

Of course not!

"Your Nose Knows"

By its *fragrance* alone does the rose make its universal appeal. Nor can anyone fool you on tobacco, either, if you rely on your unerring, personal sense of *pure fragrance*. Tobacco without a definite fragrance is like a rose without perfume—"Your Nose Knows."

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The Perfect Tobacco

is the *rose of tobaccos*. Its rich, ripe Burley leaves, grown in the Blue Grass region of Old Kentucky, are so carefully aged and blended that its *pure fragrance* is as individual, as appealing as the rose. There is no fragrance like it—"Your Nose Knows."



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Solves Your Labor Problem

Power Farming saves time and labor in the field—saves feeding and tending surplus horses—gets important work done at the right time—avoids delays so common with horses due to heat, fatigue or hard ground—reduces cost of farming.

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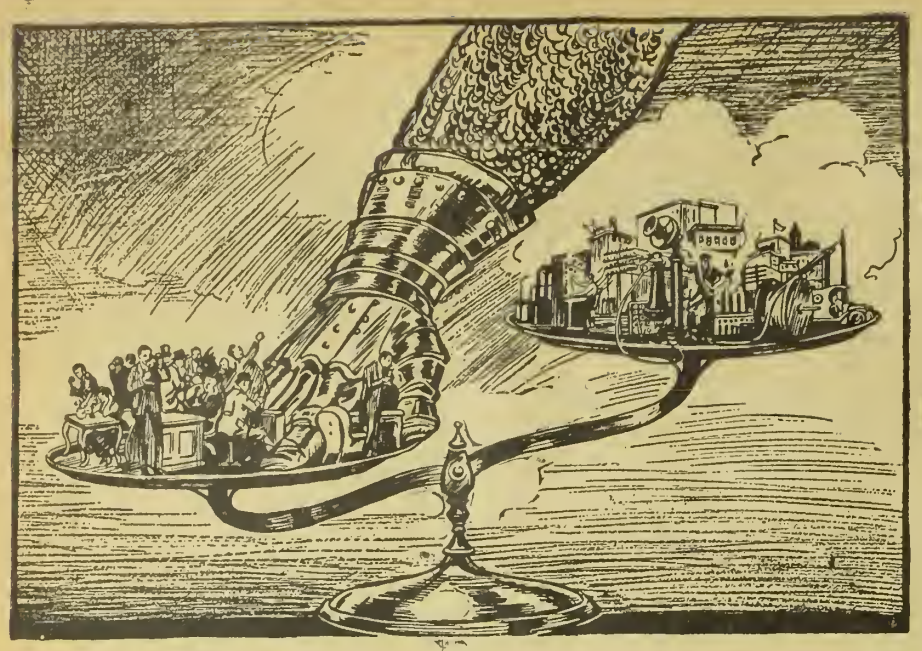
Destroy the Rats

Few people realize the extent of losses caused by rats. The committee on injurious mammals of the Kansas Council of Defense recently made the statement that there are two million rats in the state and that they cost the people not less than four million dollars a year. In addition to the many kinds of mischief credited to rats, it is claimed a single rat will eat forty-five to fifty pounds of grain in a year. It would certainly seem that there should be a united campaign made against these dangerous and destructive pests.



The Weight of War

The heavy hand of war has disturbed the balance between supply and demand the world over. Our problem of serving the public has all at once assumed a new and weightier aspect.

Extraordinary demands on telephone service by the Government have been made and are being met. Equipment must be provided for the great training camps, the coast-defense stations must be linked together by means of communication, and the facilities perfected to put the Government in touch with the entire country at a moment's notice.

In planning for additions to the plant of the Bell System for 1917, one hundred and thirty millions of dollars were apportioned. This is by far the largest program ever undertaken.

But the cost of raw materials has doubled in a year. Adequate supplies of copper, lead, wire, steel and other essentials of new equipment are becoming harder to get at any price, for the demands of war must be met.

Under the pressure of business incident to war, the telephone-using public must co-operate in order that our new plans to meet the extraordinary growth in telephone stations and traffic may be made adequate.

The elimination of unnecessary telephone calls is a patriotic duty just as is the elimination of all waste at such a time. Your Government must have a "clear talk track."

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The Wilson County Sheep Growers' Association held a wool sale June 22. Their wool had been stored in the farm bureau office in Fredonia and buyers for this wool were secured, the result being that the 4,300 pounds sold at prices ranging from thirty to sixty-two and a half cents a pound. The sheep men of this organization feel satisfied that much better prices were secured through this pooling of their product and selling it in a co-operative way.



Harvesting Sweet Clover Seed

NOW that sweet clover is finding a place as one of our important farm crops, methods of handling the seed crop are of considerable interest. As too often handled one-fifth to three-fourths of the total seed yield of sweet clover is lost from shattering. Cutting at the wrong time and improper handling of the crop at the time of harvest are largely responsible for this loss. How to determine the right time to cut the seed crop and how to harvest it with the least possible loss of seed by slight adjustments of harvesting machinery are discussed in a recent publication of the United States Department of Agriculture, Farmers' Bulletin 836, "Sweet Clover: Harvesting and Threshing the Seed Crop."

White sweet clover and biennial yellow sweet clover may be harvested for seed the year following seeding. It is becoming a general practice in many sections of the country to utilize the first crop of the second season for pasture, silage or hay, and the second crop for seed. The shorter growth of the second crop is a very desirable feature, as it may be cut with an ordinary grain binder without much difficulty. It is possible to equip the grain binder with pans and extensions to the rear elevator plate and binder deck so that at least ninety-five per cent of the seed which shatters when the crop is cut may be caught as it falls and saved. The bulletin explains in detail, with drawings, how to make at small cost this seed-saving attachment. Other machines which may be used to harvest sweet clover are the self-rake reaper, the grain header and the corn harvester.

The time of cutting the seed crop should be governed largely by the machinery which is to be used. If the plants are to be harvested by a self-rake reaper or a grain binder, they should be cut when approximately three-fourths of the seed pods have turned dark brown to black. At this time some flowers and many immature pods will be found on the plants but the field will have a brownish cast. Where a grain header is employed the plants may become somewhat more mature before cutting. More seed is shattered when the plants are cut at this stage than when cut earlier, but this is not necessarily a loss, as the grain header is used for the most part in semi-arid sections where shattered seed is depended upon to reseed the land.

Much seed may be lost if harvesting is delayed for only a few days. Many fields have been observed, according to the department specialist, in which ninety per cent of the seed had shattered in less than two weeks after the time the plants should have been cut. Cutting the plants when they are damp from rain or dew also will reduce loss by shattering.

When it is possible to thresh in a week or ten days after cutting, the crop should be threshed directly from the field, as little seed ordinarily will be lost during this time and the work of stacking will be avoided. The seed may be threshed either by flailing or by the use of a grain separator or a clover huller. The yield of sweet clover seed varies from two to ten bushels of recleaned seed to the acre. Sweet clover straw may be utilized for soil improvement or as a roughage for stock.

Co-Operation, Not Advice

The big business men of the state have gotten wise to the fact that the farmer is willing to do his share for his country but needs co-operation more than advice. So they are going to make their money take the same chance as the farmer's money and labor, and invest in a big seed-wheat pool on a fifth-crop share basis, so as to make it possible for the farmer to put out a bigger acreage than he now has seed for.

There is no charity about it. It is a plain business investment and a big co-operative plan. If the farmer loses, the investor loses. If the farmer wins, the investor wins. And the boys in the trenches won't have to eat hot air, even if wheat and bread do come high.

Wheat Will Be High Next Year

You can't get around it. Something like thirty million men have been taken from farming and other productive occupations and are fighting. Other millions of men, women and children have been taken from the farms and are making munitions and other war supplies. Even in Germany, France and other European countries, where the need of food is so great, farm land is lying idle for want of workers. This can have but one result—high prices.

The world wheat supply is about two-thirds of the demand. The long-headed, far-seeing man knows what is coming just as sure as fate. And he is going to grab Old Man Opportunity by the front hair or coat-tails or any place he can get a hold, and hog-tie him. He is going to sow all the wheat he can lay his hands on.

Turn Waste Into Profit

Saving a billion dollar waste of the corn belt by using silos is featured in an article which appeared in a recent agricultural pamphlet published by the Rock Island Railroad Company. It is pointed out that one of the greatest, if not the greatest, waste in any single industry in this country occurs in handling the corn crop. The grain of the annual corn crop of the United States is worth on the farms one and a half billion dollars. In a ripe corn plant sixty per cent of the feed value is contained in the kernels and forty per cent in the stalk and leaves. With the grain worth on the farms one and a half billion dollars, the feed value of the rest of the crop, if fully utilized, is a billion dollars. At least ninety per cent of the feed value of the stalk is lost under the present system of farm management—a waste with this crop alone of nine hundred million dollars yearly. No other business but farming could stand such an enormous loss.

In the New England and the Middle States most of the stalks are saved as fodder, and there are many silos, but with the damage from weathering, the waste in handling and the loss in digestibility from drying, the farmers are



SIDE-DELIVERY RAKE PUTTING ALFALFA IN WINDROW BEFORE LEAVES ARE DRY AND BRITTLE.—IDEAL METHOD OF CURING

very far from utilizing the full feed value of the corn stalk. In the corn belt, where the bulk of the crop is raised, comparatively few corn growers harvest the stalks, and the only returns most of them secure from the forage is by pasturing the dead stalks during the winter. Frequently the losses due to death of stock pastured in the stalk fields far exceeds the returns from the feed.

Contrast this waste by the corn grower with the practices of large business organizations. For years the great packing houses have sold dressed meat for less than they have paid for the live weight of the animals from which the dressed meat was secured. Yet every year these packing houses return millions of dollars profits because they utilize to the fullest extent the value of their by-products. At the same time the corn growers are wasting most of forty per cent of the feed value of over one hundred million acres of corn.

The silo provides the corn grower with the means for utilizing the largest proportion of the feed value of his entire crop, grain and forage. The whole crop can be stored economically in the silo in a compact form, with little waste. The silage can be kept for days, months or years, or feeding may begin as soon as filling the silo is completed. The silo can be filled in good weather, when it is raining, or in times of extreme dry weather and hot winds. Silage is a good feed both in winter and summer. It may be fed daily through the winter. When grass is ready in the spring, the feed that remains in the silo can be covered and will keep well until needed when the summer feed shortage comes. Silage furnishes a green, succulent, appetizing feed through the winter, the same as grass through the summer. It keeps the animal's system in good condition, and feeds given with it are better digested than when fed with dry forage. An experienced feeder of silage has well said that silage in winter is pasture without flies.

Well-grown corn makes the best silage; kafir, milo and cane follow closely. Broom corn, after brush has been harvested, is used successfully around Liberal, Kansas. In continuous rainy weather, alfalfa, clover and other hay crops may be saved in good condition in the silo. Any solid-stemmed feed plant will make good silage, if harvested at the right stage of growth. Plants with hollow stems, like green wheat and rye, do not make satisfactory silage.

Every live stock growing district in the United States needs the silo. The general use of the silo will make the high priced small farms of the corn belt profitable growers, as well as finishers, of beef cattle and mutton sheep. The vast dry farming sections of the Southwest will be as thickly settled and have as comfortable farm houses as the northern corn belt whenever dairying, drouth-resistant forage crops and the silo is the system of farming followed, instead of grain farming. The South, with its millions of acres of cheap lands and its short, mild winters, can make a profitable specialty of beef production, whenever the silo and corn silage is generally adopted on the farms and plantations. The silo feed crops and live stock will make Western Kansas farming safe.

Cow Pea Seed

For twenty years I have been studying safe food crops for our plains farmers. In this time I have seen adapted varieties of cowpeas making good as no other plant has made good. Settlers in Western Kansas and Eastern Colorado call the early black-eyed cowpea the "hard times beans."

After looking over several hundred gardens in Southwest Oklahoma and in Texas this summer, when hot winds have destroyed many crops, we find the cowpea growing and furnishing food.

But cowpea seed is always high-priced. This is because the seed is mostly picked and threshed by hand labor. Why not use a neighborhood threshing machine which thresh cowpeas cut and raked by machinery, as are used in some places. Such neighborhood co-operation would produce seed cheaper.

Save plenty of seed, but save it more cheaply.—J. E. PAYNE, Oklahoma.

Keep Milking Machine Clean

W. R. S., Dickinson County, asks if it is possible to produce as clean milk with the milking machine as by hand milking. It might seem that since the milk goes into a closed receptacle the milking machine would produce much cleaner milk than is possible by hand milking. The facts are, however, that you cannot be too cleanly in the care of the milking machine. The mere fact that it is a closed contrivance is no assurance that the milk will be clean unless the machine itself is kept absolutely clean. Germs of all kinds can multiply rapidly in cracks and crevices. Proper sterilization and cleaning of the machine are important if the milk is to be kept thoroughly sanitary. It is just as important to have the udders of the cows wiped off and free from dust or dirt as when they are milked by hand. The milking machines are now being made so they are thoroughly successful when properly used, but like all other machines they lack brains. These must be supplied by the people who operate them.

Flies and Summer Dairying

J. R. W., Allen County, asks if anything can be done to keep the flies from annoying his dairy cows. Since the hot weather came on the flies have been so thick that his cows are falling off badly in milk. They stand in the pasture and fight flies more than they graze.

This is a common complaint. Dairymen all over the country are having the same difficulty. This is one of the most trying seasons of the year. At this season it is almost impossible to keep cows up to a full flow of milk because of flies and the hot weather. Many dairymen plan to have their cows dry during the summer period and thus avoid doing very much milking when the flies are at their worst.

Very little can be done in controlling flies. They breed in stables and in manure piles, and if it were possible to keep all the manure hauled out and scattered each day their breeding places would not be so numerous and some reduction might be made in the number of flies. Where it is necessary to permit the manure to accumulate, the fly larvæ can be killed by treating the manure with commercial borax. This should be applied at the rate of about a pound of borax to sixteen bushels of manure.

It is also possible to help a little by spraying the cows with some fly repellant, a number of which are on the market. When cows do not graze enough on account of flies it helps in keeping up the milk flow to give them some extra feed such as alfalfa hay so they can fill up quickly. If there is a pasture near the barn where the cows are milked they should be given a chance to graze at night and be permitted to get into a darkened shed during the heat of the day when the flies are most annoying. Having some green feed, such as sweet corn or Sudan grass, close to the barn to give the cows at night, will help out on the feed question. The important point is to get the cows to eat a full ration. The principal reason they fall off in milk when flies are bad is that they spend so much time fighting flies that they do not eat enough to keep up the milk flow. It takes a cow a long time to eat enough grass in the pasture to supply the nutrients for a heavy flow of milk.

Paint a Preservative

Keeping buildings well painted increases the value of property at least twenty-five per cent. If the wooden structures are permitted to become bare and exposed, the surfaces grow rough and the wood is subject to warping and cracking. Dampness enters such exposed wood and conditions become favorable for the action of destructive fungi. Decay will follow rapidly. Applications of good paint, however, will preserve wood almost indefinitely.

Keeping the farm buildings of all types well painted is as much a business proposition as keeping them insured against tornado, fire and lightning, and nothing adds more to the attractiveness of a farm than well painted buildings.

Paste paints cost $3 to $4 a gallon, while prepared paints sell for $2.50 to $3 a gallon. Prepared paints contained in sealed packages are the most economical and convenient. The paint selected should be composed of pigment and liquid, the pigment being white lead—corroded or sublimated—admixed with zinc oxide with or without a small amount of chemically inert pigment. This pigment should be ground in a liquid composed of linseed oil with a small amount of drier and thinner.

It is customary to add to 100 pounds of paste paint from four to six gallons of linseed oil and a pint of liquid drier. The mixture may be thoroughly stirred in a barrel or tub. For first coat work a gallon or more of turpentine may be used to take the place of part of the linseed oil.

Kerosene Emulsion

Kerosene emulsion is good for killing lice and other sucking insects. It is made by dissolving one-half pound of common soap in one gallon of boiling water. Pour this into two gallons of kerosene and stir vigorously so as to mix the kerosene with the soapy water. When ready to apply, mix one gallon of the solution (which looks somewhat like sour milk) and ten gallons of water.

Preliminary catalogs of prizes on dairy products and cattle at the National Dairy Show are now available and may be had by writing to the National Dairy Show at No. 8 East Long Street, Columbus, Ohio, or People's Life Building, Chicago, Illinois. The dairy show opens October 18 and closes ten days later.

You might as well try to carry water in a sieve as to try to make money with lousy hogs.

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You'll need the 40% crop value in the stalks; and you can rely upon the Moline Corn Binder to do a clean job of harvesting, no matter what condition the crop is in.

Gathering boards extend 5 1/2 feet in advance of knife, straighten up down corn before cutting. Properly set springs and shields prevent clogging by short stalks, weeds or loose leaves—insure steady work.

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Lightest running main wheel in the world. All carrying and driving friction is eliminated by self-aligning, anti-friction bearings.

Solid steel main frame holds working parts in easy working position at all times—insures long life and good service under hard strain.

Ask your Moline Dealer about the Moline Corn Binder, or write us for Illustrated Literature.

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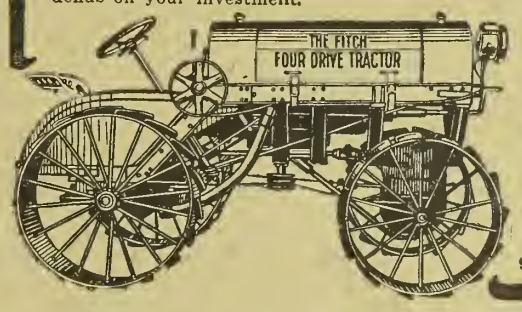
POWER applied on all four wheels gives greater traction—eliminates weight—cuts down fuel cost. Reliability is built into every inch of our Four-Drive Tractor. You can depend upon it. It's worthy of your faith, because you can rely upon the Four-Drive to get your work done. It's a good tractor sold at the right price to earn you big dividends on your investment.



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Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks,** for bona fide seekers of employment on farms.

HELP WANTED.

RAILWAY MAIL CLERKS WANTED—Men, 18 or over. Commence $75 month. Every second week off with pay. Education unnecessary. Sample examination questions free. Write immediately. Franklin Institute, Dept. A-82, Rochester, N. Y.

FARMERS, 18 OR OVER, WANTED (men-women) U. S. Government jobs. $90 month. Hundred vacancies. Common education sufficient. Write immediately for free list of positions. Franklin Institute, Dept. E-82, Rochester, N. Y.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FOR SALE — VERY CHOICE HIGH-grade Holstein calves, either sex, three to six weeks old, at $20 per head, crated for shipment. Or if you want dairy cattle of any age, I will buy them at a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked, $23, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

HORSES AND MULES.

JACK FOR SALE OR TRADE — FIVE years old, gray, 14 hands jack measure; excellent breeder. Sacrifice price. Harry Bilson, Eureka, Kansas.

SEEDS

SWEET CLOVER. SOW ON STUBBLE or with wheat nurse crop. Lewis, the Clover Man, Route 1, Madison, Kansas.

SITUATION WANTED.

EXPERIENCED MAN WANTS A JOB on farm or ranch or run on shares. Prefer change after 1st or 15th September. Robert Owen, Ogallah, Kansas.

HONEY.

HONEY—NEW CROP. SEND FOR PRICE list. Bert W. Hopper, Rocky Ford, Colo.

DOGS.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

ALFALFA.

ALFALFA SEED, $8 PER BUSHEL. Good purity and germination but dark color. Better grades for more money. Write for free samples and prices. Henry Field, Shenandoah, Iowa.

MISCELLANEOUS.

FERRETS—FEMALES, $2.50; MALES, $2; pair, $4. H. G. Hardy, Wellington, Ohio.

MAIL YOUR BROKEN GLASSES TO REGester Bros. Optical Co., Norton, Kansas. Any lens duplicated promptly.

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WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

BARRED ROCKS — SEVENTY-THREE premiums. Breeders for sale. Eggs half price. Mattie A. Gillespie, Clay Center, Kansas.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

POULTRY WANTED.

WE WILL MAKE IT WORTH YOUR while to ship your eggs and poultry to The Copes, Topeka.

THE STRAY LIST.

TAKEN UP—ON THE 23D DAY OF DEcember, 1916, by P. Whitman, of Marienthal, Wichita County, Kansas, one bay horse 10 years old and one bay horse colt one year old. No marks or brands. Dean Trueblood, County Clerk, Leoti, Kansas.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Not those who soar, but those who plod
Their rugged way, unhelped, to God
Are heroes. —Dunbar.

"The woman who is watchful in her home, careful of every bit of food used, is serving her country just as truly and just as effectively as the nurse in the Red Cross tent or the man at the front or on the sea."

Do not make too hard work of canning. If you have a fairly even fire, it is not necessary to watch the steam gauge constantly when sterilizing. Even though the pressure should drop slightly below the number of pounds indicated in the recipe or run up above it for a short time, no harm is done. Of course it should not be allowed to remain long above or below the proper point. If you are busy with other things, it is a good idea to set the alarm for the time when sterilization will be completed, so that it will not be overlooked.

Two Valuable Bulletins

Two recently published Government bulletins that should be in the hands of every housewife are Farmers' Bulletins No. 839, "Home Canning by the One-Period Cold-Pack Method," and No. 841, "Drying Fruits and Vegetables in the Home."

The first of these gives full instructions for a simple method of canning vegetables, soups, fruits, and meats, with a table giving the time required for scalding, blanching, and sterilizing them. Various types of apparatus for sterilization are discussed. Bulletin 841 gives directions for drying the vegetables and fruits that are adapted to this method of preservation, and recipes for cooking them. A home-made dryer is described as well as several types of patented dryers.

Both bulletins may be obtained free of charge by addressing the Division of Publications, U. S. Department of Agriculture, Washington, D. C.

How to Can Tomatoes

Select firm, well-formed tomatoes, not over-ripe. Scald in hot water one to three minutes to loosen skins. Some tomatoes will work up much more easily than others, so one should make a test or two before trying to handle large quantities. If it is found that scalding one minute or less is better than two or three minutes, this is the length of time those particular tomatoes should be scalded. Dip quickly into and out of cold water, remove skin and core. Pack in jars whole or in quarters, pressing down with a tablespoon. Add one level teaspoonful of salt to each quart. Do not add any water, but use strained juice from additional tomatoes if liquid is wanted to fill up space, which usually is not necessary. Place rubber and cap in position, but do not tighten fully. If using tin cans, seal completely. Place the packed containers on a false bottom in a vessel of water sufficiently deep to cover them by one inch and allow to remain at a boiling temperature for thirty-five minutes if using a hot water bath canner. If using the steam-pressure outfit, ten minutes under five pounds of steam is sufficient. Remove jars and tighten lids. Do not let cool draft blow on jars while they are hot.

TOMATO PULP FOR SOUP

Place tomatoes in a wire basket or piece of cheesecloth and plunge into boiling water from one to three minutes, then into cold water, removing quickly. Remove skin and core. Place tomatoes in a kettle and boil thirty minutes. Pass tomato pulp through a sieve. Pack in hot glass jars or tin cans while hot, adding a level teaspoonful of salt per quart. Partially seal glass jars. Sterilize for thirty minutes in hot water bath, or in pressure cooker eighteen minutes under five pounds steam pressure or ten minutes under ten to fifteen pounds pressure. Remove jars and tighten lids.

TOMATOES CANNED WITH CORN

Blanch fresh corn on the cob five minutes. Cold-dip quickly. Cut corn from the cob, cutting from tip to butt. Scald tomatoes about one and one-half minutes and cold-dip. Remove skin and core. Chop tomatoes into medium-sized pieces. Mix thoroughly two parts of tomato with one part of corn. Pack the mixture in hot glass jars or enameled tin cans. Add a level teaspoonful of salt per quart. Put rubbers and caps of jars in position, not tight. Cap and tip tin cans. Sterilize seventy-five minutes in hot water bath, forty-five minutes in steam pressure outfit under five pounds of steam, or thirty minutes under fifteen pounds of steam. When corn and tomatoes are canned together, the acid from the tomatoes helps keep the corn; hence it is not necessary to allow so much time for sterilization as when corn is canned alone. Remove jars, tighten covers, and invert to cool. Wrap in paper to prevent bleaching.

CORN, TOMATOES AND BEANS

Use one part of corn, one part of green string beans, and three parts of tomatoes. Blanch fresh corn on the cob for five minutes and cold-dip. Cut corn from cob, cutting from tip to butt. Prepare string beans and cut them into convenient lengths. Blanch them four minutes and cold-dip. Blanch tomatoes one to three minutes and cold-dip. Remove skin and core. Cut tomatoes into medium-sized pieces. Mix thoroughly. Pack mixture in hot glass jars. Put rubbers and caps of jars in position, not



EDWARD LARSON, Riley County, driving his Jersey steer. This steer answers to "Whoa" and "Git-up" as well as does any horse. These two are frequently seen on the streets of Riley. Edward is a member of the state pig club and is a busy boy.

tight. Sterilize for the same length of time as in preceding recipe. Remove jars, tighten covers, invert jars to cool, then wrap with paper to prevent bleaching, and store.

Corn and Cheese

Corn and cheese, prepared as are macaroni and cheese, are recommended by the U. S. Department of Agriculture as a new and palatable dish. The recipe calls for

1 cupful coarsely ground or cracked corn
1 quart water
1¼ tenspoonfuls salt

Boil the corn in the salted water until tender. Drain and combino with sauce made as follows:

1 cupful skim milk
1 cupful finely-cut cheeso
2 tablespoonfuls flour
1 tenspoonful salt
¼ teaspoonful mustard, paprika, or other sensoning

Mix seasoning with the dry flour. Add enough milk to form a smooth paste, put in balance of milk, heat in stewpan, stirring constantly until thick. Add cheese and stir until it is melted.

Put a layer of boiled corn in baking dish, add layer of sauce, and so on until all has been used. Sprinkle bread crumbs over top layer of sauce and cook in a medium oven until the crumbs brown.

A richer sauce may be made by adding two teaspoonfuls of butter. When butter is used it should be placed first in stewpan, the flour and seasoning added to it and the milk and cheese put in as given in first recipe.

The Boy Scouts of America performed a notable service to the country in their campaign for the sale of the Liberty Loan Bonds. Through their efforts more than $25,000,000 of the bonds were sold directly. How many sales were due indirectly to their activity cannot be known. The boys worked systematically and thoroughly and with an earnestness that was inspiring. They covered fields that could not have been well covered by other agencies and effected sales that would not have been made without their efforts. The Scouts have not only proven their patriotism. They have shown their efficiency and their civic value.

A delicious way of serving harvest apples is to cook them in a little water until soft, mash with a potato masher, add sugar and vanilla or nutmeg, and cook a few minutes until sugar and flavoring are blended with the sauce.

Rancid olive oil can be freshened by heating with a few slices of potato.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8024—Ladies' Waist: Cut in sizes 36 to 44 inches bust measure. For practical purposes this is a waist that will give full measure of satisfaction. Contrasting goods is used to face the fronts that roll back to form "point revers" and the broad collar is in matching tone. The full-length sleeves are gathered into band cuffs. **No. 8217—Boys' Russian Suit:** Cut in sizes 2, 4 and 6 years. Still another variation of the ever popular Russian suit is shown in this picture. The smart feature of this particular suit is the panel both front and back. The young man is kept within bounds by the belts at the sides, which also serve the purpose of holding the fullness in place. **No. 7832—Ladies' Shirtwaist:** Cut in sizes 36 to 44 inches bust measure. An irresistible model in plain and striped silk, or your choice of fabrics and colors, or in solid white. The shoulder fronts are gathered and in the back at the waistline the fullness is gathered under a stay belt. **No. 8186—Ladies' Skirt:** Cut in sizes 24 to 32 inches waist measure. Exceedingly smart in style is this three-gored skirt with a becoming fullness across the back of the slightly raised waistline, which is partly due to an inverted plait at center back. The side tabs and the belts which connect them give a trim look to the skirt, but they may be omitted at will. **No. 7821—Ladies' Dress:** Cut in sizes 34 to 42 inches bust measure. Convincing as to the popularity of the "over-effect" in one-piece dresses. The surplice closing of the overblouse gives a neat vest effect to the separate guimpe which is of different material and has full sleeves gathered to deep cuffs. The skirt is cut in three gores. **No. 7846—Ladies' Apron:** Cut in sizes 36, 40 and 44 inches bust measure. In every way worthy of your approval, this apron has a very full body and skirt section. The closing is at front with loops and buttons. Contrasting goods contribute the collar, cuffs and belt, as well as a pocket of generous size in each side of the front. A square yoke gives the garment balance and long or short sleeves may be used.

We Need Your Help In a Critical Time

KANSAS FARMER READERS CAN BE OF GREAT HELP TO THEIR FAVORITE FARM PAPER NOW

KANSAS FARMER comes to you through the mails. It is distributed under the jurisdiction of the Post Office Department, which has made some new rulings which the publishers of KANSAS FARMER must observe in respect to the procuring and continuation of subscriptions. During these critical times the rulings may be changed at any time, at the option of the Post Office Department.

The Postmaster General has made a ruling which makes it necessary that certain classes of subscriptions may not be carried after expiration. It has always been customary and permissable for the publisher to carry, at his option, subscriptions for a short time after they expire, in order that the subscriber might have an opportunity to renew his subscription and thus prevent his missing any copies of the publication.

The new rule, however, requires that this practice must be stopped.

We feel that you want KANSAS FARMER, because it is strictly a Kansas paper and is striving to help you in your work, and you certainly do not want to miss the good things that this old paper carries each week for the betterment of farm conditions. We do not want to discontinue your paper. We are very anxious to retain every one of our subscribers. In order to do so, we must urge that you send us your renewal subscription at once.

Here are four distinct offers which we submit to you. We will greatly appreciate your acceptance of any of them:

1. May we immediately have your renewal for one year at $1.00?

2. If you send us $2.00, we will renew your subscription for three years—a saving of $1.00.

3. If you will send us the subscription of two of your neighbors for one year for $1.00 each—$2.00 in all—we will renew your own subscription one year without additional charge in appreciation of this service rendered.

4. If you will send us the subscriptions of four of your neighbors at $1.00 each—$4.00 in all—we will extend your subscription for a period of three years without additional charge.

We have provided a special blank below to be used in sending in your renewal subscription or the subscriptions of your neighbors. May we again urge you to co-operate with us by accepting one of the offers provided?

Special Club Subscription Blank

KANSAS FARMER, Topeka, Kansas.

I enclose $.....for.....subscriptions to KANSAS FARMER for one year each. For this service I am to receive KANSAS FARMER for { 1 year / 3 years } without additional charge.

Name .....

Address .....

Name .....

Address .....

Name .....

Address .....

Name .....

Address .....

Special Renewal Blank

(To be used in case Club Offer is not accepted.)

KANSAS FARMER, Topeka, Kansas.

Enclosed please find { $1.00 / $2.00 } to pay for my renewal to KANSAS FARMER for { 1 year / 3 years } as per offer above.

Name .....

Post Office .....

R. F. D..... Box..... State.....

Patriots and Loyal Citizens Will Want to Show Their Colors



"Your Flag and My Flag"

"Long may it wave
O'er the land of the free
and the home of the
brave"

The big demand, the scarcity of good dyes and the high price of cotton have made it hard to secure flags. We have been fortunate enough to secure a few high-grade printed flags 3 feet by 5 feet with canvas heading and brass grommets, colors fast.

You May Have One of These Flags If You Act Promptly

HERE IS OUR OFFER

For only $1.50 we will enter your subscription or extend your subscription for one year and send you this beautiful flag, postpaid. Or for $2.00 we will renew your subscription for one year and one new subscription for one year and send you one flag postpaid.

Don't Delay—Send Your Order NOW, Before It Is Too Late

FLAG OFFER BLANK

Name.....R. F. D.....

Postoffice..... State .....

DESK D, KANSAS FARMER, TOPEKA

Real Estate For Sale

If you would buy a farm for less than value of crops raised this year, write us. Corn, oats, and wheat, almost perfect crop. SOUTHERN REALTY CO., McAlester, Okla.

SHETLAND PONY FOR SALE

Shetland pony mare, not registered, coming three years old, bred to a registered Shetland stallion. Broke to ride. Will sell at a bargain if taken soon. Address

D, CARE KANSAS FARMER.

Fighting Aeroplanes

The Germans have arranged their guns in batteries; and when an enemy plane came within range, the first gun would throw three shells into the air in rapid succession. They were so devised that they would explode at different elevations, liberating different colors in a smoke cloud. Usually one of these would be somewhere near the plane. Thus the Germans had three fixed altitudes in the air and from their smoke test they could instantly determine the altitude of the plane.

A second gun of the battery fires a big, high explosive shell, aimed as close to the aeroplane as possible. If it explodes close enough it will wreck the machine; but the Germans do not really expect to get one even with the second shell. The effect of this explosion is to "dud" the air. It creates air conditions which for a time make it impossible to move in that vicinity.

It is the third gun which gets him. Having ascertained the range with the first, and killed the air with the second, a big shrapnel shell is directed from the third gun. If the machine has been fairly caught by the high explosive shell, the six hundred shrapnel balls released by the next generally finish it.—Lieut. G. T. Cummings in The American Boy.

Uncle Sam is on third base, somewhere in France. A hard drive to the wheat field will bring him home. Don't let him die on third.

The only thing that can cause eggs to be other than very high this winter is an exceptionally open winter. Even this cannot keep prices very low when so many eggs have gone into cold storage at prices ranging around thirty cents.

JERSEY CATTLE.

INTERESTED OXFORD OWL

For Sale—Three months old, broken color, sire Gedney Farm Medal Oxford, who is 37½ per cent Oxford Lad, sire of Oxford Cocotte, 724 pounds 15 ounces butter in one year, and forty-three others. Dam, Interested Golden Fern. 31¼ per cent of Interested Prince, sire of Passport, 987 pounds 6 ounces of butter, and thirty-eight others. Price $50, f. o. b. Lawrence, Kansas.
BISONTE FARM - LAWRENCE, KAN.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

Jersey Calf Bull dropped January 4, 1917, out of a rich-milking good-type dam. A bargain. W. T. Ballagh, Nevada, Missouri.

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

Chicks May Have Chiggers

Mrs. C. V. E., of Shawnee County, sends in the following inquiry:

"I am raising Wyandotte chickens and I have a number that get scabs on their bodies. It looks as though it might be a chicken pox. They eat well and do not get sick, but the sores seem to continue to grow and I have finally had to have them killed. If any of your readers have had similar trouble and have a remedy, I would appreciate hearing from them what is best to do."

N. L. Harris, superintendent of the experiment station poultry farm, to whom we referred this inquiry, writes as follows:

"I am inclined to think that the trouble is chiggers. Often these little mites will gather beneath the wings in large numbers, causing an acute redness and finally sores which later scab over. With young ducks they often prove fatal. It is just possible that where the birds are running on sandy ground they may have ticks. I should hardly expect ticks that far north and should be more inclined to the theory of chiggers. The only remedy I have ever used is salty grease smeared on the infested regions."



Leghorns Produce Eggs at Less Cost

LEGHORNS produce eggs cheaper than hens of the general-purpose breeds — Plymouth Rocks, Wyandottes, Rhode Island Reds, and Orpingtons. This fact, which confirms the belief and experience of commercial poultry farmers, was one of the results obtained in a rather extensive feeding test recently reported by poultrymen of the United States Department of Agriculture. Because they lay as many or more eggs, eat only about fifty-five pounds of feed per head as compared with seventy to eighty-five pounds eaten by the general-purpose breeds, and because their egg yield very materially exceeds that of general-purpose breeds during their second and third laying years, Leghorns, the specialists say, undoubtedly are more profitable to keep for the production of eggs only.

In this test the feed cost of a dozen eggs for one of the Leghorn pens was 7.34 cents in 1913 while the average cost of all the pens of the general-purpose breeds was 10.6 cents. In 1914 the feed cost of a dozen eggs for the same pen of Leghorns was 8.7 cents as against an average cost of 15.1 cents for the second laying year of the general-purpose pens. During their third laying year the cost of a dozen eggs was 8.8 cents, compared to 18.6 cents for the general-purpose fowls. The total value of eggs per hen over feed cost in the Leghorn pen for three years was $6.84 against $4.30 for the general-purpose hens. The highest egg production obtained in any of the feeding experiments up to 1915 was by a pen of Leghorns which laid 157.6 eggs per hen, at a feed cost of 6.7 cents a dozen.

The Leghorns produce smaller eggs than the general-purpose breeds. The average weight of the eggs of a pen of Leghorns during the first laying year was 1.42 pounds per dozen as against 1.53 to 1.58 pounds for the other pens. However, Leghorns laying eggs weighing 1.50 pounds per dozen or even more have been selected and bred by many poultrymen. An examination in May, 1915, of 500 eggs from three Leghorn pens showed that 31 per cent weighed more than two ounces each, or 1.50 pounds to the dozen.

The value per dozen of the eggs produced by the Leghorns was from one to three cents less each year than the eggs of general-purpose hens. This difference is due to the fact that the general-purpose breeds are better winter layers than the Leghorns, while the latter give a higher production in the spring and summer. Very few Leghorns become broody, which probably materially affects their egg yield as compared with the general-purpose breeds. Better fertility in the eggs, especially with stock confined to the yards, is more often secured with Leghorns than with the general-purpose or any of the heavier breeds.

Eggs at 14 Cents a Dozen

It has been truly said that "Necessity is the mother of invention." The present high prices of foodstuffs have had a tendency to discourage some poultrymen. But there is no reason why eggs cannot be produced almost as economically now as formerly if the right ration is used, and the selling price of eggs is at least two-thirds more than in former years at this season.

We have been making some tests of various rations on the experimental farm of the American School of Poultry Husbandry at Leavenworth, with a view of compounding a ration which would bring the same results and greatly reduce the cost. We realize that available feeds and prices vary in different localities so this ration is based upon the feed found in Leavenworth and in the Central States. Grains and ground feeds are constantly varying in price, but at the present time are selling here at the following prices per hundred pounds: Cracked corn, $3.40; wheat, $3.67; oats, $2.50; bran, $1.65; shorts, $2.25; beef scrap, $3.50, and corn meal, $3.80.

The ration which we are now using in the American Egg Laying Contest and which is producing practically as good results as any we have ever used, which contained a large per cent of wheat, is as follows:

Scratch Feed—	
400 pounds cracked corn	$13.60
Dry Mash—	
150 pounds wheat bran	$ 2.48
150 pounds wheat shorts	3.38
100 pounds beef scraps	3.50
4 pounds fine charcoal	...
3 pounds fine salt	...
Cost of 800 pounds of feed	$22.96
Cost of 100 pounds of feed	2.87

If the above feeds are not available it might pay you to have your local dealer import them for you, if possible, and the prices justify. We have found no other combination that would compare with this ration in price and results. The fact that there is a shortage of wheat, but a large acreage of corn and prospects for an abundant crop, the indications are that this will be one of the cheapest rations that can be used for many months to come. Whenever wheat is as cheap as corn, wheat should be added to the scratch feed.

The cost of this feed can still be reduced to about $2.70 per hundred pounds by feeding sprouted oats. We feed equal parts of the above scratch feed and dry mash. For every hundred pounds of the corn chop which is fed, we feed one bushel of oats which have been sprouted, then after they are sprouted it makes over two bushels of feed. We soak the oats from twelve to twenty-four hours, spread them out in trays until they are about one inch in depth, sprinkle them each day to keep them moist and feed them when they are about one week old. Don't use any artificial heat in sprouting and the oats will not mold. If you feed the oats when they are about a week old from the date you started to sprout them, you get the benefit of the oat grain as well as the tender succulent sprouts. These offset the "all corn" scratch feed. We feed some of the dry mash in a moistened state each afternoon. Give all the moist mash the hens will eat in about thirty minutes. Moisten it with water or milk. Feed the dry mash in a hopper or box and keep it before the hens so they may help themselves at any time. Feed about an equal amount of the dry mash and cracked corn and regulate the quantity of cracked corn which you throw into the litter for the hens by the amount of dry mash each pen consumes. The nutritive ratio of this feed is about 1:4.5, if the oats are used as directed. This is about right for laying hens or growing stock. This will reduce the cost of this feed at the above prices of the ingredients so that the cost will not exceed $2.70 per hundred pounds. If this is used for growing stock, add five pounds of bone meal to each hundred pounds of ground feed.

On the basis of a dozen eggs being produced on five pounds of feed, each dozen eggs cost us about fourteen cents when this ration is used. This leaves twenty-one cents per dozen for labor and profit when eggs are selling at thirty-five cents per dozen. In the face of these figures there is no reason for any poultryman to be discouraged. If you use this ration at the present prices of eggs, you will clear more on your hens than in any previous year because of the increased price of eggs. In the above ration the succulent oat-feed and the wheat products and beef scraps in the mash offset the fattening and heating effect of the "all corn" scratch feed. Corn products are eliminated entirely from the mash, except that the cracked corn is screened and the meal and fine particles of corn are sifted out and put in the mash, otherwise this would be wasted. Keep grit and oyster shell constantly before the fowls. This is cheaper than any ration which we have seen recommended by any government or state experiment station. In some sections you may buy good commercial feed cheaper than you can mix your own.

There is not the least reason for any poultryman to become discouraged with poultry conditions at present. The wise thing to do is to "keep cool, play safe and hold tight."—J. E. QUISENBERRY.

POLAND CHINAS



Faulkner's Famous Spotted Polands

The world's greatest pork hog are raised exclusively on

HIGHVIEW BREEDING FARMS

Tho largest registered herd of old, original, big-boned, spotted Polands on EARTH.

Spring Boars Now Ready to Ship, Pairs and Trios No Kin.
Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.

H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

OLD ORIGINAL SPOTTED POLANDS
Choice March and April pigs of both sexes.
H. A. MATTON, Route 2, Burlington, Kan.

Langford's Spotted Polands. Gilts bred for fall farrow. Future herd boars. Satisfaction guaranteed. T. T. LANGFORD & SONS, Jamesport, Missouri

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - ACLNE, KANSAS

TOWNVIEW HERD BOARS
Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

OLD ORIGINAL SPOTTED POLANDS
Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

Henry's Big-Type Polands
Spring pigs, either sex. June delivery. Sired by Mammoth Orange, King Price Wonder, Big Wonder. Choice of lot, $35. Trio, $100. Others, $25. First check, first choice.
JOHN D. HENRY, LECOMPTON, KANSAS

DUROC JERSEYS.

Royal Herd Farm Durocs
Established in 1899 by Emery Anderson.
Boars, March farrow, by Pathfinder, Kansas Cherry Chief, King's Col. Jr. and Proud Chief. A fine lot to select from. Gilts bred for September farrow. Come and see my herd or write your wants.
B. R. ANDERSON
Route 7 McPherson, Kansas

JONES SELLS ON APPROVAL
February, March and April Durocs, pairs and trios and herds unrelated. First class pigs at reasonable prices.
W. W. JONES, CLAY CENTER, KANSAS

LONE TREE DUROC FARM
Herd Boar Graduate Prince by Graduate Col. Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.
GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNE DUROC-JERSEYS
Forty-five head spring boars and gilts, March and April farrow, by Gano Pride 2d by Gano Pride, out of a Graduate Col. sow. Herd sows best of breeding. Write for prices. T. F. DANNER, Winfield, Kansas.

IMMUNED DUROCS
With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

GALLOWAY CATTLE.

GALLOWAY BULLS
SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

BERKSHIRE HOGS.

KING'S BERKSHIRES — Twenty good Berkshire fall boars. One good yearling boar. E. D. KING, Burlington, Kansas.

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

POLLED DURHAM CATTLE.

FOR SALE—Two red and white bull calves, 10 months old, sired by Chief, a son of True Sultan. Priced to sell.
D. C. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 miles S. E. of Topeka)

HAMPSHIRE SHEEP.

FIVE EXTRA GOOD HAMPSHIRE RAM LAMBS
Priced right if taken in the next two weeks.
L. M. SHIVES, ROUTE 1, IUKA, KANSAS

POLAND CHINAS.

FARM AND HERD NEWS NOTES

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W. J. Cody, Manager Stock Advertising
O. W. Devine, Field Representative

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CLAIM SALE DATES.

Holsteins.
Oct. 16 — The Nebraska Holstein Breeders' Consignment Sales Co., Omaha, Neb.; Dwight Williams, 103 Bee Bldg., Omaha.

Poland Chinas.
Aug. 15—H. L. Faulkner, Jamesport, Mo.
Oct. 4—Dr J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Oct. 17—Walter B. Brown, Perry, Kansas.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.

Red Polled Cattle.
Sept. 4—Milton Pennock, Delphos, Kansas.

Durocs.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.

Registered Jersey Cattle.
Aug. 15—S. S. Smith, Clay Center, Kansas.

Hampshire Hogs.
Oct. 12—Kansas Hampshire Swine Breeders' Association and Halcyon Hampshire Pig Club sale at Valley Falls, Kansas. George W. Ela, secretary and manager.

O. I. C. Hogs.
Sept. 4—Milton Pennock, Delphos, Kansas.

Milton Pennock, of Delphos, Kansas, has announced a public sale of pure-bred Red Polled cattle and O. I. C. hogs to be held September 4. Mr. Pennock will catalog sixteen head of choice Red Polled cattle and fifty head of O. I. C. hogs for this sale.

L. M. Shives, of Iuka, Kansas, is one of the successful sheep breeders in Kansas and owns one of the choice flocks of Hampshires in the state. Mr. Shives has found the Hampshires a very profitable sheep on his farm. A featuro of his flock at this time is the fine lot of young stock, including a choice lot of rams.

S. S. Smith, of Clay Center, Kansas, has announced a public sale of registered Jersey cattle to be held at Clay Center, August 15. Mr. Smith owns one of the richly bred, heavy producing herds of Jerseys in Kansas and will catalog a choice offering for this sale.

B. R. Anderson, of McPherson, Kansas, owner of Royal Farm herd of Duroc Jerseys, reports his herd doing well. This year Mr. Anderson saved a large number of spring pigs by such boars as Pathfinder, Kansas Cherry Chief, King's Col. Jr. and Proud Chief. The pigs have all grown out fine and are an extra choice lot. Mr. Anderson is one of the progressive breeders and by careful breeding has succeeded in developing a great herd.

Girod & Robison, of Towanda, Kansas, report a growing demand for high class Holsteins. They have one of the largest herds of pure-bred and high-grade Holsteins in the state. During the past year their sales of foundation stock for new dairy herds have been very heavy and Holsteins from this herd were shipped to many states.

We have just received Volume 54 of the American Berkshire Record. This volume contains 5,000 pedigrees from No. 215001 to 220000. It also contains other information that should be in the hands of every Berkshire breeder or anyone interested in purebred Berkshire swine.

John D. Henry, of Lecompton, Kansas, reports his Poland Chinas doing fine. Mr. Henry has built up one of the high class herds in Kansas and this year he has an extra fine lot of big-type pigs that are growing out well. They are by the good boars, Mammoth Orange, King Price Wonder and Big Wonder.

D. J. White, of Clements, Kansas, owner of Edgewood Farm and one of the high-class herds of pure-bred Aberdeen Angus cattle, reports his herd doing well. Edgewood Angus herd is one of the good herds of that breed now assembled. Best blood lines, choice individuals and careful breeding is the plan that is responsible for this choice herd.

W. W. Patterson, a well known banker formerly of Bronson, Kansas, has purchased a very fine farm near Fort Scott, and expects to devote his entire time to building up a herd of pure-bred Jersey cattle that will be second to none in the Southwest. He has been breeding Jerseys for years as a side line, with profitable results, and decided to devote his time entirely to the business. He was one of the heaviest purchasers at the Linscott dispersion sale and secured a large per cent of the richly-bred choice individuals sold in that sale.

PUBLIC SALE SEPTEMBER 4
Fifty registered O. I. C. hogs. Sixteen male and female Red Polled cattle. Six and one-half miles east, one mile north of Delphos, Kansas. MILTON PENNOCK.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS
BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

HOLSTEIN CATTLE.

MAURER'S HOLSTEIN FARM

In order to clear our pastures for our grade cows and heifers that will soon arrive for fall trade, we are offering sixty-five head of pure-bred Holsteins, with the choicest of breeding, from calves to mature cows, at bargain prices. Many of our heifers are closely related to the world's champion, Segis Fayne Johanna, and a lot of them have been bred to our herd sire, Canary Mercedes Sir Wadnah 145366, whose dam produced 26.90 pounds butter and 541.70 pounds milk in seven days, while his sire's dam holds the world's milk and butter record as a ten-year-old, producing 1,300 pounds butter and nearly 30,000 pounds milk in a year. We have some fine bull calves sired by a son of Rag Apple Korndyke 8th and by a son of Pontiac Korndyke, with record dams. Also a few good grade cows and heifers. Do not delay, but write or wire when we can expect you. Farm located a mile west of town on Sixth Avenue. Phone 688.

T. R. MAURER & CO - - - - EMPORIA, KANSAS

PECK'S HOLSTEINS We have a choice lot of extra large high-grade Holsteins, including fresh cows, heavy springing cows and heifers, and young calves. Registered bulls. Come and see our herd. We meet you at train and guarantee satisfaction.



M. E. PECK & SON, SALINA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.

Breeders' Directory

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
JERSEY CATTLE.
ANGUS CATTLE.
D. J. White, Clements, Kan.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

SHORTHORN CATTLE.

Sycamore Springs Shorthorns
Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

Sunflower Herd of Shorthorns
A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Fred Chandler, owner of the famous Chandler Percheron and Belgian farms near Chariton, Iowa, reports a rapidly increasing demand for high class stallions and mares. Mr. Chandler is closely in touch with the draft horse business and thinks there is a good business ahead for draft horse breeders. A feature of his herds at this time is the large number of choice young stallions and mares.

We have received Volume 90 of the American Shorthorn Herd Book. This volume contains 30,000 pedigrees; 9,000 bulls numbered from 448001 to 457000; 21,000 females numbered from 236001 to 257000.

W. B. Dalton, manager of Bisonte Farm, Lawrence, Kansas, reports their Jersey herd doing well. This herd is noted for record breeding and is one of the heavy producing herds of Jerseys in this state. A feature at this time is the number of heavy producing cows and a fine lot of youngsters of record breeding.

H. L. Faulkner, of Jamesport, Missouri, owner of Highview Farms and the famous Highview herds of old original big-boned Spotted Polands, has just returned from a three weeks' trip through Texas and reports that he is working overtime filling orders for Spotted Polands that accumulated during his absence. He is also preparing for his midsummer bred sow sale to be held August 15. He expects to catalog twenty big spotted sows for this sale. All of them will be bred to the famous boars now in service in Highview herds. The lot of sows offered were carefully selected by Mr. Faulkner from his large herds and will have the quality that insures profitable brood sows. He will also catalog thirty head of spring pigs, one of the best lots in the history of Highview sales.

H. E. Anderson, of Clover Valley Holstein Farm, Whitewater, Wisconsin, owner of one of Wisconsin's great herds of Holstein cattle, reports his herd making fine records again this year. This is one of the Wisconsin herds noted for heavy production and a feature at this time is the large number of choice young cows and heifers. These cows and heifers are a uniformly well marked lot. The dams of the entire lot are heavy milking cows. They were sired by bulls of record breeding and are nearly all bred to Sir Skylark Do Kol, whose dam was a 29-pound cow and a half sister to the sire of the world's champion cow, Duchess Skylark Ormsby.

A perfect seed bed is the best life insurance policy for wheat. The ground should be plowed early in July, worked down immediately and kept free of weeds and volunteer wheat until planting time.

Double-disking the stubble in July is the best artillery preparation for a big wheat drive.

HOLSTEIN CATTLE.

50 HOLSTEIN HEIFERS
We offer for sale fifty of the best high grade Holstein heifers in Wisconsin. All bred to a 29-pound bull whose dam is sister to the sire of the world's champion cow, Duchess Skylark Ormsby. Also a few choice fall cows.
CLOVER VALLEY HOLSTEIN FARM
Whitewater - - - - Wisconsin

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
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Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

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Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

HOLSTEIN CALVES
We offer for sale choice, beautifully-marked heifer or male calves, 15-16ths pure-bred, and all from extra large heavy-milking dams, as follows, crated f.o.b. cars: One to two weeks old, $15 each; two to three weeks old, $17 each; five to six weeks old, $20 each. First check takes them. Write
W. C. KENYON & SONS, ELGIN, ILLINOIS

Braeburn Holsteins Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.
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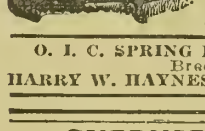

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Bred gilts.
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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 31. TOPEKA, KANSAS, AUGUST 4, 1917. Established 1863. $1 a Year

CANNING CLUBS INCREASE

Riley Mother-Daughter Canning Club Second Largest In Kansas

LAST year a Kansas canning team consisting of a mother and her daughter put up 827 quarts of food products, including fruits, vegetables, soups, meats, and jellies. The total value of these products was $274.20, and their cost in the can was $138.33, making a saving in that family's food bills of $135.87.

This is just a sample of what every one of the twenty-nine teams in this club did last year. The idea is growing. All over the state mother-daughter canning clubs are being organized. The work of storing food products is being taken up with an enthusiasm that would even win the approval of Herbert Hoover.

The Riley Mother-Daughter Canning Club, a picture of which is shown on this page, enjoys the distinction of being the second largest club of its kind in Kansas. Although only three months old, its membership at the present time is 200 and the club is in a healthy, growing condition.

Early last spring a date was arranged with Otis E. Hall, state club leader, for meeting with the women of the Riley community who were interested in canning. This meeting was held April 14, in the Presbyterian Church, and the Riley Mother-Daughter Canning Club was organized. Fifty women were present and the following officers were elected: Mrs. A. J. Pottorf, president; Mrs. Fred Walters, vice president; Mrs. Alvin Gates, secretary; Miss Ruth Hutchinson, treasurer. The club meets the first Saturday of each month.

It is significant that three of the local community clubs are represented in the officers of this mother-daughter club, and three churches are co-operating in the work.

Four meetings have been held, the first three of which were given over to organization work and programs which were planned with a view to studying the possibilities of a canning club and the ways of making it most helpful to the members. A question-box on "Garden Troubles" was a feature of one meeting, which was the means of bringing out many helpful suggestions. Even the youngest junior members contributed to the question-box, as many of them already are experienced gardeners.

In reporting one of the first meetings, the president of the club wrote: "We do so want to make our club a practical and social success." We felt the truth of her words when we visited the club July 7, on which date the state club leader gave a canning demonstration. Although it was a very busy time in that section on account of the wheat and oats harvests, ninety-two were present at the meeting, which was held in the Methodist Church, and everyone had come for a purpose, namely, to learn all possible about canning. During the afternoon cherries, peas, beans, beets, beet top greens, and chicken were canned, and many helpful questions were asked and answered. Some of the members who had been canning at home had encountered difficulties and these were discussed in the meeting and explained by Mr. Hall. One very important point in successful canning work which was emphasized was the difference between simmering water and boiling water in the hot water bath. A great risk is taken when the water does not boil hard while the products are in the hot-water bath.

One of the members had brought with her a can of peaches that she had put up several years ago. The peaches had a disagreeable flavor which she could not account for, and she thought this a good subject for discussion at the meeting. Upon questioning, it was found she had used a false bottom of soft pine wood in the hot-water bath, without having boiled the boards first, and the pine flavor had been absorbed through the loosened jar tops.

Corn and tomatoes will be canned at the meeting of the club to be held the first Saturday in August. Mrs. Dot Masterson and Mrs. Forrest Clark, the two members who will have charge of the demonstration, are studying the essential points for successfully canning these products and will present them at the meeting.

This plan of having demonstrations conducted by members of the local club is an excellent one, for those members having this work in charge will become authorities on the products the canning of which is demonstrated by them and other members of the club can get prompt help from them by telephone when puzzling questions arise.

The Riley club has a high aim—that of being a practical and social success—and after having met with the members, we predict noteworthy accomplishments. This is only one of many such clubs in the state by which a great work is being done in the saving of surplus garden products.

Week of Grange Meetings

Kansas Grangers and others who heard National Master Oliver Wilson during his week's visit to the state in July were greatly enthused and strengthened by his cheery optimism and the constructive program of Grange activities outlined in the addresses made.

A second series of important field meetings are to be addressed by State Master Ray McKaig of North Dakota. Mr. McKaig is a forceful speaker and will bring a message to Kansas Grangers that will well repay them for the effort necessary to attend these field meetings where he will speak. The schedule is as follows: August 13, Eskridge; August 14, Burlington; August 15, Yates Center; August 16, Humboldt; August 17, Chanute, and August 18, Moline.

The services and appliances of the big state fairs have been offered to the Government as training camps in connection with the promotion of food preservation and conservation, more effective marketing, live stock production, and efficiency in agriculture. This offer was made by representatives of the American Association of Fairs and Expositions which recently held a meeting in Washington. It was pointed out to the Secretary of Agriculture that the big fairs in this country have an attendance of fifteen to twenty million people annually, and the association was ready to set aside as many of the fair activities as possible in order to help the Government promote its program of increased production and food conservation. Representatives of the Department of Agriculture offered suggestions as to how the fairs can be made more directly to serve the nation in the present emergency.

Don't throw away paraffin that has become unclean through usage in canning and preserving. Many times it can be cleaned with a brush in cold water. If this does not remove all the dirt, a specialist of the United States Department of Agriculture recommends heating the paraffin to boiling and straining it through two or three thicknesses of cheesecloth or through a thin layer of absorbent cotton over one thickness of cheesecloth. If the paraffin is still unclean, heat and strain it again. Any paraffin lodging in the strainer may be recovered by heating the cloth.



MEMBERS OF RILEY MOTHER-DAUGHTER CANNING CLUB PRESENT AT RECENT DEMONSTRATION MEETING.—THE MAN IN FOREGROUND IS OTIS E. HALL, STATE CLUB LEADER



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Those who located in Central Kansas 20 years ago are the big farmers today. Their land has made them independent.

Your chance *now* is in the five Southwestern Kansas counties adjacent to the Santa Fe's new line, where good land is still cheap.

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You can get 160 acres for $200 to $300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6 per cent—price $10 to $15 an acre.

Write for our book of letters from farmers who are making good there now, also illustrated folder with particulars of our easy-purchase contract. Address

E. T. Cartlidge,
Santa Fe Land Improvement Co.,
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CORN HARVESTER Self Gathering for cutting Corn, Cane and Kaffir Corn. Cuts and throws in piles on harvester. Man and horse cuts and shocks equal to a Corn Binder. Sold in every state. Price only $22 with fodder binder. The only self gathering corn harvester on the market that is giving universal satisfaction.—Dextor L. Woodward, Sandy Creek, N. Y., writes: "3 years ago I purchased your Corn Harvester. Would not take 4 times the price of the machine if I could not get another one." Clarence F. Huggins, Spearmore, Okla.: "Works 5 times better than I expected. Saved $40 in labor this fall." Roy Apple, Farmersville, Ohio: "I have used a corn shocker, corn binder and 2 rowed machines, but your machine beats them all and takes less twine of any machine I have ever used." John F. Haag, Mayfield, Okla.: "Your harvester gave good satisfaction while using filling our Silo." K. F. Ruegnitz, Otis, Colo.: "Just received a letter from my father saying he received the corn binder and he is cutting corn and cane now. Says it works fine and that I can sell lots of them next year." Write for free catalog showing picture of harvester at work and testimonials. PROCESS MFG. CO., SALINA, KANSAS.

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

THAT American manufacturers of gasoline farm tractors will produce probably 50,000 tractors this year as compared with the demand for 100,000 or more, gives special interest to the annual demonstration of tractors which will be held at Fremont, Neb., the week of August 6-10. Last year American manufacturers produced 39,000 tractors. This year they hoped to have built 70,000, but shortage of labor and materials and lack of standardization has cut this figure to a possible 50,000. It is estimated that there is a possible field for a million of these tractors in this country. Production is as essential in farm tractors as with aviation.

At Fremont over 250 farm tractors will demonstrate each day, these representing the majority of the tractor manufacturers. Many thousand acres of land have been secured for the demonstration week and from morning until night these machines will be demonstrating their ability to plow and do every kind of farm work.

This national tractor week will be the occasion of a great meeting of tractor engineers and manufacturers at which problems of greater tractor production as made necessary by the war will be paramount. Arnold P. Yerkes, of the Bureau of Farm Management, in the Department of Agriculture, Washington, and a government tractor expert, will speak on the more efficient use of tractors on farms and the more intesive cultivation possible with them as compared with animal power. A year ago Mr. Yerkes conducted the government questionnaire with 35,000 farmers operating tractors and from this arrived at the startling deduction that these tractors are averaging but forty-eight days work per year whereas it is possible to use them more than double the number of days in war times. Mr. Yerkes is handling a second government questionnaire with tractor owners and is expected to give some startling figures regarding tractor use.

Great Britain found it necessary to standardize farm tractor construction and America faces the same problem. The Society of Automotive Engineers, which embraces in its membership engineers representing such industries as automobiles, motor trucks, farm tractors, aeroplanes, motorcycles, motor boats and stationary gas engines, started this work of tractor standardization last spring and is vigorously carrying it on at present. Tractor manufacturers are requesting methods for the standardizing of parts so that production to meet the demands will be possible. The Society of Automotive Engineers was entirely responsible for standardization work in connection with American automobiles and made a world's name for itself in this field. Its engineers are now standardizing aviation motors and planes. It is working similarly with regard to farm tractors, and through this source it will be possible to bring tractor production up to the figures necessary.

The engineers are also working with the tractor fuel problem, which will be discussed at Fremont on Wednesday, August 8. Kerosene has generally been accepted as a satisfactory tractor fuel, but many manufacturers declare it is not so efficient as gasoline and there is greater economy in using gasoline notwithstanding the higher price. Experts in engine design and others in carburetion, as well as chemists for fuel manufacturers, are expected to reveal some interesting facts in this fuel controversy.

Use Your Monkey-Wrench

If the owner drives his car constantly it will be an excellent thing for him to use his monkey-wrench now and then. Especially with a new car it is not a bad plan to go over nuts and bolts occasionally. Even the tightest nut will be more or less affected by constant vibration and a loose bolt should be tightened, since the play to which the looseness gives rise may result in the necessity for later repairs. As the car grows a little older the bolts and nuts settle and there is less occasion for tightening.

The foregoing advice applies with particular force to spring clips, a pulling up of the nuts of which will take but a few minutes of the operator's time about once a month, keeping the springs properly seated and adding much to the sense of security that is enjoyed by the man who looks after things and knows that they have been attended to.

Sometimes it happens that the motorist is unable to keep the nuts fastening the bolts absolutely tight. Try as he may, the nut will come loose again. If a lockwasher cannot be applied, a good remedy is to put a drop of solder on the thread of the nut, or in the absence of solder, a little paint or varnish will set the nut tight and prevent it from becoming loose again.—American Motorist.

Driving on Slippery Roads

A set of good tire chains at all times kept with the car and put on the rear wheels when the roads are slippery will pay well for the investment and the time expended in attaching to the wheels. The chains should be properly adjusted. If put on too snug they cut the tread. If too loose, they are not effective. The chains should be adjusted so that they will shift around over the tread, distributing the wear.

In emergency cases when no chains are to be had, a piece of rope wound around the wheel will prove reasonably effective. The ends of the rope must be tied around spokes to prevent slipping.

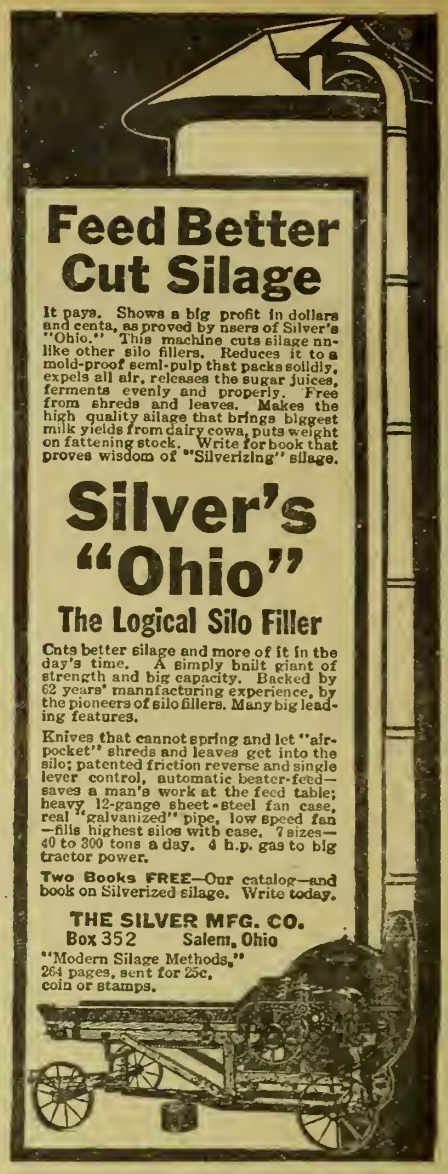
Harrow As You Plow

Plowing for wheat is the order of the day in Kansas and all through the wheat belt. At this season of the year moisture escapes rapidly from loose soil freshly turned up, and it is a great advantage in the preparation of the seed bed to have the harrow follow immediately after the plow. In a recent issue of Power Farming a method adopted by a Minnesota power farmer is described. He first tried hitching an ordinary pegtooth harrow behind his tractor. This did not do quite as well as he expected it to and, being constantly on the lookout for equipment that would help him to do better work, he found at the store of a local implement dealer a rotary harrow designed for attachment to a gang plow of two bottoms. He purchased this harrow and attached it to the frame of his engine so that it thoroughly pulverized the last two furrows plowed. This left the soil in good seed bed condition and saved considerable time, since it made it possible to plow and harrow at one operation. We believe it good policy for the power farmer to plan wherever possible to pull a harrow so the fresh plowing is pulverized before it has time to dry.



COMBINATION ENGINE AND THRESHER OUTFIT SUCH AS IS BEING USED IN CANADA. THE SMALL NEIGHBORHOOD MACHINE HAS MANY ADVANTAGES IN ITS FAVOR

There are more rats than human beings in the United States, and every rat is a food waster.







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KANSAS FARMER

THE FARM PAPER OF KANSAS

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FARMERS WILL BE FAIR

From an article which appeared in a leading daily paper of Kansas recently, we inferred that the writer was of the opinion that the farmers of the state were planning to store large quantities of wheat and hold it for big prices later. We are loath to believe that the farmers are so unpatriotic as to attempt to corner the wheat market and demand unfair prices. We believe when the time comes farmers will sell wheat for a reasonable price. If they are in a position to store the grain on their farms as it is threshed, it is the wise thing to do. This does not lessen the available supply of wheat and avoids rushing the whole crop to market at a time when the horses and tractors had better be at work preparing the ground for the next crop. It also does away with the congestion at the elevators and on the railroads to have the marketing distributed over the year.

If farmers have any ulterior motive in storing wheat for higher prices it is to prevent speculators from reaping a rich harvest from the ultimate consumer as they did with last year's crop. Most of this crop left the producer's hands at about a dollar a bushel. In a short period of time it was selling at three dollars a bushel. The producer knew there had been injustice to someone in this big price jump from what he got to what the consumer had to pay. They are not in a frame of mind to permit this sort of thing to occur again if they can prevent it by holding their wheat.

Now that it is assured that the Government is going to guarantee a price of not less than two dollars a bushel for next year's crop, the producer is safe, but he will expect the Government to protect the consumer at the other end of the line. It would be poor policy under present war conditions for the growers of wheat as a class to store the grain to such an extent as to make it impossible to fill our domestic requirements and send all we can spare to our allies across the sea. If there should be any checking of the movement of wheat as the consumptive demand develops due to the storage of large quantities on the farms, the next governmental step would be to fix a minimum price and if necessary take over the wheat at the price established.

With the speculator put out of the game, producers are not so unpatriotic nor so lacking in business sense as to attempt to do the very thing we have all deplored in the food speculator who gained such unjust profits from last year's production.

SELL THE POOR COWS

A good deal is being said of the dairyman who must sell his cows because he is losing money. Our big cities demand large quantities of milk and at present prices of feed they are not paying enough for the product. The milkman who is supplying this trade is in the position of the manufacturer who finds the cost of his raw material which he must buy in order to turn out his product has advanced in price so much more rapidly than the finished article that he is losing money each day he continues in the business.

The milkman who is supplying the whole milk trade is in a precarious condition and in some way must get a greater net return for his product or go out of business. It is probable that consumers will have to pay more for milk. Of course there are economies in feeding and in weeding out the boarder cows, in more economically distributing the product, and other things that may be done to lessen the expense.

There is a vast difference between this sort of dairying and that which is simply a part of the farming business. The farmer who uses good milk cows to manufacture into a finished product the rough feeds of his farm, many of which would have little or no value on the market, is not being seriously pinched by the present condition of high priced feeds. He does not have to buy alfalfa hay and other roughage at eighteen to twenty dollars a ton because his dairy business has been developed on the basis of the capacity of his farm to grow rough feeds for which there is not a ready market. With plenty of rough feed on hand, and good cows, he can afford to pay high prices for some of the concentrates such as bran, oil meal, or cottonseed meal. These feeds not only serve to balance the farm-grown feeds so as to make them more efficient, but bring fertilizing value to the farm. The addition of fertility makes possible the growing of larger feed crops, and the dairy business can grow as the capacity of the farm to produce feeds increases.

This is the sort of dairying that KANSAS FARMER aims to preach in season and out. It is the kind of dairying that hundreds of Kansas farmers would find profitable, because it enables them to turn into cash every year material that would otherwise go to waste. A comparatively small proportion of our farmers are in a position to handle city milk trade. Their position is precarious at the present time, but the use of dairy cows as an adjunct to general farming is stimulated rather than depressed by the conditions prevailing at the present time. For this kind of dairy farming we need more, not less, dairy cows and better dairy methods.

As a result of present conditions, many farm dairymen are being led to study their cows more closely as individuals and we have learned of numerous instances where a few of the inferior cows are going to market because of this study. This kind of dairy cow selling is to be commended and is one of the good results coming from a period of high priced feeds. Such selling of dairy cows is a decided benefit to the dairy industry.

CROP CONDITIONS

Wheat in Kansas is turning out better than the estimated yields of the State Board of Agriculture's correspondents published a month ago. Threshers' reports to date, as sent in by the Board's correspondents, indicate a total yield for the state of 45,245,000 bushels, or an average of 12.8 bushels to the acre. In several of the eastern and south-central counties the yield is from seven to ten bushels more to the acre than the correspondents had estimated in June. These increases, however, have been offset by losses in the northwest. Little threshing has been done in this territory, but the early reports indicate that yields will be decidedly less than was anticipated a month ago. The counties of Chase and Lyon are reporting average acre yields of thirty bushels.

As a result of high temperature, hot winds, and lack of moisture, the prospect for corn has suffered a decided setback since the Board's report for a month ago. As far as grain is concerned, much corn is now judged a failure even though abundant moisture should come from now on. This is particularly true of the large acreages of corn planted on land where winter wheat had killed out in the western two-thirds of the state. The best corn prospects are in the northeast counties, the percentage condition for Atchison and Doniphan being reported as eighty-seven.

Sorghums as usual have been hanging on, although making poor growth due to the lack of moisture.

"Education For Service"

EVERY training camp, every Red Cross unit, every section of the formative organizations for offensive or defensive action, is being strengthened by the men and women who have been trained for service in the colleges, universities, and normal schools which have been endowed and supported by the nation and the states. . . . . .

The sometimes overworked phrase, "Education for service," proves an epigram of benediction, for the men and women who have been taught that work is a duty, a privilege, a blessing, are found in every locality helping to prepare to win this war. It may be in the days to come that this war for democracy will be won by the men who can best produce food and the women who can best conserve it. . . . . .

The boys who are shocking wheat and stacking alfalfa are more uncomfortable today under the hundred and some-odd degree Kansas sun than the boys who are getting the last finish of their drill on the fields of France or wearing a marine's uniform in Honolulu or Panama. It augurs well for democracy that these sunburned, sweaty boys are being given their full measure of praise and that the world sees patriotism and devotion in every service that is faithfully performed. The maid of 1917 wastes but little time to "bind her warrior's sash." She is rolling bandages while she prays that the war may be over before her hero gets to the trenches. . . . . .

Do your whole duty. In addition to plans for food drives, Red Cross, or recruit camps, in addition to your economies and the Gospel of the Cleaned Plate, take a long look ahead. If this war lasts three years, or five years, if the worst comes and the ships going east with the young heroes salute the ships coming home with the silent ones, where shall we get our leaders for the fields of horror and the fields of wheat? Look about you and see that the good material is trained. Send a boy and a girl to a college, to a training camp for citizens—please God for peace, but for war if the price must be paid. A year at college may mean more to the nation if we can train a leader than anything else we can do. Let us every one try to help fill the ranks of the college classes for next fall with the best we have. The world will need leaders more than ever in the great reorganizations which must come after the "world is made safe for democracy." We must furnish trained men and women to rebuild the industries and the homes of Belgium and the other worn-out lands. Plan to send a student, for war if we must, for peace if we may.—ALBERT DICKENS, President Alumni Association, Kansas State Agricultural College.

START TO SAVE FEED

How to make the most of short feed crops is a problem confronting stock farmers over much of Kansas. In the sections where wheat was winter killed there are thousands of acres of corn where the crop is now sunburned and past redemption, from the standpoint of producing any grain. This growth of fodder, however, all represents feed value. It now seems that feed will be as scarce the coming winter as it was following the seasons of 1911 or 1913. Much stock was sacrificed in these years because the owners had no feed with which to carry them through the winter. Some, however, even following these short years managed to carry stock through with what seemed to be the poorest kind of feed. A Wallace County cattleman says it paid him well in 1913 to buy, harvest, and feed to his cattle the corn and other feed crops which his neighbors thought too poor to save. In one instance a field of corn was cut by hand and hauled five and one-half miles to a pit silo. At the Hays Experiment Station the fall of 1913 corn and kafir too short to handle with corn binders was cut for silage, four rows at a time, with wheat headers. The supply of silage and other feed stored by the station helped to winter its cattle in good shape, while other stockmen in the same locality were compelled to send their stock to market.

We recollect how the Hays station saved every spear of fodder that grew in 1911. The two silos of one hundred tons capacity each which were built that year were filled with kafir. Long before the kafir was ready to harvest, however, the corn on the station farm was firing and all hope was given up for any grain. Wheat binders were used in putting it into the shock and the crop was so poor that on one eighty-acre field there was only about one big shock to the acre. It paid big, however, to save all this feed, even though it did require traveling over large acreages. Not an animal was sacrificed from the station herd, while all through that country cows and young heifers were sent to market because no effort had been made to save all the feed produced.

Now the station has six silos. At no time of the year is the supply of silage totally exhausted. This year as soon as these silos are filled all the fodder left will be cut and shocked or stacked. This dry feed is especially useful in feeding the work horses and mules.

In fields where there is still hope for some grain to mature the crop will be left, for seed of adapted varieties of corn and grain sorghums will be scarce next spring.

These corn fields which have been well cultivated are in excellent shape for wheat and it is planned to sow wheat this fall on these fields from which the corn fodder has been removed with very little additional seed bed preparation.

Do not wait for a feed crop to dry up and blow away, but begin at once to harvest and store it so it can be used in the most efficient manner possible for wintering stock. The ideal method is to put it into a silo, but if this cannot be done, harvest the crop and store it in the form of dry fodder.

The farmers of Kansas should not try to plant the Burbank wheat this fall, says Prof. L. E. Call. This new variety of wheat, which has been featured in a number of news articles, may be well adapted to California conditions and may produce the crop that it is supposed to, but may not be adapted to Kansas conditions. Kansas farmers should plant this season strains of wheat that they know are adapted to Kansas conditions. A good crop is needed next year for food too much to justify experimenting with a new strain. The experiment stations will try out the Burbank wheat and will be able to say whether or not it is adapted to Kansas conditions.

WESTERN KANSAS BUILDS SILOS

Motor Truck Carries Silo Models and Equipment in Silo-Building Campaign

NOWHERE in Kansas can a silo be made more valuable than in the western part of the state. Live stock production is the most dependable type of farming to follow, but in the dry farming areas the silo is a most necessary part of the live stock farmer's equipment. Many silos will be built in the western half of Kansas this summer.

A silo demonstration tour co-operatively conducted by the extension division of the Agricultural College and the Fort Hays Experiment Station started west from Hays on Tuesday, July 10, for a six weeks' campaign. Three to four meetings are being held daily. The schedule includes stops in the following counties in the order given: Ellis, Trego, Gove, Logan, Wallace, Sherman, Thomas, Sheridan, Graham, Rooks, Osborne, Russell, Barton, Pawnee, Rush, Ness, Lane, Scott, Wichita, and Greeley. This campaign is unique because of the fact that the demonstration materials are carried across the country on a gasoline truck from which all demonstrations are given.

Those in charge of the silo truck report that at every meeting they find from two to a dozen men who are ready to begin work on their silos. Interested crowds are meeting the truck at all points visited, and the audiences at the schoolhouse meetings comprise the farmers for miles around. The attendance at one meeting which was held in a schoolhouse twenty miles from a railroad was 247, some of the people coming a distance of thirty miles.

Pit and concrete silos are being given special attention. Forms for making concrete silos are carried, as well as devices for showing the construction of pit silos and apparatus for hoisting the silage from these underground pits. Another silo shown is the emergency type silo of 100 tons capacity which can be built at a cost of about $100, including all labor and material. Flooring and wooden hoops are used for this type, the flooring being nailed to the hoops on the inside. Such a silo can be put up in about two days. A model showing the construction of the tile block silo is also carried. Complete information about the different silo types is given by those accompanying the truck, and also full instructions for the building of the different types.

Most of the meetings are held at inland points that are community centers—in schoolhouses and at cross roads—while some are at farm houses. A meeting is held every week-day night, a stereoptieon and a good supply of lantern slides being carried for this purpose. In one instance a farm meeting was held Sunday evening by request. Several reels of educational moving pictures are provided for use where this is made possible by the managers of local moving picture concerns.

A camping outfit is carried as a time-saver. A few wooden horses and boards are included in the equipment, so that an audience can be seated out in the open when this is more convenient or more comfortable.

Those accompanying the truck in addition to the driver are: W. A. Boys, district agricultural agent for West Central Kansas; C. R. Weeks, superintendent of the Fort Hays Experiment Station, and A. S. Neale, dairyman of the extension division of the Agricultural College. A Ford car carries the three men. This is sent ahead every few days with information concerning future meetings.

The one and one-half ton Republic truck used is furnished by the H. A. Dougherty Motor Company of Kansas City, Missouri, and a Delco lighting system with a capacity of twenty to thirty lamps has been loaned by Axtell & Long, of Wichita, for use during the trip.

As originally planned, the tour was to have ended August 9, but owing to the interest shown in the silo campaign and the requests for meetings, arrangements have been made to extend the time until August 21. The schedule for the part of the trip still to be covered follows:

Saturday, August 4 (central time)—10 a. m., Luray; 1 p. m., Waldo; 4 p. m., Paradise; 8 p. m., Natoma.

Monday, August 6—9 a. m., Gorham; 11 a. m., Fairport; 3 p. m., Russell; 8 p. m., Bunker Hill.

Tuesday, August 7—10 a. m., Success; 3 p. m., Hawley; 8 p. m., Milberger.

Wednesday, August 8—10 a. m., Stickney; 2 p. m., Hoisington; 8 p. m., Pawnee Rock.

Thursday, August 9—10 a. m., Larned; 2 p. m., Rozel; 8 p. m., Burdette.

Friday, August 10—10 a. m., Francis; 2 p. m., Alexander; 8 p. m., Timken.

Saturday, August 11—10 a. m., La Crosse; 2 p. m., Liebenthal; 8 p. m., McCracken.

Monday, August 13 (mountain time)—10 a. m., Brownell; 2 p. m., Ransom; 8 p. m., Utica.

Tuesday, August 14—10 a. m., Ness City; 2 p. m., Nonchalanta; 8 p. m., Ransom.

Wednesday, August 15—10 a. m., Division; 2 p. m., Dighton; 8 p. m., Pendennis.

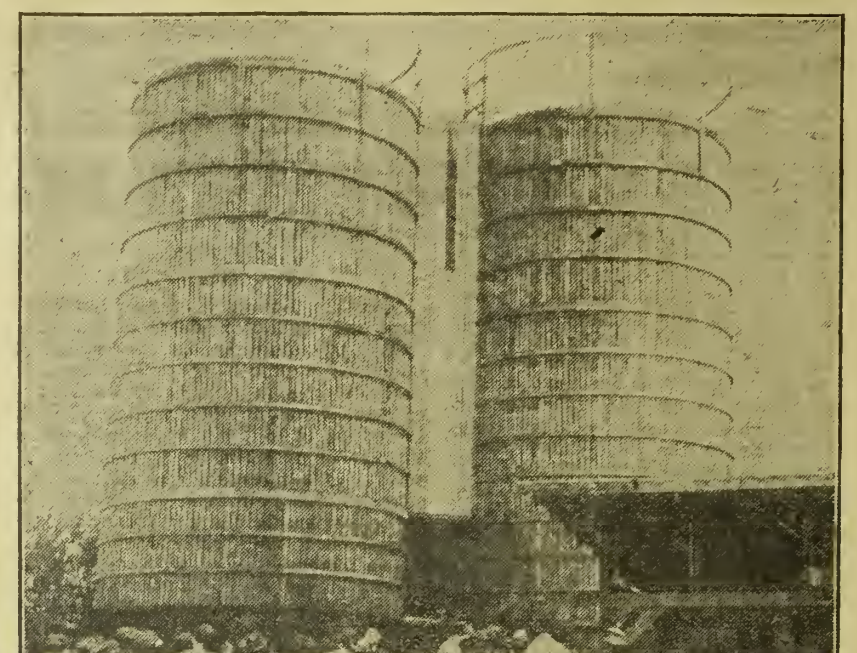
Thursday, August 16—10 a. m., Shields; 2 p. m., Healy; 8 p. m., Manning.

Friday, August 17—10 a. m., Grigston; 2 p. m., Scott City; 4 p. m., Shallow Water; 8 p. m., Friend.

Saturday, August 18—10 a. m., Modoc; 2 p. m., Pence; 8 p. m., Christy.

Monday, August 20—10 a. m., Sunnyside; 2 p. m., Leoti; 8 p. m., Selkirk.

Tuesday, August 21—10 a. m., Tribune; 2 p. m., Keyser; 8 p. m., Sidney.



WOODEN-HOOP SILO 14 x 30 FEET ON FARM OF FRED STAADT, MIAMI COUNTY.—COST OF MATERIAL, $100

Conserving Leaders

THE American public is deluged with all sorts of advice as to the conservation of food and other necessities in war time. A word is needed about the conservation of young men. Not simply seeing to it that those who go into the camps have safeguards about their lives to keep them fit, but making provisions towards the supply of those who are kept out of the trenches and the actual warfare in order to make leaders for the reconstruction of society after the war is over.

The writer had received an invitation from a large state university to give the Commencement address this last June to the graduating class. A few days before the date set for the graduation exercises he had a letter from the president of the institution saying that the entire class had enlisted, and there wouldn't be any Commencement. In the excitement of the war, this school seemed to think the only patriotism that could be counted was the kind that sent all its educated material to the front.

But if that policy is pursued by all our educational institutions, it will be disastrous to future leadership. The colleges and universities should be recruited even more largely than in times of peace. The present emphasis on the war should not make us lose our sense of proportion. We must plan, not only for immediate hostilities but for the conditions that will confront the nation and the world after the physical fighting is a thing of the past.

It is a fact not generally known that war time has always been a time of abnormal activity in many ways. This country established over twenty colleges during our Civil War and they are all alive and flourishing today. The Germans have within the last two years founded a new university at Frankfort on the Main. They are doing it with a definite purpose to provide leaders for a reconstruction period that is bound to follow the cessation of hostilities, no matter how the war ends. It will be a wise policy if fathers and mothers use their influence with the boys and girls in their families to persuade them to continue their education. The colleges of the land ought not to close up or even be compelled to curtail their regular work. We shall need all the educated material we can make in the next ten years in order to meet the great demands that will be put upon us. We cannot afford to neglect the power house and put all our energy into the rolling stock. The rolling stock will not be worth much if the power house is left to take care of itself, or even through short-sighted policy allowed to fall into decay. Let us conserve our future leaders.

Charles M. Sheldon

Silos Save Grain

In feeding dairy cows we are up against the condition of almost prohibitive grain prices. The grain ration can be much cut down without reducing the milk production, provided we feed more silage and legume hay. Less grain will be available for feeding to cattle, for much more than usual is needed now for human food, and the emergency demands that every effort be made for its conservation. Milk production must be maintained—hence, every effort should be made to substitute other feeds for grain in the dairy ration. To do that the silo will help.

Fruits and green vegetables are canned so as to supply succulent and palatable foods for the family during the winter. Succulence is just as essential to the cow as to a human being. The abundant milk flow obtained from the June pasture, to a large extent, is due to the succulence of the grass. Silage provides succulent feed during winter when pasture is not available. With silage in the ration, dairy cattle can be kept in the condition of health common to animals on pasture. The digestive system of a cow is well suited for the utilization of large quantities of green grasses and other coarse, succulent material. Silage is palatable and no other feed will combine so well with dry hay and a little grain to produce maximum economical results.

"Siloing" is an excellent way of preserving the mature corn crop or of saving one which for any reason must be harvested before maturity. About forty per cent of the total food material in the corn plant is in the stalks and leaves. When only the ears are harvested, we lose nearly one-half of the crop; on the other hand, when the crop is put into the silo the losses are very small. When drought, frost, or insects attack a field of corn before it is ripe, the entire crop may be lost unless the farmer has a silo ready in which to preserve it.

No feed crops can be so successfully harvested under widely varying conditions as those that are put into the silo. Only in case of drought or frost is it necessary to rush the filling of the silo; rain or dew on the forage does not injure the silage.

The silo at all times, and particularly now, offers one of the best means of reducing feed bills. The present great national emergency places these questions before every farmer who keeps cattle: Have you a silo? If you have not, your herd is not most economically fed; why not build a silo and fill it before frost comes? If you have one, is it big enough to supply all the silage your cattle can eat before the next crop is harvested? If not, build another. You can buy one ready to erect, or you can build it yourself. Home-made silos of concrete or wood can be erected with little trouble.

Call on the extension department of our agricultural college for advice and suggestions or write to the Dairy Division, United States Department of Agriculture, for bills of material, with full specifications for silos of different capacities.

The animal husbandry department of the Nebraska Agricultural College has made arrangements to assist farmers in selecting breeding ewes this fall. It is pointed out that many farmers could handle a band of ewes to a good advantage, thus increasing their cash receipts at a small outlay.

THRIFT A NECESSITY

Means Prudent Spending and Wise Saving of Money and Elimination of Waste

By S. W. Straus, President American Society of Thrift, Before the National Education Association

THRIFT is a patriotic necessity. The first message delivered direct to the nation by President Wilson after the declaration of war with Germany was on the subject of thrift. So rapidly are events of epochal importance being enacted today that possibly the full significance of this fact was lost sight of by most of our citizens. But to my mind it would seem to indicate that the chief executive of the United States, with the accurate perspective of his lofty position, saw thrift alike as the first duty and the first patriotic opportunity of the citizens of this country in the face of the great national crisis.

In the present instance the whole world virtually is in a state of upheaval. We are fighting in the darkness that precedes the dawn of universal democracy. Autocracy and militarism will have vanished from the earth when peace comes again. Not only the rights but the responsibilities of the individual will hold larger sway.

WASTE HAS NO RIGHT TO EXIST

We will have learned, first of all, that waste has no right to exist anywhere under any circumstances. Today the man who becomes intoxicated is held in aversion by his fellow citizens, and tomorrow the man who is not thrifty will be a social outcast, for we shall understand then what we are just beginning to learn today, that the spendthrift is a public menace. A man cannot waste his own substance alone. Destruction cannot be confined to the individual who commits it. Cast a pebble in the water and the ripples will describe a wide circle. In like manner, waste of any sort describes a vast circle of harmful influence.

Let me call attention to the point at this time that thrift means in a general way simply the elimination of waste. We have had examples recently in this country of the baneful influence of misguided thrift. Because we, as a nation, failed to understand the full meaning of the word, we rushed into practices of false economy when war was declared in such manner that, had they continued, they would have brought about industrial disorganization and personal hardship. We failed to differentiate between constructive and destructive thrift. We concluded that it meant tight-fistedness, and as a result we began to deflect from their normal courses the tides of the nation's money that turned the wheels of industry. While attempting to build up on one hand, we were tearing down on the other.

We must understand that we cannot practice thrift merely by ceasing to spend money. The greater thrift consists not only in the prudent spending and wise saving of money, but in the intelligent regulation of our lives, and, above all things else, the elimination of waste.

I am happy to state that our committee, appointed ten years ago to study the advisability of teaching thrift in our public schools, has, since its organization, evinced a thorough understanding of thrift in its broadest interpretation, and no one can accuse us of attempting to establish in this country those practices of hysterical economy which would, if widely followed, slow down the legitimate business of the nation. We have taught since our organization that thrift means sane judgment in the spending of money, time and energy; we have taught that mere indiscriminate tight-fistedness is as far removed from real thrift as is ruthless extravagance.

THRIFT IS INDIVIDUAL PREPAREDNESS

We have taught also that thrift gives us the power to practice self-denial—that quality of heart and mind which is so much needed in these distressing war times. Had we as a nation learned the true meaning of thrift years ago, and had our children been taught it in our schools, we would be better prepared to face the conditions that are confronting us today. For thrift begets strength of character—the ability to withstand stress and turmoil, even to the physical hardships of a soldier's life.

But, though these things have been neglected in the past, it is for us to begin to preach their beneficent influences today. We must teach the nation that individual fortitude and self-reliance must have thrifty practices as their foundation.

In times of peace we have taught also that a man who can surround himself with the finer things of life is not thriftless, provided, of course, that he can well afford these things and that he is otherwise doing his full duty to society. We have taught that these practices were necessary to the development and encouragement of the fine arts. But in times of war we must all know the value and necessity of self-denial. We must not gauge our expenditures by the same standard that exists in times of peace. The rights and wishes of the individual must be surrendered to the greater needs of the nation, and it is only through a cultivation of thrift that we can bring ourselves to these sacrifices for the common good.

WE CANNOT PRACTICE THRIFT merely by ceasing to spend money.

THRIFT MEANS in a general way the elimination of waste.

A MAN WHO IS NOT THRIFTY will become a social outcast.

THE NATION OF TODAY is learning the economic necessity of thrift, but the nation of tomorrow must know the educational necessity for thrift.

A DEMOCRATIC PEOPLE can succeed only when thrift is the mainspring of their actions and the foundation of their existence.

THRIFT MEANS the sane administration of one's personal affairs to the end that there shall be the least amount of waste, the least amount of lost motion and the greatest possible good to one's self and the nation.

Thrift means the sane administration of one's personal affairs to the end that there shall be the least amount of waste, the least amount of lost motion, and the greatest possible good to one's self and the nation. Thrift is the foundation of individual preparedness, and let me say that the present war shows what a vital part individual preparedness plays in the destiny of a nation when a great crisis is presented. Individual preparedness schools one to the hardships which come alike to those who fight at the front or who suffer at home. It is through thrift that the individual develops nerve, stamina, courage and character, and these are the qualities we need most of all in times of war.

It is only through thrift that we are enabled to maintain that equilibrium so necessary to individual and national success in times alike of war or of peace.

We must bear in mind always that thrift is a virtue that must be studied if its manifest qualities are to be of value either to the individual or the nation. These are the reasons why, I say, an application of thrift must be included in our school curriculum. The nation of today is learning the economic necessity of thrift, but the nation of tomorrow must know the educational necessity of this virtue.

Current events make our duty today so plain that posterity will hold us in safeguard the America of tomorrow. We must see to it that our children are given a fundamental understanding of thrift, that they may go forth into the world and practice it understandingly to the benefit of themselves, their fellow citizens and the nation.

This is a responsibility that rests upon us today. Our committee has made considerable progress in two years. But now, the war has come upon us as a tremendous object lesson. We are seeing our theories of other days tested today. Thrift has indeed become a patriotic necessity. There is but one pathway for us to follow. The schoolroom is the vestibule of the great tomorrow. It is the only point of contact between the present and the future. It is only through this channel that we can make our influence felt for posterity. Therefore, our duty is clear—to place thrift teachings in the schools on the grounds of pure patriotism. Those of our boys who have donned the khaki, or have taken service in the navy, or enlisted in the aviation corps, have responded definitely and valiantly to the call of duty, but patriotism does not exact her toll from the soldier alone. She imposes duties on each of us, and I say to you here today that the man, though he be not a soldier, has duties to perform that are as imperative as those imposed upon the man at the front or in the training camp, and I say also that he who remains in civil life and falls short of the duty that patriotism places upon him is no less reprehensible than the soldier who flinches when the hour of battle comes.

It is our duty to see that the nation no longer proceeds in ignorance of the true meaning of thrift. Thrift must be taught in the schools. It is your duty and my duty to see that this is done—and it is your duty and my duty to contribute this much to our nation in this crisis.

What I am saying to you tonight in urging that this step be taken is but a reiteration of statements I have previously made before this committee.

At the meeting of the Congress for Thrift held in San Francisco at the Panama-Pacific Exposition in August, 1915, I pointed out the fact that while we had not at that time been drawn into the European cataclysm, still we would not be able to escape its effects, as war meant, above all things else, that Americans must turn to habits of thrift if they would save the future of the nation; that all mankind must share in this carnival of colossal waste that was raging across the seas and that you could not wipe out billions of dollars, annihilate millions of men and pauperize countless thousands of widows and children, without incurring a debt that all humanity must pay.

Then again at the mindwinter meeting of your Association held in Detroit in February, 1916, I urged the value of individual preparedness. I tried to point out what I felt was our urgent duty—that the individual must be better equipped for whatever circumstances might arise in the country. I called attention to the fact that in the process of evolution now going on there was a constantly increasing demand for individual efficiency. I said at that time, and I wish to emphasize it tonight, that the foundation of individual efficiency is thrift, and thrift can only be brought about in a great way through the medium of the schoolroom.

And at the New York meeting, held in July, 1916, I pointed out the need of a better understanding of the "Greater Thrift"—that saving money is only one of the foundation stones in the building of a thrifty character; that true thrift consists in the judicious use of all our mental, material and physical resources.

The events of the present day emphasize as never before that the most urgent needs of our nation today are a more thorough appreciation of individual preparedness and a deeper understanding of the principles of the greater thrift.

Let us therefore not fall short of the spirit of our republic. We are fighting today to make the world safe for democracy. We are coming into a new order of things, and in this new order the rights, the responsibilities and the opportunities of the individual will be greater than ever before. Let us arise to the situation—let us be true patriots, teaching our nation that while mankind can progress only through the processes of democracy, a democratic people can succeed only when Thrift is the mainspring of their actions and the foundation of their existence.

No Slackers in Education

ORDINARILY you plan your course of action on the basis of advantage to yourself. Now you must plan it on the basis of service to your country.

Not more than five per cent of our people will be called to arms. But we are all in this war. Each must do his part, and it must be that part which he can best do. Some must fight. Some must produce. Some must prevent waste. Some must conserve health. Some must get ready to reconstruct the world when the war is over. One service is just as patriotic and important as the other.

The greatest calamity that could befall our country would be for our high schools and colleges to cease preparing men and women to bear the country's largest responsibilities.

For every student called to the front, another should come forward to take his place. Keep cool! Think it all through. Find what service you can best render to your country. Then act! — H. J. WATERS, President Kansas State Agricultural College.

The International Soil Products Exposition which is to be held in connection with the annual Peoria District Fair and Implement Show this year, beginning September 18 and closing the night of September 29, will not be all educational, although there will be more to learn there than anyone could absorb in six months. Along with the various phases of farming that will be featured there will be a lot of fun, too. Everyone has heard of the famous lady aviatrix, Ruth Law. Her name is as well known as that of Lincoln Beachey or DeLloyd Thompson. She is the lady who made the famous flight from St. Louis to Chicago, scattering Liberty Bond literature wherever she flew. Miss Law will be at Peoria during the coming event in September and will fly her own machine five different days. This is an event that everyone will want to see. She flies as well as any man ever did and does some tricks of her own that make most of the aviators take off their hats to her.



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Kansas Farmer Dairy Club

New Member Gets Tried Cow

CLAUDE CARTER, of Jefferson County, who has purchased Bonnie Bell, the Holstein cow used by Glen Romig in the contest last year, writes: "I have bought my cow and she seems to be contented among our cows. She will be fresh in September and that will give me time to feed her well so as to get a good start."

Claude spent considerable time in looking for a good cow to use in his work as a member of the Kansas Farmer Dairy Club. He has done well in buying this cow which Glen Romig is selling in order that he may get a registered cow himself. This transaction serves to illustrate one of the lessons that should be drawn from all record work with dairy cows.

When Glen Romig bought Bonnie Bell, he knew absolutely nothing as to her actual capacity for milk production. She was purchased in Wisconsin and of course it was known that she came from a high producing herd, and a good judge of dairy cattle would have selected her as a cow having the essential points of a producer. Now that Glen has kept an accurate record of her production for a year, the boy to whom he sells her does not have to depend solely on outward appearances. He can be shown the actual record of her production. In few instances is it possible to buy cows having actual production records that can be inspected before the purchase is made.

We wonder if dairymen generally realize the value of having such records when they wish to sell surplus stock from their herds. Production records of the cows of a herd are most valuable assets to the business. The purchaser is always willing to pay a better price for a cow or even the offspring of a cow whose actual production record they can see.

We presume Glem Romig got more for his cow than he paid, because when he bought her over a year ago she was an untried and an unknown cow in so far as actual production was concerned. He sells her as a cow of known production capacity. We call this point to the attention of our Dairy Club members because it is one of the important lessons for them to learn. If any of them continue in the dairy business, we hope they will take this lesson with them and will never forget that having production records on the cows of their herds not only helps them to weed out the "boarder" cows, but enables them to secure much better prices for any surplus they may have for sale.

Fill Test Bottles Full

If you do not fill your sample bottle full, the milk will churn and make it very difficult to obtain an accurate test. A sample was mailed to KANSAS FARMER last week by mistake and we saw that a little chunk of butter was floating in the milk. The bottle lacked almost an inch of being filled to the cork. In order to test a sample and get its correct percentage of butterfat, the globules, or little particles of fat, must be uniformly distributed through the milk as they are when it is first drawn. Watch this point. We have called your attention to it before but apparently it is not being carefully observed. When you take the sample from the night milking, fill the bottle so there is just barely room to put in the cork, which must be tight enough so it will not work loose. You must not attempt to send samples without using the preservative. Sour milk cannot be tested accurately. But half of one of the preservative tablets in the bottle before you pour in the sample from the morning's milk. Don't send milk samples to KANSAS FARMER. We have no means of testing samples at our office. We have made arrangements to have the testing done by the Dairy Department of the Agricultural College at Manhattan. Address your sample to Prof. O. E. Reed, Kansas State Agricultural College, Manhattan, Kansas, and be sure your own name and address and the words, "Member Kansas Farmer Dairy Club," are also on the package.

Two Boys Buy Better Cows

I have located a cow, a Holstein, for $150. She has a heifer calf dropped the Fourth of July. The calf goes with the cow. She is a grade cow. Ben Zoll bought one at the same place and we are going into partnership to hire an auto truck to get our cows up here.

We bought our cows from Mr. Browning, Linwood, Kansas. I will be ready to start in the contest Tuesday, July 17. —PAUL STUDDARD, Leavenworth County.

These two boys have done what grown-up dairymen will do when they find from actual records that they are milking unprofitable cows. Both of these boys have done fine work in the Dairy Club, but they learned from their records that the cows they were milking were not as high in production capacity as they had hoped. Both of them have made good profits, but the boys were ambitious to do better and were not satisfied to put their best efforts into feeding and milking just ordinary cows. They wanted something above the ordinary, therefore they went to the herd of a well known dairyman and bought better cows, or at least we hope they are better cows. If they are not, the boys will find out before the year is up, for the cow that is not paying a good return for the feed she consumes does not have much chance to get by the scales and Babcock test when these appliances are used as faithfully as they are by members of the Dairy Club.

Another Cow Pays Out

My cow is not doing nearly so well as she did. It is too hot and the flies are too bad. She is giving only about twelve pounds of milk a day. At the end of June I had her paid for and nine cents over.

My year's record ended June 7, and as I had no blanks left I put the milk for these seven days on a sheet of paper. I have used my May test sheet for the milk in June.

I like my separator pretty well since they sent me the new parts. It sure runs pretty now.—HAROLD BENTZ, Marion County.

All the Dairy Club members are learning that it is hard to keep milk cows doing well during the hot summer months. This is one of several good reasons why it is better to have milk cows freshen in the fall. You can then have them dry during the most trying months of the year. It has been found that the fall freshening cow will give more milk in a year than the one freshening in the spring or summer, if she is well fed during the winter.



EVERETT ZIRKLE AND HIS COW, DAISY

The Cow Knows—but SHE can't talk. Ask the Dealer.

NO MORE FLIES

Banish the fly evil from your cattle and horse stables. Let the animals live and work in comfort. Remove their greatest summer dread. Use



SO-BOS-SO KILFLY

Spray your animals with this fly preventive twice a day during the fly season and they will not be bothered with flies. They will work and milk better because their energy will not be wasted on the pesky flies.

SO-BOS-SO KILFLY is a perfectly harmless liquid which absolutely keeps the flies away. It will not gum the hair nor harm the hide. Has been used by thousands of farmers and dairymen for 17 years.

Ask your dealer for a gallon can. Also ask for circular describing other farm uses for SO-BOS-SO KILFLY. We will send you a copy of a letter which one nationally known dairy breeder sent us.

The H. E. Allen Mfg. Co., Inc.
Carthage, N.Y., U.S.A.



MALT drink, 8c gallon. Mix your own from our extract, $3.50 bottle. WALLENS, 5328 Maryland Ave., Chicago.

Real Estate For Sale

WOULD YOU BUY land at $20 to $40 per acre where wheat made 20 bushels per acre, oats 50, and where corn will average 35 bushels per acre this year? If so, write SOUTHERN REALTY CO., McAlester, Okla.

If you happen to have a cow that freshens in the spring or summer, you should do the best you can to keep her up in her milk during the summer period. After they have once gone down in milk it is hard to get them back to their best.

Harold won a Sharples milk separator in the market milk contest at Manhattan last winter. The sample of milk he sent in scored the highest of any in the competition, which was open to anyone in the state.

Valuable Experience

I am writing you in regard to my May and June records, which I have not yet sent in. I have been away from home for some time and have been unable to attend to them.

I think my Dairy Club cow is a jewel. If she had an equal chance with other record cows—the same care, etc.—I think that she surely would carry off the ribbon. She freshened at about twenty months of age and in very poor condition and has been giving for more than a year nearly two gallons of milk a day.

I didn't breed the heifer for about nine months after freshening, so she would have a good chance to grow. She is really producing as much butterfat this summer as last, or more. One thing I do not understand, and that is why the test should vary so much from month to month. I have always been told that feed does not affect the butterfat test of a cow, yet it seems to have greatly affected it in this case.

I believe I have gained a great deal in studying my cow through the Dairy Club. As I am now over eighteen years of age, I will not carry on the club work another year. I have a younger sister who may buy my cow and enroll in the club this year if the cow freshens before October 1.

I will as soon as possible send in the records. I thank you for your interest. —JOHN W. HUTCHINS, Saline County.

Perhaps others of the Dairy Club members do not understand the variations in the butterfat test. We will tell all about it in the Dairy Club Department in an early issue.

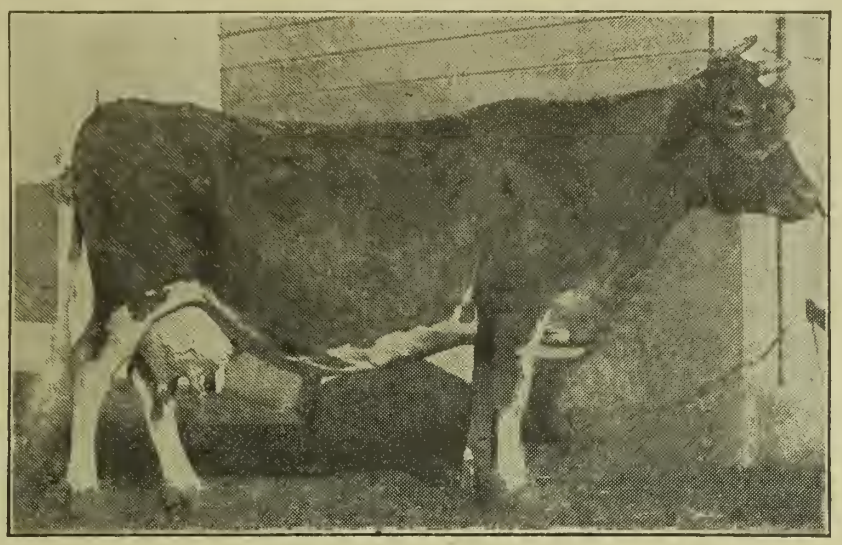
Feed live stock as little human food as possible.



SUPPLEMENTING PASTURE

THE hot summer season is a critical time to the dairyman. At no time of the year is milk produced so cheaply as during the period in the spring and early summer when the pastures are at their best. This period, however, is quickly followed by the dry and brown pastures of July and August accompanied by extreme heat and hordes of flies. This period constitutes a serious gap between the favorable pasture season and the time of winter feeding.

If you have cows of persistent milking type, it will pay well to make a special effort to keep them working through this critical period. They have capacity for turning a lot of feed into milk, but if they cannot get palatable feed easily and in comfort they will not milk as they should. We were recently visiting a Shawnee County dairyman who cuts green alfalfa for his cows all through the summer season. We happened to be in the yard just as a load of feed was being thrown into the rack. There was no grand rush for the feed, as might be expected, only a leisurely moving of the cows in that direction, some of the herd paying no attention to the fresh supply. One of the men with us turned to the owner and said, "Those cows are not hungry." The reply was, "I never let my cows get downright hungry. I plan to keep them full all the time. It is the only way I can keep them producing milk to their fullest capacity." If you have cows with the capacity for a large milk flow, this is the secret of profitable feeding. If you have a patch of corn or other green feed convenient to the barn lot, do not hesitate to give it to good milk cows. You cannot expect them to do much for you during the heated summer period if you compel them to get all the material for milk from a dried-up summer pasture.



BELLADIA, A CALIFORNIA GUERNSEY WITH A RECORD OF 19,631.9 POUNDS OF MILK AND 934.05 POUNDS OF BUTTER FAT IN ONE YEAR

Another 900-Pound Record

Belladia 31909, owned by Walter H. Dupee, Edgemoor Farm, Santee, California, has completed a record of 19,631.9 pounds of milk and 934.05 pounds of butter fat in one year. This performance entitles her to seventh place in the aged cow group of the class leaders in the production of butter fat, and fifth place in the production of milk. She takes first place in the State of California, exceeding the previous high record by 180 pounds of fat. She is also the highest producer west of the Mississippi.

The production of milk and butter fat by this cow, month by month, is very uniform. Only three times did she exceed the requirements for a retest. She received, however, four retests, three by California testers and one by Prof. W. M. Regan, of the Nevada Agricultural Experiment Station. In all of them she gave satisfactory results.

She had four different milkers during her test, among them Arthur Klussendorf, and Guy Harmon, who has made a number of large records with cows at Langwater Farms in Massachusetts.

Belladia 31909 was bred by Robert P. Staats, of Massachusetts, and sold to J. L. Hope, of Florham Farms, New Jersey. Mr. Dupee bought her of Florham Farms in 1914.

She has a record as a three-and-a-half-year-old of 13,762.9 pounds of milk and 669.86 pounds of butter fat made at Florham Farms.

Southwestern Show Called Off

The executive committee of the Southwestern Dairy Show, which was to have been held in Kansas City September 17 to 22, has issued the following statement:

"We have been postponing definite action with reference to the holding of the Southwestern Dairy Show in September, 1917, owing to the fact that we have been unable to obtain suitable accommodations. We have, therefore, decided, much to our regret, that it will be best to call our 1917 show off.

"We wish to say, however, that the largest dairy show that has ever been held in the Southwest will be in Kansas City in September, 1918.

"This statement is made for the reason that plans are now under way for the erection of permanent buildings in which to house the Southwestern Dairy Show, as well as other exhibitions of live stock and machinery."

Home-Made Fly Repellants

Spray mixtures may add to the comfort of a cow by keeping off numerous flies. Several of these compounds may be mixed at home.

A mixture recommended for this purpose is made from 100 parts of fish oil, fifty parts of oil of tar, and one part of crude carbolic acid. Another formula is one-half gallon of oil of tar, one-half gallon of cottonseed oil, and one-half pint of crude carbolic acid. Such mixtures sprayed on cattle keep off flies for a time.

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"If my engines were sold in any other way than direct-to-you from my factory, they would cost you 20% to 30% more." Wm. Galloway.

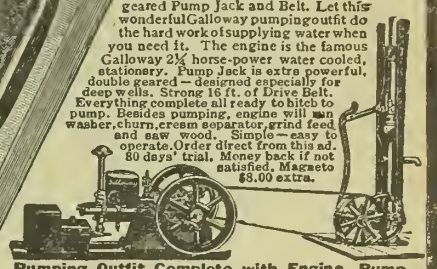
They Will Make You Big Money!

Let a Galloway Engine do your hard work. It works without pay any hour of the day. The only feed it needs is a little fuel and oil. It will make you money because it saves it for you. I make engines for any farm work, from the small stationary 1¾ horse power to run your separator and pump your water, to the great, big 16 horse power, horse-drawn portable engine for filling your silo or running you thresher.



Complete PUMPING OUTFIT $49.95

Complete with Engine, double geared Pump Jack and Belt. Let this wonderful Galloway pumping outfit do the hard work of supplying water when you need it. The engine is the famous Galloway 2¼ horse-power water cooled, stationary. Pump Jack is extra powerful, double geared—designed especially for deep wells. Strong 16 ft. of Drive Belt. Everything complete all ready to hitch to pump. Besides pumping, engine will run washer, churn, cream separator, grind feed and saw wood. Simple—easy to operate. Order direct from this ad. 60 days' trial. Money back if not satisfied. Magneto $8.00 extra.



Pumping Outfit Complete with Engine, Pump Jack and Belt.

Before You Buy—Your Engine Consult Me!

Engine buying is a big, important step. If you are not posted, you may not get the best engine for your work. You might not get full value for your money—or you might pay to much or too little. So, I say: Consult me before you buy any engine. Hear what I have to tell you about engines. I will give you facts and figures about engine making and engine selling that will open your eyes. I will give you some startling information on engine prices that will put you right on the engine question and show you how to make every dollar of your engine money count.

GET THIS FREE BOOK NOW

IT TELLS EVERYTHING YOU WANT TO KNOW ABOUT ENGINES

My big free book goes right to the bottom of the engine problem. It covers everything about engines from A to Z. It explains engines so you can understand them and know what horse power, bore and stroke mean. In this book you will find some remarkable engine truths—conditions in the engine business just as they exist today.

This big free book of mine is a real guide to engine buying. It points out the big, important things about engines, so you cannot possibly go wrong. It tells the facts about light weight engines, heavy weight engines, about four cycle engines and two cycle engines, about high speed engines, and engines built to sell for a price.

You will also find in this remarkable engine book the whole story of Galloway Engines—how I design them and build them complete in my immense factories in Waterloo—and how I sell them direct to you on my famous **factory-to-farm money-saving** plan. Don't think of investing in any engine until you read this wonderful Galloway Engine Book. **Send for it today—sure!**

MY PATRIOTIC PRICES KEEP ENGINE COSTS DOWN

At the time when labor is scarce and an engine fills an important place on the farm—when the fate of the war and of the nations rests upon you farmers—I come to you with aid by my daring offer of Patriotic Prices. Here and now is the time and place to get your much needed engine and get it quick. Never before have you had such a need for Galloway Power and never again will you be offered such rock bottom engine prices. Prices of materials are climbing up fast—but if you act—at once—I can save you a third—yes, almost a half—on the best engine ever built.

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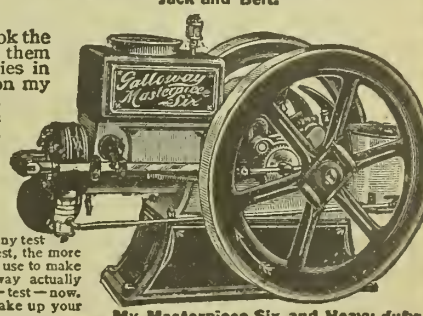
Yes, sir, I guarantee you the greatest saving you ever got. This means the biggest and best engine value. You can give it any test and comparison you want. The more severe you make the test, the more easily you will be convinced. The higher priced engine you use to make the comparison, the more firmly will you realize that Galloway actually does offer the greatest engine bargain in the world. Compare—test—now. That's all I ask. That's what I want you to do before you make up your mind to buy.



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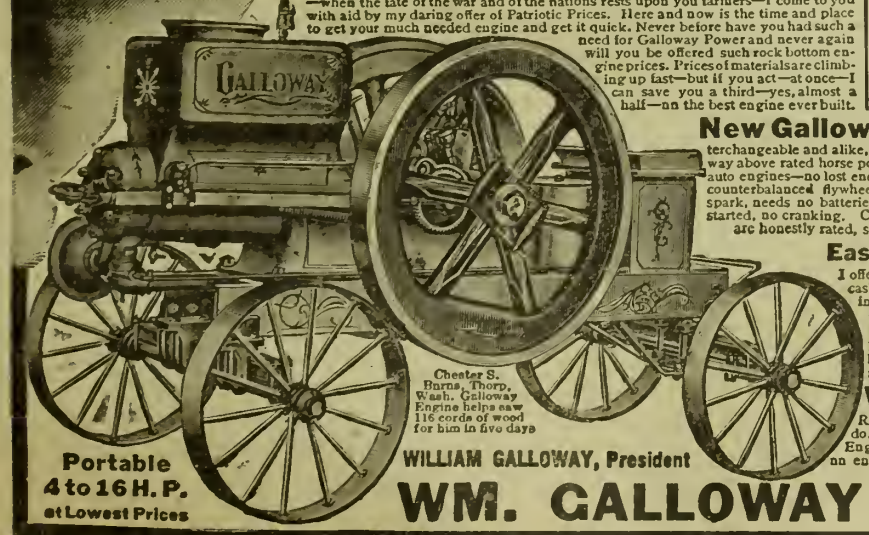
Superior material, skilled workmanship, every part standardized, interchangeable and alike, make it the peer of all engines on the market. Develops way above rated horse power. Big bore, long stroke, valves-in-head like fine auto engines—no lost energy. Uses any fuel and saves fuel cost. Large, heavy, counterbalanced flywheels; Webster oscillating magneto supplies blue, hot spark, needs no batteries. Make and break ignition, never misses fire, easily started, no cranking. Cylinder and water pot frost proof. Galloway engines are honestly rated, scientifically, accurately, handsomely built.



Chester S. Burns, Thorp, Wash. Galloway Engine helps saw 116 cords of wood for him in five days

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I offer you the choice of five liberal buying plans—cash—installment—part cash—part installment—in fact, you can make your own terms to suit.

Walter L. Anderson, Newman Grove, Nebr., running Grain Separator with 12 h. p. Galloway, says: "I put it to hard work and it did fine. I had two other kinds, but yours beat them."

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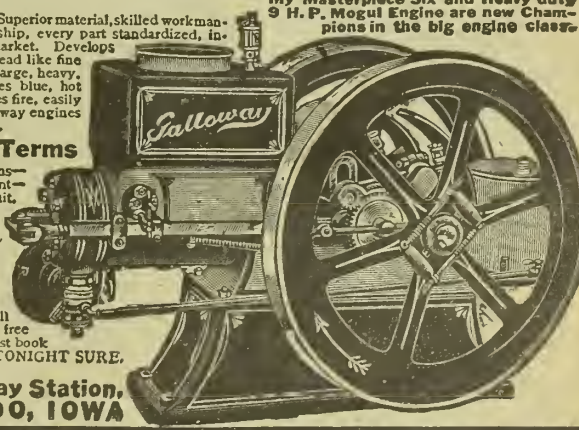
Right now, drop me a line—a postal will do. Just say—"Send me your big, free Engine Book" and I'll send you the greatest book on engines at lowest prices ever. WRITE TONIGHT SURE.



WILLIAM GALLOWAY, President

WM. GALLOWAY CO. 215 Galloway Station, WATERLOO, IOWA



Plan to Save All Feed Grown

THE feed situation is such that the most efficient use possible must be made of all forage crops in order to prevent sacrifices of our live stock. J. C. Mohler, secretary of the State Board of Agriculture, who is closely in touch with crop conditions, points out that scarcity of feed and high prices of grain and forage is looming as a serious problem in the major portion of the state as the prospects for the corn and sorghums to mature grain diminish. In some parts it is believed these crops will make little or no grain even though conditions may be favorable for the rest of the season.

For several months many farmers have been unable to provide proper rations for their work horses, and now the feed situation threatens to seriously affect the state's live stock industry as a whole. For some sections stock cattle are being shipped to the market, and many dairymen who sell milk report that they have been producing milk at a loss because of the high prices of feed. Owing to the unfavorable crop outlook and the increased outlay for rations necessary to sustain the cows and maintain a paying flow of milk, there is apprehension that excellent dairy herds may be dispersed. Should dairy cattle be forced on the markets they will largely go to slaughter. This will mean a setback that will require years to overcome, for it takes time as well as intelligent effort to build up good producing herds.

Mr. Mohler urges that every effort should be put forth by each individual dairyman to provide for carrying his stock through to another season, even though the load may seem extremely burdensome. Every banker who has the best interests of his community at heart—and most of them have—should use the same diligence in encouraging and helping through the man with a dairy herd as he does in assisting the wheat farmer.

Secretary Mohler calls attention to the fact that our state's history shows that when the first half of the year is deficient in rainfall as it has been this year, the latter half is likely to go to the other extreme, and moisture be excessive. Should the expected break in the weather come soon, and crops already planted have perished or become so dwarfed and stunted as to give little promise of recuperating, dairymen should be prepared to plant, say up to the middle of August, the earliest variety of cane seed that can be secured. Cowpeas may also be sown late and make a splendid feed crop with favorable weather. Everywhere the silo should be utilized to make the most of the feed that is produced.

Fall pasture would appreciably relieve the feed situation. Rye makes a most excellent pasture for all kinds of live stock and especially for milk cows. A small area well prepared and sown to rye as early as conditions justify may simplify the feeding problem of many. Rye is one of the best and perhaps the least appreciated of our pasture plants. A Shawnee County farmer last fall sowed four acres of rye and wintered on it thirty head of calves practically without other feed. Where rye is not available, early-sown wheat for pasture is a good substitute. The value of straw, along with cottonseed cake, should not be overlooked in this emergency. On this combination stock cattle as well as dairy cows may be carried through the winter in good condition.

It is hoped and believed our dairymen will go to the extreme limit in keeping their dairy herds intact in these trying times. Those who are able to do so will then be in position to profit by the better days that may be just ahead. Moreover, under the administration of the food law Congress will pass, dairymen will certainly be protected, for all food authorities appreciate the importance of not merely maintaining, but actually increasing the supply of the best and cheapest product in the human dietary—milk.

But whatever governmental action may be taken, the dairy herds that have required so much time, effort and expense to build up, must not go to slaughter. The dairymen cannot afford it and the public cannot afford it. In the East many dairy cows have been sent to slaughter; it has been carefully estimated that as high as fifteen to twenty per cent of the dairy cows have been slaughtered. This naturally increases the demand for Kansas dairy products, which should eventually work to the benefit of the Kansas dairymen who keep their herds intact. The public cannot afford the dispersal of Kansas dairy herds because in time there would be real suffering for dairy food. The public can better now pay higher prices for dairy products than later on to pay prices which to many would be prohibitive, or the scarcity of such products resulting from the disposal and slaughter of these animals would undoubtedly mean soaring prices later on. Dairymen should now be allowed prices for their products which will enable them to continue in business.

Higher prices for milk and milk products are fully justified. The upward flight in the cost of production, owing to marked increases in the prices of cows, feed, labor, and everything else necessary to the operation of a dairy, has been appalling, while the price of milk has remained almost the same. In comparison with the prices paid for other food, milk is cheap at fifteen cents a quart. A quart of milk, according to best authorities, is equal in food value to three-fourths of a pound of meat, or to eight eggs. Surely the public is willing to pay a fair price for dairy products now, rather than have many of these valuable animals—milk machines—lost to us forever. Plenty of milk at high prices is greatly to be preferred to a shortage of milk with prohibitive prices and the consequent suffering. Now is the time to save the milk cows, not after they are gone.

Corn Ground for Wheat

S. E. W., Osborne County, writes as follows: "In your issue of July 14 in an article entitled 'Corn Ground for Wheat,' you suggest giving the ground a good disking in the fall after the first rain and such additional work as is needed to keep down the weeds until seeding time. Will you explain what kind of a disk we can use in a cornfield without destroying the corn? We realize the good that disking does and when corn is cut we always disk the ground. When the corn has failed completely we have used a six-horse disk with good results, but we have never seen a one-row disk."

This is a thoroughly practical question and one that will be of interest to many in the wheat belt because of the unusually large acreage of corn being handled this season. We asked Prof. L. E. Call, of Manhattan, to offer some suggestions in reply to this inquiry, and have the following statement from him:

"It is impossible to prepare a good seed bed for wheat on corn ground without harvesting the corn, unless the crop has dried up prematurely so as to be of little or no value.

"The best plan to follow in case wheat is to be sown on corn ground is to first harvest the corn and place it in the shock or silo. After this is done the ground should be thoroughly disked before drilling in the wheat. Occasionally, where corn has been well cultivated and where the field is free of weeds and in good condition, it is possible to drill wheat in between the rows of corn with a small grain drill and produce in this way a satisfactory crop. In order to have ground in condition to handle in this way the corn must be thoroughly cultivated, kept free of weeds, and if heavy rains fall after the last cultivation with an ordinary cultivator, it is advisable to run through the field with a one-horse cultivator to loosen up the soil. As a general thing it is not advisable to seed wheat in corn ground without first harvesting the corn."

Protect the cans of cream from the sun by covering with canvas or a wet sack while on the road.

Keep the cans of cream in a cooling tank until time of delivery.

What Is Farm Manure Worth?

If we had to buy farm manure, the question of its value would be worked out with a fair degree of accuracy. Even though it is a farm by-product and therefore seldom purchased, it would be used to better advantage if we had some idea as to just what it is worth.

For ten years the Missouri College of Agriculture has been investigating this question. Field tests have been made in thirteen different parts of the state. Different soils, seasons, and kinds of manure have been included under ordinary methods of farming.

In practically all cases eight tons of

Boys---I want all three of you to attend

Business College



and I recommend that you start immediately. There is absolutely no better way to get a business training. Also, while I am giving you young men this advice, let me recommend my favorite college, Strickler's, which furnishes all my office help. They employ the best teachers obtainable and seem to get more out of their pupils than other colleges. In fact when I call their Mr. Shook to send me an assistant, I know that the boy or girl he sends will be able to handle the job.

Courses in
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manure to the acre was applied once in four years and plowed under before the corn crop. No manure was applied on the following crops of oats, wheat and clover, but the yields were all recorded. The increase in crop yields caused by the use of eight tons of manure per acre were as follows: Ten and one-half bushels of corn, five and one-half bushels of wheat, four bushels of oats, and about 7,000 pounds of hay. This is an average from sixty tests on corn and a somewhat less number on the other crops. Figuring these increases at normal prices they are worth about $16, or about $2 a ton for the eight tons of manure applied. With present prices which are almost double those of normal times, manure is worth correspondingly more, or about $4 a ton.

Business on the Farm

The people of the country fully appreciate the value of a good education, but too often such training as has been given the boys and girls tends to still further deplete the labor available for working the farms, because of the demands made by the city for well equipped workers to carry on its commercial activities. While it is true that the demands for farm-reared boys or girls trained for business careers have never been greater, some of our leading commercial schools have recognized the place of business training on the farm and are supplying a real need by offering courses of study designed to meet the business requirements of farming. Such courses do not educate the boy away from the farm, but return him equipped to handle the business side of farming with greater efficiency.

It is getting more and more important to keep accurate accounts with each field on the farm, to know the cost of producing a crop, and how and where to sell it to get the largest net profit. The business farmer of today should be able to tell at a glance exactly how his different fields have been handled for a number of years back. Records should be kept of the dairy and poultry and other farm products. Without keeping such records it is difficult to tell from what source the profits are coming. About the only thing that is certain is that the farm as a whole is making a living for the family. Proper systems of farm accounting tend to put farming in the place where it belongs, alongside other business concerns where the capitalization runs into thousands of dollars.

Hundreds of big manufacturing plants in various parts of the country employ efficiency experts to go over their business and these experts frequently find things happening such as occur on every farm if we could only locate them. They find that some articles are being manufactured at a loss, while others are making a profit, these standing the loss of the unprofitable production as well as making a profit for the concern as a whole. If these manufacturing plants find it pays to know the cost of producing and selling the various articles made, it must be of value to the farmer to have similar knowledge.

The man who operates the farm must be a skillful buyer, and generally he is. He is also a manufacturer and a producer of raw materials. He must be more or less of a mechanic, and in addition a good salesman, and here frequently, because of lack of training in the art of salesmanship, he falls down. He must be a good financier and a capable executive. The farmer is compelled to do more even than the big railroad presidents of the country. A railroad president may be a competent executive, but very poor in other phases of railroad work, but he is able to make his railroad a big success by hiring men who are specialists along the other lines.

There is no occupation where a thorough training in business will be of greater value than farming. The business side of farming has lagged behind the production side. It is everywhere being recognized that the biggest problem facing the farmer today is that having to do with marketing and distributing that which he produces. All this calls for special training along business lines.

Save the Straw

A reader asks how much of the fertilizing value of straw is lost by burning it. He apparently has the idea that much of the plant food will remain in the ashes and be returned to the soil. We fear the average man who burns straw does not even stop to figure whether any fertility remains in the ashes or not, but destroys it because it is in the way and he does not consider it to have any value in keeping up soil fertility.

The chemist tells us that a ton of wheat straw contains about ten pounds of nitrogen, ten pounds of potash, and two pounds of phosphorus, these being the most important elements of plant food. Of these elements nitrogen is the most expensive. In burning straw or other organic material, all the nitrogen is lost. The most serious loss, however, is the destruction of the organic matter of which each ton of wheat straw contains about 1,600 pounds. Decaying vegetation is the material that gives soil its life. Soil devoid of decaying organic matter is practically worthless as farm land. It may contain the mineral elements of plant food, but is not in suitable condition to grow vegetation unless a certain amount of decaying organic matter is mingled with it. The destruction of the organic matter in the soil is the chief factor in reducing the crop-yielding capacity of our Kansas soils. All over the eastern part of the state the serious effects of this depletion of organic matter are beginning to appear.

To overcome this condition, every effort possible must be made to turn vegetation back to the soil. Straw is most profitably returned by using it in connection with the handling of live stock, both as feed and as bedding. Used in this way, it goes back to the land in the form of barnyard manure, the animals are made more comfortable, and they secure considerable nutrient value from the straw they eat.

Straw spread on the surface of the soil serves as a winter protection to such plants as wheat and clover or alfalfa. There is always some winter killing of these crops and it can be greatly reduced by furnishing them this sort of protection.

A man destroying good grain would be charged with disloyalty or considered insane. Burning straw actually destroys value and should be looked upon in the same light as the destruction of grain.

Lime Increases Crop Yields

Gains in crop yields from $5 worth of finely pulverized limestone have been more than five times the cost of treatment in tests made by the Ohio Agricultural Experiment Station at Wooster. Fertilizer treatment affects the gain from lime.

Two tons of finely pulverized limestone per acre, stirred into the surface of land on which eight tons of manure had been plowed under for corn, in a five-year rotation of corn, oats, wheat, clover and timothy on the experiment station farm at Wooster, has increased the yields over those produced by the manure alone by an average of ten bushels per acre of corn, two bushels of oats, five bushels of wheat, 1,600 pounds of clover hay and 2,300 pounds of timothy, in tests extending over the eleven years, 1905-1916. The total value of this increase has been $30, at average prices for these crops during this period.

On land receiving a large dressing of chemical fertilizers the gain from liming has amounted to $37, while on land receiving neither manure nor fertilizers it has been $24.

No treatment of the soil, whether of manure, fertilizers or tillage, has rendered liming unnecessary on the Wooster soil. Many soils in Ohio, particularly in the eastern half, respond as readily to liming, as tests conducted at the district and county experiment farms indicate. In Western Ohio the general use of lime is doubtful, because the underlying rock is mainly limestone.

It is the usual practice at the Ohio Experiment Station to apply lime after plowing for corn previous to planting. When this is not done the use of lime on wheat ground in the fall is recommended. When used at such a time the lime can be most thoroughly incorporated with the soil and thus more fully perform its full functions if applied soon after plowing.

Evidence is accumulating that over much of Eastern Kansas the application of lime is a valuable practice.

Young people who contemplate attending business college or auto training school this fall or winter will find it to their advantage to write us. KANSAS FARMER has some information that will be of genuine interest to you. Address DESK D, KANSAS FARMER, Topeka, Kan.

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We have the strongest and most complete business and stenographic courses in the country. These courses equip our students so well that Kansas City business firms send to us for bookkeepers and stenographers, offering $75 to $125 a month for our graduates. Wichita took two of our graduates recently, one at $1,000 a year and one at $1,500. A number of our graduates in competitive civil service examinations have won positions paying from $1,000 to $1,800 a year. Nothing but superior training can account for these facts. Banks in the West are using 1,500 of our graduates and are calling for more all the time. TWENTY POSITIONS A WEEK TO FILL AND TEN PEOPLE TO FILL THEM WITH! Do you understand now how we can guarantee a position to every graduate? The Kansas Wesleyan Business College can get you ready for the big job and can put you next to it when you are ready, but, young people, it is your move. We can't help you till you give us the chance.

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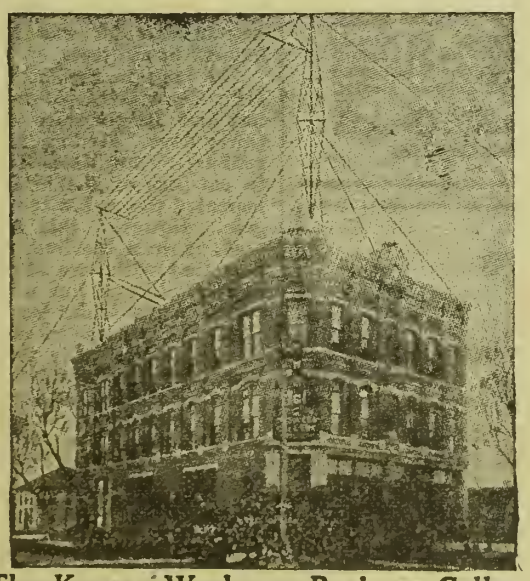

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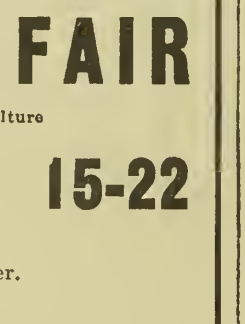



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Cheaper Gains From Corn and Alfalfa

ON THE day the second hog-feeding demonstration closed at the Wichita Stock Yards a most interesting program was given. The 250 hogs had been fed sixty days, there being fourteen different lots. The stockmen had gathered to learn the results of the different methods of feeding and see the hogs sold. Carl P. Thompson, of the extension division of the Agricultural College, who is a practical breeder and feeder, gave a talk on hog feeding and handling brood sows and pigs. Others took part in the general discussion. L. H. Powell, chairman of the Sedgwick County Council of Defense, spoke on the grain and seed situation, telling of the organization work being done to handle the distribution of seed wheat.

In our last week's issue we commented on the results of this feeding test, basing our statements on the first figures given out through the daily papers. On receiving the official figures from J. C. Holmes, who has charge of the demonstration feeding being done at the Wichita Stock Yards, we find a few slight errors were made in the first reports. Mr. Holmes' statement shows that of the fourteen lots fed the hogs on corn and alfalfa pasture made the cheapest pork, the cost being $12.33 a hundred pounds. Corn, shorts, and meat meal was a close second, the cost in this lot being $12.35 a hundred. Corn, shorts, meat meal, and alfalfa pasture came third in cost, and corn, meat meal, and alfalfa hay, fourth.

The hogs fed corn, shorts, meat meal and alfalfa pasture sold for $15.45 a hundred, which was the highest price received. The hogs fed on buttermilk brought twenty cents less a hundred. The corn, shorts and buttermilk ration gave a good gain, the average per hog daily being 1.62 pounds, and the cost $13.17 a hundred pounds. The corn and meat meal lot made a good record, the average daily gain per hog being 1.47 pounds. The gains in the corn-alone lot cost $17.28 a hundred pounds, the average daily gain per hog being .77 pound. The hogs in the lot fed corn and shorts made a medium gain at a little higher cost than in the best lots. With shorts at $2.50 a hundred, corn $1.68 a bushel, meat meal $3.50 a hundred, and buttermilk three cents a gallon, it was hoped that the shorts would cheapen the gain, but it did not except in connection with meat meal, which lot came second in cost of gain. The average daily gain per hog in this lot was 1.65 pounds, the highest in the test.

The hogs in the lot fed corn and alfalfa hay started off very unevenly and lost out in the race during the first thirty days. Feeding meat meal to hogs running on alfalfa pasture caused them to eat less of the alfalfa and slightly increased the cost without increasing the gain. However, this lot sold for ten cents more a hundred, so it would appear that with corn at present prices it is profitable to finish with meat meal even when a feeder has alfalfa pasture. The hogs receiving meat meal in the ration fed more evenly than the ones getting corn and alfalfa pasture or corn and shorts. Alfalfa hay added to a ration of corn and meat meal showed very little results, while alfalfa hay added to corn and shorts cheapened the gain slightly, increased the rate of gain, and gave the hogs a more even appearance when finished.

The hogs in this test averaged about 120 pounds apiece when started on feed May 21. They all made rapid gains the first thirty days. In four of the lots the average daily gains were at the rate of two pounds per hog during this period. During the last thirty days there was a decided slump in the gains due to the hot weather which resulted in the hogs eating less feed.

The grain was all fed in self-feeders. Hogmen who would like to make a detailed study of the results of this test can obtain the full report by writing to J. C. Holmes, Live Stock Exchange, Wichita.

Keep Hogs Comfortable

In order to bring the greatest returns, all farm animals should be made as comfortable as possible during all seasons of the year. This is especially true of hogs, since no farm animal suffers as much from extremes of heat and cold as the hog. Most men prefer to feed hogs in the spring and fall, for they say the hogs gain more at these times on the same feeds than during summer and winter. This is perhaps in a large measure true only because they are more comfortable.

Some of the important points in making fattening hogs comfortable are enumerated as follows by L. A. Weaver, of the Missouri Experiment Station:

Provide adequate shade. If the hog lot does not contain plenty of natural shade, then artificial shade should be supplied. Hog cots, made so as to have at least one removable side, would be good to use at this time, or shade may be made by setting four ordinary fence posts so that they may be covered with planks or canvas.

Provide plenty of pure drinking water. This may be cheaply and satisfactorily done with a barrel waterer if an adequate supply cannot be had otherwise. Two or three pounds of water is stored in the animal body for every pound of muscle added, hence the necessity and economy of furnishing plenty of water to drink. Most feeders realize the importance of supplying plenty of drinking water, but it oftentimes is an easy thing to neglect. Some think if they are feeding slop that water enough is supplied. The water in the slop of course helps to supply the water requirement, but the hogs should have access to additional water.

Keep pools or wallows clean. Clean pools or wallows keep the hogs comfortable, permitting rapid and economic gains. This does not mean, however, that any kind of a wallow is good, for water which is stagnant and filthy may keep the hogs cool but the evil results from unsanitary conditions may more than overbalance the good derived from the protection from heat.

Keep hogs free from lice, by dipping, spraying, or by putting hog dip in wallows.

Keep sleeping quarters free from dust, which irritates bronchial tubes, lungs, and other organs. This may be done by spraying with crude oil. No hog can thrive if it is continually coughing and wheezing.

Keep hogs free from worms.

The foregoing measures are not usually expensive, but they are essential for maximum gains.

Wool Sale a Success

The co-operative sale of wool in Gage County, Nebraska, the plan of which we reported early in June, was a complete success. By pooling their clip and selling at a central point under the advice and direction of their county agent, the wool growers of that county realized from six to eight cents a pound more for their wool than they would have done if it had been sold individually. This was the first sale of its kind in that state, but its success this year bids fair to make it an annual event in many sections.

Forty-six breeders got together at this Gage County sale, and it is estimated that the results of this co-operative effort netted them $850 over and above what they would have received for their wool if it had been sold in the ordinary way. In connection with this sale wool sacks and wool twine were distributed to the growers through the county agent's office, so the wool was in better shape for the buyers. There is always a tendency for the owner of a small flock to tie his fleeces with sisal binding twine and sack the wool in a common gunny sack. Wool buyers always discriminate against wool put up in this way. One of the reasons for the better prices received was that the wool was handled much better than ordinarily as a result of the efforts made along this line. This group of men also secured the services of two professional shearers who went from one flock to another and thus relieved many of the inexperienced men from the job of shearing their flocks.

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TAKEN UP—ON THE 23D DAY OF December, 1916, by P. Whitman, of Marienthal, Wichita County, Kansas, one bay horse 10 years old and one bay horse colt one year old. No marks or brands. Dean Trueblood, County Clerk, Leoti, Kansas.

Cereal foods, all of which are rich in starch, furnish the body with fuel or energy, and also some tissue-building and body-regulating materials. An interesting and valuable bulletin on cereal foods, their preparation and uses, is Farmers' Bulletin 817 recently issued by the U. S. Department of Agriculture and which may be obtained free of cost by writing the department at Washington. This bulletin is the second of the series on "How to Select Foods," is written in simple terms and contains much information which the practical, progressive housewife can use to advantage.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Day by day there is being impressed upon us the sense of every human being's inalienable right to be born right; to his share of loving and being loved; to his own individuality; to proper training of mind, body, and spirit; to protection from evil persons and influences, and to have a fair chance in all the departments of life.—ANNIE MILLER KNAPP.

Available Bulletins on Food

The following bulletins relating to the selection and preparation of foods may be obtained free by addressing the Division of Publications, U. S. Department of Agriculture, Washington, D. C.:

Cereal Breakfast Foods (Farmers' Bulletin 249).

Use of Corn, Kafir and Cowpeas in the Home (Farmers' Bulletin 559).

Corn Meal as a Food and Ways of Using It (Farmers' Bulletin 565).

School Lunches (Farmers' Bulletin 712).

Food for Young Children (Farmers' Bulletin 717).

Home-Made Fireless Cookers and Their Use (Farmers' Bulletin 771).

Bread and Bread Making (Farmers' Bulletin 807).

How to Select Foods—I. What the Body Needs (Farmers' Bulletin 808).

How to Select Foods—Foods Rich in Protein (Farmers' Bulletin 824).

A charge of five cents each is made for those listed below. Address the Superintendent of Documents, Government Printing Office, Washington, D. C.

Principles of Nutrition and Nutritive Value of Food (Farmers' Bulletin 142).

Potatoes, Sweet Potatoes, and Other Starchy Roots as Food (Department Bulletin 468).

Canning Rabbit and Chicken

In Central and Western Kansas where rabbits are plentiful, the winter meat supply can be materially increased by canning the young "bunnies," which are now just the right size for cooking. The tender, juicy meat will make a welcome change next winter, and the only cost is the price of the ammunition used in shooting and the fuel required in cooking. When young the jack rabbits are as palatable as the cottontails.

Otis E. Hall, in charge of boys' and girls' club work at the Agricultural College, gives the following recipes for canning rabbit meat:

Recipe No. 1, Meat Not Taken Off the Bones.—Clean rabbit and prepare as for the frying pan. Pack in hot, tempered jar, add a teaspoonful of salt to each quart, fill up with boiling water, put rubber in position, and seal lid as tightly as you can with the thumb and little finger. Process in hot-water bath outfit three hours or under ten to fifteen pounds steam pressure sixty minutes if the rabbit is young. If old rabbit is used, it should be processed three and one-half hours in hot-water bath or about seventy-five minutes under about ten pounds of steam pressure. Remove jars and tighten lids.

Recipe No. 2, Bones Removed.—Prepare for cooking. Drop the pieces in a kettle of boiling water, using only enough water to cover the rabbit. Parboil in this kettle thirty to thirty-five minutes. Remove pieces from the liquor and meat will easily slip off the bones. Pack the meat in hot, tempered jar, dropping bones back into the liquor left in the kettle. Bring the liquir in kettle back to boiling point and boil ten to twenty-five minutes longer, then use this instead of hot water for filling jars. Put rubber and lid in position and turn the lid as tightly as possible with the thumb and little finger. Process in hot water bath outfit two and one-half hours, or under eight to fifteen pounds steam pressure fifty minutes. If the rabbit is old, process for three hours in hot-water bath, or sixty minutes under about ten pounds of steam. Remove jars and tighten covers.

Recipe No. 3, Fried Rabbit.—Prepare as usual for frying, roll in flour and sear in a hot, oiled pan. As soon as the meat is well browned, decrease the heat and cook slowly until about two-thirds done. Then pack in hot tempered jar and proceed the same as in Recipe No. 2.

To "process" or "sterilize" simply means to cook in the hot-water bath or under steam pressure, beginning to count the time as soon as the pressure indicated is reached, or, if using the hot water bath outfit, begin to count the time after the water around the jars is boiling. In using the steam pressure outfit, the pressure should be kept at the point indicated as nearly as possible, but no harm is done if it should run up higher or fall a little below for a short time. It is not necessary to watch the steam gauge constantly.

The canned meat may be served cold just as taken from the can, or it may be heated. If desired, dumplings may be served with it. If prepared according to Recipe No. 2, a delicious meat pie can be made by emptying the meat from the can into a rather shallow baking pan and covering with a thin crust of biscuit dough, or with small biscuits. When the biscuits are done the meat will be piping hot and ready for the table.

Young chicken is canned in exactly the same way as rabbit, using the same recipes and sterilizing for the same length of time. If you have old hens which are not laying and which you do



DISTRICT NO. 12, SANFORD, PAWNEE COUNTY; STANDARD NO. 46, BUILT 1914, COST $2,160, STANDARDIZED JANUARY, 1916.—IN THIS BUILDING ALL LIGHT COMES FROM THE WEST.—CAN BE MADE INTO TWO ROOMS.—PLANS FOR THIS SENT OUT BY THE STATE BOARD OF PUBLIC INSTRUCTION

not care to eat in hot weather, do not feed them until winter comes, but can them, sterilizing for the length of time required for old rabbits.

One marked case of patriotism on the part of a woman has come to light in the "cross country silo special" campaign that is being conducted in the western part of Kansas by the Kansas Agricultural College and the Hays Experiment Station. This woman attended one of the meetings held in Gove County five miles distant from her home. Her object in attending the meeting was to obtain information as to how to finish a pit silo which at the time of the meeting she had dug to a depth of twelve feet. Nor does this stand only for patriotism born of the present national crisis. This woman's husband is an invalid and she brought him to Western Kansas in search of health, and is there doing her best in managing a farm and looking after her family. At present she has twenty-one head of stock on the farm.

"Kansas Mothers' Book" is a publication just issued by the division of child hygiene of the Kansas State Board of Health. The table of contents includes what city, state and nation can do for children, a birth registration blank, health record blank, prenatal hygiene, infant hygiene, care of child from one to six years, chart of child development, education through play, care of the school child, first aid and what to do before the doctor comes, and a reference book list. The edition of the book is limited and those who want copies of it should send their requests to the Board of Health promptly.

Crisp Cucumber Pickles

1 quart vinegar
1 cupful olive oil
½ cupful salt.

Wash small cucumbers, pack in earthen or glass jars, pour mixture over them, and seal. The pickles will be ready for use in three days. The oil rises to the top and preserves them.

Ground Beet Pickle

½ gallon ground cooked beets
1 cup horseradish
1 cup sugar
Salt to tasto
Vinegar to cover.

Cook and grind the beets, mix ground beets, ground horse radish, and sugar together, salt to taste, pack in a jar, and cover well with vinegar.

Grains of wheat are more valuable than grains of powder. Take a long shot next fall.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8281—Children's Coat: Cut in sizes 2, 4, 6, 8 and 10 years. This coat is surprisingly easy to make, for the one-piece gathered skirt section is straight at the lower edge. The outline of the Empire jacket may be straight or cut with tabs at the front, as shown in the large view. The coat is single-breasted and closes at the center front with four buttons. **No. 8310—Ladies' Sport Blouse:** Cut in sizes 34 to 42 inches bust measure. This garment is the newest fad in blouses—a slip-on which goes over the head and has no other opening. It is perforated for two lengths, the 45-inch, which suggests the Russian style, and the 32-inch, which many will prefer for sport wear. It may be made with or without the collar and sleeves. **No. 8306—Children's Dress:** Cut in sizes 2, 4, 6 and 8 years. When it comes to the reign of the Empire in styles, this little lady is for it every time. The frock which she is wearing is just a little bit different, as the Empire waist line is cut in an unusual shape, shorter in front and back than on the sides. The little round neck may be finished with a frill of lace or a collar. **No. 8289—Ladies' Dress:** Cut in sizes 34 to 42 inches bust measure. The waist of this dress is in surplice effect and has an enormous shawl collar which almost hides the entire upper part. It is cut in fanciful outline, partly rounded and partly pointed, and hangs in full ripples. The skirt is a one-piece gathered model with three graduated tucks. **No. 8312—Ladies' Skirt:** Cut in sizes 24 to 30 inches waist measure. One of the best modifications of the barrel skirt which has been produced so far is the one shown here. It suggests a barrel by means of the huge pockets and the cut of the lower part. The upper section is in two pieces, gathered to a slightly raised waist line all around. The lower part is just a straight piece of the material attached to the upper part. **No. 8318—Ladies' House Dress:** Cut in sizes 36 to 46 inches bust measure. Even the working dress feels the influence of the new silhouette, as illustrated in the smart big pockets shown in No. 8318. These outstanding pockets are being very generally used on street dresses to give the barrel effect, so why not on a house dress? The shirtwaist fastens with a single button and the skirt has three gores.

We Need Your Help In a Critical Time

KANSAS FARMER READERS CAN BE OF GREAT HELP TO THEIR FAVORITE FARM PAPER NOW

KANSAS FARMER comes to you through the mails. It is distributed under the jurisdiction of the Post Office Department, which has made some new rulings which the publishers of KANSAS FARMER must observe in respect to the procuring of subscriptions. During these critical times the rulings may be changed at any time, at the option of the Post Office Department.

We feel that you want KANSAS FARMER, because it is strictly a Kansas paper and is striving to help you in your work, and you certainly do not want to miss the good things that this old paper carries each week for the betterment of farm conditions. We do not want to discontinue your paper. We are very anxious to retain every one of our subscribers. In order to do so, we must urge that you send us your renewal subscription at once.

Here are four distinct offers which we submit to you. We will greatly appreciate your acceptance of any of them:

1. May we immediately have your renewal for one year at $1.00?

2. If you send us $2.00, we will renew your subscription for three years—a saving of $1.00.

3. If you will send us the subscription of two of your neighbors for one year for $1.00 each—$2.00 in all—we will renew your own subscription one year without additional charge in appreciation of this service rendered.

4. If you will send us the subscriptions of four of your neighbors at $1.00 each—$4.00 in all—we will extend your subscription for a period of three years without additional charge.

We have provided a special blank below to be used in sending in your renewal subscription or the subscriptions of your neighbors. May we again urge you to co-operate with us by accepting one of the offers provided?

Special Club Subscription Blank

KANSAS FARMER, Topeka, Kansas.

I enclose $.....for.....subscriptions to KANSAS FARMER for one year each. For this service I am to receive KANSAS FARMER for { 1 year / 3 years } without additional charge.

Name .....

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Address .....

Name .....

Address .....

Special Renewal Blank

(To be used in case Club Offer is not accepted.)

KANSAS FARMER, Topeka, Kansas.

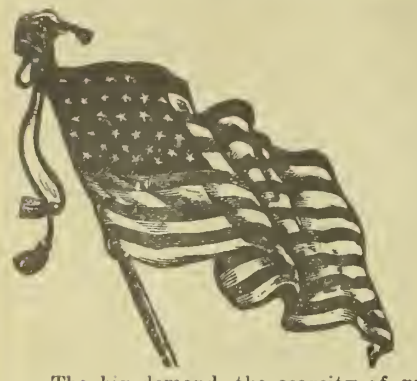
Enclosed please find { $1.00 / $2.00 } to pay for my renewal to KANSAS FARMER for { 1 year / 3 years } as per offer above.

Name .....

Post Office .....

R. F. D..... Box..... State.....

Patriots and Loyal Citizens Will Want to Show Their Colors



"Your Flag and My Flag"

"Long may it wave
O'er the land of the free
and the home of the
brave"

The big demand, the scarcity of good dyes and the high price of cotton have made it hard to secure flags. We have been fortunate enough to secure a few high-grade printed flags 3 feet by 5 feet with canvas heading and brass grommets, colors fast.

You May Have One of These Flags If You Act Promptly

HERE IS OUR OFFER

For only $1.50 we will enter your subscription or extend your subscription for one year and send you this beautiful flag, postpaid. Or for $2.00 we will renew your subscription for one year and one new subscription for one year and send you one flag postpaid.

Don't Delay—Send Your Order NOW, Before It Is Too Late

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Name.....R. F. D.....

Postoffice..... State .....

DESK D, KANSAS FARMER, TOPEKA

CHESTER WHITE HOGS



FOR SALE
Spring Pigs in Pairs and Trios
Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

O. I. C. SPRING PIGS, BOTH SEXES.
Bred gilts.
HARRY W. HAYNES, GRANTVILLE, KAN.

GUERNSEY CATTLE.

GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

HAMPSHIRE SHEEP.

FIVE EXTRA GOOD HAMPSHIRE RAM LAMBS
Priced right if taken in the next two weeks.
L. M. SHIVES, ROUTE 1, IUKA, KANSAS

HORSES AND MULES.

PERCHERONS—BELGIANS—SHIRES



2, 3, 4 and 5-yr. stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
FRED CHANDLER, R. 7, Charlton, Ia. Above Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes.
Illinois Horse Co., Good Blk., Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

POLLED DURHAM CATTLE.

FOR SALE—Two red and white bull calves, 10 months old, sired by Chief, a son of True Sultan. Priced to sell.
D. C. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 miles S. E. of Topeka)

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

BERKSHIRE HOGS.

KING'S BERKSHIRES — Twenty good Berkshire fall boars. One good yearling boar. E. D. KING, Burlington, Kansas.

JERSEY CATTLE.

B. C. SETTLES
Jersey Cattle



Pedigrees Public Sale
Catalogs Management
Palmyra - Missouri

INTERESTED OXFORD OWL
For Sale—Three months old, broken color, sire Gedney Farm Medal Oxford, who is 37½ per cent Oxford Lad, sire of Oxford Cocotte, 724 pounds 15 ounces butter in one year, and forty-three others. Dam, Interested Golden Fern, 31¼ per cent of Interested Prince, sire of Passport, 987 pounds 6 ounces of butter, and thirty-eight others. Price $50, f. o. b. Lawrence, Kansas.
BISONTE FARM - LAWRENCE, KAN.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

REGISTERED JERSEYS

Three cows, $100 each; three bull calves, one to three months, choice $20.
B. SALISBURY - TESCOTT, KANSAS

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

FARM AND HERD.

We have just received the Progress number of the Poland China Journal, issued July 25. This splendid 274-page edition is well supported by the Poland China breeders. It contains a large amount of reading of more than ordinary interest to Poland China admirers and Mr. Walker and his associates are to be congratulated on the success of this special issue.

A. S. Grable, Jr., of Dearborn, Missouri, owner of one of the choice herds of Durocs in that state, reports his herd doing finely. Mr. Grable keeps his herd immuno and all pens and hog houses in a sanitary condition and the result is a very healthy, growthy lot of hogs. This year he raised a large number of richly-bred March and April pigs that are growing out fine. These pigs are sired by boars that are among the best of the breed now in service and are out of dams that have size, quality and breeding that make great brood sows.

W. H. Mott, of Herington, Kansas, has announced that he will sell at public auction 100 head of registered and high grade Holstein cows and heifers from his herd at Herington, in September of this year. The exact date has not yet been decided upon. A feature of the herd at this time is ten head of registered Holstein bulls that are ready for service.



How to Dress Ducks Easily

THERE is no more delicate morsel than a prime "green duck." In the East where people have learned to value the rich succulent meat of the young duck, there is a ready market for them in large numbers. Here in the West we have not as yet found a place for them.

Because ducks are such heavy eaters of grain it is not profitable to raise them to maturity. If they are not hatched too early—that is, before there is an abundance of green grass and the weather has become sufficiently settled that they will not get chilled—they are easily raised. They grow much more rapidly than chickens, often weighing four pounds at six to eight weeks of age. This is the age at which they should be marketed or used for home consumption. Prices in this state are usually around nine cents a pound.

One reason why the raising of ducks has not received more encouragement is the difficulty many people find in dressing them. The abundance of down causes the average person to hesitate about trying to pick them. The most approved method for home consumption is to kill by either entirely severing the head or running a knife through the neck just back of the head and severing the juglar vein. As soon as the duck stops struggling, work powdered resin well into the feathers and into the down. Care should be taken that the resin is well distributed so that all parts are reached. The bird should now be scalded by immersing in boiling water. The heat melts the resin which mats the feathers and down so that they are easily removed by a rubbing motion of the hands. In this way ducks are not more difficult to dress than chickens. If it is desired to save some of the feathers they may be removed before the resin is added. The feathers cannot be used once the resin has been added.

If you have never eaten a well fattened young duck, fried, you have yet to learn what a real delicacy is.—N. L. H.

Does the Farm Hen Pay?

A farm hen which will earn $3.47 above her feed cost is a valuable asset. M. P. Hollar, of Ray County, Missouri, had 133 hens which averaged that amount for a year, according to figures supplied by him to the Missouri College of Agriculture. Mr. Hollar started his test April 1, 1916, and produced during the twelve succeeding months $468.84 worth of eggs and $235.60 worth of birds. His feed cost for the year was $242.05, which left a net profit of $462.39. His hens averaged 141 eggs during the year.

Some farmers contend that poultry is profitable only when it lives on waste material and that feeding will result in loss. The Missouri College of Agriculture has been co-operating with a few farmers in the state to determine what returns may be expected from a well managed flock on the average farm. Records on all the flocks have not been compiled, but reports which have been received indicate that proper feeding methods will return a worth while profit.

Two other records are not so good as that made by Mr. Hollar, but they show that the birds returned a good profit above the feed cost. Mrs. Nimrod Nance, of Daviess County, had 240 hens and produced $295.02 worth of eggs and $285.63 worth of birds. The feed cost for the year was $246.08, which left a net profit of $334.57. Her hens averaged ninety-five eggs each and she realized a profit of $1.39 on each bird.

Mrs. H. R. Spaht, also of Daviess County, produced $197.46 worth of eggs and $258.66 worth of poultry from her flock of 160 hens. She spent $217.59 for feed. This gave her a profit of $238.53 over feed cost, which gives an average profit of $1.49 per hen. The hens averaged eighty-eight eggs each.

These three records are the only ones that are complete for a year, but a number of other co-operators have started keeping a profit and cost account of their poultry and all are obtaining good returns on the money invested.

Unless you expect to go out some of these days and find one or more of the best young pullets in your flock walking like an Indian Runner duck, you had better remove the cockerels. Many a promising young pullet has been ruined by the presence of the cockerels in the flock.

Food which isn't needed now should be saved for the future.

Farm Visiting Tour

"CRANK that ear and come on!"

"Where?"

"On an orchard tour through the southern and eastern part of the state," says George O. Greene, horticulturist in the division of extension, Kansas State Agricultural College.

This tour is being conducted by the extension division under the supervision of Mr. Greene, and is a rally of the fruit growers and others interested in horticulture. The trip will start on August 6 and be concluded on August 11.

The object is to visit different orchards in the state, especially those where demonstration work is being carried on by the college, observing methods used and results obtained.

A party will leave Manhattan on August 5 for Arkansas City, where the tour will start at 7 o'clock Monday morning, August 6. President Waters of the Agricultural College and J. R. Duncan of the Bureau of Crop Estimates, Washington, D. C., will be with the orchardists on this trip.

From Arkansas City the party will go to Winfield, Oxford, and Belle Plaine, reaching Belle Plaine at noon. What orchards are to be visited and the order of the visits will be decided by interested men of the local communities.

On the afternoon of August 6 the tour will be continued through Wichita, arriving at Hutchinson in the evening. The commercial clubs at Arkansas City and Winfield, together with the Kansas-Arkansas Valley Fruit Growers' Association, are planning to make this part of the trip interesting.

Among the orchards visited in this part of the state are the Ralph Dixon orchard at Arkansas City, the W. D. McComas orchard at Wichita, and the 240-acre orchard of E. G. Hoover at Wichita. Prof. Albert Dickens of the Agricultural College will be with the orchardists at Wichita and Hutchinson.

From Hutchinson, on August 7, the trip will be continued to Council Grove. The 800-acre orchard of E. E. Yaggy at Hutchinson and others will be visited on this run.

The trip through Harvey County will be conducted by F. P. Lane, county agricultural agent of that county.

The party will spend the night at Council Grove, from where Frank Pyle will act as guide to "Orchard Home," his 100-acre orchard near Rantoul. The night of August 8 will be spent at Ottawa.

Leaving Ottawa, Lawrence and Baldwin will be visited. The Leavenworth County Farm Bureau and the Leavenworth Commercial Club will act as pilot to and in Leavenworth County.

Among the orchards visited in Leavenworth County will be the "Missouri Valley" orchards. These orchards cover 800 acres, and up-to-date methods are used in caring for the trees. Bees are kept in the orchards for the purpose of cross pollination, and a flock of sheep keeps down the weeds.

On August 10 the party will start for a tour through Atchison and Doniphan counties where other interesting orchards will be visited.

Much enthusiasm is shown regarding the tour, and it is estimated that from 50 to 200 will make the trip. Commercial clubs, farm bureaus, fruit growers' associations, and other organizations are taking an active intesest.—LUISE SINN.

WILVER DELL FARMS

One of America's greatest breeding establishments, invites you to attend her annual mid-summer sale

THURSDAY, AUGUST 16

40 -- MONOTER BRED SOWS -- 40

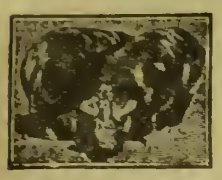
As good an offering as will pass through any sale ring. All showing heavy with pig to the services of Wilver Dell's great battery of herd boars. The best and highest priced boars of the breed—Model Big Bob, favorite son of the world-renowned Big Bob; Master Orphan, the $1,000 son of the champion Big Orphan; Wedd's Long King, the peerless sow sire and one of the breed's greatest boars; Captain Gerstdale Jones, one of the breed's greatest yearlings and son of Gerstdale Jones, the boar that is making fame for Peter Mouw. We are also listing three great fall boars, all outstanding, one by King Joe, one by Giant King by King of Wonder and one by Smooth Columbus. Five top spring boars, all outstanding herd boar prospects. Send for catalog at once.



WALTER W. HEAD, HARRY H. MOORE, Proprietors

WILVER DELL FARMS, St. Joseph, Mo.

POLAND CHINAS



Faulkner's Famous Spotted Polands

The world's greatest pork hog are raised exclusively on

HIGHVIEW BREEDING FARMS

The largest registered herd of old, original, big-boned, spotted Polands on EARTH.

Spring Boars Now Ready to Ship, Pairs and Trios No Kin, Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.

H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the CEDAR ROW STOCK FARM

A. S. Alexander, Prop. Burlington, Kansas

Henry's Big-Type Polands

Spring pigs, either sex. June delivery. Sired by Mammoth Orange, King Price Wonder, Big Wonder. Choice of lot, $35. Trio, $100. Others, $25. First check, first choice. JOHN D. HENRY, LECOMPTON, KANSAS

DUROC JERSEYS.

Royal Herd Farm Durocs

Established in 1899 by Emery Anderson. Boars, March farrow, by Pathfinder, Kansas Cherry Chief, King's Col. Jr. and Proud Chief. A fine lot to select from. Gilts bred for September farrow. Come and see my herd or write your wants.

B. R. ANDERSON

Route 7 McPherson, Kansas

15 Duroc Spring Boars

Sired by Illustrator O'Rlan 3d and Fancy Victor and out of my best herd sows. They are real herd prospects, selected from 91 pigs raised. Write today if you want a good spring boar.

John W. Petford

Route 1 Saffordville, Kansas

JONES SELLS ON APPROVAL

February, March and April Durocs, pairs and trios and herds unrelated. First class pigs at reasonable prices.

W. W. JONES, CLAY CENTER, KANSAS

McBRIDE'S DUROCS

Bred gilts for September farrow and boar pigs for sale from four to six months old.

W. T. McBRIDE - PARKER, KANSAS

FOR SALE—CHOICE DUROC GILTS

Bred for September farrow; three fall boars, also three yearling Shorthorn bulls.

R. S. SKUBAL - JENNINGS, KANSAS

CHERRY CHIEF DUROCS

I still have a choice lot of March and April pigs, priced to sell. All immuned. Plenty of length, size and bone.

A. S. GRABLE, JR. - DEARBORN, MO.

LONE TREE DUROC FARM

Herd Boar Graduate Prince by Graduate Col. Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.

GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNE DUROC-JERSEYS

Forty-five head spring boars and gilts, March and April farrow, by Gano Pride 2d by Gano Pride, out of a Graduate Col. sow. Herd sows best of breeding. Write for prices. T. F. DANNER, Winfield, Kansas.

IMMUNED DUROCS

With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

POLAND CHINAS.

OLD ORIGINAL SPOTTED POLANDS

Choice March and April pigs of both sexes. H. A. MATTOX, Route 2, Burlington, Kan.

Langford's Spotted Polands.—Last call for early spring boars. Yours for good hogs— T. T. Langford & Sons, Jamesport, Missouri.

POLAND CHINA HOGS

150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.

V. O. JOHNSON - AULNE, KANSAS

FARM AND HERD.

R. S. Skubal, of Jennings, Kansas, reports his herds of Shorthorn cattle and Duroc hogs doing well. A feature of his Duroc herd is the choice lot of gilts bred for September farrow. The young stock in his Shorthorn herd are also a choice lot, including a number of good young bulls.

T. T. Langford & Sons, of Jamesport, Missouri, the well known breeders of big-boned Spotted Polands, report their herd doing well and their young stock growing out fine. They also report a steady demand for Spotted Poland breeding stock and they expect to break all previous records on sales of breeding stock this year. They make a specialty of developing their hogs along lines that insure profitable breeders.

Bert E. Hodson, of Ashland, Kansas, owner of one of the great herds of big-type Polands, will be at all the big fairs and the National Swine Show with a full show herd this year. McGath's Big Orphan, the great boar at the head of this herd, is doing fine, and Mr. Hodson reports that he expects him to weigh around 1,150 pounds by fair time, and this boar will be a strong contender for honors this year. Mr. Hodson claims February 20 as the date of his winter sale to be held at Wichita, Kansas.

S. S. Smith, of Clay Center, Kansas, has changed the date of his public sale of Jersey cattle from August 15 to August 22.

John W. Petford, of Saffordville, Kansas, is building up one of the choice herds of Duroc Jersey swine in Kansas. At the head of this herd of good sows is a splendid boar, Illustrator O'Rion 3d. He is by the noted Illustrator and his dam was Missouri Marie by Joe O'Rion 2d. This massive hog has both size and conformation. He is not quite two years old but will weigh in the 800-pound class. Among the herd sows Defender Mischief by Ohio Chief has a litter by Illustrator 3d. Seven sows out of Lady Top Notcher, she out of Top Notcher Girl 2d. These sows are the real Top Notcher type and all have raised good litters by Illustrator O'Rion 3d. Bell of Iowa is another good sow by John's Combination, an extra large yearling and raised a splendid litter by Fancy's Victor. Grand Lady 46th by Grand Model, dam Wild Eyes 6th, raised a fine litter by Grand Wonder, the grand champion Duroc boar at the Iowa State Fair, 1916, and was placed second in a class of strong competition at the Omaha Swine Show, and was also made senior and grand champion at three state fairs in 1916.

E. S. Engle & Son, of Abilene, Kansas, report the sale of seven fine two-year-old heavy springing Holstein heifers to H. S. Holl and L. E. Elliott, of Randall, Kansas. They are large, heavy-boned heifers with good straight backs, and carry good flesh. Freshening as they do in the early fall, they are in excellent shape for winter milkers. These are stable mates to same that the Engles are now milking and that are giving from forty to fifty pounds daily during this extremely hot dry weather. They also sold to Mr. Norris, of Randall, six choice open yearlings, which is the best young stock of this age that the Engles have ever let go. They are daughters of some of their very highest producing cows, such cows that they have never priced to anyone, several of which have yearly butter records of 600 pounds. These buyers are certainly showing very good judgment in their purchases, and these cattle will add much in value to the dairy interests of that territory.

PUBLIC SALE SEPTEMBER 4

Fifty registered O. I. C. hogs. Sixteen male and female Red Polled cattle. Six and one-half miles east, one mile north of Delphos, Kansas. MILTON PENNOCK.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM

In order to clear our pastures for our grade cows and heifers that will soon arrive for fall trade, we are offering sixty-five head of pure-bred Holsteins, with the choicest of breeding, from calves to mature cows, at bargain prices. Many of our heifers are closely related to the world's champion, Segis Fayne Johanna, and a lot of them have been bred to our herd sire, Canary Mercedes Sir Waduah 145366, whose dam produced 26.90 pounds butter and 541.70 pounds milk in seven days, while his sire's dam holds the world's milk and butter record as a ten-year-old, producing 1,300 pounds butter and nearly 30,000 pounds milk in a year. We have some fine bull calves sired by a son of Rag Apple Korndyke 8th and by a son of Pontiac Korndyke, with record dams. Also a few good grade cows and heifers. Do not delay, but write or wire when we can expect you. Farm located a mile west of town on Sixth Avenue. Phone 688.

T. R. MAURER & CO - - - - EMPORIA, KANSAS

PECK'S HOLSTEINS



We have a choice lot of extra large high-grade Holsteins, including fresh cows, heavy springing cows and heifers, and young calves. Registered bulls. Come and see our herd. We meet you at train and guarantee satisfaction.

M. E. PECK & SON, SALINA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER

Way Side Stock Farm - Whitewater, Wis.

HOLSTEIN CALVES

We offer for sale choice, beautifully-marked heifer or male calves, 15-16ths pure-bred, and all from extra large heavy-milking dams, as follows, crated f.o.b. cars: One to two weeks old, $15 each; two to three weeks old, $17 each; five to six weeks old, $20 each. First check takes them. Write

W. C. KENYON & SONS, ELGIN, ILLINOIS

Braeburn Holsteins

Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.

H. B. COWLES, 608 Kan. Av., Topeka, Kan.

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

Breeders' Directory

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
JERSEY CATTLE.
ANGUS CATTLE.
D. J. White, Clements, Kan.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

SHORTHORN CATTLE.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

H. M. HILL - LAFONTAINE, KANSAS

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.

A. L. HARRIS - OSAGE CITY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS

Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.

H. H. HOLMES, Route 28, Topeka, Kansas

AUCTIONEERS.

Jas. T. McCulloch

Live Stock Auctioneer. I make sales anywhere. Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

HOLSTEIN CATTLE.



Purebred Registered

HOLSTEIN CATTLE

The most profitable dual purpose cattle are Holsteins, as impartial investigations conducted by experiment stations of Michigan, Iowa and Nebraska have conclusively shown. The Holsteins showed a greater gain per steer at a less cost per pound of either roughage or grain than any of the other breeds. Holstein calves are big, strong, and grow quickly, and Holstein beef is as fine in texture and taste as that of any cattle. Pure-bred Holsteins have firmly established themselves as the world's best dual purpose breed. There's big money in the big "Black and White" Holsteins.

Send for FREE Illustrated Descriptive Booklets.

The Holstein-Friesian Association of America

F. L. Houghton, Sec'y. Box 114, Brattleboro, Vt.

50 HOLSTEIN HEIFERS

We offer for sale fifty of the best high grade Holstein heifers in Wisconsin. All bred to a 29-pound bull whose dam is sister to the sire of the world's champion cow, Duchess Skylark Ormsby. Also a few choice fall cows.

CLOVER VALLEY HOLSTEIN FARM
Whitewater - - - - Wisconsin

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

HOLSTEINS

Registered and high grades, cows and heifers. The milky strain, service bulls, carloads or less. High grade heifer calves, $18 each, crated. Write me. I have what you want.

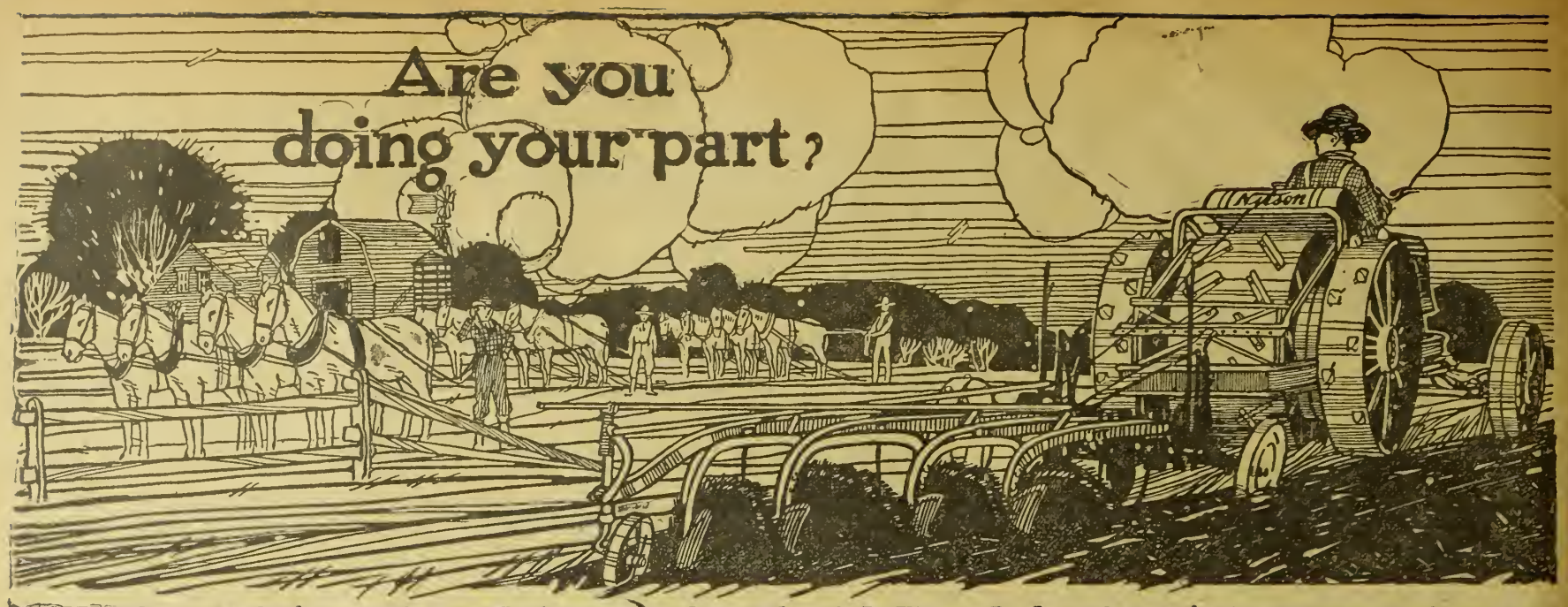
RAY C. JUDD - ST. CHARLES, ILL.

High Grade Holstein Calves

12 heifers 15-16 pure bred, 4 to 6 weeks old, beautifully marked, $20 each. Safe delivery and satisfaction guaranteed.

FERNWOOD FARMS, WAUWATOSA, WISCONSIN

Nicely marked high-grade Holstein calves, price reasonable. O. Canuteson, Route 4, Delavan, Wisconsin.



FEED FEWER HORSES AND MORE HUMANS

"UPON the farmers of this country, in a large measure, rests the fate of the war and the fate of the nations."

You must grow more and waste less. You must feed fewer horses and more humans. You must plow more acres and deeper.

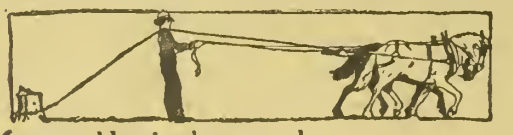
The economical, efficient way to increase your crop production and conserve the food supply is with a good tractor. We respectfully ask that you investigate the

Nilson

The Nilson is a light weight tractor that develops automatic traction by pull instead of by weight. The Nilson does not pack the ground. It carries no dead weight and consumes a minimum of power in propelling itself.

What Automatic Traction Is

If you were to tie a rope to a stump and to the other end your team of horses, put the rope over your shoulder and give the word to your team to pull, you would find yourself with plenty of traction on the ground--wouldn't you? The harder the team would pull that rope—the harder your feet would grip the ground.



This is the principle of the Nilson and its patented lever hitch—the harder the pull, the harder the wheels grip the ground.



A Size For Your Farm

The Nilson is made in two sizes—the Nilson Senior and the Nilson Junior. One of these is adaptable to the conditions on your farm.

The Nilson Senior at $1750 has 36 H. P. at the belt, 25 H. P. at the draw bar and pulls a 4-14 inch bottom plow with ease.

The Nilson Junior at $1385 with 25 H. P. at the belt develops over 16 H. P. at the draw bar and easily pulls a 3-14 inch bottom plow.

High Speed on the Road

Because the Nilson carries no dead weight, it will do more work at a less cost for fuel and upkeep than any other tractor on the market. The Nilson develops a high speed on the road. It will transport your harvest and supplies to and from market in less time and at less expense than you could possibly do with horses. The Nilson road speed is six miles an hour—a good buggy speed.

Waukesha Motor and Hyatt Bearings

Both models have the famous Waukesha Motor, made especially for tractors. The oiling system is a constant, level, automatic supply, fed under pressure by a positive circulating pump.

Heavy duty Hyatt Roller Bearings are used in the Nilson Tractor. The radiator is the special Nilson Perfex, the Ignition—K-W High Tension Magneto with impulse starter, eliminating use of batteries, and the Carburetor—Kingston with a Bennett Air Cleaner.

Has Stood The Test For Four Years

The Nilson is not an experiment. It has stood every test throughout the country for four years. We have huudreds of letters from satisfied Nilson owners. The Nilson is built on the right principle, with the right power at the right price. It may be adapted to the use of either kerosene or gasoline.

While our capacity is large our output is taxed to supply the demand. If you want a tractor this year, write us at once for catalogue and the name of your nearest dealer. Remember, food as well as bullets must win the war.

NILSON TRACTOR COMPANY

1651 HENNEPIN AVENUE MINNEAPOLIS. MINN.

GENTLEMEN.—Please send me your catalogue and complete specifications on the NILSON Tractor. This puts me under no obligations. My farm is..... acres. I work.....horses.

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County State

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AUG 13 1917

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 32. TOPEKA, KANSAS, AUGUST 11, 1917. Established 1863. $1 a Year

WESTERN KANSAS DAIRYING

Milk Cow Source of Income in Years When Cash Crops Fail

WE asked one of our correspondents in a section of Kansas where the reports state that all crops have failed, if milk cows or young dairy stock would be sold because of feed shortage. The answer was, "Young stock, yes; milk cows, no." Others have furnished similar information. A milk cow capable of bringing in some ready money even though feed crops are scarce is too valuable an asset to sacrifice.

The results obtained at the Colby Branch Experiment Station illustrate what a few milk cows can do on the Western Kansas farm. The station consists of a 320-acre farm, the land being ordinary buffalo grass upland. A portion of it has been kept in grass for pasture. In establishing this station, Director Jardine planned to conduct it absolutely in accordance with conditions that can be expected to prevail in that part of the state. His endeavor was to make the type of farming practiced fit into these conditions. The folly of gambling in wheat as the sole farm business is apparent to anyone who will follow the result of a few years efforts along that line.

As soon as possible after this Colby farm was purchased by the state, six two-year-old Ayrshire heifers and a pure-bred bull were placed there. To insure feed the year round and to carry over the surplus from the good years, three silos have been built, each of about fifty tons capacity. Two are simply pits plastered up with cement and finished in accordance with the best experience obtainable in the construction of this type of silo. One of these pit silos is now full, the silage having been carried over from last year. The third silo is of cement and built above the ground.

While silage is almost essential as a dairy ration, it is not a well balanced feed for milk production. In order to be most efficient it must be supplemented with some feed rich in protein. On this farm alfalfa is being grown under irrigation and this furnishes a splendid supplement to the silage. These two feeds furnish almost an ideal combination for milk production. It is 150 feet to water, but the supply is inexhaustible. An 8 H. P. engine is kept pumping water into a pond reservoir day and night. This is drawn upon as needed for irrigation and other purposes. Four crops of alfalfa, averaging about a ton and a half to the acre, are being harvested. A garden is also irrigated, and the house is surrounded with trees, shrubs, and flowers which are kept growing in thrifty condition whether it rains or not. The family living on this farm has all the vegetables needed and the place is beautified by the flowers and shrubs.

But to get to the money end of the cow business: These heifers have been there two years and have produced two crops of calves. The calves, part of which are heifers, have all been kept. The steers can be sold any time for beef at a good profit. The cows have been bred to freshen in the fall so as to avoid having to milk during the hot, dry part of the year. This is also the time of the year when farm work is most pushing and there would be less time to milk and handle the product. At the present time the cows are all dry, having just finished the second lactation period. During this period they have produced cream that sold for $850 and the skim milk was available for feeding purposes. The skim milk is easily worth from fifty to seventy-five cents a hundred pounds on the basis of present prices of grain and other concentrated feeds. A study of the farm records shows that $200 covers every cent that can be charged to the cows during this lactation period, excluding labor. They have been milked and fed by the same labor that has carried on the farm work. It has been waste labor that would have brought no income whatever if it had not been employed in milking and feeding the cows and handling the product. The net returns from these six young cows, $650, would go a long way toward feeding and clothing a family and supplying them with the comforts of life.

They tried to raise wheat, barley, and other grains on this farm, as did many other farmers in this section, but have nothing this year for the labor spent in putting in these crops. There will be some straw, fodder, weeds, and other material that can be used as feed if it is saved. Where there are no cows this material is absolutely valueless.

In spite of the lack of rain, the cows on this farm and in fact all the stock in that section of the state are in fine condition. The Colby Experiment Station farm heifers will freshen early in the fall when there is likely to be some rain that will bring on a fall growth of vegetation that can be turned into milk. They will probably do even better in milk production this winter than last, because they are now practically mature cows.

A farm family in Western Kansas handling a few milk cows as the family on this little experiment station farm is doing, need not fear such a season as the present, for the silage, grass, weeds and other forage, stunted though it may be, can all be converted into cash by the cows. The labor necessary to care for the cows is also a waste product. There is no surer way to make a comfortable living in the dry farming section of our state than to center the farming operations around a bunch of good milk cows. What is being done on this station farm is being done here and there all over Western Kansas.

Solving the Feed Problem

How to make money feeding high-priced feed to milk cows is a question confronting every dairyman. In the course of an address by Irving M. Avery, manager of the Avery Farm, New Jersey, at the Chester County, Pennsylvania, Holstein Breeders' Association, he said:

"The great present day problem confronting all dairy farmers and breeders of dairy cattle is the feeding problem. The help proposition is bad enough and serious enough, God knows, but the feeding proposition is still worse and unfortunately becoming worse still.

"What is the answer — what is the practical solution of this perplexing latter day feeding problem? With wheat bran, middlings, hominy, and other staples quoted around $60 per ton and unprocurable apparently, what shall we do?

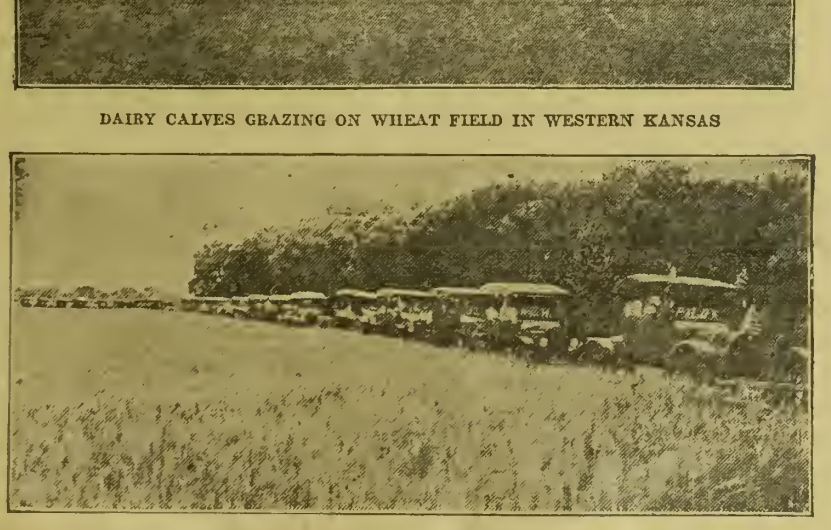
"Well, gentlemen, the answer may be summed up in just two words—increased efficiency. And increased efficiency means to the dairy farmer these things: The discontinuance at once of the prevailing practice of purchasing drove cattle and the inauguration of a system of developing home-bred and home-raised calves; the getting into pure-bred and out of scrub stock as rapidly as possible; the reduction of the size of the herd maintenance and the elimination of defective cows, 'boarder' cows, and short profit cows, at the earliest possible moment, and the establishment of a minimum fixed standard of production; the acquirement, for use upon those retained permanently, of a really good bull; and last but not least, the growing at home, for a limited herd, of a large percentage of the grain ration and the increase of net returns, rather than the continued purchasing, at exorbitant prices, of by-product mill feeds for the maintenance of a maximum herd of indifferent average productive capacity.

"Increase net returns—keep down expenditures; maintain fewer cows, but better cows; raise more alfalfa, peas, and beans; cultivate more home-grown protein, and stop wearing out the roads for the benefit of the feed dealers. Do less gross business and make more clear money, meantime improving all the time your farm and your cattle. That's the answer—that's increased efficiency, the slogan of the present-day progressive dairy farmer. Not how many cattle, but how good; not how large a feed bill or milk check, but how much net profit."

While the Kansas dairyman is not quite so hard hit by high-priced feed as the eastern dairyman, the same efficiency rules will work in bringing up the net profits.



DAIRY CALVES GRAZING ON WHEAT FIELD IN WESTERN KANSAS



INSPECTING WHEAT AT THE HAYS EXPERIMENT STATION FARM ON WHEAT DAY, JUNE 28.—A LINEUP OF 125 AUTOMOBILES IS SHOWN

Use Good Sires

You can aid yourself and help the nation by increasing the production of your cows. This can be done by improving the herd through the use of well-bred dairy sires. Every pound of milk added to your production is clear profit to you and patriotic help to your country. Breed up and produce more. Don't breed down and produce less.

E. B. Green, of Chase County, called at the Kansas Farmer office while en route to purchase some more dairy cattle for his farm. Mr. Green has four big silos, one of which is full of silage carried over from last year. He regards kafir as his best silage crop.

Bale Hay the Admiral Way For Bigger Profits

You will find a "hustling partner" in Admiral Power Press. Smooth running; free from needless parts. Low fuel costs. Thoroughly tested engine insures dependable service for all conditions of field work. Saws wood, grinds feed, etc.

The Admiral

"The Hay Press With the Hustle"

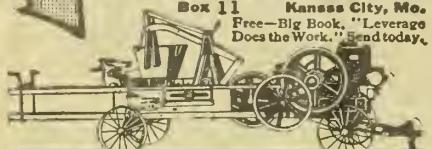
Holds unbeatable records for baling greatest amount of hay in shortest time at lowest expense for power and crew.

H. M. McDaniel of California, Mo., made $365 last year in spare time, after baling 12,000 bales of his own. Every year finds more farmers having their hay baled. They specify the Admiral for neater, faster and better looking baling.

The Admiral pays for itself in record time. Cash or time payments extended to you. Write for new offer today.

ADMIRAL HAY PRESS COMPANY
Box 11 Kansas City, Mo.

Free—Big Book, "Leverage Does the Work." Send today.



THE INDIANA SILO



Fifty thousand are now in use on the finest farms in America.

If you are going to buy a silo—this satisfactory service rendered everywhere—should be of special interest to you.

The cost of all materials is advancing like the price of wheat and corn.

Why not save money by contracting for your silo now. It undoubtedly will cost you more next spring or summer.

Let us send you our proposition—to contract now for your silo and deliver it later.

We still have openings for a limited number of farmer agents.

INDIANA SILO CO.

611 Union Building. ANDERSON, INDIANA
611 Silo Bldg., KANSAS CITY, MO.
611 Indiana Building DES MOINES, IOWA
611 Live Stock Exch. Bldg., FT. WORTH, TEXAS

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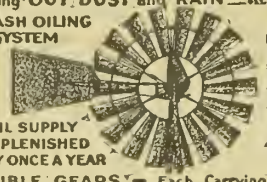
With INCLOSED MOTOR
Keeping OUT DUST and RAIN—Keeping IN OIL

SPLASH OILING SYSTEM



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Constantly Flooding Every Bearing With Oil, Makes It Pump in The Lightest Breeze And Prevents Wear

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Every feature desirable in a windmill in the AUTO-OILED AERMOTOR
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BEST RUSSIAN SHORT STORIES

Only 70 cents per vol. postpaid, or $12.00 for entire set of eighteen books—Uniform binding—with attractive art book rack free

The Kansas Farmer Co.
625 Jackson Street TOPEKA, KANSAS

In the southern part of Cloud County a silo club is organized. Four of its members are co-operating in digging pit silos.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

IN 1916 there were 3,513,000 automobiles and 251,000 motorcycles registered in this country, according to the U. S. Office of Public Roads. The revenue they yielded in the form of licenses and registration fees was $25,865,000. The revenue had increased 42 per cent over that for 1915 and the number of cars and motorcycles had increased 43 per cent. About 92 per cent of the revenue was spent on road improvements of some kind. The use of the cars is shown by the population per car in the different states. The great agricultural state of Iowa stands first, with a car for every eleven persons, and then follow California with twelve persons to each car, Nebraska and South Dakota with thisteen, Kansas with sixteen, Montana and North Dakota with eighteen, Michigan with nineteen, and Indiana and Ohio with twenty. These are all agricultural states, and it is certain, not only from these statistics but also from common knowledge, that the automobile has become a valuable part of the farmer's equipment. It is not the great manufacturing states, like New York, with a car to every fifty inhabitants, or Pennsylvania, with a car to every thirty-seven, that show the highest popular use of the motor vehicle. The fact is, the farmer, like the rancher in Arizona, where there is a car for every twenty-one persons, finds the automobile invaluable in removing the isolation of country life, and he is now willing to concede that good roads, which will enable him to use his car at any time in the year, are a necessity. Instead of complaining that good roads are only desired by the automobilist, he wishes them built so he can get the most benefit from his ownership of an automobile.

Remedy for Skidding

Did you ever have an automobile skid under you? If you never have, then you have yet to appreciate the most hopeless feeling in the world—that of the occupants of a skidding car. It has to be tried to be appreciated. And that is not all; for when a car starts well on to skidding, there is no telling where it will bring up or what the result of the action is going to be; and yet there are drivers who appear to court this danger, or else they are unaware of why cars will skid.

Perhaps the greatest cause is turning a corner at too high a rate of speed, which often causes skidding of the front wheels as well as rear wheels; the car going so fast that the front wheels do not get traction enough to change the direction; and when an attempt is made to make a turn they skid, and the car goes for the side of the road. Applying the brake will usually overcome this skid.

On the other hand, if the rear wheels alone are skidding, let the brake alone. It is best to let the car coast and hold it from getting into trouble by using the steering wheel, turning the front wheels in the direction in which the rear end of the car is skidding. If there is still danger of going into something, use the brake very carefully, not enough to keep the rear wheels from turning.

A bent axle shaft will sometimes cause a skid, the rear wheels not turning with the front wheels. A drop into the street car tracks will sometimes start a skid; and this suggests the wisdom of keeping out of the street car tracks when they are wet and slippery. It is a good plan to keep out of them anyway, but "safety first" urges it when the rails are slippery.

If the brakes are adjusted unevenly so that they are applied to one wheel more than they are to the other, the car will skid.

Probably the best help against skidding is non-skid chains and on muddy or snowy roads and on slippery asphalt they are essential; but they should not be used except when needed because they do cause undue wear on the tirs. Finally, the best guard against skidding is the driver himself. Accidents happen even to the best of drivers.—Power Farming.

Get Full Power from Engine

The man with a new machine which he has run a month or so is likely to meet with lessened power or other irregularities. This is not the fault of the tractor as the need of shoeing is not the fault of the horse. Some near troubles that may arise are as follows:

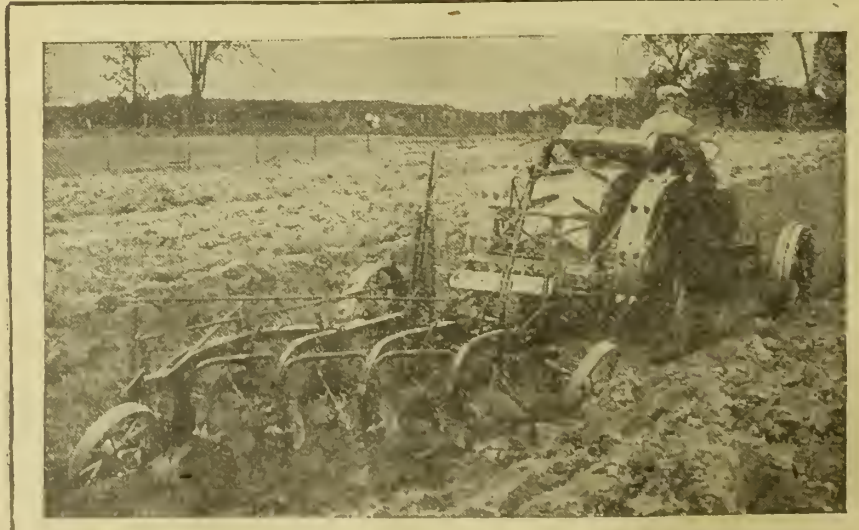
The carbonizing of cylinders is to be expected. This is accelerated by over-oiling, poor oil, unfiltered air to carbureter and the use of a mixture too rich in fuel. New machinery requires over-oiling so carbon deposits are likely to form quickly in a new machine.

Symptoms of carbonizing are, pounding when pulling hard, and over-heating.

These deposits may be partially removed at least by injecting into cylinders alcohol or kerosene, but preferably a mixture of the two, when stopping at night. The next morning the motor may smoke badly for a while but much of the carbon deposit will be blown out the exhaust.

Loss of compression due to defective valves is a common cause of loss of power and, when bad, missing. The writer recently visited a tractor which was giving trouble from loss of power. On turning the engine over by hand it was noticed that one cylinder showed almost no compression, while the other showed below normal. The operator was told to listen at the muffler while the engine was turned. He heard the gases hissing by the exhaust valve and was wiser for next time. The valves, both exhaust and inlet, were even ground and the engine pulled as at its best.—E. W. HAMILTON.

When coasting down a long hill change from one brake to the other to allow them to cool. Unfortunately this does not cool the brake drums. The motor can be used as a brake in going down a very steep hill. Leave the gears in high speed or, if you find that too fast, the second or first speed. Stop the ignition and it will cool your motor at the same time.



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In a recent issue of The Gas Engine a new attachment for moldboard plows, known as a gasoline tiller, is described. This consists of a toothed rotor operated by a small gasoline motor. The engine turns this rotor at high speed and its teeth engage the soil as it comes from the moldboard, pulverizing it perfectly and throwing it out at the rear, thoroughly mixed with the sod, weeds, grass, manure, or any other form of material which happens to be present.

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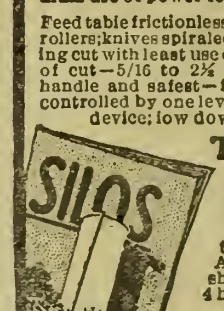

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EXEMPTION OF FARM LABOR

The farms of Kansas are from 15 to 18 per cent short on skilled agricultural labor at the present time. The technical army men like the farm boys as soldiers and are loath to give them up. Many of the volunteers in the regular army and in the various state units have come from the ranks of farm labor. Already the lack of skilled labor on the farms is having its effect. There is even now the greatest uncertainty as to what can be done in the future because of the possibility of having still further inroads made on agricultural labor. Kansas farmers write of the impossibility of putting out the usual acreages of wheat or of how they will have to cut down their farming operations because a son or a hired man has enlisted and gone. Agricultural labor must be recognized as skilled labor, and any great draft upon it is certain to affect the industry. It is impractical to recruit agricultural labor from the towns, as has been suggested. These men and boys cannot take the place of those skilled in the work of the farms. It is certain to result in a slowing up of production.

In creating our army, let us not make the mistake Great Britain made. The British parliament recently announced that no more recruits were to be taken from the farm. No less than forty thousand soldiers were sent back to the farms last spring. Another twelve thousand were released for the period of the hay harvest, and five thousand were promised to help take care of the small grain.

Important as is the soldier, it is not simply the army that will fight Germany. Every industry in the country is involved, and no other is of greater importance than food production. Without food in abundance the finest army in the world will fail.

We believe farmers in Kansas are justified from purely patriotic motives in taking advantage of the offer of the Government to consider exemption claims of persons engaged in industries, including agriculture, found to be necessary to the maintenance of the military establishment or the effective operation of the military forces or the maintenance of national interests during the emergency. The machinery has been provided for establishing the facts upon which to base such claims for exemption. The district exemption boards have exclusive and original jurisdiction. In Kansas the board for the First, Second, Third and Fourth Congressional Districts has its headquarters in Topeka, and that for the Fifth, Sixth, Seventh and Eighth Congressional Districts in Wichita.

All men called out must first appear before the local boards. Men called to appear before the local boards should not attempt to send appeals or statements to the district exemption boards. Claims for exemption must be made on the prescribed blanks which will be furnished by the local boards. The rules are such that time is an essential element. All claims for exemption must be filed with the district exemption boards on the proper blank on or before the fifth day after the mailing by the local board of the notice that the person has passed the physical examination and been called for service. Claims for exemption can be made by the person certified by the local board or by some other person for him. All statements of facts in support of claims for exemption must be in the form of affidavits, and be filed within five days after the filing of the claims. Since the time is short, it is our advice that those who expect to claim exemptions because of their labor being necessary in agricultural production begin at once to prepare the necessary affidavits as to the facts. The district boards are now organized and will soon begin to work.

Those in authority recognize the importance of food production and have provided the machinery for exempting the skilled labor necessary to the maintenance of the war. It is up to the individual, however, to take advantage of the means provided and follow it in detail through the different steps necessary to establish their claims before the exemption board. These boards have a tremendous task before them, and it is absolutely essential that the claims be presented in strict accord with the rules prescribed. Nothing is gained by attempting to present arguments or unsupported statements. This simply handicaps the work of these boards.

It would be a serious handicap to food production if any further reduction should take place in the skilled labor available on the farms of Kansas. The Kansas boy who stays behind the plow is performing perhaps a greater service for his country than the one who goes into the training camp and finally takes his place in the trenches. The farm boy or the farm hand who realizes how essential he is to carrying on the industry with which he is connected should not have the least hesitancy in choosing to serve his country in the place for which he is best fitted, and the way to bring his claim to the attention of the Government is to file his statement of facts in accordance with the rules laid down.

WHEAT PRICE AND CONSUMER

Many people seem to have the impression that the provision for guaranteeing a minimum price of two dollars a bushel for wheat is a measure in the special interest of a very small per cent of our people and detrimental to the great mass of consumers. They argue that since only five or six per cent of our people are engaged in growing wheat, the welfare of the ninety-five per cent should be the determining factor in any price-fixing program. In other words, they wish wheat to be lower in price than the guaranteed minimum.

Wheat is a commodity in such world-wide demand that it is of the greatest importance to keep it within the reach of all classes. This means that whether five per cent or ninety-five per cent of our people are growing wheat, enough must be produced to go around. If the cost and the risk of wheat production becomes too great, the growers simply cut down their wheat-growing operations and produce less. The law of supply and demand is a law of universal application and in the course of time through its operation the people who now complain that it is unfair to guarantee two dollars a bushel to the wheat grower, might find themselves compelled to pay much higher prices.

The wheat grower cannot be expected to expand his business and face the possibility of a serious loss. The certainty that he will receive at least two dollars a bushel will result in maximum acreages of wheat being put out. The consumer is just as much interested in having wheat production return a reasonable profit to the grower as the grower himself. A falling off in production due to the unprofitableness of the business would react on the consumer. If he criticises the position of the Government in its effort to stimulate maximum production through a price guarantee, it is because he holds the two-dollar price so close that it obscures his vision of the future.

PORK-MAKING CO-OPERATION

It requires grain to finish hogs for market. Hogs make large use of pasture and without pasture it is impossible to produce pork economically, but hogs cannot be finished for market without grain. The hog man who fails to raise corn or other grain crop can only cash in his shoats for what they will bring or ship in feed to finish them for market.

Reports have been coming to J. C. Mohler, secretary of the State Board of Agriculture, indicating that many Kansas hog producers are now expecting to be forced to dispose of their whole crop of spring pigs owing to the poor prospects for corn. Great waste and sacrifice will result if these pigs are sent to the packer. The spring shoat is simply a machine for pork production, and the packers do not want them in this immature condition. The world's need for meat and fats demands that these young pigs be brought to maturity and sent to market carrying the largest amount of pork that plenty of good feed will make possible.

In order to see if some means of avoiding this sacrifice of young pigs could not be brought about through co-operation with stock farmers in other states, Mr. Mohler wrote to officials in Missouri, Iowa, Illinois, and Nebraska, making inquiries as to whether farmers in these states might not be in a position to buy and finish these Kansas shoats for market, thus saving them from premature slaughter and increasing the supply of meat. The letters coming back in reply are to the effect that there will be a surplus of corn in these states and many farmers will likely be able to use more hogs than they have raised in marketing the crop. Through press notices sent out in Iowa as a result of this correspondence, a number of inquiries have already been received, some of them stating that several carloads of hogs might be handled if they could be purchased direct from the producer. Other letters have been received asking particulars as to where stock hogs might be obtained in Kansas, in what numbers, their weights, ages, prices, and shipping points. Kansas hogmen with big crops of pigs on their hands and no grain in sight should at once communicate with the State Board of Agriculture at Topeka, giving full information. An effort will be made to connect the Kansas man having a surplus of hogs with probable buyers in these other states.

We have not been in the habit of shipping stock hogs around the country as we have cattle, and for that reason few think of looking for a market for shoats in this way. In view of present conditions it would seem that it is a patriotic duty to co-operate in this movement to increase our meat supply, and it should mean more money for the man who has the stock hogs to sell and the man who wants to buy them to help him market his corn.

It is to be hoped that hog growers will use every effort possible to retain a few of their best breeding animals, as it will be necessary to stock up again on hogs when grain conditions are more favorable. This idea, however, of co-operating with farmers in communities where there is sufficient grain to finish hogs for market should appeal to Kansas hog growers and will result in a great good to the nation.

PAMPHLET ON WHEAT GROWING

The country generally is looking to Kansas to grow a bumper crop of wheat next year. The mark has been set at a 200,000,000-bushel crop. Ten million acres of wheat well planted will do the work providing Nature smiles on man's efforts as she has in times past. It is not entirely a matter of acres. How to prepare ground for wheat and how to sow is the subject of a pamphlet written by W. M. Jardine for the Kansas Council of Defense.

This pamphlet tells of methods that will win in wheat production. They are not simply theories, but methods that have proven their value. The pamphlet should be in the hands of every man in the state who expects to put out any wheat this fall. It can be obtained by addressing the State Council of Defense at Topeka or the Extension Division of the State Agricultural College at Manhattan.

Don't let the present high prices make you too economical with your grain. Even though it appears to be a losing proposition to feed grain to the growing pig, calf, or colt, remember that if he is stunted now your chances of coming out ahead of the game are certainly less than they would have otherwise been.

STOCKMEN'S PROTECTIVE LEAGUE

The National Live Stock Shippers' Protective League will hold its first annual meeting at the Stock Yards Inn, Chicago, August 24, at 10 A. M. This organization, although young, has already begun to make its influence felt. Only a few days ago a committee went to Washington and obtained from the Railroad War Board, which is a special committee of the American Railway Association, the assurance that stockmen of the West would receive the fullest co-operation and assistance in moving their cattle from dry sections. In furnishing cars to move cattle and feed, they received the promise that precedence would be given over all other freight business, even that of the War Department.

This association was organized about a year ago for the purpose of uniting all live stock shipping and producing interests of the country in matters of transportation and legislation. When it was organized a general investigation had been ordered by the Interstate Commerce Commission concerning rates, rules, and practices bearing on live stock and live stock products covering the whole country. The Protective League has already secured much data for the defense of live stock shippers in this case. But for the work of this organization the Interstate Commerce Commission would undoubtedly not have decided as it did to refuse to allow the 15 per cent advance which had been asked for not only as applying to live stock rates but to all commodity rates.

It is to be hoped that representative cattlemen of Kansas may be present at this meeting to be held in Chicago.

FEED NOW SURE

The rains over the state may be too late to have much effect on the yield of grain, but feed crops will respond and make a splendid growth before the growing season comes to an end. With a good supply of rough feed, stock cattle and dairy cows can be profitably handled. They will furnish the means of realizing on the wealth of feed value that will come out of the soil following the rains that have been fairly general over the state. Over much of the state we can count on almost sixty days before the first killing frost. Cane, kafir, and in fact all the sorghums can make a wonderful growth in that time. These crops have not made much showing yet, but where they are still alive, even though small, a reasonable amount of rain will keep them growing until frost comes. It is not too late to sow cane for fall feed. The dairyman facing high-priced hay and other feed can greatly economize on the cost of feeding his cows this fall by sowing a patch of late feed.

It will be of interest to all of our readers to have their minds refreshed on the origin and purpose of the National Farm Congress, under whose direction the International Soil Products Exposition will be held this year in Peoria, Illinois, combined with the annual District Fair and Implement Show, September 18 to 29. The International Farm Congress originated at Denver, Colorado, in 1907, as the Dry Farming Congress. It resulted from the need of a combined movement for better agriculture, especially dry farming in the beginning, throughout the West. The second session was held in Salt Lake City in 1908. Here the International Soil Products Exposition came into being. Without exception every one of the congresses and expositions has been an unqualified success and the hundreds of thousands of men and women who have attended them have been more than repaid for the many miles they have traveled in order to be present.

Sow rye for pasture and save grain. Corn ground from which the crop has been cut for early feed makes a good place for a patch of rye.

EARLY WORK MAKES WHEAT

Proper Soil Management Saved Wheat on Hays Station Farm



PLOWING FOR WHEAT ON HAYS EXPERIMENT STATION FARM JULY 24.—WHEAT STACKS IN BACKGROUND ARE FROM 1917 CROP ON EARLY PLOWED LAND WELL COMPACTED

By C. R. WEEKS, Superintendent

ON the Fort Hays Experiment Station Farm 600 acres of wheat will be sown this fall on its commercial fields. Of this land, 225 acres was plowed by July 25. Plowing of 200 acres more will be completed early in August. The rest of the wheat will follow corn, part of which is in seven-foot rows.

GET GROUND READY EARLY

Every effort is being made to get the wheat ground plowed and resettled as early as possible, especially where weeds are using the moisture. Harvesting of 524 acres of wheat was completed July 13. The very next day two gang plows were started in an eighty-acre field where weeds had come into a thin stand of wheat. A few days later, two more six-horse plows, a 10-20 H. P. tractor pulling three bottoms, and a 20-40 tractor pulling five, were set to work. A sixty-acre field cropped to feterita in 1916 had already been plowed in June, 1917, as a summer fallow in preparation for wheat. Another twenty-acre field where barley failed to make a crop was also plowed early in July.

On our annual "wheat day," June 28, 1917, 125 automobiles brought farmers to Hays from surrounding counties to study the results of the season's wheat experiments. Eleven large fields and 400 small plots were inspected. Yields were estimated by the visitors at two or three bushels per acre for the poorest field, which had been continuously cropped to wheat fourteen years by ordinary methods. The yield for the best field, sixty acres summer fallowed in 1916, they placed at fifteen to twenty bushels. Yields of from seven to eight up to ten or twelve bushels were estimated for fields following corn or on early fall-plowed land. While such yields are usually considered low, these were very striking this season because practically all other wheat in the county failed entirely.

EARLY PREPARATION PRACTICAL

Nearly every summer we hear that early preparation of wheat land is not practical because it is too dry or too hot or too "something." The effort required has however proved worth while at Hays, especially during the past two years. An experiment conducted continuously on the same areas for eleven years shows an average yield of nine bushels from late fall-plowed land; 14.4 bushels from early fall plowing; and 18.5 bushels from land alternately cropped and fallowed. Samples to a depth of six feet have been taken to learn the soil moisture content of these plots several times during each season. Land plowed during the latter part of July has contained twice as much available moisture at seeding time as land not worked until late September. The yields of wheat have been in nearly direct proportion to moisture available when the crop was sown.

AVOID HAVING LOOSE SEED BED

In these times of dry soil and high-priced labor, many hesitate to start work on wheat ground. Land plowed up cloddy, they say, takes too much work later and may remain too loose. This situation was met on the station farm in the fall of 1916. Land plowed six inches deep in August was compacted after light showers came by the use of disks set straight and heavily weighted. A tenant farmer just across the fence plowed steadily during August and September, but like most others in the vicinity, waited in vain for rains to settle the land. All wheat winter killed on plowed land left loose. Enough wheat lived on the station's compacted fields to make seven or eight bushels per acre, which at present prices made the extra work return a good profit. The farmer mentioned above, after watching wheat production at the Experiment Station for several years, has decided to rent one less quarter section next year. This neighbor says that if the station grows wheat next year he will too. He expects to increase profits through having time for a little more careful attention to the rest of his wheat land.

The adoption of early fall plowing, summer fallow, or any other intensive methods of wheat production has been slow, because of such years as 1914 and especially 1915. During these wet seasons wheat on land stubbled in or only disked before seeding often yielded as well as that on plowed land. But fifteen years' figures on wheat production accumulated at the Fort Hays Experiment Station since it was established in 1902 show that years like 1914 and 1915 are exceptions rather than the rule. Careful farmers in Western Kansas who have realized this have made the most money during the past fifteen years. On the other hand, many farmers in Ellis County who have long followed a one-crop system of extensive but less careful wheat farming are now out of seed and cannot pay cash for it.

ROTATE WHEAT WITH FEED CROPS

Wheat has always been and will continue to be the chief cash crop around Hays. It is, however, found most satisfactory to rotate wheat with row crops which are fed to cattle and other live stock. This year, for instance, the station has cut 114 acres of corn in regular-width rows, 115 acres in seven-foot rows, 215 acres of pink kafir, 175 acres red amber sorghum, and forty acres of other sorghums such as feterita and dwarf blackhull kafir; also twenty-five acres of Sudan grass. The station's six silos will be filled from these crops and what remains will be saved as dry feed for the live stock of the farm, which numbered 1,524 at the last inventory. As far as practicable, two rotation systems are practiced on the upland. One rotation includes six eighty-acre fields, each field of which is farmed two years in kafir or other sorghums, one year in fallow or corn in seven-foot rows, and then three years in wheat. The other rotation covers four fields of fifty to sixty acres each. Its arrangement is kafir or feterita one year, fallow the second year, then wheat the third and fourth years. On bottom land corn in regular rows is cut for feed and followed by wheat. All these rotations keep the land in wheat half the time; bring wheat in after wheat, corn, or fallow, but not after sorghums. The sorghums use moisture so late in the fall that only in favorable seasons can wheat get started after them and yield profitably at Hays. Corn growth on the other hand usually stops in August. This year when lack of rain is killing the corn earlier than usual, a normal rainfall from now on should make conditions ideal in Western Kansas to get most of the unusually large corn acreage back to wheat.

RESULTS FROM FALLOW

Wheat after summer fallow usually gives the highest but not always the most profitable yields at Hays. Fallowing once in three to six years is suggested as most desirable in this section. A partial fallow consisting of corn in seven-foot rows has been substituted for fallow on 120 acres both in 1916 and 1917. In 1916 this corn yielded 2.5 tons of silage per acre which, valued at $3 per ton, left a few cents profit above all expenses. Then wheat was drilled the last week in September without further preparation. This wheat started as well as on fallow and looked more promising than that on fall-plowed ground at first. Late in the winter, however, soil blew more on the corn land, as is often the case. This partial fallow therefore yielded less wheat than the regular fallow or fall-plowed land, the surfaces of which were cloddy and rough enough to prevent the spring soil blowing. The regular fallow in this comparison was on sixty acres where listed kafir failed to make a stand in 1916. This field received summer cultivation enough to level the ridges and keep down most of the weeds. A few weeds were left rather than get the land too fine and loose. These weeds, combined with a compact but medium rough seed bed, prevented much damage from soil blowing. Fallowing by the listing method is cheaper than by plowing, and it seems to be quite practical where there is danger of soil drifting.

RISKY TO SOW WITHOUT PREPARATION

Many fields of weeds where wheat failed are still seen in Western Kansas. In some cases farmers intend to drill wheat among them this fall. They expect the weeds to catch enough snow to produce a wheat crop. The Experiment Station realizes that such a plan is easy and has worked sometimes, but for several reasons believes it poor policy this fall. Seed is too expensive to risk on poorly prepared ground. Three pecks per acre may be expected to produce a better stand on well plowed land than five or six pecks on dry, hard, weedy ground. Every day that the weeds are left to grow this summer they are surely using water, which will not be replaced at all if snows are as light as during the past two winters. A crop of weed seed will certainly not help any farmer, or his neighbors either. Where weeds yet stand, it looks safest to plow them under at once, or perhaps mow them for feed. Several profitable experiences with Russian thistles for hay and silage were reported recently by ranchmen to Fort Hays Experiment Station men with the auto truck silo special in Gove, Logan and Wallace counties. For hay, thistles should be cut before the spines harden; for silage they are better if mixed with corn or sorghums.

STATION LAND TYPICAL

Mention of a few climatic and other factors may be helpful in judging how far wheat-producing experiences at Hays can be applied to farm conditions elsewhere in the state. The Fort Hays Experiment Station is located on 3,600 acres just south of Hays in Ellis County. The upland soil used for wheat tests is fairly typical of wheat lands in the western half of the state. The annual rainfall averages twenty-three inches as compared with fifteen to sixteen inches at the Colorado line, twenty-seven inches at Salina, and thirty to forty inches in Eastern Kansas. Three-fourths of the rainfall at Hays comes during the growing season, April 1 to October 1. From July 1, 1916, to July 1, 1917, only 11.6 inches fell, the lowest record since 1894-1895.

Most of the wheat experiences mentioned in this article are based on large commercial fields which the station must farm in the most profitable way. Appropriations available scarcely suffice for the purely experimental work of the station. Crop experiments in 1916 for instance were conducted on 1,889 plots one-tenth acre or less in size. Varieties or cultural methods which look promising in these plots are then put to practical commercial tests on larger areas.

Maxims For Wheat Grower

PLOW early and deep for large yields of wheat.

Each week that plowing is delayed after the middle of July means a reduction of one bushel of wheat to the acre.

Ground that cannot be plowed early should be double-disked and plowed as soon as conditions will permit. Disking is a desirable method of preparing the seed bed when used in connection with plowing, but is a poor method when used alone.

Summer fallow accomplishes for the Western Kansas farmer what early fall plowing accomplishes for the Eastern Kansas farmer.

Weeds rob the soil of moisture; kill them while they are small with a disk or harrow. Ground plowed early and worked sufficiently to keep down weeds will usually be in good condition for wheat by seeding time.

Wheat ground should be left as rough as possible, within limits of good tilth. On finely pulverized soil wheat blows out and winter kills more than on rougher land.

Corn ground free of weeds is in a dry season an excellent seed bed for wheat.

The best way to use straw is as bedding for stock. By this method the moisture content of the manure is absorbed by the straw. What straw cannot be used in this manner can be applied as a surface dressing to soil in the late fall or winter months. Straw should be scattered with uniform thickness at the rate of one ton per acre. The surface dressing acts as a soil mulch and thus prevents loss of water during rains. It also aids in holding the snow and in preventing winter-killing. Three dollars' worth of plant food goes up in smoke every time a ton of straw is burned. Many farmers are overlooking this by-product of the farm.

AUTOMOBILE FARM TOUR

It Pays to Visit Your Neighbors and Study Their Farming Methods

AN automobile farm tour such as was conducted a few weeks ago by the farm bureau of Miami County under the direction of its county agent, O. C. Hagans, is a wonderful educator. Before the advent of the automobile a tour of this kind would have been impossible. This valuable service of the auto is one that will do much to bring about the practice of better farming methods and better farm living.

The farm tour in which farms scattered over a wide area can be visited in a day brings about a community of interest in thought and action impossible without this visiting. People get acquainted with each other and learn of all the best methods being practiced on all the many farms visited. It leads to an exchange of ideas on many subjects and broadens the vision of those who take part. The social feature is no small part of the farm automobile tour. The picnic dinner eaten en route at some shady grove furnishes an event long to be remembered. We have taken part in such visiting trips and speak from experience.

In visiting a series of farms scattered over a county there are always certain outstanding features on the various farms visited. To be of most value from an educational standpoint such a trip should be carefully planned in advance. On a well planned tour special provision is made for having the party see these special features on each farm and have them explained in detail. On one farm it may be an ideal dairy barn, on another a special kind of soil preparation, on another a model farm house, and on some farms some particular crop may demonstrate that the variety being grown is far superior to that commonly used.

These automobile tours taking in a carefully selected group of farms are being actively promoted in many counties where farm bureaus are organized. The members of these organizations who are as a rule the best and most progressive farmers of the county, recognize that there is much to learn by studying the methods practiced by their neighbors. If such a tour is planned in your county, and you ignore it, you are missing an opportunity that would repay you ten-fold for the time and effort required. If no such tour is planned, get together a group of your neighbors and conduct one of your own.

As an illustration of what takes place on these farm visits, we want to give in some detail the events of the one referred to in the opening paragraph. More than 150 people took part in this Miami County automobile tour. There were thirty-three auto loads of men, women, boys, and girls, from the farms of the county who made the trip. At nine o'clock in the morning the cars were all in line at Paola, the county seat, when the pilot car gave the signal to start.

At the first stop made on the farm of John Eckhart & Son the special feature studied was the variety wheat tests which were being conducted on this farm for the benefit of the farm bureau members of the county. This is an upland farm, and in the variety wheat plots they saw that the Miracle and Red Sea varieties of soft wheat had winter killed to the extent of at least thirty-five per cent, showing a very thin stand. The Harvest Queen, Gold Chaff, or Currell, also soft varieties, showed better stands, there being much less winter killing, and all judged that the yields from these two varieties would be much better than from either the Miracle or the Red Sea. The indications at the time of the visit were that the Harvest Queen would be the highest yielder in this upland farm test of wheat varieties. The Red Turkey variety was also in the test and it looked almost as well as the Harvest Queen. This is the first year of the three in which Mr. Eckhart has been conducting these wheat variety tests that the hard wheat has shown up so well. In the years 1915 and 1916 the Harvest Queen and Currell each outyielded the hard wheat more than five bushels to the acre.

At the next stop on S. M. Craig's farm the visitors were shown how a young orchard should be handled. Mr. Craig understands thoroughly the handling of trees and pointed out how he is pruning his young orchard so as to develop properly-shaped tops and good trunks. In the older orchard he also gave them some splendid illustrations of how pruning and spraying will increase the value of the crop.

At Fred Staadt's farm the special feature of interest was the two wooden hoop silos which had been built at a comparatively low cost. These silos are 14 x 30 feet in size. They are made by using matched flooring lumber nailed vertically to a series of wooden hoops, these hoops being made by nailing together several thicknesses of thin lumber. A series of stakes driven into the ground serves as a form around which the hoops are built up. The material in these two silos cost $100 each, and they were built with labor available on the farm. These silos were illustrated in last week's issue of KANSAS FARMER.

At Fred Kohler's a fertilizer test on wheat was seen. The yield of wheat had been more than doubled by the application of 125 pounds of bone meal to the acre. On many of the farms of Eastern Kansas the application of fertilizer and especially phosphorus will be profitable in connection with wheat growing.

A smut prevention demonstration was next studied. This was on the farm of D. M. Lauver & Son. A field of oats was pointed out that had practically five per cent smutty heads. This would mean a loss of at least a bushel and a half to the acre. Mr. Lauver called attention to another field just across the road where the seed had been treated for smut before sowing. In this field not a head of smut could be found. On this farm the value of sweet clover for pasture on a rough, rocky piece of ground was noted. It is hard sometimes to realize that this neglected roadside weed can be made to become so useful. A demonstration such as was seen on this farm would convince the most skeptical as to the value of sweet clover for pasture on land of this character. There is hardly a farm without patches of land of this kind that could be made more profitable by the use of the sweet clover plant.

On the farm of A. L. Lingle some more fertilizer tests with wheat were seen, showing the results of fertilizers on clover. The yields of the clovers, both red and alsike combined with timothy on land that had been top-dressed with manure and land that had been fertilized with bone meal when in wheat were double the yields on land that had received no fertilizer and no manure. Soil fertility problems are getting to be of more than ordinary interest to farmers of Eastern Kansas, and the effects on the clovers of the application of the bone meal and barnyard manure attracted the attention of practically every farmer present.

As the party passed C. F. Bell's farm home near Wellsville, they saw a bluegrass lawn that was far above the ordinary. It gave the house and surroundings a most pleasant appearance and no one could pass by without noticing this fine lawn.

The women of the party could hardly be induced to leave the modern farm house which was visited at the next stop, which was the home of Mr. and Mrs. S. H. Jeorges. Mrs. Jeorges threw open her house from cellar to garret, showing the party every room and every modern convenience. They saw a simple but modern water system supplying water to all parts of the house. The lighting system was natural gas, this section being supplied with this cheap means of illumination. The engine supplying the power for pumping the water was located in the large basement. This engine also furnished power to run the cream separator and the washing machine. All too soon the party had to move on and at 12:30 they camped for lunch under the shade of the trees on the B. J. Sheridan farm. Following the lunch a short program was given. Dean W. M. Jardine, of the Agricultural College, who accompanied the party, gave a short talk in which he emphasized the lessons of the morning as they had observed them on the different farms visited.

As the party approached the farm of S. Lentz, their attention was attracted to the Stars and Stripes waving from a flagpole on the top of a fifty-foot cement silo. On examination they found this silo perfect, without a flaw to be seen.

On the farm of John Downs, which was next in order, the possibilities of maintaining soil fertility by systematically rotating with clovers were observed. There was a fine field of wheat on this farm where the yields have been greatly increased, both by the use of fertilizers supplying phosphoric acid and by following proper rotations. More fertilizer work was observed on Charley Heflebower's farm, where bone meal has been used as a fertilizer on a red limestone soil.

On the M. A. Kelly live stock farm the visitors were given some splendid demonstrations in the breeding and developing of pure-bred live stock. They were shown pure-bred Hereford cattle, Percheron horses, and Shropshire sheep. All were much impressed as a result of seeing what can be accomplished in improving live stock by careful breeding and feeding methods.

Over near the Missouri line the farm of O. A. Gardner was visited and here was seen a renovated orchard. It had been abandoned for several years, but had been taken in hand by a man who understood the business and they saw apples on the sprayed trees well developed and practically perfect, but not a sound apple could be found on the trees which had been left, as a check, without spraying.

On the C. M. Barker farm of 160 acres not a foot of waste land could be seen. It was a remarkable demonstration in intensive farming where every resource of the farm is so handled as to be converted into some valuable product. There were mammoth growths of red and alsike clover, sweet clover, alfalfa, wheat, oats, and the most vigorous appearing corn that had been seen on the whole trip. Sweet clover instead of weeds was seen growing in all fence corners and in every draw. A flock of 150 sheep made a beautiful picture in a pasture where bluegrass, timothy and the clovers were growing with hardly a weed to be seen. Mr. Barker explained to the party that as soon as the oats and wheat are harvested and stacked the sheep will be turned into these fields to pasture on the weeds and grasses that spring up in the stubble. In this way even the weeds are converted into money. Dean Jardine remarked that this farm furnished one of the best examples of economical farm management that he had seen anywhere.

It was getting late in the evening, but the party was so anxious to complete the trip that they voted to go on and visit the other two farms which had been included in the schedule. On one of these—that of J. H. Anderson & Son—they found baby beef production was a feature of the farming. Mr. Anderson told the party that he had fed cattle for thirty years, but during the past five years he had been feeding only calves, as he found he could not afford to handle the older cattle under the system of farming he was practicing.

The last stop was at the farm of J. F. Buckley. Mr. Buckley is selling Grade A milk to Kansas City, Missouri. All his buildings and equipment have been planned so as to make it possible to produce absolutely clean milk with a minimum of effort.

In making this tour the party had traveled over a hundred miles. The roads were dusty and all—men, women, boys, girls, and babies—were covered with dust, but it had been a day full of enjoyment and education. Every one of those who made the trip found something that they could take home and use with profit on their own farms. Such trips should be planned often and the county farm bureaus are to be commended for the progressive manner in which they are making it possible to make the average farming methods practiced equal to the best, as found on the various farms of the county.



MIAMI COUNTY AUTOMOBILE TOUR.—CARS LINED UP AT THE CHARLES HEFLEBOWER FARM



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The earlier ground is plowed for wheat the better. The longer the plowing is delayed, the smaller the yield. The loss is about one bushel per acre for every week the soil preparation is delayed. The average wheat yield at the Kansas Experiment Station for the last six years on ground prepared in the middle of July is 22½ bushels per acre, while the average for the land prepared in September is only fifteen bushels. If the land cannot be plowed, the next best thing is to disk it. This will help get the soil ready and will kill the weeds that sap the moisture from the earth.

Full-grown Hessian fly maggots called "flaxseeds" are in the wheat stubble; in September they become flies and lay eggs in young winter wheat and volunteer wheat. Deep plowing of wheat stubble immediately after harvest is cheap insurance against the Hessian fly. Hessian flies on your neighbor's farm will infest your wheat fields. Organize a community campaign to bury the "flaxseed." Don't let a Hessian fly spend a winter on your farm or in your neighborhood.



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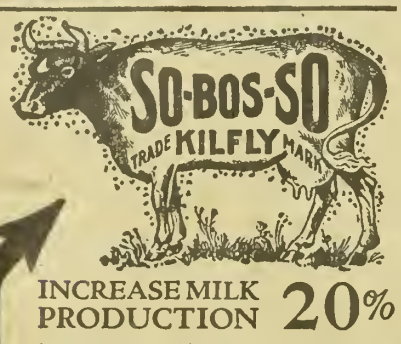

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Kansas Farmer Dairy Club

Variations of Test in Cows

LAST week in writing of his work John Hutchins said he could not understand why his cow varied so in test. In looking over his record we find that in June, 1916, his cow tested 3.7. Two months later the test dropped to 3, and the next month it was 4.5. There were only slight changes from then on until toward spring, the test for April being 4.52 and that for May 4.7. These variations are nothing unusual and about what might be expected in following a cow through the year testing the milk from one day only each month.

There are a good many puzzling things about the variations which take place in the composition of a cow's milk. Cows of different breeds differ in the average richness of their milk in fat and there are quite wide variations between individuals of the same breed. It by no means follows that the cow giving the richest milk will produce the largest total yield of butterfat in a year or a lactation period, a lactation period extending from the time a cow freshens until she dries up before freshening again. As a rule, the cows giving the largest production of fat in a lactation period have tests which are about the average for the breed.

The fat in milk is in the form of tiny globules. They are larger in the Jersey and Guernsey breeds than in the Holstein and Ayrshire. That is the reason the cream on Jersey or Guernsey milk rises so quickly when it is set in an open pan.

The test, or percentage of butterfat in a cow's milk, may vary considerably from day to day as a result of variations in the weather, a change of milkers, the condition of her health, or as a result of any unusual excitement. At the Michigan Experiment Station 200 seven-day records of cows under ordinary herd conditions were studied, a sample from each milking being tested. Seven-day records of two thousand cows that were tested every day in making official advanced registry tests were also studied at this station. As a result of these studies in the daily tests of cows, it was found that there was a possibility that six cows out of a hundred might have a range of three per cent in the test during a period of one week. The greater proportion of the cows of course showed much smaller variations.

In making a test of a single milking where there is no question as to the sample being properly taken, a test either much higher or much lower than is usual for that cow is in all probability not a correct one to use in figuring the amount of butterfat she is producing in a given period. To overcome this possibility of getting a test which is not regular for the cow, it is customary in some herds to make the test for the month from a composite sample taken of three days' milkings. This means that a sample of milk from each milking for the three days is taken and put in a sample bottle. The test is then made from this mixed sample. Any variation would be averaged up by having samples from six different milkings. The sample from the milkings of a single day is not as accurate a means of getting the test for the month, but since only a few cows have such wide variations, this method will as a rule give fairly accurate results. Occasionally, however, there will be a test that does not truly represent the richness of the milk the cow is giving. It may be higher in butterfat than her milk is on an average, or it may be lower.

The richness of the first milk drawn and that drawn last varies widely. The first pint may test less than one per cent butterfat, while the last pint may test as high as nine or ten per cent. This is the reason why all the milk must be drawn before taking the sample, and be thoroughly mixed in the pail.

The richness of the milk a cow gives remains about the same from year to year, although after the cow has been milked through three periods there is a very gradual decline in the per cent of butterfat in her milk. There are no wide variations, however, so if a cow is tested through a whole year and her test ranges from three per cent when fresh to four or five per cent after she has been milked nine months, her tests at the next lactation can be expected to run about the same.

The changes which take place in the richness of the milk as the milking period advances should be understood. When a cow freshens in good condition she nearly always gives a little richer milk for a short time than she does a month or two later. After this slight falling off in the per cent of butterfat, the milk gradually increases in richness and just before the cow goes dry it may run very high. A test of nine or ten per cent in a cow almost dry would not be unusual. It would, however, be very unusual to have such a test in a cow that had been fresh only two or three months. If when you are buying a cow the owner should tell you that she tests eight per cent, for example, you should find out at what time in her lactation period this test had been made. It is not at all unusual for owners of cows who do not understand these variations in test to assume that because a cow had tested eight per cent, this was to be taken as the richness of her milk at all times in her lactation.

While in a general way the butterfat test gradually gets higher as the milking period advances, there is no fixed rule governing the rate of increase for different cows. At the Wisconsin Experiment Station tests were made of 323 cows scattered over the state in a dairy cow competition. The average per cent of butterfat did not vary over .08 of one per cent during the first six months after they were fresh. After this it increased gradually up to nine months and quite rapidly from that time on.

When cows are quite fat at calving time they quite often give milk considerably richer than usual for a short time. This was found out at the Missouri Experiment Station. The reason is that a real dairy cow actually takes fat from her own body when she freshens and puts it into the milk. After a time the body reserve of fat is used up and the butterfat test will come down and from then on will be approximately the same as it has been at previous lactations. If the cow is in very poor condition when she freshens she cannot do this, because there is no fat stored in her body. This is a fact worth knowing, for it shows how the feed given to a good cow while she is dry can come back later in the form of high-priced butterfat.

Many people still hold to the old idea that rich feed makes rich milk and poor feed, poor milk. As a result of many very careful experiments we have now come to know that the milk of each cow has a fairly definite composition, and while it may vary from time to time as a result of various influences, it cannot be changed appreciably by changing the feed. In other words, you cannot feed fat into milk. If you get a low-testing cow, the only thing to do is to feed her so as to get all the milk possible. The more milk, the more butterfat. Test is a matter of inheritance, and the only way to get cows having higher butterfat tests is to save the heifer calves from cows having high tests. We should never forget, however, that the per cent of butterfat is not a sure guide to the capacity of a cow for production. A cow giving milk that does not test at any time higher than four to four and one-half per cent may produce more butterfat in a year than a cow testing five or six per cent.

Lyon County Club Grows

Lyon County has long been given over largely to the handling of beef cattle, but the dairy cow is invading this beef cattle territory. The Kansas Farmer Dairy Club now has forty-seven members enrolled in this county, and the "drive" being made to get boys and girls started in the business of milking cows continues with unabated force.

Charles A. Boyle, club leader in Lyon County, writes:

"Our Dairy Club work is extending to other parts of the county, and we are finding other bankers than those in Emporia who are willing—yes, even anxious—to finance the purchase of cows for our boys and girls. If I am permitted to carry on the work with Mr. Popenoe's help, I am very certain we shall more than reach by estimate of last month and have more than 150 dairy cows in the county in the hands of boys and girls by the first of the year. It will be the biggest thing that has ever come to Lyon County, for I feel certain it will give dairying the biggest boost it has ever had. We must come to this kind of farming if we expect to build up and retain soil fertility."

Regularity in Milking Pays

Regularity in milking is one of the important factors entering into the care of the dairy cow, says a writer in the Jersey Bulletin. The best regulated dairies have a scheduled time for milking, whether it be two, three or four times a day. Allowing equal periods between milkings quite naturally brings best results. The practice of allowing unequal periods between milkings should make no great amount of difference in the production, provided the periods are regular; for instance, the morning milking at 5 o'clock and the evening milking at 3 o'clock.

Breeders having cows on test are always very particular to see that they are milked at regular intervals; if twice a day, at twelve-hour periods; three times, at eight-hour periods, and four times, at six-hour periods.

Irregularity of milking not only affects the quantity of milk, but the test. Regarding this point, Professor Eckles, in his book on "Dairy Cattle and Milk Production," says: "If a cow is milked twice a day at twelve-hour intervals, there is, as a rule, little difference between night's and morning's richness. If the period is unequal, the larger amount of milk and the lowest quality usually follows the longer period."

As to the reason for milking more than twice a day, Professor Eckles says: "Milking three times a day is practiced with heavy-producing cows and with all cows that are being crowded for the largest records, especially if it be for short periods. Few cows can produce over sixty pounds of milk per day with two milkings, and when seventy-five to eighty pounds are reached the production will seldom go higher unless the cow is milked four times each twenty-four hours. When the udder becomes congested to a certain point, no further secretion takes place until this congestion is removed by milking. With heavy producing cows it will pay in a practical way to milk three times daily. With cows of anything like ordinary productive capacity, the increase is not sufficient to pay for the extra labor involved. The richness of the milk is also somewhat increased with heavy milkers by milking more than twice per day."

The general farmer whose help work in the fields and dairy may find it difficult to time his milking hours regularly during the cropping and harvesting season, but the nearer he can plan his milking to a fixed hour, night and morning, the better results will he obtain. The dairy cow easily forms habits. Make those habits regular and she will produce at her best, other things being equal. Change her habits from day to day and the result will be most plainly seen at the pail.

Karl Knaus, agricultural agent of Cloud County, reports that Charles Ashley, of Meredith Township, has just finished a pit silo 12 x 25 feet at a total cash outlay of $76.50. It took one man seventeen days to dig it, which includes the last three days in shale which was very slow digging. This silo has a cement collar seven feet of the depth and cement plastered on the dirt the rest of the way down. This type of silo is very practical where digging is easy and the water table is several feet below the bottom of the silo.

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Creamery or Condensery

THE bulk of the dairying of Kansas consists in selling cream from as many cows as can be conveniently milked and using the skim milk as feed for calves, pigs, and poultry. We fear that some of those who handle the dairy business in this manner, making it simply a part of their general farming, are looking with longing eyes over into the field where there is a market for whole milk. The prices paid for whole milk sometimes seem rather attractive, and these dairymen who are selling cream only become dissatisfied with shipping the little can of cream to the creamery and long for a condensery to locate near by, so as to furnish the market they see the other fellow getting.

Before arriving too hastily at a conclusion in regard to the profits from selling milk, it is well to weigh carefully all the facts. In a circular letter sent by a condensery in another state to milk producers, the statement is made that it is paying $2.10 a hundred for 4 per cent milk, or 52½ cents a pound for fat, while the creamery is paying 36½ cents; that it is paying $1.17 a hundred for skim milk when calculations are based on the price paid for fat by the creamery; that the loss of fat in the skim milk amounts to three-tenths of one per cent; that a cream separator depreciates ten cents a day, and that well water can be substituted for skim milk in mixing mill feed for feeding pigs without affecting their growth. Hoard's Dairyman takes issue with this statement. It points out that these statements are inaccurate and misleading; that it should be unnecessary for any concern to so misrepresent the facts. Condenseries have an important place to fill, as do creameries. Condensed milk is a wholesome and most necessary commercial product and has just as much right to solicit milk from the producer as does the creamery. The writer in Hoard's Dairyman thinks it is wrong and poor business policy as well for any concern, however, to send out misleading information.

In the first place, the farmer receives but $1.90 net for his milk, or 47½ cents per pound fat from the condensery, for 20 cents per hundred is charged for hauling the milk. The creamery nets the farmer at his door 36 cents per pound for fat. A separator that loses .3 of one per cent fat in the skim milk should be fixed or thrown in the scrap heap, for a good separator will skim to .02 of one per cent, as shown by the Babcock test. A separator does not depreciate ten cents per day, for a good separator rightly cared for will last for ten to fifteen years.

It is in under-estimating the value of skim milk that the greatest mistake is made. It has been well established by many carefully conducted experiments that a hundred pounds of skim milk fed to growing pigs is worth half as much as a bushel of corn. Seventy-five cents a hundred, therefore, is a fair value to place on skim milk based on present prices of corn and other grain feeds. Hoard's Dairyman figures out that with reasonable care 3.8 pounds of butterfat would be delivered to the creamery from a hundred pounds of 4 per cent milk.

This statement is based upon the assumption that a loss in handling the milk and cream and separating it would amount to .5 of one per cent of the fat. This is a larger loss than would be sustained if a large amount of milk were produced. The returns for 3.8 pounds of fat at 36 cents a pound are $1.37. There would be 85 pounds of skim milk which, at 50 cents a hundred, would be worth 42.5 cents. The butterfat and skim milk together would bring a return of $1.79. If we value skim milk at 75 cents a hundred the 85 pounds of skim milk would be worth 64 cents and the 3.8 pounds of fat and skim milk on this basis would bring a return of $2.01.

The condensery is paying 53 cents a hundred for skim milk. In short, the prices which the creamery is paying for fat and the returns which can be obtained for the skim milk by feeding it to live stock make the returns from the creamery about the same as from the condensery. The creamery makes the rearing of live stock easier, but the separating of cream and the handling of the skim milk might incur a little more work than selling whole milk.

The manner in which a farmer chooses to sell his butterfat depends largely upon the system of farming which he follows. Those who desire to raise all the live stock possible as a rule find it more desirable to separate their milk and sell the cream only. We cannot afford to overlook the value of skim milk as a farm feed.

Dairying has received a remarkable impetus in certain Kansas communities as a result of the locating of a condensery and the progressive spirit in which these concerns have co-operated in helping to bring in better dairy stock and promote better dairy practices. The larger proportion of those who milk cows, however, must still depend upon the creamery and sell butterfat only. To these we would suggest that the figures given above be carefully studied. A clear understanding of the facts will result in their feeling better satisfied with this method of disposing of their product.

Helping Out Pasture Shortage

This is the season of the year when the milk flow always falls off and the size of the milk or cream check decreases accordingly. The successful dairyman will do all he can to prevent this decrease, or at least to make it as small as possible. Too often though the blame for this decrease is not placed in the proper place, but is attributed to the heat or the flies. These of course are factors to consider, but careful experiments have shown that they are not as important as is commonly supposed. As a rule the controlling factor at this time is the food supply, the grass at its best is not as fresh and succulent as earlier in the season, and therefore the cows will not eat as much, and in addition to this, in many cases the pastures are dry and have been pastured so close as to produce a positive shortage of feed.

Later in the season when cooler weather arrives and the grasses freshen up, the cows will tend to increase in their flow again, but if they have dropped decidedly in milk flow it will be difficult to raise the production again, therefore the dairyman will find it advisable to supplement the pasture with some other feed. Silage will be the best and by far the cheapest feed if it is available. Lacking that, it may be found advisable to cut some of the green corn and feed of an evening. Where neither of these feeds is available, good alfalfa or clover hay might be fed, although the present price is nearly prohibitive, but if it is on hand without having it to buy, it would perhaps be advisable to use it. Feed only a few pounds to each cow. In many cases a few pounds of grain daily will give good returns, as a rule a mixture of several grains will give better results than one alone. This grain mixture should contain a large amount of laxative feeds to counteract the effect of the dry pastures.—ROY M. PHILLIPS, Anderson County.

Dairying and Good Roads

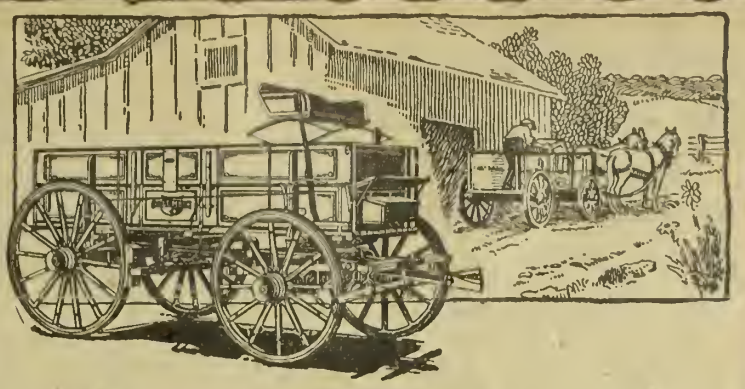
We just received the following letter from J. Frank Smith, manager of the Kansas Good Roads Association:

"I have been greatly pleased to note the many good articles on dairying that have appeared in KANSAS FARMER the past few weeks. For many years I have had three 'hobbies,' good roads, dairy farming, and consolidated country schools. Whenever I find a paper or an individual advocating any one of these propositions, I always feel like expressing my appreciation, and I wish to commend KANSAS FARMER for the splendid manner in which it is boosting the dairy business.

"When I read that Wisconsin produces annually over a hundred million dollars' worth of dairy products and is doing this every year whether they have dry weather or wet weather, I feel that the farmers of Kansas should at least try the dairy cow and give her a fair chance. One of the worst enemies to dairy farming in Kansas is the unprofitable milk cow. She is hardly entitled to the name of milk cow or dairy cow. She is a 'boarder' and does not pay for her feed, yet she is in a majority in about every bunch of milk cows on the farms of Kansas.

"With ten or more first class well kept dairy cows and a silo on every farm, a regular monthly income is assured. Where such farming is practiced, good roads and consolidated schools are sure to come.

"Dairy farming will build up the soil faster than any other method of farming and will make more money every month with less chance of loss than any other system of farming. These are my convictions after ten years of close study of the subject, and if any farmer doubts the proposition he should make a trip through Wisconsin or Michigan and see for himself."



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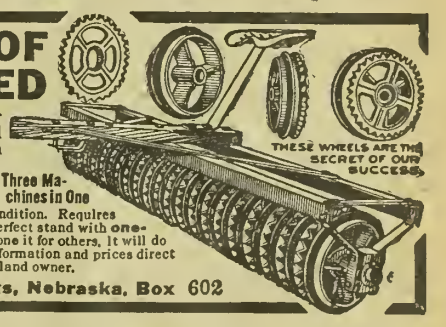
WINTER KILLING OF WHEAT PREVENTED

Millions of dollars were lost by seeding winter wheat last fall in loose, lumpy, unpacked and poorly prepared seed beds. Will it pay to seed in such seed beds again?



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Economics of the Seed Wheat Pool

THE seed wheat pool of the Kansas Council of Defense is now well organized and many counties will take advantage of this opportunity to increase the wheat acreage without investing additional capital. The discussion which has taken place all over the state where the plan has been talked brings to light a curious question.

In ordinary commercial transactions it is often the case that one man's gain is another's loss. Peter is robbed to pay Paul. One hears the question, "If investing in the seed pool is such a fine thing for the man who furnishes the money, isn't it a hard plan for the farmer?"

Or, on the other hand, one hears, "If it is a good thing for the farmer, it must be a burden on the man with the money."

Neither proposition is true. Both win when they go into the seed wheat pool, in an ordinarily good year. The reason is that it gets down to the basic problems of production.

Practically every farmer who needs or could advantageously use seed wheat from the pool is perfectly willing to take it on the fifth-crop share plan.

The plan relieves him of investing large capital in seed. Perhaps he could use money to advantage in feeding his cattle, for feed and hay are high-priced and he must see his stock through the winter. A long experience in the wheat belt, especially the western portion, has demonstrated that a one-fifth share is a very acceptable basis for farmers.

A farmer who died three or four years ago in one of the western counties, worth at least $50,000, dated his success from the time he secured seed wheat on the share basis. One year in the pioneer days he had a complete failure and found himself completely "broke." He happened to have a neighbor who offered to "stake" him to some seed. He was willing to give one-half share and jumped at the chance. He got a good crop the next year, gave his neighbor half, had enough left to buy some cows, and made good from then on.

Looking at the other side of the question, one finds upon examination statistics that the counties which are now deficient in wheat have averaged 8.85 bushels per acre in the past ten years. From one-half to three-quarters of a bushel is enough to seed an acre in these counties, for the wheat stools freely there, and the experience of the most successful wheat men has shown that when sowing is done at the right time there is no necessity of sowing a bushel or a bushel and a half per acre.

On a three-quarters of a bushel basis the yield would be 11.8 times the amount of seed, taking the ten-year average. The man who furnished the seed would therefore get one-fifth of 11.8 bushels, or more than two bushels in return for every bushel furnished.

This would be getting more than 100 per cent interest on the money, on an average yield, assuming that the price of wheat will be the same next year as it is this year. Indications are that the price will be higher.

But indications also show that the yield will be higher than the ten-year average. Past history has shown that a failure is always followed by an excellent crop. In 1913 there was a very poor crop. In 1914 the state record was broken, and the counties which are now deficient averaged 19.85 bushels per acre. A little figuring will demonstrate the fact that the interest return on the money of the investor will amount to several hundred per cent, if next year's yield is like that of 1914.

"It looks good to me," said one of the traveling men for the Delco Light Company who was in Wichita this week. "I am going to put money into it. And if I win, it also means more business for the company. We all want to see a big wheat crop."

And so the figures and facts of the wheat situation show that the "pool" plan of seeding the state is one in which every one wins. It puts money to work which otherwise would be idle. That is the great secret of its producing power and its way of making everybody win.

In spite of poor conditions for feed crops, the farmers of McPherson County are interested in getting dairy cows. It has just been announced that some time this month a meeting will be held of all those interested in shipping in dairy cattle this fall. With such reports coming from various sections of our state, it would seem that there will be no need for sending good dairy cows to the block. There will be farmers somewhere in the state ready to take any that must be sold.

Wheat Growing "Movie"

Competition between a father and son in the growing of thirty acres of wheat by two methods is the basis of an interesting story told in a "movie" that is now being shown in the picture houses of the state under the auspices of the Kansas Agricultural College and the Kansas Council of Defense. This picture, "Winning With Wheat," is being run by the managers of the picture houses as their contribution to the national food production campaign.

Seed bed preparation and planting methods that are responsible for the difference between a 38-bushel wheat yield and a 15-bushel yield are featured in the picture. A wholesome sort of romance develops while the crop is growing and each seems to have an important bearing upon the other.

This picture is the kind that "leaves a good taste in the mouth" and stimulates thought on the possibilities of wheat growing in our great state when the best known cultural methods are employed. All the pictures for the film were taken in Kansas and the two fields showing the great difference in yield on account of different farm methods are within a few rods of each other and the yields shown are those for the present year.

No admission charge is made for the picture. Announcements of dates are being made by merchants and in the local papers.

Storing Potatoes

Most of the potatoes are now mature. M. F. Ahearn, associate professor of horticulture at the Agricultural College, says that it is best to leave potatoes in the ground as long as possible after the vines have matured, provided the weather remains dry and hot.

If this method is followed, the weeds should be permitted to grow for the purpose of shading the ground and preventing sunburn and also to take up the moisture in case of rain in August. Rains followed by hot days and nights will cause the potatoes to start a second growth or to rot. Potatoes left in the ground till late fall should be hilled if the weeds are not present in sufficient quantities to shade the ground.

There are many ways of storing potatoes in the winter. A small acreage may be stored in pits, dugouts and cellars. The tubers keep best at a temperature of from 34 to 36 degrees. A higher temperature when the potatoes are first stored will not hurt them. When stored in the cellar the potatoes should be placed in bins to the depth of about one foot, or better in boxes raised a few inches from the floor. Boxes or bins may be placed in tiers if provided with air spaces.

Vegetable Storing in Basement

The cellar of the furnace-heated house is not a good place to store vegetables. The pipes are as a rule carried under the joist, thus warming the cellar to some extent. For this reason it is best to partition off a small room in one corner of the cellar to serve as a storage room for potatoes, beets, carrots, parsnips, salsify, and turnips. If possible, this room should have at least one window for the purpose of regulating the temperature. The floor should not be concreted, as the natural earth makes better conditions for the keeping of vegetables. Bins may be constructed for the various products, or they may be stored in boxes, baskets, or barrels. This room will also serve as a storage place for fresh fruits and canned goods.



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Grange Day at Valley Falls

Monday, July 23, was Grange Day at Valley Falls. A. P. Reardon, formerly state master, who was present, writes that it was a busy time for farmers, who were cutting oats, threshing, and stacking hay. By noon, however, a goodly number had assembled and tables were spread for the picnic dinner. This is a fine feature of such meetings. Breaking bread together where the town people mingle with those of the country helps to smooth out many misunderstandings.

Following the dinner the program of the day was opened with the invocation by Alfred Docking, followed by an address of welcome by Mayor O. F. Falls. State Master B. Needham, Senator Frank Pomeroy, Mr. Docking and others made talks. At 3 P. M. National Master Oliver Wilson addressed a large and most appreciative audience. "It was well worth while making a special effort to hear what the National Master had to say," writes Mr. Reardon. His only regret was that more could not have heard the able address given.

Farm Power and Production

The limiting factor in American agriculture now and during the continuance of the war is man labor. The problem of the American farmer will be how to increase the efficiency of man labor in order that he may produce maximum crops and produce the maximum number of animals.

One way to increase the efficiency of man labor is to increase the number of draft horses on the farm. There will be

a greatly increased demand for powerful draft horses, and the farmer who has brood mares and fails to breed them to the best possible draft stallions will lose a great opportunity. The demand for horses will be greatly stimulated by the industrial activities essential to the successful prosecution of a great war. Farmers should refuse to sell breeding stock at any price. Every breeding animal in America should be bred this year. —F. B. MUMFORD.

Buying Seed Wheat

The Seed Wheat Committee of the State Council of Defense offers its services to those wishing to purchase carload lots of seed wheat for cash.

If you wish to purchase one or more carloads of seed wheat for cash, send your order to the Seed Wheat Committee, Topeka, Kansas, and this committee will endeavor to place it promptly with some reliable grain man, miller or farmer having suitable wheat for sale at a reasonable price. In many counties having a surplus of good wheat the grain men and millers have offered to fill orders for seed from the Seed Wheat Committee absolutely without profit and with carefully selected seed.

The shipper of the wheat will draw upon the purchaser direct at sight with bill of lading attached, as is the custom of the grain trade. In addition to the cost of the wheat at point of shipment the purchaser must, of course, pay the freight charges to his station.

Before an order is sent to the Seed Wheat Committee, the money to pay for the wheat must be on deposit in the bank of the purchaser, and a statement to this effect must accompany the order.

The Seed Wheat Committee cannot undertake to secure always the shipment of the exact number of bushels ordered, if this is stated in the order, for a car of the required capacity may not be available, but the instructions of the purchaser will be followed as closely as possible.

The order must be for not less than 1,000 bushels, for a smaller quantity cannot be shipped at carload rates.

One man may order a car, or any number may join in doing so. No organization, county or otherwise, is necessary.

The Seed Wheat Committee will handle only wheat that is to be used for seed and which will be sold at cost by the purchaser to those wishing seed, if the full amount ordered is not for his own use.

The right to refuse any order submitted is reserved.

To cover the necessary expenses connected with the work of the Seed Wheat Committee, a charge of one cent per bushel will be made on all cash orders. This amount will not be included in the draft made by the shipper, but will be rendered in a separate bill to the purchaser.

Facts About Paint

Proper painting is an important factor in preserving buildings from decay. Deterioriation of paint is caused by the natural agencies of moisture and heat coupled with the lack of attention to the composition of the paint and to the nature of the surface to be covered. H. H. King, associate professor of chemistry in the Kansas Agricultural College, points out that good paints are frequently misjudged and condemned merely because proper care was not exercised in mixing the paint or the surfaces when the paint was spread were not in a condition to hold the waterproofing film firmly. Some very valuable investigations on paints and painting are being made by Professor King and reports will be given out as the work progresses.

Chalking is one of the commonest defects found in paint. A black cloth rubbed over the painted surface will show streaks if the paint is chalking. The chalky substance which rubs off consists of the pigments used in the paint. When the oil in which the pigments were suspended has been oxidized and removed, the pigments are set free.

The chalking is usually due to the character of the pigment employed. A white lead pigment is especially likely to chalk. A portion of zinc oxide pigment may be used to counteract the chalking tendency due to its property of hardening the surface. In the experiments conducted at the Kansas Agricultural College it was found that a lead and zinc base with a small amount of some inert pigment shows less tendency to chalking than those composed of white lead alone. A slightly chalked surface, however, is desirable for repainting, because it is more absorbent.

The tendeney shown by some paint films to develop blisters is attributed usually to an excess of moisture underneath the paint film at the time of its application. These blisters vary a great deal in size and shape but possess the appearance of an ordinary blister. The blisters will be found upon wooden surfaces painted when damp or where a house is painted before the plaster on the inside dries. The only safe plan is to paint only when the wood is dry and seasoned.

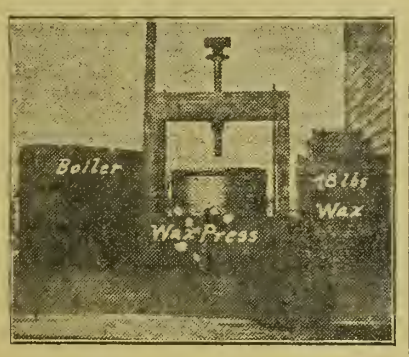
When the last coat of paint fails to anchor firmly to the under coat, a cracking results and forms a defective surface which is called "alligatoring." The cracks form blocks, triangles and all sorts of irregular figures which detract from the appearance and value of the paint. This is caused by the outer coat being applied before the under coats are thoroughly dry. Using some pigment like ocher in the priming coat will almost invariably produce "alligatoring" in the subsequent coats. The best preventive measure is not to apply a coat of paint until the previous coat is thoroughly dry.

Peeled paint is another common defect observed. Peeling is usually found upon surfaces that have been painted after a frost or heavy dew when the surface itself was saturated with moisture. Under such conditions the priming coat fails to make the proper penetration into the wood and the subsequent coats peel off. The nature of the surface should govern the amount of turpentine added and an excess of oil is sure to cause trouble. The separation of the film from the wood is due to the lack of penetration. The secret of success in painting depends largely upon the priming coat.

Preparing Beeswax for Market

During the season of 1916 I produced around a ton of extracted honey and forty-eight pounds of beeswax. This wax was obtained principally from cappings, and some from old crooked combs from which colonies had been transferred into modern hives.

In the production of extracted honey the full sized frames of comb are uncapped; that is, the ends of the cells or faces of the comb are cut off with a special uncapping knife, after which they are placed in a honey extractor which has wire baskets or pockets to receive them. They are then revolved in the machine and the honey is thrown out by centrifugal force.



APPARATUS USED IN PREPARING BEESWAX FOR MARKET

The cappings are allowed to drain several days till practically all the honey has separated from them, after which they are ready to be rendered into wax. My wax outfit is very simple and consists of a wash boiler, a wax press, and several empty lard cans. The cappings and old comb are placed in the boiler with a bucket or two of water and all is brought to a boil, care being taken to see that it does not boil over. The empty lard cans are placed under the press and a piece of burlap is laid in the press and the wax and water is poured through the burlap. Pressure is then applied with the press screw, which forces the balance of the water and wax out, not enough remaining to pay for a second rendering. The lard can with its contents is left to cool slowly. The wax will form into a cake on top, leaving the water below.—F. E. POISTER.

Grit is the hen's teeth and it must be sharp. Often hens kept on stony places must be fed grit because the pieces of local stone are so rounding that they do not grind the feed well.

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KANSAS FARMER READERS CAN BE OF GREAT HELP TO THEIR FAVORITE FARM PAPER NOW

KANSAS FARMER comes to you through the mails. It is distributed under the jurisdiction of the Post Office Department, which has made some new rulings which the publishers of KANSAS FARMER must observe in respect to the procuring of subscriptions. During these critical times the rulings may be changed at any time, at the option of the Post Office Department.

We feel that you want KANSAS FARMER, because it is strictly a Kansas paper and is striving to help you in your work, and you certainly do not want to miss the good things that this old paper carries each week for the betterment of farm conditions. We do not want to discontinue your paper. We are very anxious to retain every one of our subscribers. In order to do so, we must urge that you send us your renewal subscription at once.

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International Specials

Entries in the Short Fed Specials at the International Live Stock Exposition must be made between August 1 and August 15. This is a new classification and prizes amounting to $350 are offered. To compete, the cattle must not have been fed grain or other concentrated feeds between May 1 and the time application is made for entry. After that time the feeder can feed anything which in his judgment will accomplish the best results within the feeding period. In judging these exhibits, quality and finish will count 50 per cent, gain 25 per cent, and economy of gain, 25 per cent. This means that a record of the kind, weight and cost of feeds consumed during the feeding period must be kept by the owner, who will deliver this information, together with the weight of the animals at the time of entry, to the Superintendent of the Carlot Division on the opening day of the exposition. The rules and details can be secured by addressing the Secretary of the International Live Stock Exposition at Chicago.

We hope many of our boy readers sent for a copy of the booklet entitled "Profitable Sheep Production on the Farm," which was advertised in KANSAS FARMER recently by the Bradley Knitting Company, of Delevan, Wisconsin. We have already referred to the prizes being offered by this company to boys who write the best examination papers on this pamphlet. Not in years have the opportunities in sheep production been as good as they are at the present time. We believe sheep should be introduced on many of the farms of Kansas. They can be made a source of great profit even under ordinary conditions, and at the present time, due to the war, wool is bringing higher prices than for years.



HOLD COLT SHOW

IT IS not too early to begin working out the details for the fall colt show. Many such shows are being regularly held in various sections of the state, and it would be found profitable to hold more. Dr. C. W. McCampbell, secretary of the Live Stock Registry Board, says that a properly conducted colt show is the best possible means of arousing interest in better and more efficient farm horses.

Work should begin early in order to give the management plenty of time to make a thorough canvass among the colt raisers for entries. The manager should be a live man and not merely a good fellow, for the success of the show will depend largely on what is done in advance.

October or the first part of November is the best time of the year for holding a colt show. By this time the colts usually have been weaned and broken to halter and can be shown to the best advantage.

Stallion owners should co-operate in this work if the show is to be successful. This does not mean that they should simply be asked to contribute prize money, but that they should be made to feel that they are being benefited by the show and that its success is of commercial interest to them.

The show may be held in connection with the county fair, or a county or even a township may have a good colt show apart from the county fair.

A large number of prizes and ribbons should be given in each class. The honor of winning prizes should be emphasized rather than the amount of money received, for the latter is soon spent while a ribbon is kept and prized by the whole family.

Exhibit Kansas Percherons

From present indications the demand for draft horses is almost sure to increase, but there will be a more discriminating demand than that which has existed in the past. In the future buyers of draft horses will insist upon well-grown and well-developed individuals. Breeders with this class of horses will be well repaid for their efforts providing proper publicity is given their stock. Experience has proven that the most effective kind of publicity is that given through showing at the state fairs. The big Free Fair at Topeka offers excellent opportunities for such publicity, and the management of the big Free Fair is trying this year to give the Kansas Percheron breeder extra opportunity by providing a special class for Kansas-owned yearling Percheron stallions, also one for Kansas-owned yearling Percheron fillies. Two hundred dollars is offered in each of these classes. Colts shown in these classes are also eligible to show in the open classes.

The Kansas State Fair held in Hutchinson the week following the Topeka Free Fair also has a most liberal classification for Kansas-owned yearling Percheron stallions and fillies. Every Kansas Percheron breeder should make an extra effort to show in these classes. The open classes are very attractive and the premiums liberal.

Kansas Percherons have not been bringing the prices they justly deserve, largely because their worth has not been well enough known. With the bright prospects for the increased future demand it is hoped that Kansas draft horse breeders will show their horses at the Kansas fairs this year.

Keep Pigs Growing on Pasture

Keep the pigs growing all through the summer. It is the pig's business during this time to develop a good frame, to grow bone, muscle, and vital organs, and to lay on fat. Plenty of pasture, some grain, exercise, and good sanitary quarters are all necessary if the spring pig is to be thrifty and profitable.

Good pasture keeps pigs thrifty and cheapens pork production. They should be kept on pasture as long as possible and gain the benefit of its cheap nutrients, especially mineral and protein, and its tonic and digestive qualities. But pigs on pasturage alone, even alfalfa, need some grain supplement. The amount of grain or other concentrated feed used would depend on how much pasturage is available, on the cost of grain or other feeds, on the age and condition of the pigs, and the time at which they are to be marketed. To be ready for the early fall markets, spring pigs must be fed a heavier grain ration than pigs intended for the winter market.

Less protein supplement is needed when pigs are run on alfalfa or other leguminous pastures. Under most farm conditions the pigs will gain well on a one to two per cent grain ration, which means one to two per cent of their weight in grain daily. The self-feeding method makes for cheap and rapid gains. If the grain ration is limited, the hand-feeding method is better. By feeding once a day in the early evening, pigs take greater advantage of the pasture and graze hungrily during the cool of the morning or afternoon. Plenty of fresh, clean drinking water always should be available.

Pigs on pasture usually get enough exercise. They should have a clean, dry, well ventilated shelter to guard against exposure to storms, and to supply shade. A concrete wallow will add to the pigs' comfort, and a layer of oil on the water will keep down lice. Clean bedding also helps to keep away lice, as will an oiled sack on a rubbing post, or sprinkling the pigs with crude oil every two weeks.

To supply mineral matter and a tonic, the following mineral mixture is good. It always should be accessible. Dissolve the copperas in hot water and sprinkle over the mixture: Copperas, two pounds; slaked lime, four pounds; wood ashes, one bushel; sulphur, four pounds; salt, eight pounds; fine charcoal, one bushel.

Farm Sheep Stories

The county agent of McPherson County has gathered some interesting stories of how sheep have been made to return good profits by farmers of that county.

M. O. Kilmer, of McPherson, at a public sale on January 24, 1917, bought twenty-one head of western lambs for $144. He grazed them on rye pasture and waste places on his farm, fed them two tons of threshed alfalfa, and sold them at public sale, May 24, for $209. Meanwhile he had clipped from them seventy pounds of wool which he sold for $92, giving him returns of almost $7.50 per head for his feed and labor.

J. H. Wendt, of Inman, has two reasons for keeping sheep. They are the most profitable animals on his farm, and they keep the farm free from weeds. Last winter he kept over thirty-one ewes which raised twenty-nine lambs. Their wool sold for $128 and the lambs are selling now for from $7 to $9 each. He figures that his expense is about $2 per head per year, and moreover, he has the satisfaction of having his farm free from weeds.

Some years C. C. Gatz, of McPherson, has kept as many as forty head of sheep, but finds twenty-five to thirty head best adapted to his conditions. He raised twenty-nine lambs from twenty-eight ewes this spring. His ram cost him $8 last fall, and sheared $9 worth of wool this spring. He finds sheep very profitable, but emphasizes the importance of providing good fences for handling them. He never feeds his sheep grain.

A. B. Jenkins, of Lindsborg, fed about 6,000 head of sheep last winter at a profit of over $3 per head. He does not advise farmers to feed sheep, but thinks that every farmer should have a flock of twenty-five to fifty head to clean up the waste around the place, in the stubble fields, and later in the corn fields. To get into the business he suggests the purchase of broken-mouthed western ewes. After these raise a crop of lambs, they should be sold and the lambs kept for breeding purposes. Such ewes must receive good care, however.

In view of the success of these men with sheep, the county agent believes that many of the farmers of the county would find it profitable to add sheep-raising to their enterprises, and he will be glad to assist in securing breeding stock, and in any other way possible.

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HONEY.

HONEY—NEW CROP. SEND FOR PRICE list. Bert W. Hopper, Rocky Ford, Colo.

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WANTED—SECOND HAND CLIMAX ENsilage cutter. American Silo Supply Company, Kansas City, Missouri.

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SEED RYE AND WHEAT. LAWNDALE Seed Farm, Hiawatha, Kansas.

FOR SALE — ALFALFA SEED FROM Northwest Kansas, 95% pure, good germination, $5.50 per bushel. Best bags, 40c each extra. Geo. Bowman, Logan, Kansas.

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MISCELLANEOUS.

FERRETS—FEMALES, $2.50; MALES, $2; pair, $4. H. G. Hardy, Wellington, Ohio.

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THE STRAY LIST.

TAKEN UP—ON THE 23D DAY OF DEcember, 1916, by P. Whitman, of Marienthal, Wichita County, Kansas, one bay horse 10 years old and one bay horse colt one year old. No marks or brands. Dean Trueblood, County Clerk, Leoti, Kansas.

TAKEN UP—BY MARTIN GRUEMKEN, in Sand Creek Township, Meade County, Kansas, about the 12th of October, 1916, two steers, coming twos, red with white faces, branded I G on right hip. Worth about $70. W. W. Pressly, County Clerk, Meade, Kan.

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We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

When canning is not feasible or cans and jars are too expensive, drying offers a means of saving large quantities of surplus products which go to waste each year. Drying also affords a way of conserving portions of food too small for canning. Drying may be done in the sun, over the kitchen stove, or before an electric fan. Farmers' Bulletin 841 tells just how to do this, using one of the driers now on the market or a home-made apparatus.

Health Suggestions

During the hot summer weather it is necessary to be especially watchful of one's health. In a bulletin entitled "Suggestions for the Health of Children," published by the New York College of Agriculture at Cornell University, Helen Knowlton makes the following recommendations, which are just as conducive to the health of grown-ups as to that of children.

Drink plenty of water. The habit should be formed of drinking a glassful of water before breakfast in the morning.

Frequent baths are necessary to keep the skin in such condition that it can freely give off waste products.

Sufficient time should be allowed for eating meals slowly. Breakfast is the meal that is usually hurried. A special effort should be made to have the rising hour sufficiently early to prevent an excuse for swallowing the breakfast whole.

A regular daily movement of the bowels is absolutely necessary for health. The eating of proper food helps to prevent the occurrence of exceptions in this habit. Colds are frequently the result of constipation and a wrong dietary.

When food is allowed to remain on the teeth, it causes them to decay. For this reason it is well to brush the teeth regularly before breakfast, after each meal, and at night before going to bed.

Follow Canning Directions

The United States Department of Agriculture and the various state canning club leaders have furnished a large amount of carefully worked out information on the home preservation of food products.

The faithful following of the approved methods and directions given is the only safe road to success in canning. Housewives who carelessly practice methods that are new to them or who attempt to "improve" on the methods or to make short cuts, are taking a risk of spoiling good food. Canning is essentially a scientific process, however much it may have been simplified for home use.

Careful study has been made of the essentials for the preservation of food products, and all steps not absolutely necessary have been eliminated. There is good reason, therefore, for each step which is advocated. If home canners profess to follow any particular method recommended, they should follow it in detail; and if they fail so to follow it, they should frankly recognize that not the method but the application of it is at fault. Especially there should be no mixing of methods, whether those of the department or others. One method should be adopted and followed carefully in canning any given batch of products.

In the one-period cold-pack method of canning in particular, canning has been simplified greatly as compared with some other methods. For this very reason, every step called for in the directions is essential, and not one should be omitted or performed otherwise than as indicated. Specialists who have worked out and demonstrated this method of canning for the last five years, have investigated all reports of the spoilage of products, and have found in every case that the trouble was due to faulty equipment, including poor rubbers and containers, to failure to follow the directions carefully, to the use of old or spoiled vegetables or fruits, or to the local occurrence in certain vegetables of unusual spores which prove troublesome even under commercial canning practices. By following the simple directions exactly the specialists themselves have put up with home-made water-bath outfits, without loss, thousands of jars and cans of various products.

The following points especially should be kept in mind when canning by the one-period cold-pack method:

Test jars, and use only those free from flaw.

Use only good quality live rubber rings.

Use only fresh, sound vegetables or fruits.

Wash products thoroughly.

Blanch in boiling water or live steam—hot water or vapor will not do.

Dip in cold water—not tepid or warm water.

Dip quickly into and out of cold water—do not soak.

Pack into jars immediately—do not let the dipped products stand uncovered while you attend to something else.

Be sure the jars are hot when the product is put into them. They can be kept hot in vessels of boiling water.

Place the top and rubber on each jar as it is filled—do not wait until all the jars are filled.

Place the jars in boiling—not merely hot—water deep enough to cover them entirely—not merely part way up the side of the jars.

Sterilize for the full time indicated in the directions. Count time after boiling point has been reached.

After sealing, turn jars upside down to cool, so that those with leaky seals may be found easily, and so that their contents may be resterilized in tight-sealing containers.

Store in a cool place—not in a hot kitchen or attic.

Above all, plan so that you will not be interrupted. Then work quickly, and devote your whole attention to the work in hand. Let all other housework go, if possible, until all the jars are in the sterilizer. Any delay in performing the steps between blanching and sterilizing means risk of loss.

Left-over jellies and fruit butters can be used for cold drinks. Juices left from



THIS young lady is a member of the Carlyle, Kansas, High School. When the field meeting was held on the A. M. Dunlap farm near town to study the results of the co-operative experiments being conducted under the direction of the Kansas Experiment Station, the members of the senior class were excused from their books for the afternoon to study from Nature's book. This member of the class is standing in a luxuriant plot of alfalfa on upland soil where it had hitherto been impossible to grow this crop. The rankness and vigor of the growth is clearly shown. Applications of lime and barnyard manure made this success possible.

canning also are good in drinks. Such drinks made of cold spring water or ice water are very refreshing and if not made too sweet they quench thirst better than does water.

Utilization of Fat

One of the things which helped Solomon to gain his reputation for wisdom was an ideal of womanhood greatly in advance of the age in which he lived. In his description of the "worthy woman" whose "price is far above rubies," one of the prominent virtues mentioned is that "she looketh well to the ways of her household."

This never was more necessary than at the present time. One thing which it behooves the careful housewife to watch is the use of scraps of fat which come into the kitchen. When trimming meat at home all fat should be saved and rendered. If the meat is trimmed at the market, ask that the trimmings be wrapped with the meat.

Any fat from pork can be rendered and used in cooking. Unrendered rind that is cut from bacon, ham, or shoulder makes an excellent grease for griddles, skillets, or other pans. The excess fat from bacon is very good for gravy or for frying eggs or browning potatoes or parsnips.

Beef fat or suet can in most cases be substituted for lard and is much cheaper. The fat from mutton or lamb may be used in making soap or in making tallow that is good to prevent the hands from chapping. Cracklings that remain when fat is rendered may be used in soap, corn breads, spice or fruit cake, or for chicken feed.

Chicken fat, rendered, makes an excellent cooking fat which is especially good for biscuits, corn bread, muffins, or spice cakes.

During the hot weather the corset that is worn regularly should be scrubbed often. This can be done easily by using a clean brush and clean warm soap suds. The brush will be effective in rinsing it, too. It is not possible to wring it much, but if hung in the sun it will soon dry.

When canning tomatoes, remember that they can be used for salad and can at least some of them whole. They will be very appetizing next winter served with salt and pepper and lemon juice, or with an oil dressing.

Your grandmother dried vegetables and fruits before canning was known.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8237—Children's Rompers: Cut in sizes 2, 4 and 6 years. The pretty pair of rompers illustrated is really very easily made, though the smocking makes it appear quite fancy. A touch of it on the sleeves, pocket and at the waistline is very effective, but it may be omitted if you consider it too much work. Round neck with collar or square-cut neck may be used. **No. 8240—Ladies' Blouse:** Cut in sizes 36 to 42 inches bust measure. Linen, taffeta or satin can be used for this blouse with the trimming of braid. The blouse is made with drop shoulders and has a duchess closing at the front. The sleeves may be long or short and if the long sleeves are used they are finished with a pretty cuff. **No. 8239—Girls' Dress:** Cut in sizes 6 to 14 years. The blouse of this dress is separate and closes at the center front. It is held in at the waistline with an elastic run through a casing, which gives it the blouse effect. The skirt is no trouble at all to make, as it is just a two-gored model with a straight belt. **No. 8253—Ladies' Combination:** Cut in sizes 36 to 44 inches bust measure. A practical undergarment which is unique because it combines the popular envelope chemise style with the familiar combination, is given in No. 8253. The garment opens all the way down the center front, and the tab on the back gores between the knees and fastens at the front. **No. 8272—Ladies' Skirt:** Cut in sizes 24 to 32 inches waist measure. Panel effects at the sides, instead of at front and back where we are accustomed to seeing them, are the making of this good-looking tailored skirt. The front and back gores are gathered, and stitched belts of the material hold the fullness in place. **No. 8266—Ladies' Dress:** Cut in sizes 36 to 42 inches bust measure. The waist closing is at the center front, and may be trimmed with a frill. The long-waisted sections at the side may be finished with or without the trimming bands. The sleeves are also a matter of choice, as both long and short lengths are given.

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We owe more to the generations that have preceded us and to the people of our own age than we often stop to realize. The world does not "owe us a living." Rather we owe the world a debt which we shall be able to pay only by adding our bit to the inheritance to be passed on to the next generation. What do we possess that has not been given to us?

The power of speech is a social, not a natural inheritance. If it were possible for two of the brightest children of our day to be taken away from all companions and allowed to grow up entirely by themselves, the chances are that they would find some way of indicating their physical wants, but if they could live a thousand years they would not be able to develop a form of expression as well adapted to expressing shades of spiritual meaning as the language which we receive as a free gift all ready for our use. It has been said that the English language combines the strength of the German, the flexibility of the Greek, and the lightness of touch of the French. Let us show our appreciation of it by keeping it pure. Let us not overburden it with slang, let us keep it simple, and let us use it with discretion.

Even our thoughts have been largely suggested to us by others. We do very little really original thinking. If our thinking is a little in advance of that of those who have lived before us, it is only because we have built on the foundation they left.

The social conventions of our day have grown up out of the lives of many generations. The customs which their experience has shown to be best "to make the world safe" for us all are not to be lightly disregarded, as some modern writers would have us believe. The whole world is not wrong and our own individual impulses right. We cannot live our own individual lives, each one doing the thing which seems best to him and ignoring the judgment and experience of others, but we must all work together to make this world a better place in which to live.

If space would permit, we might speak of our political organization, the plan of government already worked out for us and which is ours to enjoy and to perfect, of the education provided for us before we realize the need of it ourselves, of the care of our parents during our helpless infancy and childhood, and of the fact that life itself comes to us only at the cost of suffering and danger on the part of another.

The person who goes through life thinking and planning only for himself may consider that he is an honest man, but he is coming far short of paying his just debts. He is not worth to the world what he has cost. If we develop and use to the utmost every talent we possess, if we devote every energy to "paving the way for the firmer footing of those who succeed us," if we give our lives for the cause we believe to be right, we can no more than meet our obligation.

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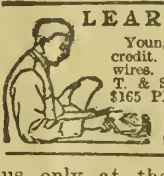
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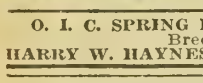

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FIVE EXTRA GOOD HAMPSHIRE RAM LAMBS
Priced right if taken in the next two weeks.
L. M. SHIVES, ROUTE 1, IUKA, KANSAS

HORSES AND MULES.

PERCHERONS—BELGIANS—SHIRES



2, 3, 4 and 5-yr. stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
FRED CHANDLER, R. 7, Charlton, Ia. Above Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes.
Illinois Horse Co., Good Blk., Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

BERKSHIRE HOGS.

KING'S BERKSHIRES — Twenty good Berkshire fall boars. One good yearling boar. E. B. KING, Burlington, Kansas.

POLLED DURHAM CATTLE.

FOR SALE—A few choice young bulls, sired by Chief, a son of True Sultan. Priced to sell.
D. C. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 miles S. E. of Topeka.)

Breeders' Directory

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
ANGUS CATTLE.
D. J. White, Clements, Kan.
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

SHORTHORN CATTLE.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

AUCTIONEERS.

Jas. T. McCulloch — Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

JERSEY CATTLE.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

REDHURST JERSEYS

Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

SHROPSHIRE SHEEP

FOR SALE — Ten registered Shropshire ewes, fifteen registered Shropshire buck lambs, ten pure-bred unregistered Shropshire yearling bucks.
K. HAGUE, Route 6, NEWTON, KANSAS.

ERWIN'S SHROPSHIRES

Registered Shropshire Rams and registered Jacks and Jennets for sale.
B. F. ERWIN - - FAIRFAX, MO.



FEEDING DURING MOULT

IT IS common knowledge that late moulting hens seldom get to laying until toward spring. This tendency of old hens to moult late in the fall and then not lay during the winter is the principal reason why early-hatched pullets should be depended on for winter eggs.

It has often been suggested that by forcing the moult the old hens would go into the winter well feathered and could be expected to lay. Methods of forcing the moult were tested out by various experiment stations. The method ordinarily advocated is to gradually cut down feed to about a third of the usual amount during a period of two or three weeks. Following this the feed is increased quite rapidly. If this is done early enough the feathers will drop out and the new coat will be grown early in the season. For getting fowls in good condition to exhibit at the winter shows, this forcing of the moult may be a good practice to follow, but as a means of increasing egg production it is of doubtful value. When it first began to be advocated, increasing winter egg production was the principal argument advanced for bringing about a forced moult.

To determine its value as related to egg production, quite extensive experiments were carried on by the poultry department of Cornell University. They found that the starved hens produced fewer eggs after the moult was complete and at greater cost than hens fed in the ordinary way.

During the moulting period it is a mistake to feed the hens less on the theory that because they are not laying they do not need as much feed. It takes considerable material to grow a new coat of feathers. Feathers consist largely of protein, therefore the feed must be rich in this material. Moulting hens should be fed well. It seems to be especially beneficial to feed them such feeds as old process linseed oil meal and sunflower seeds. Granulated bone is also a valuable addition to the feed of a moulting hen because of the phosphates it contains.

Demand for Meat Type

War prices and the growing scarcity of meats is causing a demand for the meat-type hen. In past years egg production has been of prime importance and should not now be lost sight of. However, as meat prices are now soaring, more attention will be given to the hen as a meat producer.

From the commercial standpoint, which is the requirement of the poultry packer, many elements enter into such a type. The birds should be vigorous, early maturing, heavy, and should carry large quantities of the most desirable meat. Dressing qualities enter largely into the desirability of birds for slaughter. Birds which possess long and prominent breast bones and those which have black pin feathers do not make attractive birds when dressed. For this reason many breeders who will cater to the packing-house trade will confine their fancy to the white breeds.

As civilization advances, conditions will doubtless approach those which prevail in the old country where farms are run exclusively for the production of meat-producing breeds. The meat-type hen as a commercial proposition is certainly attracting much attention.

There never has been a time when some interest outside the routine of business was more necessary for the business or office man. A change of work is as good as plan and if properly applied will aid in both recreation and financially. Many of our most prominent men have some hobby and where is there a more interesting or fascinating hobby than poultry? Little room is needed to give one ample vent for his energy and enthusiasm. Indications are that early this fall there will be an opportunity to purchase young pullets at reasonable prices. A few dollars invested will insure a goodly supply of fresh eggs this winter as well as recreation after a hard day at the store or office. It might be that many farmers will be able to dispose of any surplus pullets they may have this fall by simply speaking to their business acquaintances. It should be borne in mind that only thrifty well developed pullets will lay this fall or winter. Late-hatched chicks will only prove a source of expense and disappointment. Do not embark on the enterprise unless you enjoy the work and are prepared to make it a hobby. If you do not like the work you will not like the income derived from it, as a dislike for poultry and its problems spells defeat.

The coming fall and winter will see higher prices for all kinds of meat. A few fall-hatched chicks will come in handy to supply an occasional fry about Thanksgiving time. If a few eggs are set the first week of September there will be several weeks of growing weather. At this season of the year chicks need more attention than earlier. Hens set in the fall are too often hatching lice and mites as well as chicks. Before hens are set they should be well powdered with pyrethrum powder.

Around seventy eggs per year is the average production of the Kansas hen. With feed prices such as we are facing this year we cannot afford to feed hens that are not above the average. There is but one sure way of increasing the egg production of the flock—by breeding for it. No amount of feed or care will induce a hen to lay that is not bred along egg-laying lines. Care and feed are necessary that a hen may lay, but they will not make a good layer out of a poor one.

Chickens occasionally have the disease known as limberneck. Do not allow any dead birds or animals of any kind to lie around the place, and your chickens will not have limberneck. This disease is the same as ptomaine poisoning, and is caused by poison food. In mild cases a 25-grain dose of epsom salts or a tablespoonful of castor oil will be sufficient for a cure. If necessary, repeat the dose after two days.

There is no gain in grinding or cracking corn or kafir for chickens. As long as the grain is not too large for them to swallow, its digestibility is better when whole than when cracked. If the chickens are provided with plenty of sharp grit, they will do all the grinding of the grain that is necessary for good digestion.

During the hot summer months comes a period in the life of a chick when it gets listless and dumpish. Then is the time for the poultryman to tempt their appetite with a change of diet. Provide plenty of shade, fresh water and a change of feed quite frequently. If you would have fine fowls in the fall you must keep the chicks growing right along.

Lime, either dry or as a whitewash, is the most excellent disinfectant that can be used in the poultry house. Scatter it around everywhere and daub every single thing with it.

Paint the roosts and nest boxes with liquid lice killer. Or you can make an efficient lice killer by mixing one quart kerosene with a half pint of carbolic acid.

Plan ahead to plant some rye or wheat this fall to furnish grazing for the hens.

Chicks need space to grow in. Often the poultry man fails to realize the added house room required by increased growth. A chick at twelve weeks of age is approximately twenty times the weight of a chick newly hatched. Base figures for increased housing space upon this fact. Crowded chicks are invariably checked in growth by night sweats and the impure air of their cramped quarters. In general, all those things that contribute to the comfort, contentment and happiness of chicks play an important part in their growth.

Proper ventilation and sunlight mean a dry house and healthy birds.

Registered and High Grade Jerseys

SALE BARN, CLAY CENTER, KANSAS, AUGUST 22, 1917.

Sale to Commence at 1 o'Clock p. m.

Twenty-five Cows and Heifers to Freshen from September to March. Several Young Heifers Not Bred. Four Bulls from Five to Twelve Months Old.

These cattle will be sold in very ordinary condition. With a little care you can make them better. I am not advertising much. This is your chance to buy a bargain. Not long since I sold the cow, "Klol," to a farmer for $100. He gave her a chance to make good and sold her at a farm sale to the Agricultural College at Manhattan, Kansas, for $465, where she is still making good. At this sale you can buy her half sister and others equally as good. I am selling because we are short of feed and help. It is no trouble to buy feed, but it is out of the question to get the right kind of help. I have taken great pains to buy the best blood—among this offering you will find a number of choice young things at your own price, tracing to such bulls as "Stockwell," who sold for $11,500, and **Blue Bell's Blue Boy, half brother to Noble of Oaklands, who sold for $15,000.** Many of these cows are bred to "Royal Misse!'s Torono," Hood Farm breeding.

Catalog sent on request. Time given on approved paper.

S. S. SMITH, OWNER.

Auct. —Col. Jas. T. McCulloch, Col. Vernon Noble. J. H. Kirby, Clerk.

POLAND CHINAS



Faulkner's Famous Spotted Polands

The world's greatest pork hog are raised exclusively on

HIGHVIEW BREEDING FARMS

The largest registered herd of old, original, big-boned, spotted Polands on EARTH.

Spring Boars Now Ready to Ship, Pairs and Trios No Kin.
Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.

H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. **CHAS. E. GREENE, Peabody, Kan.**

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the **CEDAR ROW STOCK FARM**

A. S. Alexander, Prop. Burlington, Kansas

OLD ORIGINAL SPOTTED POLANDS
Choice March and April pigs of both sexes.
H. A. MATTOX, Route 2, Burlington, Kan.

Langford's Spotted Polands.—Last call for early spring boars. Yours for good hogs—
T. T. Langford & Sons, Jamesport, Missouri.

POLAND CHINA HOGS

150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

DUROC JERSEYS.

DUROC HERD FOR SALE

Choice herd Duroc Jersey hogs, best blood lines. All ages, including sows bred for September farrow. Will sell worth the money if taken at once. Write for description and breeding.
W. C. WHITNEY - AGRA, KANSAS

15 Duroc Spring Boars

Sired by Illustrator O'Rlan 3d and Fancy Victor and out of my best herd sows. They are real herd prospects, selected from 91 pigs raised. Write today if you want a good spring boar.

John W. Petford

Route 1 Saffordville, Kansas

Royal Herd Farm Durocs

Established in 1899 by Emery Anderson.

Boars, March farrow, by Pathfinder, Kansas Cherry Chief, King's Col. Jr. and Proud Chief. A fine lot to select from. Gilts bred for September farrow. Come and see my herd or write your wants.

B. R. ANDERSON

Route 7 McPherson, Kansas

JONES SELLS ON APPROVAL

February, March and April Durocs, pairs and trios and herds unrelated. First class pigs at reasonable prices.
W. W. JONES, CLAY CENTER, KANSAS

McBRIDE'S DUROCS

Four-months-old boars for sale. Good ones. Tops, $25, if taken at once.
W. T. McBRIDE - PARKER, KANSAS

CHERRY CHIEF DUROCS

I still have a choice lot of March and April pigs, priced to sell. All immuned. Plenty of length, size and bone.
A. S. GRABLE, JR. - DEARBORN, MO.

LONE TREE DUROC FARM

Herd Boar Graduate Prince by Graduate Col. Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.

GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNE DUROC-JERSEYS

Forty-five head spring boars and gilts, March and April farrow, by Gano Pride 2d by Gano Pride, out of a Graduate Col. sow. Herd sows best of breeding. Write for prices. **T. F. DANNER, Winfield, Kansas.**

IMMUNED DUROCS

With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. **C. G. Ditmars & Co., Turney, Mo.**

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising
O. W. Devine, Field Representative

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CLAIM SALE DATES.

Holsteins.

Oct. 16 — The Nebraska Holstein Breeders' Consignment Sales Co., Omaha, Neb.; Dwight Williams, 103 Bee Bldg., Omaha.

Red Polled Cattle.

Sept. 4—Milton Pennock, Delphos, Kansas.

Jersey Cattle.

Aug. 22—S. S. Smith, Clay Center, Kansas.
sas. B. C. Settles, Sales Manager.

Herefords.

Oct. 6—J. O. Southard, Comiskey, Kansas.

Poland Chinas.

Aug. 15—H. L. Faulkner, Jamesport, Mo.
Aug. 16—Head & Moore, Wilver Dell Farm, St. Joseph, Missouri.
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Oct. 17—Walter B. Brown, Perry, Kansas.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.
Feb. 20—Bert E. Hodson, Ashland, Kansas. Sale at Wichita.

Hampshire Hogs.

Oct. 12—Kansas Hampshire Swine Breeders' Association and Halcyon Hampshire Pig Club sale at Valley Falls, Kansas. George W. Ela, secretary and manager.

Durocs.

Oct. 20—O. W. Long, Maitland, Missouri.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.
Oct. 25—Geo. M. Klusmire, Holton, Kansas.

O. I. C. Hogs.

Sept. 4—Milton Pennock, Delphos, Kansas.

We have received a catalog of the Poland China bred sow sale, August 16, at Wliver Dell Farms, St. Joseph, Missouri. The catalog shows a very high class lot of sows bred to the best and highest priced boars of the breed. Model Big Bob, favorite son of the world-renowned Big Bob; Master Orphan, the $1,000 son of the champion Big Orphan; Wedd's Long King, the peerless sow sire and one of the breed's greatest boars; Captain Gerstdale Jones, one of the breed's greatest yearlings and son of Gerstdale Jones, the boar that is making fame for Peter Mouw. They are also listing three giant fall boars, all outstanding, one by King Joe, one by Giant King by King of Wonder and one by Smooth Columbus. Five top spring boars, all outstanding herd boar prospects.

K. Hague, of Newton, Kansas, is one of the successful breeders of pure-bred Shropshire sheep and owns one of the good flocks in this state. Mr. Hague has found his Shropshires the most profitable stock on his farm. A feature of his flock at this time is the choice lot of young rams.

J. M. Andrews, breeder of the old original Spotted Poland Chinas at Lawson, Missouri, has claimed October 17 for his annual fall sale. On this date he will offer twenty-five choice spring boars and thirty head of large growthy spring gilts. This offering will be sired by Spotted Clover and Andrew's Model. Spotted Clover is one of those thick-fleshed low-down blocky type of hogs that grow quick, and Andrew's Model is a long heavy-boned hog with lots of length and stretch. These two boars mated with the high-class sows now on the Andrews farm are producing a profitable type of hogs.

PUBLIC SALE SEPTEMBER 4

Fifty registered O. I. C. hogs. Sixteen male and female Red Polled cattle. Six and one-half miles east, one mile north of Delphos, Kansas. **MILTON PENNOCK.**

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

HOLSTEIN CATTLE.

Sand Spring Herd Holstein Friesians



Herd Sire, Sylvia Pietertje Madge DeKol Prince 105117, One of the Few Standard Bulls of Kansas.

We keep only the "GET DOWN TO BUSINESS" and "DEBT PAYING KIND." Our cow, Cornucopia Johanna Beets 139440, has made 17,035 pounds milk, 405 pounds butter, in 150 days, and still making fifty pounds daily. We can tell you of others just as good. Visitors Welcome.

E. S. ENGLE & SON - - - - ABILENE, KANSAS

MAURER'S HOLSTEIN FARM

Why not buy pure-breds when you can get them at near-grade prices? WE HAVE THEM from three-months-old heifer and bull calves to matured cows, all with exceptionally high class breeding. Finely marked and good individuals. Also grade cows and heifers. Write for description and prices or, still better, call at farm and inspect them.

T. R. MAURER & COMPANY - - - - - - EMPORIA, KANSAS

PECK'S HOLSTEINS



We have a choice lot of extra large high-grade Holsteins, including fresh cows, heavy springing cows and heifers, and young calves. Registered bulls. Come and see our herd. We meet you at train and guarantee satisfaction.

M. E. PECK & SON, SALINA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER

Way Side Stock Farm - Whitewater, Wis.

S. S. Smith, of Clay Center, Kansas, the owner of one of the outstanding Jersey herds in this state, announces a public sale of Jerseys to be held at Clay Center, August 22. Mr. Smith will catalog twenty-five cows and heifers, bred to freshen in September, also a choice lot of young bulls. Many of the cows and heifers are bred to Royal Missel's Torona, a Hood Farm bred bull.

V. E. Lawrence, of Salisbury, Missouri, owner of one of the good herds of Aberdeen Angus cattle in that state, reports his herd doing well. Mr. Lawrence reports the wheat yield in his section of Missouri good, also a splendid oats crop, with a prospect for a big corn crop. He reports that pastures are beginning to need rain. Although farming in Missouri, Mr. Harris is a strong advocate of sorghum crops and never fails to plant at least eight or ten acres. He usually drills with a corn planter, using a small plate, and in harvesting uses a corn binder. His experience has been that when everything else fails he can depend on the sorghum for a forage supply.

H. C. Graner, of Lancaster, Kansas, is fitting a small herd of imported and home-bred Shorthorn cattle and will exhibit at the Topeka and Hutchinson fairs this fall. Mr. Graner is building up a splendid herd of Scotch and Scotch-topped cattle.

H. L. Peppmeyer, a Topeka coal dealer, is one city farmer who is making good. He owns and operates a well improved eighty-acre farm twelve miles southwest of Topeka. He personally looks after all details of the farm work and is demonstrating that he has not forgotten his early training on the farm. His farm is well equipped with barns and a good silo, the first requisites on a stock farm. At this time Mr. Peppmeyer has on his farm 250 head of pure-bred Hampshire hogs of all ages. He has found Hampshire hogs and alfalfa a profitable combination. He is also finishing a carload of cattle. The poultry department on his farm is also a profit producer and at this time his flocks of young Rhode Island Reds and Barred Rocks number about 700, ranging in size from four-weeks-old chicks to fryers, in addition to the 250 hens. A visit to his farm will lead one to believe that Mr. Peppmeyer's coal business is really a side line and that his principal and profitable business is live stock farming.

A. L. Harris, Osage City, Kansas, has recently purchased Prince Valentine 4th, the good Shorthorn bull from H. H. Holmes' herd at Topeka, Kansas, and it is safe to predict that he will derive great benefit from this show and breeding sire that has proven so valuable to Mr. Holmes. Mr. Harris also purchased from Mr. Holmes' herd the valuable show cow, Crystal Maid. This cow has been shown in the show circuit of the leading fairs and has always stood well up in the money. Mr. Harris is fitting and will take out a small herd of show cattle this year and exhibit at Topeka, Hutchinson and Oklahoma.

E. S. Engle & Son, of Abilene, Kansas, owners of one of the heavy producing herds of Holsteins in Kansas, report their herd doing fine and they expect to make a new production record for their herd this year. The record of this herd in the past shows what can be done in the way of building up a herd of producers. By culling out the boarders they now have a herd that is annually making a new record and showing a profit over any department of their farm.

B. B. Risk, of Weston, Missouri, has claimed October 10 for a Poland China sale. Mr. Risk will sell at night in the fine stock pavilion at St. Joseph, Missouri, ten choice spring boars, twenty-five large spring gilts, and five tried sows with fall litters. The offering promises to be one of the good lots to be sold this fall. The offering will be sired by the following boars: Model Jumbo, Model Big Bob, Master Orphan, Big Bone Model, Iowa King, Alexander King, and Smooth Big Bone.

W. C. Whitney, of Agra, Kansas, has succeeded in building up one of the good herds of pure-bred Durocs. His herd is made up of representatives of the popular families of the breed and all individuals for the breeding herd have been carefully selected. Care in selecting individuals and in mating accounts to a great extent for the good herd now on Mr. Whitney's farm.

Producing food is only half the job.

HOLSTEIN CALVES

We offer for sale choice, beautifully-marked heifer or male calves, 15-16ths pure-bred, and all from extra large heavy-milking dams, as follows, crated f.o.b. cars: One to two weeks old, $15 each; two to three weeks old, $17 each; five to six weeks old, $20 each. First check takes them. Write

W. C. KENYON & SONS, ELGIN, ILLINOIS

Braeburn Holsteins

Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.

H. B. COWLES, 608 Kan. Av., Topeka, Kan.

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

50 HOLSTEIN HEIFERS

We offer for sale fifty of the best high grade Holstein heifers in Wisconsin. All bred to a 29-pound bull whose dam is sister to the sire of the world's champion cow, Duchess Skylark Ormsby. Also a few choice fall cows.

CLOVER VALLEY HOLSTEIN FARM
Whitewater - - - - Wisconsin

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. **Clover Valley Holstein Farm, Whitewater, Wisconsin.**

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

HOLSTEINS

Registered and high grades, cows and heifers. The milky strain, service bulls, carloads or less. High grade heifer calves, $18 each, crated. Write me. I have what you want.

RAY C. JUDD - ST. CHARLES, ILL.

High Grade Holstein Calves

12 heifers 15-16 pure bred, 4 to 6 weeks old, beautifully marked, $20 each. Safe delivery and satisfaction guaranteed.

FERNWOOD FARMS, WAUWATOSA, WISCONSIN

Nicely marked **high-grade Holstein calves,** price reasonable. **O. Canuteson, Route 4, Delavan, Wisconsin.**

J. B. Porter & Sons, of Mayetta, Kansas, owners of one of the outstanding herds of imported and American-bred Jersey cattle, report their herd making a fine record again this year. They have recently added a young herd bull to their herd. This bull carries fifty per cent the blood of Gamboge Knight, sire of fifty-four tested daughters, nineteen of them with year records of over 500 pounds butter. He also carries twenty-five per cent the blood of Oxford Lad, sire of forty-six tested daughters and sire of twenty-two sons with producing daughters. This bull will be mated with the choice lot of Fern Oxford heifers now in their herd.

H. O. Sheldon, manager of the pure-bred swine department of the Deming Ranch, Oswego, Kansas, will be out this year with one of the big Poland China show herds that will be at the big fairs. He reports his show herd coming along fine and expects to be a strong contender for honors in all the Poland China classes.

D. C. Van Nice, of Richland, Kansas, owner of one of the high class herds of Polled Durham cattle now assembled, reports his herd doing well and the young stock growing out fine. A feature of his herd at this time is the choice lot of youngsters, including a number of outstanding young bulls.



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FEAR or cost keeps families from building beautiful, elegantly finished homes with every comfort and convenience. Yet this fear of cost is largely due to lack of information just as most all fears are.

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There are two Curtis Home Books of plans. We will send you your choice free. The books are

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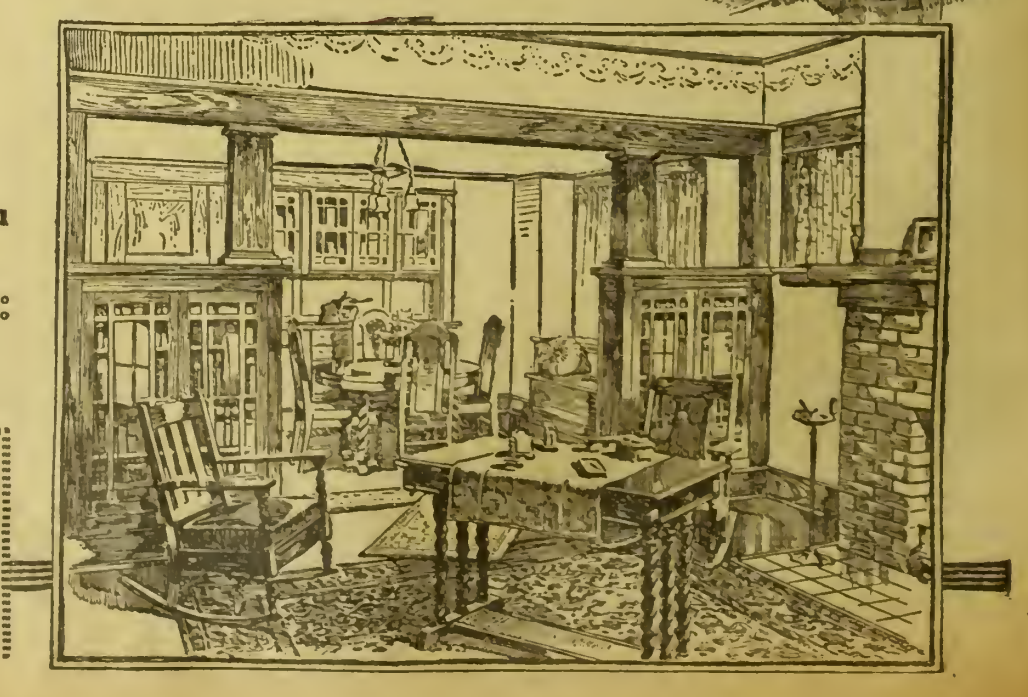

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For the improvement of the Farm and Home

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IDEALS OF THE GRANGE

Address in Memorial Hall, Topeka, by National Grange Master Oliver Wilson

IT IS difficult for a Grange speaker in going over this great country of ours under existing conditions to know just what line of thought to present. To me, today is a wonderful time in which to live. A great responsibility rests upon the American farmer, upon the American citizen, and a tremendous responsibility upon this order. Although it is a responsible thing to be simply an American citizen, those who join the Grange take on a greater responsibility, for the organized farmers must settle the great questions of state and nation. In times of stress the farmer has never been found wanting. The person who speaks of farmers not being patriotic does not know history. Commencing with the earliest days of our Revolution, you will find that farmers have been furnishing about 75 per cent of the soldiers that have fought the battles of this country, and if necessary they will do as well in the present war.

To my mind patriotism does not mean simply supporting our country in its warfare. Some of the greatest battles have been won in the quiet paths of everyday citizenship. You will not find a class of people in this country who have a greater love for our institutions than the farmer. I do not mean to say that all is good in the farmer, but farmers are just as good and has as high ideals as any other class of people.

President Wilson has stated that the success of this country in the war will depend on the American farmer. It is not the country which can shed the most blood, but the one that can produce the most food that will win. Proper food and clothing are absolute necessities for our soldiers.

I sometimes wonder if we have done all we could to impress our children with patriotism. Everywhere I have been on this trip I have been impressed with the number of flags displayed. I do not object to this means of exhibiting patriotism. Our flag is a beautiful one and its display is suitable for any occasion, whether joyous or sad. A question has arisen in my mind, however, as to whether we, as parents, speakers, teachers, and preachers, have taken pains to instill into our children the right kind of patriotism. Have we taught them that our flag means honor, purity, comfort, and happiness, and does not stand alone for bloodshed and carnage?

The Grange has always been a peace organization. It has done everything possible to preserve peace in the present crisis, but now it seems that force must be used in establishing the rights of democracy. It is necessary that the farmers of America do all they can to provide food in order that this nation shall live. I do not think it will be necessary for the producers of food to stint themselves in the common necessities of life, but I do think it is necessary and a patriotic duty to practice real economy. We are hearing a great deal about food conservation, much of it coming from those who know about as much about farming as I know of present conditions in Europe. Most of these food conservationists start in by saying that the farmer must work a few hours more each day in order to feed the world. We sometimes wonder if they have some means of making a day more than twenty-four hours long. President Wilson intended to have a practical farmer on the Council of Defense, but if there is one there I do not know who he is. I have not learned why the farmer was ignored on the Food Conservation Commission.

While the farmers of the United States are beginning to organize, only a very small per cent have as yet come into the organizations. For this reason those in authority have not really heard the insistent demands of agriculture which would only reach them through the efforts of a big organization. We have only ourselves to blame if our demands have not been heard. President Wilson is not the only president who has made similar mistakes. Not many years ago a president of the United States appointed a commission to go to Europe to study rural credits, and not a farmer was named. Another president appointed a commission to study rural life conditions, and not a farmer was named on this commission. Who knows most about the conditions of agriculture—the man who sits at a desk and studies about it, or the man who sees it in its everyday clothes? We simply have not demanded our rights in an organized way as others have done.

The Grange has stood for years for equity and justice. Only recently have people of the towns and cities begun to realize the true objects of the Grange organization. We have never opposed any other organization or industry. We have always maintained that the farmers' interests are the same as the interests of others, and their rights of equal importance. We stand before the people today as an organization that is bound together for the support of the great institutions of our country.

In matters of progressive legislation Kansas has ever been to the front. All over this nation she stands as the avowed enemy of the liquor traffic. The Grange as an organization is absolutely opposed to the idea of straining every nerve to increase our production of grain only to have millions of bushels of it made into liquor each year. People of Kansas have been free from this curse so long that they do not fully appreciate the significance of this statement. Some of your neighbors have not been so progressive. In Illinois, my home state, much liquor is manufactured, and we are not proud of this fact. With the help of good people everywhere, the time is near at hand when the manufacture of food into distilled liquors will be absolutely prohibited. Even now such a measure is in the Senate and the indications are that it will become a law. I wonder if it would not be another conservation measure for the Grange to undertake after we get whisky banished and food converted to legitimate use to go a step farther and use the land upon which tobacco is raised for food production. If it is true, as Herbert Hoover, the Secretary of Agriculture, and others say, that the world is almost facing a famine, is it reason, is it good common sense to use land that might be used for growing good wheat and corn for the culture of tobacco?

I suspect that even here in Kansas there are some unjust burdens on the farmers of the state, even though Kansas is a little more progressive along some lines than her neighbors. I suspect that farmers are paying more than any other class for their share of public benefits. We believe in equal justice and equal representation, but in my home state there are some things in which the farmer is not equally represented, although he is taxed higher than any other class for their maintenance. We have a great penitentiary. The warden of this institution says that if he has need of a tailor or someone to look after the medical care of the prisoners, or even their spiritual welfare, he finds such a man among the inmates. If he desires someone to give legal or financial advice, he finds them also plentiful. We have a bankers' row in our penitentiary which is always full with several on the waiting list. But if the warden needs a man to look after the farm or care for live stock, he has to go out and hire a free man. He does not find men of the farms inside the walls. We are taxed to keep these men who are not from the farm, and the same is true of our poorhouses. I never knew a farmer to quit farming to go to the poorhouse, yet every year we are taxed heavily to support people brought there from the cities as a result of the city environment. If the farmer of Kansas is paying more than his just share to support any state institution or expense, the Grange should get busy.

The Grange has the reputation of always being on the right side on great public questions. I do not know how many congressmen have told me that they have always found the Grange right. Only recently I had occasion to present a matter to a prominent senator and his reply was: "I have not given this question as yet any particular thought, but in all probability I will vote for it, because the Grange is for it and the Grange has always been right." Is it worth while that we hold this organization above partisanship, above sectarianism? Is it worth while that when we come before our legislative bodies they feel that the Grange is always right, and that it should get what it goes after? Let us not forget the clause in one of the early declarations of this order, written many years ago, that we are working for the best condition of all. Is it not worth our best efforts and best work?

If I have any special message to leave, it is that of individual responsibility in your home, in your community, and in your Grange. Realize that you cannot shift that responsibility to someone else. There is a little niche you can fill in that home or community and in that Grange better than anyone else can fill it. The little personality that you carry to and from that Grange hall is worth much to agriculture. The member who comes into the Grange merely for what he can get out of it is hardly worth having. We must ask, "How can I do my bit?" There are few organizations out of which you can get more than you put in.

The greatest question before the American farmer today is that of economical transportation and distribution. If the Government will shorten the road by one-half between the producer and the consumer, I will guarantee that the American farmer will produce all the food required. We are now receiving on an average only thirty-five cents of the consumer's dollar. Sixty-five cents is added before it finally reaches him. There is something wrong somewhere. The greatest cost should be in the production, and when this end receives but one-third there is surely a great waste somewhere along the line. We are trying to solve this great problem of distribution so that the farmer may receive a reasonable recompense for his toil and for the money invested. I want to say a word in behalf of the agricultural agents. I have met many of them

(Continued on Page Nine)



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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

WOMEN are generally in charge of the consumption of that which is produced. In the Iowa Agriculturist, Gladys Gallup argues that farm women must have more modern improvements to help them with their work. She points out that in times past the farm man worked too hard and the farm woman worked too hard, but the use of power and machinery has lightened up the work of the man, while the work of the woman has not been greatly lessened. She needs the water brought into the house, and she needs electric lights, electric power, and other labor-saving equipment. She should not be required to do double the work of the town woman and she should not be required to do more in proportion than the farm man.

According to the above mentioned writer, about half of the women of Iowa are in farm homes and half are in town homes, but the work attendant upon consumption in the farm home is perhaps double the work that is attendant upon consumption in the town home. The reason for this difference is that the town man furnishes his town home with a much more finished product than the farm man furnishes his home.

The man on the farm furnishes his home with flour for the woman to bake into bread, while the man in town furnishes the home with bread that is baked. The man on the farm furnishes the woman with the cows, or at least with the milk for making butter, while the man in town furnishes the butter. The man on the farm furnishes the home with vegetables by turning over to the woman a plot of ground, while the man in town furnishes the vegetables.

The man on the farm furnishes the home with cloth to be cut up and made into dresses, while the man in town furnishes the dresses finished for wear. The man on the farm furnishes coal in the coal shed or wood in wood pile for fuel and kerosene for light, while the man in town furnishes gas and electricity for fire and light. The man on the farm furnishes water at the pump, while the man in town furnishes running water in the house.

On the average, the products furnished the home by the town man are more finished than the products furnished the home by the farm man, and this is the reason why the country woman has to work harder and longer than the town woman. The reason for this can be laid in part to the difference of environment between the farm home and the country home and in part to a long established custom.

The gasoline engine and the various labor-saving machines are solving the problem for the farm women. It is just as essential that the work of the housewife be simplified by taking advantage of the modern improvements now available as it is for the farm work to be performed with improved machinery.

Proper Care of Car

The life and health of a motor car, like godliness in men, is closely akin to cleanliness, writes Dr. Leonard Keene Hirshberg, of Johns Hopkins University, in the current issue of American Motorist. The sweetness and purity of its appearance is intimately associated with the length of its life, the friction and well being of its component anatomy. You cannot keep your car too clean or the sheen on its body too well polished.

Motorists ere now are familiar with the axiom, "Spread yourself in oil and save your metal." This is only the application to the motor car of the overworked and age-old allusion to medical advice, "An ounce of prevention will save a pound of cure."

Show me a dust-filled, dirty, soiled machine, and I will make the prophecy of a short shift and rapid depreciation of the car. Dirt, lack-luster and a dulled car body spell worse than rapid loss of value.

Among the "don'ts" for the caretaker of a car are these:

Never run the car in the mud if a detour will permit you to escape it. Mud is the natural foe of machinery.

Never use rough cloths with which to wipe, clean or polish your car.

Never use an excess of oil or body polish. It collects dust and turns it into grit.

Never use muddy or soiled water with which to wash your car.

Never fold a top down when it is wet.

Never allow mud to remain on a car one moment longer than is absolutely necessary.

Never allow mud, if possible to prevent it, to dry on the car. Wash off immediately with cold water.

Never dig, scrape, chisel or shovel mud from the polish. It destroys the varnish and paint.

Never use force for any purpose. A weak solution of soda will cajole the toughest mud and grease from the body.

Never dry the surface with soapy water on it. Rinse all soap and soapsuds off before drying.

Never use any rough-fibered cloth. Chamois skin has a high first cost, but is cheapest in the end.

Never employ a roundabout circular rotary motion in polishing the car. A straight out, back and forth, piston thrust is what should be used.

Never use hot water on the car. Wash with cold water.

Never accept Tom, Dick and Harry's "sure restorer" of the original factory sheen and luster. Mark Twain said that everybody has a "certain cure for colds." So almost every driver and garage keeper implicitly avows his body polish to be the best for the car. Dead men tell no tales; neither does the injured finish on a car.

Shun all such as Billy Sunday flees Old Nick. Instead buy some boiled linseed oil; never use the unboiled oil. It will not do. Also some furniture wax, and let elbow grease do the rest. The varnished part is first washed, cleaned, rinsed and dried, then the boiled oil is lightly applied and rubbed completely off. The lighter metal parts will be thus restored like new; the heavier parts can be still further finished with the furniture wax massaged to a highly lustrous polish.

Rough, heavy soaps, full of alkali, also eat into the varnish and coats of the body. You will avoid this in manicuring your car by heating a gallon of water into which is stirred a pound and a half of soap. This is your stock solution of soap for the chassis, body, and other parts. It should, of course, always be applied with a soft, silky sponge, rinsed off with clean, cold water, and dried with a chamois skin.

Home-Made Bean Harvester

A considerable acreage of beans has been put out in Kansas this year aud a very large acreage has been planted in Colorado. Those who have beans to harvest may be worrying as to how they are going to get this work done.

The best method of harvesting is by using some of the standard and well-tried-out makes of bean harvesters. For any acreage as large as ten or over, such a harvester will pay for itself. It is quite probable, however, that the demand for harvesters will be greater than the machinery houses will be able to supply, in which case some home method of harvesting will be essential.

Alvin Keyzer, of the Colorado Agricultural College, says that it is quite feasible to make a harvester at home, assisted by the blacksmith. Two strong sled runners should be made out of two-inch planks, and rather strongly braced between them, because they will be subjected to heavy strain. At the outside of these runners, heavy steel knives knives should be fastened. The knives must be so placed that they will run under the surface of the ground so as to cut off the beans one to two inches under the ground. Any good blacksmith can make the knives for such a cutter, or could make the entire cutter.

There are some of these home-made cutters in use which are working successfully. They are not as good as the regular commercial harvesters, but they are better than any of the hand devices, and are quite cheap. It is quite probable that a little experimenting will be necessary in order to set the knives at the right angle for the particular soils.

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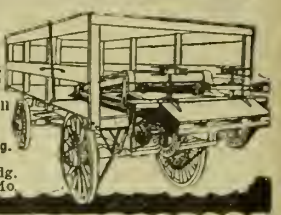

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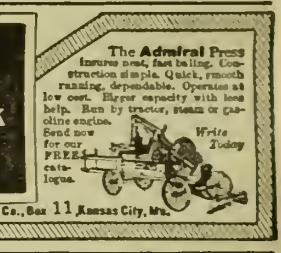

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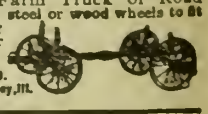

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Canning a Simple Process

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CORN CROP PROSPECTS

The Government August 1 forecast for corn is over three billion bushels, which is over six hundred million bushels more than the yield of 1916 based on December estimates. Some independent observers believe that the Government forecast underestimates the probable crop. Over much of the corn territory conditions have been improving during the past two weeks. Many farmers of Kansas have seen their corn burn up before the rains came. The late corn will be the only corn in some sections of the state that will produce anything in the way of grain. Even though Kansas as a state does not produce a big corn crop, it is most encouraging to the live stock man to learn of the possibility of big corn yields in other states. The unprecedented prices of feeds have been most detrimental to the live stock business. It is almost impossible to feed corn profitably to animals when it costs two dollars or more a bushel. Live stock products of all kinds have increased in price, but not in proportion to advances in feed prices.

There is a limit to what consumers can pay for the various live stock products, and when prices reach too high a level the demand automatically falls off. The Government through the Food Commission is making strong appeals to farmers to save the dairy cows and to produce all the meat products possible, but farmers cannot continue indefinitely in any line of business which results in loss. The latter part of June the National Dairy Council presented the dairy cow situation to the Food Commission in Washington and received assurance that this great industry would be given immediate attention. Definite steps have already been taken toward getting at the facts in the dairy business.

A great deal of attention has been given to the matter of encouraging maximum production of wheat. The wheat grower is now practically insured against possible loss. The live stock business, however, should not be overlooked. A man can get into the game of producing wheat within a comparatively short period of time. In fact, he can start in now and with money for seed, or seed on the share plan, and enough capital to get the seed bed ready and a crop planted, put out a maximum acreage this fall. It takes time and much patient, painstaking effort to get well established in the live stock business. Our live stock men represent a high class citizenship, but no matter how patriotic they may be or how anxious to serve the Government in the present emergency, they cannot render the best service unless they can at least break even. We trust the Food Commission will give immediate consideration to the many problems of live stock production. The maintenance of healthy conditions in this phase of agricultural production is of vital importance to our national welfare.

HOG INVESTIGATION VALUABLE

Pork producers of Kansas can well afford to co-operate to the fullest extent possible with the State Board of Agriculture in its investigation of the hog business of the state. A blank has been furnished to hog men all over the state containing a very comprehensive series of questions. Many of these blanks are being filled out and returned and a great deal of valuable information is being accumulated. There seem to have been some minor misunderstandings, however, which are keeping some from sending in such information as they have. Regarding this, Mr. Mohler, secretary of the board, says:

"Some of the men to whom we mailed hog blanks for filling out got the impression that unless their replies were received by August 1 they would be too late for use. This is wrong. Although we named August 1 as the approximate date on which the replies might be in, we fully realized that no arbitrary date could be set, because during the busy summer season the farmer cannot always give his correspondence the attention he would like. We should like every hog raiser to know that his filled-in blank is still very acceptable, and we need and should be very glad to receive it just as soon as he can conveniently send it in. We would rather wait a little longer and have a completed blank than to receive it now only partially filled. Furthermore, we do not intend to close up the work until we are satisfied that practically all the replies that are coming are here.

"Another false impression that has somehow got about is that we want only the replies of pure-bred breeders. The replies of pure-bred breeders are highly desirable and necessary, yet our investigation would not be complete and truly representative did we not also have replies from the producers of market hogs and the owners of grade herds. We want and need them all."

IMPROVED SEED WHEAT

We have watched with considerable interest the movement under way in Cloud County to improve the quality and yield of the wheat in that county. Since wheat in that section was almost a failure on many farms, some seed will have to be imported from other sections.

Through the activity of the farm bureau of the county and its agricultural agent, Karl Knaus, 800 bushels of the Kanred seed has been purchased. This is the improved variety of hard red wheat developed by the Kansas Experiment Station. Twice this amount could have been placed among Cloud County farmers if the seed could have been obtained. The farm bureau voted at its spring meeting in 1916 to conduct a series of tests to determine the variety best adapted to the conditions in that county. Kharkof, ordinary Turkey, and some soft wheat varieties were being grown. Five varieties were sown under identical conditions in different parts of the county. Kanred in one test produced 10.5 bushels more per acre than the variety ordinarily sown in the locality. This was an unusual yield even for this variety. Other tests showed that it averaged about three bushels per acre more than the other varieties.

The farmers of the county who get some of this carload of Kanred seed will agree to sow it on ground absolutely free from volunteer wheat and thresh it next year after a job of oats has been threshed by the machine so that the seed can be kept pure.

This sort of work should be going on all over the state. A county farm bureau can be of great service to all the farms of the county by conducting such tests. Through the county agents the results can be given wide publicity, and the agricultural practice of the whole country can be raised to a higher level.

DRY WEATHER DAIRYING

Dry weather and short crops in Kansas have always meant more milking of cows. This has been especially true in the wheat growing sections of our state. When wheat is a good crop and brings a good price, there is little interest in milking cows and sending the cream to market, but let there come a pinch in grain production and the importance of the cow as a source of revenue looms up. The alarmist who fears our milk cows are going to the central markets for slaughter should not forget that the animals capable of turning the poor, stunted forage and the grass and weeds into a product that will bring in some real money each week, will be the last to go.

Beef cattle may be sent in to central markets in large numbers as pastures dry up and feed gets scarce. That is the way the beef animal turns into money the grass and other feed. It must yield up its body to slaughter in order to convert into cash the grass and other feeds eaten. Only when the sacrificing sends to the slaughter the cows and young heifers that must be depended on to keep up the stock of meat producing animals, does it become a menace to the live stock business.

Dairying is an anchor to windward in a short-crop year, and we know from former experience that Kansas farmers will hang onto the animals that can help pay the grocery bills from week to week throughout the year when there is nothing else to sell. Even now farmers in the sections where crops are reported to be in the most critical condition are turning to the cow. As a rule there are not what would be called dairy cows. They are just ordinary cows selected from the common stock because they have shown some capacity for milk production. It would be more profitable if people would make the milking of a few cows a regular business whatever the year and plan to keep cows of higher productive capacity.

It has been reported to us that already fields of lam's quarter, Russian thistles, and other weeds which crowded in where barley and wheat were killed out or thin are being mowed and stacked as feed for these cows. Men who are doing this realize what a cow can do with even such poor feed and are looking forward to securing a little income from material that too many are letting go to waste.

It would be a short-sighted policy to sell the only animals that can convert into money these low-grade, stunted, and immature crops. We believe the experience of the past will bear us out in the statement that the milking of a few cows—as many as the labor available can handle—will help to tide over on many a farm a period which may seem to present nothing but discouragement. It is being done all over Kansas, and what a few here and there can do can be put into practice by others in the same circumstances. Give the milk cow a chance. Her product is in world-wide demand and she will well repay the effort expended in milking and handling her products and saving every particle of feed grown in order that she may have material from which to make milk.

On page four of this issue is an article setting forth the possibilities of sheep production on the farms of Kansas. The writer, who is an experienced man in handling sheep, first gave this article in the form of an address at the 1916 annual meeting of the Kansas Improved Stock Breeders' Association, and it has just recently been printed in the twentieth biennial report of the State Board of Agriculture. This volume is fully up to the standard of previous biennial reports. It contains many specially written articles covering such subjects as rural welfare, extension service, home economics, farm homes, farm management, rural engineering, soils and crops, live stock, poultry, and farm forestry. All the articles are finely illustrated. As usual the publication contains valuable statistics on Kansas agriculture. The value of farm products of Kansas for the biennium of 1915 and 1916 is given as $714,000,000, which exceeds the value of the best preceding biennium, that of 1913 and 1914, by $96,000,000. War prices have largely been responsible for these record values. For the first time in its history the board gathered statistics of tractors, cream separators, and Sudan grass, which is a new and valuable addition to the farm crops of the state.

The Food Bill which was signed by President Wilson last week gives the Government sweeping war powers. As expected, Herbert Hoover was at once appointed food administrator. He has stated that the powers of the measure will be used to stabilize and not disturb economic conditions. The first move will be to bring about changes in the system of distributing wheat and in the manufacture and sale of flour and bread.

COST OF MILK PRODUCTION

While comparatively few of the farmers of Kansas are producing milk for city trade, every man milking cows is interested in the situation which exists in the neighborhood of large cities where there is a heavy demand for market milk. City people seem slow to realize that the man producing milk cannot sell it for less than the cost of production and keep at the business. The town merchant who fails to secure a fair margin of profit must quit the business or go broke, and the same is true of the farmer.

Milkmen supplying Topeka with milk recently got together and as a result of a discussion of the situation agreed to raise the retail price to twelve cents a quart. Almost immediately consumers began to use less milk, and as a result prices are in a most unsettled condition. Many of the men producing milk in this locality would be satisfied if they could barely break even until the present emergency was over. It would be a great sacrifice to dispose of a good dairy herd, and the man having dairy cows would rather do business for a time without a margin of profit than to dispose of the animals he has spent considerable time and effort getting together.

The same sort of conditions are causing trouble all over the country. The city distributors of Des Moines, Iowa, have actually got out an injunction against the milk producers, forbidding them to meet for unlawful purposes. The milk producers around Des Moines have been organized for over a year, and all they now ask is that a representative committee of citizens investigate carefully the cost of producing milk under existing conditions, believing that if this is done the consumers will be fair-minded enough to recognize the necessity for a raise in price. This being refused by the distributors, the producers simply began skimming their milk, selling their cream and feeding the skim milk to hogs and poultry.

The people of the cities hold the key to the situation, but apparently they need a lot of education on the food value of milk and the cost of producing it under present conditions. Milk is a most important article of food and consumers cannot afford to put out of business those who are supplying them with this necessary food product. If the dairyman is compelled to sell his cows or change the method of marketing as they have been temporarily doing about Des Moines, the final result would be that milk would become a scarce article at any price. City people should welcome publicity bearing on the food value of milk and the cost of producing it. It is a most short-sighted policy to ignore conditions and try to force the producer of milk to stay in the business at a loss.

Some of our dairymen are none too progressive in this matter of organizing for the purpose of going into the business in a businesslike manner. There is much to be accomplished in addition to fixing prices. In fact, many other things must be done before much can be accomplished in establishing fair prices. An accurate farm survey made by one trained to get at the different cost items would be of great value to those conducting the dairy business. Such surveys have been made in some of the dairy districts of Kansas. The dairymen around Topeka would be greatly benefited by having a careful business analysis made of their method of production. It would furnish information that would easily lead to economies of various kinds and in addition place them in a position to furnish facts to consumers instead of unsupported statements. The matter of fixing prices is by no means the most important reason for the forming of a dairy organization, and yet some dairymen seem to absolutely lose interest in such an organization excepting as it has a bearing on the fixing of prices on the product.

SHEEP GROWING PROFITABLE

Both Wool and Mutton in Demand at High Prices—C. E. Wood, Shawnee Co.

SHEEP husbandry should receive more attention from the farmers of this country than it does at the present time. Unquestionably, sheep raising could profitably be fitted into the general management of thousands of farms where there is none at the present time. On many other farms the size of the flock could be increased and more attention given to this branch of farming with resulting profit to the owner.

The various phases of sheep husbandry afford numerous channels through which the skill of the pure-bred stock breeder offers special inducements to many, while a larger number are content with the production of mutton and wool for market purposes. In the breeding of pure-bred stock the beginner has a number of valuable breeds from which he can make a selection. It is not so much the breed selected that will lead to success as it is the care and management. It must be noted, however, that certain breeds have a wider range of adaptability and are more popular. The number of pure-bred flocks is increasing every year and the demand for good breeding stock is more than keeping pace with the increase.

With a commercial flock there are several phases that are worthy of consideration. Early spring lambs is one of the most important, while late spring or early fall lambs should receive due consideration. The production of winter or so-called "hot-house" lambs is well worth undertaking by those who are favorably situated. This early lamb is a high-priced product and should prove profitable under favorable conditions.

NEW ERA IN SHEEP PRODUCTION

Many farmers have disposed of their flocks and many others have refrained from entering the business because of some of the difficulties that are peculiar to this industry. Among the most important of these are cur dogs, parasites, and diseases. A certain amount of trouble is inevitable where these abound, but ordinarily this should not be sufficient to discourage the flock master. Good management and proper care will control, if not eliminate, these difficulties. The flock that must rustle for itself is the one that suffers most from these sources. Sheep are good scavengers but should not be made to sibsist upon weeds alone, with little or no attention on the part of the farmer. The sooner the owner realizes that his sheep cannot return satisfactory profits under such conditions, the better it will be for him. Any extra care and feed given to the flock generally yields the greatest returns.

Sheep have ever been in the vanguard of civilization. This country has been no exception in this respect. The magnetism of cheap lands has constantly drawn the industry westward, creating a quite general impression that sheep are unprofitable on high-priced land. This may have been true in the past, but the industry is undergoing an evolution. The range is almost completely occupied and is constantly decreasing in extent. The cost of running sheep in the range country has gradually increased, and today many western people are returning to the East for the purpose of raising sheep.

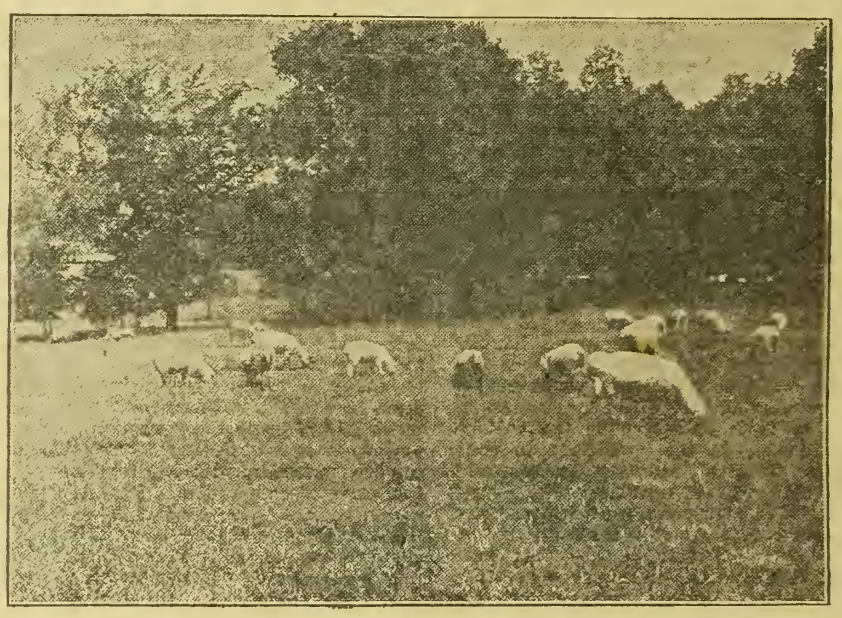
The period of exploitation is passing and a new era of constructive live stock farming is at hand, which means that a more intensive system of sheep farming upon high-priced land must follow. This is already in evidence in certain localities and with better care than is now generally given the sheep, should prove more extensive. In England the question is not whether you can afford to keep sheep on high-priced land, but whether you can afford to keep high-priced land without sheep.

SHEEP AND SOIL FERTILITY

Sheep will increase the fertility of the soil if they are handled properly. To do this, they should not be permitted to crop off the grass too closely, which they will do if the pasture is overstocked or if they are permitted to remain in one field too long. Sheep manure, with one exception, is the most valuable of all farm manures. It is thinly and evenly scattered over the ground and does not produce a rank growth in spots of the pasture, as do other manures. The manure is also worked into the soil by the sharp hoofs of the sheep, so that it is not washed away, but becomes available as plant food. This quality has well earned for sheep the title of "golden hoof." In England land which during Queen Elizabeth's reign produced only six bushels of wheat per acre has been made to yield thirty bushels at the present time, by the use of sheep. Many farms throughout the state that have been cropped for twenty or twenty-five years are rapidly decreasing in their productiveness, and there is no class of live stock as well adapted to the building up of an old, run-down, worn-out farm as are sheep. Their droppings are rich and are scattered over the fields in a better manner than could be done with the most improved manure spreader.

SHEEP ARE WEED EXTERMINATORS

Again, as weed exterminators, sheep have no equal. A few over 600 varieties of weeds are classed as growing in the region of the Mississippi Valley. Sheep will eat 576 of them, horses but 82, and cattle but 56, and the farms in this state that do not need to be cleaned of weeds are very few. Sheep not only destroy these weeds, but at the same time convert them into sweet, delicious



SHEEP GRAZING ON CAMPUS OF KANSAS AGRICULTURAL COLLEGE, MANHATTAN

meat. There are few farms that have not some odd corners, old feed lots, or waste land that is growing to weeds and brush that might, by the use of sheep, be returning a handsome profit.

An old feed lot sown to rape early in the season will prove a profitable investment; thin patches in the corn field or around its edges, sown to rape, will furnish feed for many lambs during the fall, and after the binders and headers there are always more or less shattered heads that might be turned into mutton if sheep were given an opportunity to get this grain. To the man of restricted means there is no class of live stock that offers greater opportunities for investment. It is estimated that ten head of sheep can be pastured upon the same amount of land and will require about the amount of feed the year round that one cow will consume, and ten sheep can be bought for about the same amount of money that a cow can.

SHEEP BRING QUICK RETURNS

Pure-bred sheep are worth, when compared with grades, say about in the same proportion that a pure-bred cow is worth when compared with a grade. So it matters not whether the comparison is applied to pure-bred stock or grade stock. In the one case the owner has all his money tied up in one animal; in the other case he has it in ten, and there is no more danger of losing a sheep than there is of losing a cow if proper care is given them. And again, to the man of restricted means, a flock of sheep will give much quicker returns and returns much oftener than the same amount of money invested in cattle. Suppose one should invest in a flock of breeding sheep in the fall of the year. His first returns would be in March or April, when the wool would be ready for market. If the flock had been bred for early lambs, a little later the earliest and best of the lambs should be ready for the market at a time when the market would be ready for them and at very fancy prices. Fat lambs have been selling at better than 15 cents a pound. If it is desirable to dispose of part of the flock soon after the lambs are weaned, if the ewes have been well cared for they will be ready for market, while with a cow it would take at least two years to get much of a return on the face of the investment. It is a poor sheep that will not shear enough wool each year to pay for its keep for the entire year.

INEXPENSIVE EQUIPMENT REQUIRED

It does not require expensive fencing to keep sheep where they are wanted. A good woven wire fence, of course, is best, but five good barbed wires properly placed will keep them at home. Often the objection is made that sheep cannot be pastured with other live stock. This is not true so long as there is plenty of grass in the pasture. Horses, cattle and hogs will thrive just as well if there is a flock of sheep among them as if they were in separate fields. The only thing to be guarded against is not to have old sows with ewes during the lambing period.

There are many who believe that sheep require a great deal of care and much special attention. This, however, is not correct, as we have no domestic animals that are more easily handled or that require less care for the greater part of the year than the flock of sheep. For the successful handling of a flock there will be a period during the lambing season when close attention will be required, but during the remainder of the year very little time need be spent with them. Salt should be kept in the sheep corral at all times. It should be placed where it will be free from dirt and off the ground so they will not be stepping on it. A little sulphur mixed with the salt is considered by many as a good preventive of disease.

MUST HAVE GOOD RAM

The ram has as much influence upon the flock as the entire ewe flock bred to him, which fact gives rise to the old saying, "The ram is half the flock." It will thus be seen that the selection of the ram is of prime importance. Improvement in breeding can be brought about in a flock at less expense by the use of a good ram than in any other way. A good ram is a valuable investment, and the few extra dollars in cost over the price of a mediocre one multiply themselves in returns on the lamb crop. The wise selection of a single ram has in many cases made a flock famous. I am sure it will doubly pay any farmer to invest in a small bunch of breeding ewes and enjoy the large returns yielded by them.

Buying Breeding Ewes

It is safer for any farmer, unless he has had long experience in handling sheep, to let one of the commission buyers at the stock yards pick out his breeding ewes, if possible. One day recently a Missouri farmer was at Kansas City to buy some breeding ewes, and his eye was caught by a drove of aged western ewes that he could get for 7½ cents a pound. They looked cheap to him. There was another lot of ewes offered, young blackface ewes one to three years old, but these were held at 14 cents a pound. He asked one of the commission salesmen about it, and was told to let the western ewes alone and buy the blackface ewes.

"Western ewes are all right," said the expert, "and aged western ewes are frequently the best for a farmer to buy, but this is a drove of 'come-backs'; that is, they have been in this country for two years, and they won't do you any good. There will be good western ewes, direct from the range, offered in August and September, and lots of chances to get them, although they will not be plentiful. Buyers will get better ones by putting their orders in early and giving the commission man a little time in which to pick them up. You take these blackface ewes and as soon as you get them home they will be worth $20 apiece, for that is what anybody in the country that has a drove of ewes like these will ask you for them."

Buying Western Ewes

A phase of the sheep industry which has proved especially profitable in Central and Western Kansas is the practice of buying thin, strong western ewes in the fall, breeding them to good pure-bred rams, carrying them through the winter, shearing in the spring, and marketing both ewes and lambs in the fall.

A. M. Paterson, of the Agricultural College, points out that this practice gives two cash crops—wool and lambs—besides an increase in value of the ewes if they are properly handled.

The success of this plan depends largely on the buying of the ewes. Ewes may be bought on any of the live stock markets or on the range. The time of buying will depend on local conditions and prices. They may be bought early in the fall where pasture and roughage are abundant. They should be bought a little later if feed is scarce.

Great care should be taken in the selection of the ewes. They should not be over four years old and should be strong and healthy, with plenty of constitution and vigor. The wool should be fine, dense, and not open.

The time of breeding the ewes will depend on the housing facilities on the farm. The gestation period of ewes is from 145 to 150 days. Where good sheds are provided it is a good plan to have the ewes lamb in February and March. On the other hand, where poor sheds are provided it is safer to have the ewes lamb later in the spring when the weather is warmer.

The flock should be given a little extra care during the breeding season. If the ewes are thin, some grain should be fed a few weeks before breeding, as this tends to put them in a more thrifty condition.

The rams should be of good mutton type, having plenty of size, vigor, and constitution. A mature ram should not be allowed to breed more than forty to fifty ewes. It is a good practice to turn the rams with the flock at night, taking them away during the day and feeding them some grain.

If the ewes are in good condition they may be maintained on roughage alone after they are bred. However, if they are very thin it is well to feed them some grain. It is also a good plan to feed the ewes a little grain before lambing, because it tends to give a larger flow of milk and puts them in better condition.

Parsnips, carrots, turnips and beets will keep fresh and whole and not shrivel up if they are stored in boxes filled with sand. They should not be packed too close together, but some of the sand should be allowed to get in around the roots. Celery may be stored in the same manner. The plants just as they are pulled from the ground should be placed in the boxes. The plants should be stood up, and sand should be packed in around them.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

A SHAWNEE County reader asks for smokehouse plans. We believe a good smokehouse should be part of the equipment on every Kansas farm, although meat can be successfully smoked by the use of very simple arrangements. Sometimes even a barrel can be extemporized as a smokehouse for a small quantity of meat.

The smokehouse plan here illustrated was designed by the engineering department of the North Dakota Agricultural College. Being built entirely of concrete, it is absolutely fireproof and will last a lifetime. It can also be used as a storage for meat, being cool and sanitary. If there is danger from thieves, the door should be provided with a good lock.

The firebox in this smokehouse is placed on the outside of the building. This makes it easy to replenish the fire and keep it under proper control. It also lessens the danger of too much heat getting to the meat. It will be noted that shelves are provided at one end. An opening for ventilation is made near the roof at the back end. This should be screened.

The material required is as follows: Forty-eight sacks of cement, 6 yards of sand, 18 loads of crushed rock, one door, two 2 x 8 x 12 feet pieces for the door frame, and three 2 x 4 x 14 feet pieces for the cross pieces used to support the meat hooks.

The following lumber will be required for forms: Ten 2 x 4 x 18 feet, sixteen 2 x 4 x 8 feet, and 600 feet of sheathing boards. Set the studs for the forms two feet apart on centers and wire the forms together half way up. Lumber that is to be used for some other purpose can often be used for forms.

The general plan of this concrete smokehouse can be followed in building one of lumber. The floor, foundation, and fire pit should if possible be made of concrete.

There seems to be a return to the old practice of curing meat on the farm for home use and we hope many of our readers will prepare to store and cure their own meat the coming season. If a good permanent smokehouse is to be constructed, it is a good plan to build some time in advance so as to have it ready for use. It is always safer to do concrete work before freezing weather begins. It costs money to ship hogs to market, cure the meat, and ship it back to the local store to be sold over the counter. By doing these things on the farm, this money can be saved, and in addition you can have better meat.

Handling Cows on Shares

M. D. B., Kiowa County, writes that he has some cows which he is handling on shares, and asks how long he should care for the calves for the owner, whether longer than weaning time or not. He also asks if there are any definite rules for handling stock on shares.

We believe that arrangements whereby a partnership in the handling of live stock can be worked out between owner and tenant will tend to better renting conditions both for owner and tenant. The terms of the live stock part of the agreement should be definitely worked out.

It is quite customary for the tenant to own a half interest with the owner in the stock other than the horses. If any of our readers have had any experience in leases of this kind they would be rendering a service to many by furnishing us the terms under which they have been operating. We published some months ago a model stock share lease which had been worked out by a group of farmers in Illinois. A copy of this lease has been sent to our subscriber.

Curing Alfalfa Hay

Even in a dry year we are apt to have some trouble during the season in getting alfalfa cured without its being damaged and in such shape as to retain all its leaves. We were much interested last year in learning of the methods worked out by John Greenlund, one of our readers in Washington County. Mr. Greenlund has fifty acres of alfalfa and in 1915, the year in which it rained all summer, he found it unusually difficult to save his hay in good shape. He finally adopted the practice of using two windrowers attached to the sickle bar. These make a rope about a foot wide and throw the leaves in such a way that when they wilt they overlap, forming a covering for the top. Following a heavy rain when this rope was turned with a side delivery rake, 50 per cent of the hay would be as dry as when cut the day before. The windrowers also throw the hay up on the stubble, leaving an air chamber underneath, and this helps in the curing. In 1915 in spite of the frequent rains Mr. Greenlund saved every bit of his fifty acres of alfalfa. This device has helped him solve this question so he does not worry so much about his alfalfa and the rains.

This year the principal worry has been from lack of rain, the third cutting of alfalfa all over the state being extremely light. Now that the rains have fallen, however, the alfalfa will make a fine growth and should turn off a good crop. In case we have frequent rains during the harvesting of this last crop, it is possible Mr. Greenlund's idea may help some of our readers in saving the alfalfa with its highest feeding value.

Hogs Require Grain

W. L., a Pottawatomie County reader of KANSAS FARMER, says he cannot understand how some men claim to have sows and pigs do well on alfalfa pasture without grain. He says he has six fine alfalfa pastures from which he has cut fifteen tons of hay this season. They have fine shade and water, but the sows and pigs are not doing well. In fact he feels ashamed of them. He says a sow and pigs must have a little grain on the best alfalfa pasture, and the question confronting him is how can the grower afford to give them this grain with corn worth $2.20 and little prospect for a good new crop.

Our correspondent has twenty sows bringing pigs now, and he says no man can feed $2.20 corn to $15 or $16 hogs and come out ahead. "Come on, men, and help me out on this question," is the appeal with which he closes his letter.

We give this reader's problem in some detail in the hope that some of our hog men may have suggestions that will be helpful not only to him, but to many others. His contention that, even with the best of alfalfa pasture, sows and pigs must have some grain, is absolutely correct. Alfalfa pasture or even alfalfa hay may be used to merely maintain mature hogs, but pigs cannot be grown and developed properly on pasture alone, no matter how good it may be.

Now that quite general rains have fallen, the prospect for a corn crop has greatly improved. Even though we do not raise enough corn here in Kansas, a big crop in the great corn states would give hope at least of a lower price. The August 1 Government forecast for the United States is 3,190,000,000 bushels. Last year's production, on the basis of December estimates, was 2,583,241,000 bushels.

There is another possibility for the Kansas hog man to get out without serious loss, and that is to sell his undeveloped pigs and shoats to the farmers in Iowa, Missouri, and Nebraska, who seem to be short on hogs but with prospects for a big corn crop. We explained in last week's issue the steps that had been taken by our State Board of Agriculture to get co-operation between Kansas men having surplus pigs and no grain in sight and men of other near-by states wanting to buy stock hogs. To take advantage of this co-operative proposition, men with pigs on their hands which they must sell should write to Secretary J. C. Mohler, Topeka, Kansas, giving full details as to what they have.

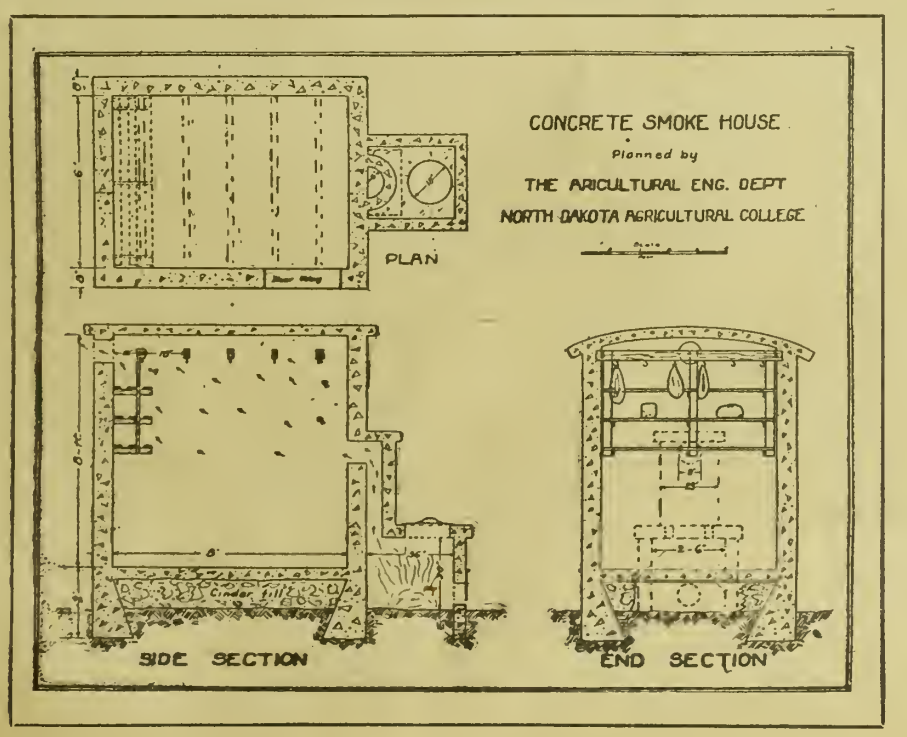
It will take a little grain to get late summer or fall pigs ready for this outside market, and even though grain is high it might pay to buy what is necessary so as to have the pigs in proper shape to turn over to the man with grain to finish them. We hope some of our hog men will write us telling how they are planning to handle the hog situation.

Disking Wheat Stubble

A reader in Eastern Kansas writing under date of July 28 says he sees the suggestion frequently made that wheat stubble should be disked as soon as possible after harvest. He wants to know what good it will do to disk a field that is so dry and hard that it is all full of big cracks. If there was any moisture in the soil he says he could see where disking might be valuable in helping to hold this moisture so the ground could be plowed in good condition later.

Of course this letter was written before any rain had fallen. Conditions have changed wonderfully since that date. We know there were many fields where it would have been labor thrown away to disk before the ground had received any moisture. The man on the ground is the only one who can decide whether a suggested operation will be effective in bringing about the desired result. All farm operations are based on certain general principles. With the ground as dry as a bone, disking could not be expected to accomplish any results in conserving moisture.

Now that sufficient rain has fallen to wet the ground in good shape, it is possible to take advantage of the principle upon which the disking of wheat stubble is based. If the plowing could be done quickly before the ground could lose much moisture, it might not pay to disk. Disking, however, gets over a large area in a short time, and in addition to putting in good tilth the surface, which goes to the bottom of the furrow when the land is plowed, it serves to hold moisture so the plowing can be done in good shape long after fields left undisked have become too dry to plow.



Following the rains, weeds and grass will spring up rapidly in wheat fields. Weeds draw moisture from the soil rapidly and disking the fields will check this growth and thus stop this source of moisture loss. We believe that on many fields the use of the disk in advance of the plow will pay. It means some extra work in seed bed preparation, but those who have had experience know that plowing is not nearly so heavy a job where the land has been disked first. This lightening of the plowing work should be taken into consideration in figuring on the cost and advantages of the disking.

Sow Rye for Pasture

If you keep hogs, sheep, or cattle, you should sow some rye this fall for pasture. It will furnish pasture both in the fall and in the spring. In the fall it will furnish grazing after all other pasture is dead, and even in the winter when the ground is solid, stock may be run on rye. It is the earliest pasture available in the spring.

If you sow a patch of rye this fall, it will be the means of saving you many bushels of corn, and corn at $2.40 a bushel is well worth saving. Some sow rye in corn at the last cultivation, but I have not found this to be a very good practice here in Kansas. It is usually too dry, and this cuts the stand of rye to one-fourth of a normal stand. If you have no idle piece of ground, cut a small patch of corn for feed and plant the rye on the land so vacated. It should be sown earlier than wheat.

Seed rye will be higher than usual this year, but so are all other feeds and seed. We also get higher prices for the stock, and we can well afford to sow rye with the expectation of having it return a good profit in saving feed.—WILLIAM EVEY, Linn County.

Straw Spreading Saves Wheat

We have constantly urged that all straw be saved and put back on the land. It seems almost a crime to burn straw, and yet every year many stacks are burned simply to get them out of the way. The spreading of straw on many farms has resulted in saving a wheat crop, or at least in greatly increasing the yield. We have just received a letter from a reader in Pottawatomie County, telling of his experiences along this line the past season. He says:

"I would like to answer the inquiry of your reader who recently asked how to prevent wheat from winter killing. Last fall I bought a straw spreader of a kind advertised in KANSAS FARMER and spread all the straw I had. I aimed to put this straw on the poorest land in the field. The winter was awfully dry and windy. There was little rain or snow to settle the straw and it blew away some.

"The wheat on the strip spread with straw will yield twice as much to the acre as the rest of the field. We are now plowing this wheat field and the ground is very hard and dry, but when we strike the strip where the straw was spread we find moisture and it breaks up in fine shape. We are plowing seven or eight inches deep, but nowhere else in the field do we strike moist earth. I figure that the straw helps in several ways. It protects the wheat so it does not winterkill. It holds moisture, and in plowing it under for the next crop it adds organic matter and fertility to the soil. Using straw in this way will increase your bank account. By all means spread all of the straw stack bottoms on the land. Three men and a team can easily spread fifteen acres a day.—WILLIAM LITTLEFIELD.

It will pay you to plow early for wheat. It will also pay you to disk your ground before plowing. Disking destroys weeds that sap the ground of moisture and fertility. The fertility is held too long from the wheat by these decaying weeds to help the wheat to any extent. Disking makes plowing easier and turns a loose, mellow soil next to the subsoil, thus making it possible to work soil into a much better seed bed. A little time and money spent on the seed bed will pay you by increasing the yield.

The Cow Knows—but SHE can't talk. Ask the Dealer.

THE H. E. ALLEN MFG. CO. INC. MANUFACTURERS AND OWNERS OF
SO-BOS-SO
TRADE MARK
KILFLY
ESTABLISHED 1900
CARTHAGE, NEW YORK, U.S.A.

DON'T let your cows suffer from the torture of flies. When their energy is used to switch the flies from their backs they cannot give the maximum amount of milk. It makes them irritated and run down. Use

SO-BOS-SO KILFLY

—a sure and effective preventive against fly torture. A boon to the cows and a bane to troublesome milking. Spray with SO-BOS-SO KILFLY twice a day to keep the flies away. Will not blister the skin nor gum the hair. Has been the farmer's friend for more than 17 years. Used all over U. S. and in many foreign countries. Tried and proven. Sold in gallon cans—enough for 200 cows or for one cow 100 days. Your dealer will sell you SO-BOS-SO KILFLY. Send for descriptive circular.

Only $2 Down
One Year to Pay!

$29 Buy the New Butterfly Jr. No. 2. Lightrunning, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 95 quarts per hour. Made also in five larger sizes up to No. 8 shown here.

30 Days' Free Trial Earns its own cost and more by what it saves in cream. Postal brings Free catalog, folder and "direct-from-factory" offer. Buy from the manufacturer and save money.

ALBAUGH-DOVER CO. (INC.)
2181 Marshall Blvd. CHICAGO

180,000 now in use

FERTILE KANSAS LAND CHEAP

Those who located in Central Kansas 20 years ago are the big farmers today. Their land has made them independent.

Your chance *now* is in the five Southwestern Kansas counties adjacent to the Santa Fe's new line, where good land is still cheap.

With railroad facilities this country is developing fast. Farmers are making good profits on small investments. It is the place today for the man of moderate means.

Wheat, oats, barley, speltz, kaffir and broom corn, milo and feterita grow abundantly in the Southwest counties referred to. Chickens, hogs, dairy cows and beef cattle increase your profits.

You can get 160 acres for $200 to $300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6 per cent—price $10 to $15 an acre.

Write for our book of letters from farmers who are making good there now, also illustrated folder with particulars of our easy-purchase contract. Address

E. T. Cartlidge,
Santa Fe Land Improvement Co.,
1892 Santa Fe Bldg., Topeka, Kansas.

DAIRYMEN

Ship you empty dairy and feed bags to us. We pay highest market prices.
JOS. P. FINN CO.
24-26 Shawnee St., Dayton, Ohio. Dept. K.

When writing advertisers, please mention KANSAS FARMER.

Wins a Cow

My cow did pretty well this month and I am glad that I entered the contest, for I am just a cow ahead whether I win a prize or not. I am sending my last records.—EVERETT ZIRKLE, Berryton, Kansas.

The Garnett Condensed Milk Company opened its new plant for operation at that point July 15. Garnett is a good dairy center. More than 500 dairy cows have been shipped into that station since April 1.

Kansas Farmer Dairy Club

Value of Skim Milk

MOST dairymen base the profits of the work they do on the butterfat sold. The by-product, skim milk, however, should not be overlooked. There are a good many different ideas as to the feeding value of skim milk. A good deal depends on the way it is used, what kind of stock it is fed to, and the kind of feeds with which it is combined. Probably the reason we commonly do not place a high enough value on skim milk is because butterfat brings a high price and we assume that when we have taken out the cream, or fat, we have taken out the most nutritious part of the milk.

Fat is a valuable product, but as a feed it is absolutely worthless as a producer of growth. All the growth-making material is left in the skim milk. It contains the protein in the form of casein, which is the part that thickens when the milk sours. Protein is the material in feed that makes muscle, or lean meat. About all the ash, or mineral matter, is left in the skim milk and this is used in making the bones of growing animals. A small amount of fat is necessary for young animals and the whole milk contains it in the right amount to nourish them properly. For the older animals, such as pigs, calves, hens, or colts, the skim milk contains the very things they need most. After animals get to a certain age they can use the starch which is found in corn, kafir, and other grains, to take the place of fat. The real young animal cannot do this because it requires the action of some special juices which are not found in the mouths or stomachs of calves or pigs until they are several weeks old.

Experienced dairymen have found that by being very careful and using good judgment they can raise just as thrifty calves by gradually replacing whole milk with skim milk after the calf is two or three weeks old as by feeding them the expensive whole milk longer. One of the tests of the successful dairyman is his ability to raise good calves on skim milk. The heifer calves must be grown and developed into good cows in order to build up the herd. If they are so poorly handled when young as to be stunted and unthrifty, they will never make good milk cows. The father of one of the members of the Dairy Club last year told us that his boy had made the first real success in feeding skim milk calves on their farm. He had a pure-bred calf, and he raised it so well that he was able to sell it for a good price when it was only a few months old. He made this success because he was more careful than they had ever been before in feeding calves. He owned this calf and he followed most closely the instructions given by those who had learned just how to feed skim milk calves so they would grow and develop properly.

Skim milk is fine for pigs, too, but is not so good for them if nothing else is fed with it. Corn is a good pig feed, too, but corn alone will not give good results. Corn and skim milk together make a fine combination. The corn lacks in the growing material and mineral matter to make bones, and the skim milk supplies these deficiencies. The largest and most profitable growth will be made if a pound of corn is fed to every three pounds of skim milk. A hundred pounds of skim milk is easily worth as much as a half bushel of corn when fed to pigs in the right proportion with other feeds. That would make it worth over a dollar a hundred pounds at the present price of corn. It is worth fully as much in actual money when fed to good dairy-bred calves. Skim milk is a fine feed for making hens lay, and will make the little chickens grow rapidly. Some poultrymen think it is worth at least $1.50 a hundred pounds when it is properly fed.

As human food we often turn up our noses at skim milk, but the growing materials it contains are just as valuable in making boys and girls grow as they are in producing growth on pigs or calves. A hundred pounds of skim milk will make fifteen pounds of cottage cheese, and a pound of cottage cheese has as much food value as a pound of beef. We probably would not want to eat cottage cheese entirely in place of meat, but it can take the place of part of the meat we commonly eat, at least.

In the Dairy Club contest the production of your cow is based on the butterfat she produces, because that is the commercial product for which most dairy cows are primarily kept, but we do not want you to forget the by-product, skim milk. In many manufacturing lines the by-products can become a great source of profit. Learn how to feed skim milk so as to get all you can out of it. It will increase your profit, and by keeping a record of how you use it and make it bring in some money, you will have a chance to make it count in the contest in connection with the story you will write about your work at the end of the year.

A little later when more of the members will have calves to feed, we will tell you exactly how to get the best results in feeding skim milk to calves.

Cow Doing Well

I am sending you a picture of myself and my cow, Star Beauty. She is not doing as well since the flies are so bad, but she has been giving about the same amount of milk—from 38 to 41 and 42 pounds a day. She has a good clover pasture to run on.—HENRY STIGLMIRE, Leavenworth County.

The picture was a little out of focus and could not be used for a cut. Henry's cow is doing well for such hot weather as we have in July. Clover is a very fine feed for producing milk. Sometimes it causes bloat, and cows must be watched closely when they are on clover or alfalfa pasture. They should never be allowed to go on such pasture when they are very hungry. Usually there is a good deal less danger in pasturing clover in dry weather.

Another Heifer Calf

My cow was fresh July 1. She had a fine heifer calf which is growing very fast, and I am mighty proud of it. The flies are pretty bad, but my cow gives about 30 to 33 pounds of milk a day. I am not giving her any feed; all she gets is pasture. I did not send in the feed records for the two months, June and July, while she was dry, but all she got was pasture, which was one dollar a month.—LESLIE LINVILLE, Winona.

Leslie has a right to feel proud of his fine heifer calf. Every dairyman who is anxious to get a herd started appreciates having heifer calves to raise. He should have sent in his feed record blanks, even though his cow was not getting anything but pasture. We hope he will not let his cow suffer for feed while she is fresh. July is not a very good time to have a cow freshen, and it sometimes requires some special effort to keep them from falling off in milk too rapidly.

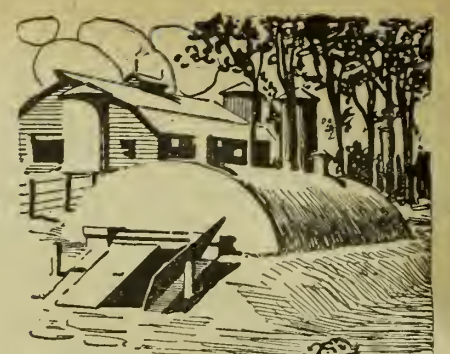
Cow Increasing in Milk

I certainly appreciate the clippings from KANSAS FARMER you sent me in your last letter. They contain some valuable information.

I am going to have a picture taken of my cow and calf as soon as possible. She is one of the cows that was shipped into this place from Wisconsin. She looks like a fine cow, but I do not think she is giving as much milk as she should. Of course there is time yet for her to gain. The first week I had her she gave 191 pounds, and the second week she gave 225.8, and seems to still be gaining a little each day.—EMMA MAE LENHERT, Hope, Kansas.

Sometimes cows that have recently been shipped in from Wisconsin or some other state do not milk as well the first year as they do later. This is especially true if they happen to be rather thin in flesh. They also have to get accustomed to our climate and feeds. As Emma's cow is increasing in her milk flow, it looks as though she was responding to good care and feeding. It takes feed to make milk, and it is always important to study to see that the milk cow gets enough feed of the right kind. Sometimes when feeds are very high in price we have to figure closely in buying feeds in order to be sure that we are getting our money's worth in the results.

Volume 52 of the National Duroc Jersey Record is just out. This volume contains the pedigrees of males from No. 201501 to 210999; the pedigrees of females from 508700 to 529998, and other information of value to Duroc breeders.



Conserve Your Produce!

THE simplest and easiest manner for storing perishable products such as potatoes and other root crops, fruits, etc., is to build a concrete storage cellar. This year more than ever before it is imperative from the standpoint not only of the grower but of the country at large, that every farmer provide suitable storage facilities on the farm for fruits and vegetables.

$700,000,000 Wasted Annually

That's the enormous amount in actual money that is wasted in the United States—foodstuffs, farm produce, etc. It is a conservative estimate. Thousands of dollars of waste in the potato crop alone can be saved by providing suitable storage. The tremendous annual loss in vegetables and fruits cannot continue now that the country is aroused to the importance of food conservation.

Concrete Storage Cellar

The advantage of a concrete storage cellar to the farmer is that the crop can be marketed when prices are right. To the nation it means the conservation of food that heretofore has been thrown on a glutted market at harvest time. Keep enough produce for home use and have a large quantity to market later or when prices are higher and the country needs it. When stored in a concrete cellar apples and potatoes can be kept in good condition from one season's end to the beginning of the next. Now is the time to build a concrete storage cellar and no better material can be found than

Dewey Portland Cement

Go to the Dewey Dealer for Dewey Cement. This will insure a permanent structure that will pay dividends year in and year out. The saving realized the first year will more than pay the initial cost—the only cost of a concrete cellar. Use Dewey Cement in making all farm improvements.

See the Dewey Dealer and ask him for the bulletin on "Vegetable and Fruit Storage." If he hasn't it he will get it for you.



Haul Cows in Truck

We got our cows home all right and mine is doing well. We bought them from Mr. Browning, at Linwood. I went out to Ben Zoll's home July 15 and stayed all night. The truck we hired to haul our two cows home was at Basehor and we wanted to get an early start. We started at 3 o'clock Monday morning and got back to Ben's at 9:30 and to my home at 11:30 the same morning.

Ben lives closer to Linwood than I do. The cost of the trucking was $21.25. Ben paid $9.50 and I paid $11.75, as I lived farther away. The total cost of my cow was $169.

Mr. Chapman, the county agent, helped select the cows.

I got my cow too late to send a milk sample, but will send one next month.—PAUL STUDDARD, Leavenworth County.

Club Member Owns Sheep

I kept the cow I bought for the second year's Dairy Club work only about a month. I bought her on a guarantee and turned her back because she did not give quite five gallons of milk a day. She was a grade Holstein and I was to pay $160 for her. I cannot find a cow around here anywhere that would be good enough for me to bother with, so I guess I cannot join the advanced class.

I think the Kansas Farmer Dairy Club is all right. I own two cows now and a nice little heifer calf. The cows bring me in a good income. I sell all my milk in town at eight cents a quart. I have fourteen head of sheep and they are paying, too. I got fifty-four cents a pound for some of my wool and fifty-eight cents a pound for some. I have some pigs, too.—HOWARD WEIS, Thayer, Kansas.

SELLING KANSAS CREAM

THE whys and wherefores of cream selling in Kansas are most minutely explained in Bulletin 216 of the Kansas Experiment Station, entitled "The Marketing of Kansas Butter." In preparing to write this bulletin, Theo. Macklin, who teaches rural economics at the Agricultural College, dug up his information from the very bottom. The facts and conclusions are based on a knowledge of the fundamental details of the business of producing and marketing Kansas butterfat. The pamphlet is too long and contains too many charts and tables to be reproduced. We hope every cream producer who may read this will write to the Director of the Experiment Station at Manhattan for a copy of this bulletin, if he does not already have one. The facts brought out in the bulletin are given in a summary as follows:

During a period of eighteen months the Kansas Agricultural Experiment Station made a thorough investigation of the methods, processes and costs of marketing butter made both on farms and in creameries of the state. Creameries reported the complete facts of their business for more than three-fourths of the Kansas creamery butter made during the period of study, while representative farmers and stores gave accurate facts concerning their respective operations. The facts concerning the progress of Kansas dairying were obtained from numerous library sources and from pioneer Kansas dairymen. A summary of the investigation brings forward the following facts and conclusions:

First—Dairy farming in Kansas has been, and continues to be, a side line on the average farm. Experience with whole milk creameries, local private creameries, and skimming station centralizers have proved that they were not adapted to Kansas conditions, and led to the establishment of cream station and direct shipper centralizers, which are well adapted to the conditions of Kansas dairy farming.

Second—Farm butter making has rapidly declined in Kansas owing to the rapid increase in the efficiency of creameries. Nevertheless, there are many who make farm butter. Those who sold the largest quantities obtained the best prices. Quality of farm butter depends upon specialization, which in turn is warranted only when a large quantity can be made and sold. Only those who lived close enough to favorable markets found it worth while to make large amounts of farm butter.

Third—The average farmer does not live close enough to favorable markets to make the market butter profitably, except in so far as the stores follow the practice of paying the same price for both good and poor butter. This practice robs Peter to pay Paul. If one farmer obtains a higher price for his butter than it is worth, the loss is made up either by charging another farmer too high a price for the goods he buys, or else by underpaying the man who produces the good butter.

Fourth—Kansas has seventy-eight creameries. Forty-one are centralizers, which make more than 95 per cent of the creamery butter of the state. Only one-third of the creameries make annually 100,000 pounds of butter or more each. Centralizers are necessary because there is only one creamery for 1,053 square miles, and the average farmer lives nineteen miles from a creamery. This is too great a distance to drive, so that cream shipment is the farmer's economical choice.

Fifth—The average creamery patron in the state sells less than one-quarter of a five-gallon can of cream per week. He finds it more profitable, therefore, to sell to the cream station at the cream station prices, than to ship direct and deduct from the delivered price the expense of shipping a partly filled can. It is the small amount of butterfat supplied by the average creamery patron which accounts for the fact that 2,020 cream stations deliver four-fifths of the butterfat from the farmer to the creamery.

Sixth—The prices paid for delivered butterfat by centralizers averaged above Elgin prices, and according to prevailing economic conditions, appear to be fair. The fact that butterfat prices in Kansas are somewhat lower than in some other states is because farmers choose to sell four-fifths of their butterfat through cream stations rather than to deliver the cream at their own expense. The difference between prices paid to farmers in Wisconsin and in Kansas, for example, was due to the difference in cost of getting butterfat from the farm to the creamery in the two states. Wisconsin farmers pay 1.5 cents to deliver their butterfat. Kansas farmers, because they lived nineteen instead of five miles from a creamery on an average pay 3.46 cents to deliver their butterfat.

Seventh—More and better dairy cows would have the effect of reducing the cost of getting butterfat to the creameries, of lowering the cost of making and marketing butter by the creameries, and would result in higher net prices and greater profits to the farmer.

Oleomargarine in Congress

As we have repeatedly stated, every man producing cream has a direct interest in the regulations that surround the selling of oleomargarine. The oleo situation, as it now stands, is clearly set forth by the following statement from W. T. Creasy, secretary of the National Dairy Union:

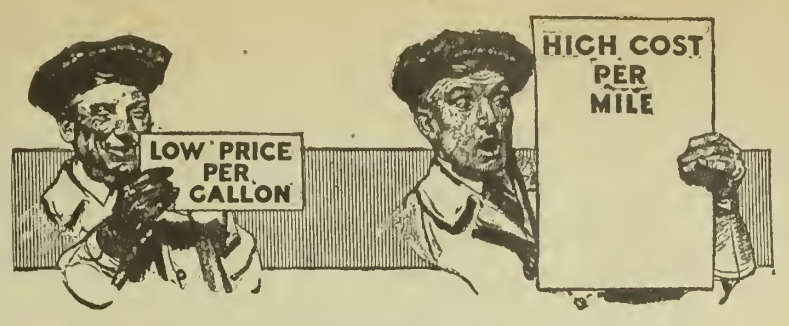
"At this writing the Sixty-fifth Congress has done nothing relating to oleomargarine legislation, though there have been three bills introduced by the oleomargarine interests; one on April 4 by Senator McKellar, of Tennessee, known as Senate Bill No. 294. The title of the bill is, "A bill to reduce the tax on oleomargarine." This bill assesses a tax of one cent a pound to be paid by the manufacturer on every pound or part of a pound package of oleomargarine. This bill would reduce the ten cents a pound tax on colored oleomargarine to one cent a pound, and increase the tax on uncolored oleomargarine from one-fourth of a cent a pound to one cent a pound. The bill has only one short section and mentions no other changes.

"Congressman Sabath, of Missouri, on April 24 introduced a bill entitled, "A bill to change the name of oleomargarine to butterine, and to change the rate of tax on butterine; to protect the consumers, dealers, and manufacturers of all kinds of butterine against fraud; and to afford the Bureau of Internal Revenue more efficient means for the detection of fraud and the collection of the revenue." This bill contains fourteen sections, and repeals the Acts of August 2, 1886, the Act of October 1, 1890, and the Act of May 9, 1902. It taxes all oleomargarine, whether colored or not, one cent a pound. It requires that all butterine be put up in one-half, one, two, three, four, five and ten-pound bricks, prints, or rolls, with the word 'Butterine' indented on the surface thereof, and that the container shall also be stamped with the word 'Butterine.' It permits all stuff previously known as oleomargarine (which means any kind of grease) to be mixed together with extracts, and certain mixtures, with cream-butter, or with milk. In short, this butterine can be made of anything and then colored to look like butter. It provides for a $500 manufacturer's tax, a $50 wholesaler's tax, and $6 for a retailer. This bill has the earmarks of the beef trust, its object being not to cheapen the imitation butter, but to make it possible to get more money from the consumer for an inferior product.

"Congressman Aswell, of Louisiana, introduced a bill entitled, 'A bill to authorize agricultural colleges and experiment stations to investigate and to teach the science and art of manufacturing and using oleomargarine, and to exempt such colleges and stations from the imposition of special taxes and payment of taxes.' He intends to change the work of our agricultural colleges from that of teaching soil conservation to that of conserving the fortunes of the beef trust. We understand that a few of the agricultural colleges bit at this 'sucker bait.' A better heading for the bill would be, 'A plan to destroy American agriculture and the conservation of the soil, in order to increase the price of imitation food products to the consumer, for the benefit of the meat monopolies.'

"The Agricultural Committee of the National Research Council, which I understand is an adjunct to the National Defense Council, has a resolution asking that all restrictions be removed from oleomargarine on account of the scarcity of powdered skimmed milk. How ridiculous this reasoning, but it shows the activities of the beef trust and its allies.

"On account of the war every kind of scheme is being devised at our national capitol to further the interests of monopolies, under the pretext of conserving and increasing our food supply, while in reality their ultimate effect will be to do the reserve. We know it is a very busy time for the farmers, but they should keep their United States Senators and Congressmen informed that they will not stand for any such legislation. Write at once, because something is liable to turn up at any time, in fact we understand it is the intention of the beef trust to push their oleo legislation at this session, and may possibly try to add it to the 'revenue bill. Prompt action is needed. Write and wire."



OIL BANKING

How shrewd motorists save money

WHEN most car owners were novices, strong words made strong impressions.

But today the roads are toured by millions of veterans. These veterans have learned how to test words. They know how to prove or disprove claims.

If you are a veteran you know this: An oil that burns up rapidly or breaks down quickly cannot be really cheap. Though it may be low-priced by the gallon, it is bound to prove high-priced by the mile.

You know that a wrong-bodied oil raises your gas consumption. Instead of saving your oil pennies it eats up your gas dollars.

You know that wear and tear on the metal parts means, some day, a heavy bill which the low price per gallon can never wipe out.

In recent years no oils have made such steady progress toward a dominant place in the market as Gargoyle Mobiloils.

Why?

Because now-a-days the great bulk of lubricating oil is sold to automobile veterans—men who have learned that gasoline saving depends largely on thorough piston-ring seal—who know that the piston-ring seal depends solely on the *body and character* of their lubricating oil.

Because the veteran knows that an oil which uses up rapidly is not lubricating properly.

Because the veteran automobilists of today know that the higher price per gallon of Gargoyle Mobiloils means a lower cost per mile in operating expense.

Write for new 56-page booklet containing complete discussion of your lubrication problems, list of troubles with remedies and Complete Charts of Recommendations for Automobiles, Motorcycles, Tractors and Marine Engines.

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. If the dealer has not the grade specified for your car, he can easily secure it for you.

GARGOYLE

Mobiloils

A grade for each type of motor

CORRECT AUTOMOBILE LUBRICATION

Explanation: The four grades of Gargoyle Mobiloils, for gasoline motor lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A" — **Gargoyle Mobiloil "E"**
Gargoyle Mobiloil "B" — **Cargoyle Mobiloil "Arctic"**

In the Chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A," "Arc" means Gargoyle Mobiloil "Arctic," etc. The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

This Chart is compiled by the Vacuum Oil Company's Board of Engineers and represents our professional advice on Correct Automobile Lubrication.

Model of CARS	1917		1916		1915		1914		1913	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Abbott-Detroit	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc
" (8 cyl)			A	A	A	A				
Allen	A	Arc	A	Arc	A	Arc	A	A	A	A
" (Mod. 33-34-35)					A	Arc				
Apperson	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	Arc	A	A						
Auburn (4 cyl)			A	Arc	A	Arc	A	A	A	A
" (6 cyl)	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Briscoe	A	Arc	A	Arc	A	Arc	A	Arc		
" (8 cyl)			A	A						
Buick	Arc	Arc	Arc	Arc		Arc	A	Arc	A	Arc
Cadillac						Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A	A	Arc	Arc				
Case	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Chalmers			Arc	Arc	Arc	Arc	A	A	Arc	Arc
" (Mod. 6-40)			A	Arc						
" (Mod. 6-30)	A	A	A	A						
Chandler Six	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Chevrolet	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc	A	A
Cole		Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A	A	A					
Dart	A	Arc	A	Arc	A	Arc	A	A	A	Arc
" (Mod. C)	A	Arc	A	Arc	A	Arc	A	A		
Detroiter	Arc	Arc	Arc	Arc	A	Arc	A	A	A	Arc
" (8 cyl)				Arc	Arc					
Dodge	A	Arc	A	Arc	E	E				
Dort	A	Arc	A	Arc	A	Arc				
Empire (4 cyl)	A	Arc	A	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (6 cyl)	Arc	Arc	Arc	Arc						
Federal	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Ford	E	E	E	E	E	E	E	E	E	E
Franklin	A	A	A	A	A	A	A	A	A	Arc
Grant	A	Arc	A	Arc	Arc	Arc	Arc	Arc		
Haynes	A	Arc	A	Arc	A	Arc	A	A	A	Arc
" (12 cyl)	A	A	A	A						
Hudson			Arc	Arc	Arc	Arc	Arc	Arc	A	Arc
" (Super Six)	A	Arc	A	A						
Hupmobile	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
I H C. (air)					B	A	B	A	B	A
I H C. (water) (2 cycle)			A	A	A	A	A	A	A	A
I H C. (water) (4 cycle)			A	Arc						
Interstate	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Jeffery	A	Arc	A	Arc	A	A	A	A		
" (6 cyl)	A	A								
" Com'l	A	Arc	A	A	A	Arc	Arc	Arc	Arc	Arc
King					A	Arc	A	A	A	E
" (8 cyl)	A	A	A	A	Arc	Arc				
" Com'l	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Kissel Kar	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
" Com'l	A	Arc	A	Arc	A	Arc	A	Arc	Arc	Arc
" (Mod 48)			A	A	A	A	A	A		

Model of CARS	1917		1916		1915		1914		1913	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Kissel Kar (12 cyl)	A	A								
Lexington	Arc	Arc	Arc	Arc	Arc	Arc				
Locomobile	E	E	E	E	E	E	E	E	Arc	Arc
McFarlan	A	Arc	A	A	A	Arc	A	A	A	Arc
Marmon	A	A	A	A	A	Arc	A	Arc	A	Arc
Maxwell	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Mitchell	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Mitchell (8 cyl)			A	A						
Moline									A	Arc
" Knight	A	A	A	A	A	A	A	A		
Monroe	A	Arc	E	E	A	Arc				
Moon (4 cyl)					Arc	Arc	Arc	Arc	Arc	Arc
" (6 cyl)	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
National	Arc	Arc	A	Arc	A	A	A	A	A	A
" (12 cyl)	A	A	A	A						
Oakland	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc
" (8 cyl)			A	A						
Oldsmobile			Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A	A						
Overland	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Packard					A	Arc	A	Arc	Arc	Arc
" (12 cyl)	A	A	A	A						
" Com'l	A	A	A	A	A	A	Arc	Arc	Arc	Arc
Paige					A	Arc	A	A	A	E
" (6-46)	Arc	Arc	Arc	Arc	Arc	Arc				
" (6-36 & 38)	A	Arc	A	Arc	A	Arc				
Pathfinder	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc
Peerless	A	A	A	A						
" (12 cyl)	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)	A	A	A	A						
Pierce Arrow	A	A	A	A	Arc	Arc	Arc	Arc	Arc	Arc
" Com'l	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Premier	A	A	A	Arc	A	Arc	A	Arc	A	Arc
Regal	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (8 cyl)			A	A	Arc	Arc				
Reo	A	Arc	A	Arc	A	Arc	A	Arc	A	Arc
Saxon	E	E	E	E	E	E	E	E		
Stearns-Knight	A	A	B	A	B	A	B	A	A	A
" (8 cyl)	A	A	B	A						
Stephens	Arc	Arc	Arc	Arc						
Studebaker	A	Arc	A	Arc	Arc	Arc	A	Arc	A	Arc
Stutz	A	A	A	A	A	A	A	A	Arc	Arc
Velie (4 cyl)				A	Arc	A	Arc	A	A	Arc
" (6 cyl)	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc		
Westcott	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	A	Arc
White	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
" (16 valve)	A	A								
Willys-Knight	A	A	B	A	B	A	A	A		
Willys Six	Arc	Arc								
Winton	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc

YOUR TRACTOR

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Here is one of the most practical doubletrees ever made for all ordinary work on the farm: Plowing, harrowing, lead team work, road work—in fact any work requiring a doubletree of medium weight and extra strength.

Fred Anderson, the inventor of the new celebrated Anderson Manure Loader and Scraper, has personally designed the Anderson Doubletree along scientific lines to develop the greatest amount of pulling strength possible, without excessive weight, and Mr. Anderson personally guarantees these doubletrees to stand the terrible strain of a steady pull of a team weighing up to 3,000 pounds.

This doubletree is constructed from carefully selected hardwood, thoroughly seasoned, painted with two coats of good paint. It measures 38 inches long, 3½ inches wide, and 1 11/16 inches thick. The hooks and center irons are of a special design, and will never slip off the end or center of singletrees.

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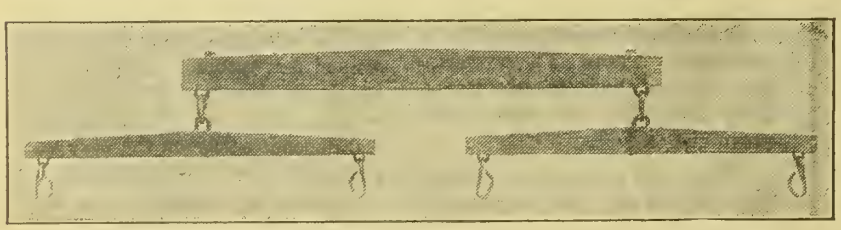

KANSAS FARMER takes pleasure in offering its readers a doubletree which cannot be equalled for less than $1.35, absolutely free. For a short time, and while our supply lasts, we will send one pair of doubletrees complete, all charges prepaid, to anyone in Kansas sending us only $2.00 for a three-years' subscription to KANSAS FARMER. Those living outside of Kansas must send 50 cents extra to defray transportation charges, or $2.50 in all. This offer is open to all, new or renewal. If you are already paid in advance, we will extend your subscription. Don't delay, but order now, for this offer may not appear again.

Kansas Farmer

Circulation Dept. Topeka, Kansas

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We have several thousand subscriptions expiring in August. It would be a saving of much time to us and avoid missing copies by the subscriber if the renewal could reach us before the expiration. The best way to do is to send in $2.00 when you renew and have your subscription paid three years in advance.

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140 Acres, six miles from McAlester, on terms, for $4,500. If we show you $4,500 crop on farm? If so, write
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To the beginner, the man who wishes only a little flock of sheep as a handy thing to consume some forage, keep the farm free from weeds and yield a tidy profit at the end of the year, I suggest a flock of forty ewes as being best adapted to his purpose, and, decently cared for, certain to return him a good profit.—JOSEPH E. WING.

You can help the nation and yourself by exercising every care in handling the product of your cows. Avoid loss and unnecessary waste by use of clean utensils and keeping the product in clean, cool places. A moment's attention by you may save the life of a child or a soldier.

Co-operative Marketing Pays

Experiences of Selling Organizations Prove Value of United Effort

By R. C. GANO

THE largest buyer of boxed fruits in the United States once called at the general office of the North Pacific Fruit Distributors, a co-operative marketing organization handling about one-quarter of the apple tonnage of the Pacific Northwest. Among other items this buyer wanted ten carloads of prunes. This buyer, spending two to three millions of dollars each year for boxed apples and other fruits, could well afford to pay a considerable sum each year for an accurate knowledge of crop and market conditions. In addition to his market knowledge he brought to his interview with the sales department of the Distributors an experience of twenty-five years in buying fruit. He knew what arguments to use to beat down the prices quoted him.

When he got around to the subject of prunes he began by stating that the price in New York was low and would go lower. This statement would have carried weight had the Distributors been unable to refute it. But they showed their visitor a telegram received that very day from New York, stating that the price of prunes was firm and would go higher. He could but smile on this point.

Then he came back to the contest of wits with a statement that the production in the Northwest was unusually large and therefore prices should be lower. In reply the Distributors referred to their minute book containing the confidential crop report made possible through the co-operation of the northwest prune growers. This showed the visitor again in error, as the crop outlook was below, not above, normal.

Then the buyer stated that other prune-growing sections had unusually large crops, and that in competition with large crops elsewhere the Distributors' price must be lowered. The sales manager quietly produced telegrams from these other sections named and proved his visitor wrong for the third time.

The buyer couldn't argue against cold facts. He immediately paid the Distributors' price, $1,100 more than he had ten minutes earlier stated positively he would pay.

Knowledge is power, in selling as well as in producing crops. The North Pacific Fruit Distributors had spent in the season mentioned, for crop reports, more than $17,000. It was this investment in knowledge which on the one deal mentioned paid them back over one-sixteenth of the investment. It is at once apparent that a single farmer, contracting to sell his crop, cannot possess such thorough and up-to-date market information. Only through co-operation can this valuable knowledge be purchased at a reasonable charge per grower.

Crop and market information is one of the most important things that farmers secure through co-operative marketing organizations. But there are benefits from co-operation in practically every branch of the farmer's activities. There are plenty of figures to prove how co-operation has paid actual dollars in growing and harvesting crops; in packing produce and transporting it to market; in selling and advertising, and in miscellaneous ways.

Space will not permit that illustrations be cited under each one of the ways mentioned, but the few which will be given will indicate the kind of figures that might be given for each one.

Another illustration of the value of market knowledge will not be amiss, for it demonstrates what many agriculturists do not realize—that co-operation can be made to pay right from the start. The experience in mind is that of the California prune growers, located for the most part in the Santa Clara Valley. Only two years ago, in the spring of 1915, these growers were unorganized.





SCENES from the wheat-growing movie, "Winning With Wheat," which is being shown in the picture houses of Kansas under the auspices of the Kansas Council of Defense and the Agricultural College. As a result of following better methods of seed bed preparation the young man wins in the contest between father and son.

In addition to having all the romance and thrills of the usual film, it contains some valuable lessons in wheat growing, presented in a most convincing manner. It is being shown without charge. Announcements of the dates are being made in the local papers.

Reports at that time that packers and other speculators were selling prune "futures" in the East at ruinously low prices, thinking they could buy still lower, of course, made the growers realize what to expect from the buyers. A mass meeting was called and a committee appointed to investigate the size of the crop.

This was merely a temporary expedient—a first step in co-operation, but it paid wonderfully. The committee learned that, contrary to the reports spread by the packers, the Santa Clara Valley crop would not be unusually large. The committee advised all growers to hold out for a five-cents-per-pound base. The relation of supply to demand was understood. The committee knew what it was talking about, for it had knowledge. Those growers who were bold enough to bank on the committee's findings held out for the five-cent price and secured it, or very close to it, and it was conservatively estimated that the mere first step of appointing a committee to investigate actually saved the industry, in the one season, half a million dollars. It taught the growers the lesson of co-operation, and they are today perfecting a most thorough marketing organization.

ECONOMY IN PICKING

An interesting example of economy due to co-operative picking of fruit is furnished in the experience of the California Fruit Growers' Exchange, the great organization of 8,000 citrus fruit growers which has for years been advertising Sunkist oranges and lemons. One would be apt to think the farmer himself could pick his own fruit about as cheaply as he could hire it done. Possibly he could, in some instances, but in the case of citrus fruits expert picking by trained gangs in the employ of the local associations has proved an important economy, and, incidentally, an economy that none foresaw at the beginning. This economy was pure "velvet" because it was just discovered accidentally, and co-operation was already paying.

It wasn't foreseen because no one knew a few years ago that decay of fruit in transit to market — which amounted in a single year back around 1910 to a loss of over a million dollars —was due to careless picking of the fruit. Everyone thought such decay was due to lack of icing and delays in transit. The truth was finally discovered, however, and the local associations took over the work of picking, organizing trained gangs of pickers under competent foremen. This has gradually eliminated all careless breaking of skins and bruising of fruit and has cut the decay loss down to almost nothing. One of the local associations which recently built a new and thoroughly up-to-date packing plant, has never had any record of decay in transit entered against it since its methods were thoroughly modernized and standardized.

The experience of this same organization may be cited in the matters of economy in packing and transportation.

The citrus fruits are graded and packed in modernly-equipped packing houses, with machinery and devices which insure careful and rapid packing. Standardization and rapidity have constituted one economy. Another great economy has been that secured in purchasing packing materials. Many of these materials are actually manufactured by the Exchange's own supply company. This company was organized by the Exchange to fight high prices on lumber and materials, and it now leases timber lands, operates mills, manufactures box materials, etc., practically at cost. It manufactures several million dollars' worth of supplies each year. Through these means the packing cost on both oranges and lemons has been nearly cut in half. Before the days of co-operation it cost sixty to seventy cents a box to pack oranges, and about one dollar a box for lemons. These costs have been reduced to approximately thirty-three cents and sixty cents respectively.

SAVING IN TRANSPORTATION

In transportation it is not difficult to understand the advantage so large an organization possesses in dealing with the railroads and in securing favorable legislation. The California Fruit Growers' Exchange in 1904 to 1912 secured reductions in orange, lemon and refrigeration rates that in that period totaled a saving of nearly five million dollars to the members of the Exchange. It also benefited those growers outside of the Exchange.

Instances of the value of co-operation when it come to actual selling have been given. The great economy secured in this department has not, however, been yet touched on. This economy will be grasped when it is stated that such a co-operative association as the California Walnut Growers' Association, in place of distributing its crop through a dozen or more big speculators in such a central market as Chicago, for instance, is now represented in Chicago by a single salaried sales representative who because of the smooth-running system in vogue can easily handle all carload orders originating in the Chicago district. Through its salaried or commissioned representatives, this association, handling about three-fourths of the most important walnut crop in the world, is in touch with every carload buyer of walnuts, and has eliminated the speculator, who formerly claimed the lion's share of the profits. An actual cash saving secured by this association due to its large scale marketing occurs in the commissions it pays to its representatives, which are around 1½ per cent on sales, whereas non-association growers are compelled to pay 2½ to 3 per cent to brokers.

ADVERTISING RESULTS IN ECONOMY

It is more difficult to show in figures a saving, when advertising is finally undertaken by an association, but that the California Fruit Growers' Exchange, which expends half a million dollars each year for advertising, has the lowest marketing cost known for an agricultural crop—around 3 per cent—is excellent evidence that advertising works out as an economy, in the long run. What advertising has actually done, in the case of Sunkist fruits, is to increase the demand at a wonderful rate, a necessity because production has increased at a wonderful rate. In twenty years or so California's citrus fruit crop has increased from 5,000 carloads annually to over 45,000 carloads. It was thought in 1895 that there was overproduction, but advertising has continually built up the demand until the country is now consuming nine times what was consumed twenty years ago.

In the case of the Florida Citrus Exchange, also an advertiser, a Tampa newspaper recently estimated that in the past few years Exchange growers of the state have averaged 25 cents a box higher for their oranges than have outside growers. As the publicity tax per box is only three cents, this is pretty conclusive evidence that it pays to have a brand and to advertise that it represents highest quality.

Incidental economies are secured by practically every department within the great associations, such as insurance, legal, supply, field organization, etc. And it is a fact that the possibilities in economy through co-operation have not been fully developed. Almost every year finds the larger associations undertaking some new service for their members which it has been figured can be performed more economically on a co-operative basis than individually.

IDEALS OF THE GRANGE

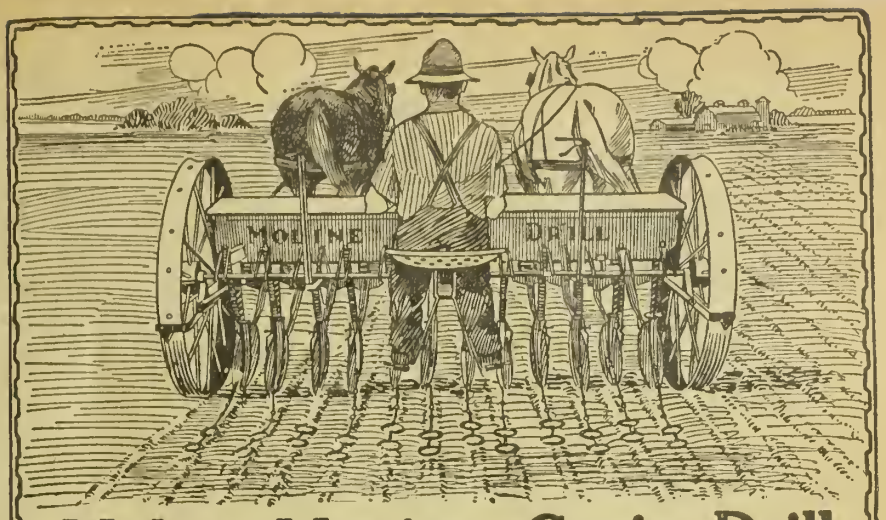
(Continued from Page One)

and they are a mighty fine lot of fellows, although there have been a few misfits. In the beginning they made some of the same mistakes made by institute workers and others who devoted themselves to the problems of production only. Today, however, the agricultural agent is taking up and helping in the solving of this greatest question before us.

No class of people under heaven can lift up the farmer. He must be lifted up through his own efforts. When he has accomplished this, the boys and girls will not be rushing off to the city because they are better paid there and have the means of living more comfortably. Let us as citizens, as farmers, do our full duty. When the history of this great country is written, and especially our agricultural history, I am sure that the historian when he pictures the increased comforts of the farm home will be honest enough to say that the greatest factor in bringing this about has been the Grange organization.

Control Lice and Mites

There is nothing that is more detrimental to the health and growth of young chicks than to let parasites gain a foothold in your flock. If you notice them becoming listless, their combs and wattles becoming pale in color and the birds losing in weight, we advise making an examination of such birds and also of your houses and coops to see if you can discover evidences of either lice or mites. Chicken mites are one of the worst pests found in the poultry yard. The growth of the young chickens depends upon the digestion and assimilation of nourishing food. The blood carries this nourishment to the various portions of the body and, as long as mites live upon the body of the chick and remove the blood as fast as it is made, there is little chance of growth. There is great danger of mites, especially in the warmer sections of the country. All coops and perches should be regularly examined and brushed with a solution of three to five parts of kerosene mixed with one part of crude carbolic acid or with some of the reliable commercial products which you see advertised.—T. E. QUISENBERRY.



Moline-Monitor Grain Drill

With the original all-steel single disc furrow opener, ridges the ground—prevents light soil from blowing and exposing the seed. It is simple, strong, positive and accurate in its work.

Saves Seed—Increases Yield

Boot is placed low wholly within circle of the disc blade; drops seed in bottom of furrow before revolving discs allow dirt to fall in. Seed is deposited at even depth—none too shallow, none too deep. None of the seed is dragged to the surface—every grain grows. Ample clearance between plate and boot prevents clogging.

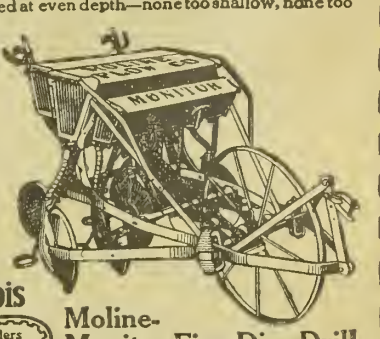
The Moline-Monitor single disc furrow opener is built almost entirely of steel; bearings are chilled, run in oil and are dust proof.

Moline-Monitor Grain Drill has many other good features: Steel construction gives light weight, strength and long life. Low frame gives a straight line of draft direct from furrow openers to the hame staples—makes light draft. Low hopper is easy to fill. Double disc furrow openers can be used in place of single discs when desired.

Ask your Moline Dealer about the Moline-Monitor Grain Drill, or write us for Illustrated Literature.

Address Department 10

Moline Plow Company, Moline, Illinois



Moline-Monitor Five Disc Drill

is a one-horse drill, the ideal machine for seeding between corn rows. Enables you to make forage crop for fall use, or to insure quick rotation from corn to wheat. Does accurate work; easily adjustable for rows of different widths.

Manufacturers of

Plows (Gang and Sulky) · Harrows · Planters (Corn and Lister) · Cultivators · Listers · *Moline-Universal Tractor* · Stalk Cutters · Hay Loaders · Side Delivery Rakes · Dump Rakes · Potato Diggers, Grain Drills · Lime Sowers · Seeders · Rice Binders · Grain Binders · Corn Binders · Mowers · Reapers · Spreaders · Scales · Wagons · Vehicles · Farm Trucks · *Stephens Six Automobile*

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Find out and satisfy yourself how much you can save by getting your farm implements direct from Galloway—the maker. This direct dealing is actually buying at wholesale, and even less, and saves you 25% to 50% on everything you need on the farm—Spreaders, Tractors, Engines, Separators, Wagons, Implements, Vehicles. I'll tell you why you can save by direct buying in my big, free book. I'll also tell you where the extra money goes—the money you save by dealing direct with the manufacturer.

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It's the greatest bargain book ever published, and will save my farmer friends thousands and thousands of dollars. Write me for the book today. A postal will do. Let this book be your buying guide and save you $200 to $500 on your summer purchases. Don't hesitate. Dont put it off — but send tonight for my big money-saving book. Advantageous shipping points save you freight.

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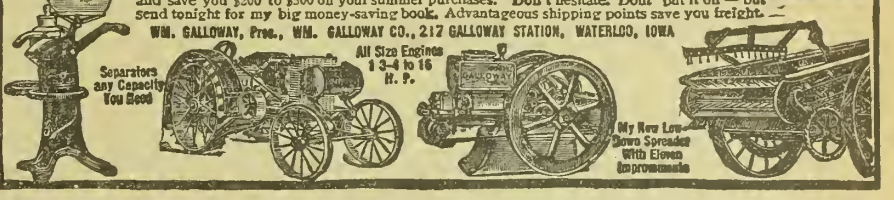

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FREE THE GATES STAND OPEN. Everybody Welcome to the Third Big Free Fair FREE

- 24 Harness and Running Races.
- 3 Concert Bands and Patriotic Chorus.
- Mammoth Live Stock and Agricultural Exhibits.
- Fighting Machines and Submarines.
- Tractors in Operation.
- A Solid Week of Instruction and Entertainment.
- Auto Show. Art Exhibit.
- Live Stock Judging and Parades Daily.

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- World's Championship Tri-Cornered Match Auto Race for $1,000.
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- Canning Club Demonstrations.
- Lectures in People's Pavilion Daily.
- Army and Navy Exhibits.
- Good Roads Demonstration.
- Big Display in Women's Building.

$30,000 IN PREMIUMS ----- SIX BIG DAYS

Patriotic Night Spectacle — Siege of Verdun and Battle in the Skies

KATHERINE STINSON, CHAMPION GIRL FLYER

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KANSAS FARMER READERS CAN BE OF GREAT HELP TO THEIR FAVORITE FARM PAPER NOW

KANSAS FARMER comes to you through the mails. It is distributed under the jurisdiction of the Post Office Department, which has made some new rulings which the publishers of KANSAS FARMER must observe in respect to the procuring of subscriptions. During these critical times the rulings may be changed at any time, at the option of the Post Office Department.

We feel that you want KANSAS FARMER, because it is strictly a Kansas paper and is striving to help you in your work, and you certainly do not want to miss the good things that this old paper carries each week for the betterment of farm conditions. We do not want to discontinue your paper. We are very anxious to retain every one of our subscribers. In order to do so, we must urge that you send us your renewal subscription at once.

Here are four distinct offers which we submit to you. We will greatly appreciate your acceptance of any of them:

1. May we immediately have your renewal for one year at $1.00?

2. If you send us $2.00, we will renew your subscription for three years—a saving of $1.00.

3. If you will send us the subscription of two of your neighbors for one year for $1.00 each—$2.00 in all—we will renew your own subscription one year without additional charge in appreciation of this service rendered.

4. If you will send us the subscriptions of four of your neighbors at $1.00 each—$4.00 in all—we will extend your subscription for a period of three years without additional charge.

We have provided a special blank below to be used in sending in your renewal subscription or the subscriptions of your neighbors. May we again urge you to co-operate with us by accepting one of the offers provided?

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KANSAS FARMER, Topeka, Kansas.

I enclose $.....for.....subscriptions to KANSAS FARMER for one year each. For this service I am to receive KANSAS FARMER for { 1 year / 3 years } without additional charge.

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Special Renewal Blank

(To be used in case Club Offer is not accepted.)

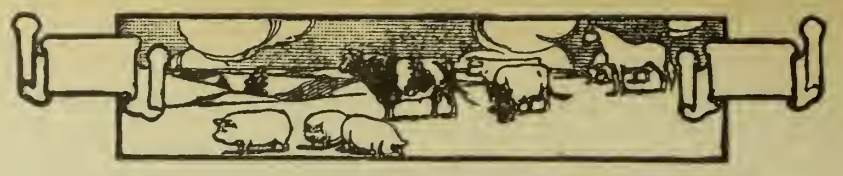
KANSAS FARMER, Topeka, Kansas.

Enclosed please find { $1.00 / $2.00 } to pay for my renewal to KANSAS FARMER for { 1 year / 3 years } as per offer above.

Name .....

Post Office .....

R. F. D..... Box..... State.....



Guard Against Cholera

PROTECT young swine from cholera by so arranging the breeding pens and hog houses that good drainage, sunlight, and fresh air will be insured.

The young pigs are quite susceptible also to pneumonia and other diseases. If allowed to nest in a draft, they may contract disease. Their vitality will at any rate be lowered, making them more susceptible to cholera. Overfeeding either the mother or the young pigs, especially with fat-producing food, will also render the pigs more susceptible to disease.

Do not allow communication between your hog lot and the lots belonging to neighbors, as cholera germs may be carried easily on the shoes of visitors. Wagons that have been used to carry infected or dead hogs will infect corn and other feed and in this way disease may be brought to the farm. Frequent cleaning and burning of litter in the hog pens will prevent any latent infection from becoming active.

Hog pens, feeding troughs and buildings should be disinfected by regular use of a 3 per cent solution of cresol compound U. S. P. Hogs should be sprayed weekly with a 1½ per cent solution of cresol compound U. S. P.

Do not put new stock—either hogs or cattle—with hogs already on the farm. Newly purchased hogs should be put into separate enclosures well separated from the herd already on the farm and kept under observation for three weeks. This is necessary, as stock cars, unloading chutes and pens are likely to be infected with hog cholera organisms.

Burn up all carcasses of dead cattle, horses, hogs, sheep, or dogs on the day they die. Do not allow chickens or hogs to have access to a dead carcass.

Stagnant ponds about the yards should be drained and thoroughly covered with lime. Where this cannot be done they should be fenced so the hogs cannot get to them. Infected ponds and wallows become a source of infection on the farm for years and little or nothing can be done until they are drained. When wallows exist near the drinking trough they should be plowed up and filled in after they have been drained and covered with air-slaked lime. The use of the sanitary hog wallow, made of cement, eliminates this source of infection.—DR. C. V. HOBBS, Kansas Agricultural College.

The following lines appear in the monthly news letter of a Kansas county agent: "Have you noticed the sheep market lately? Do you know that wool is selling as high as 65 and 70 cents? Also, do you know that for the last five years the sheep men have made money where other live stock men went behind? Do you know that Cloud County had more dogs than sheep at the last assessors' report? Have you weeds along the fence rows, roadsides or around the farmstead that are unsightly or must be mowed two or three times each summer? Do you know that sheep will eat 575 of the 600 obnoxious weeds that grow in Kansas? Nearly every farm has a place for at least fifty sheep. This many can be raised on what ordinarily would be waste. Why not cooperate with two or three neighbors and bring in a carload of western ewes? Think this over."

More Silo Truck Dates

Silos are being talked and built in West Central Kansas. The "cross country silo special," which is a truck being run co-operatively by the Agricultural College and the Fort Hays Experiment Station, is attracting the attention of the people of that section. The average daily attendance for the month has been 130 and the audiences have been very much interested in silos and silage. Interest is increasing as the campaign progresses, the average daily attendance for the past week having been 250.

Much of the corn in that section that has been damaged by the dry weather will be made into silage in order that its maximum feeding value may be realized. In some places there is 1915 straw of such poor quality that the stock will not eat it as straw and this is being mixed with the immature corn in the silo.

The four following Northwest Kansas points have been added to the schedule for the silo truck:

Thursday, August 23—10 A. M., Jaqua; 2 P. M., St. Francis; 8 P. M., Bird City.

Friday, August 24—10 A. M., McDonald; 2 P. M., Beaver View; 8 P. M., Chardon.

Saturday, August 25—10 A. M., Achilles; 2 P. M., Atwood; 8 P. M., Herndon.

Monday, August 27—10 A. M., Traer; 2 P. M., Oberlin; 8 P. M., Lund.

Tuesday, August 28 — 10 A. M., Jennings; 2 P. M., Norcatur; 8 P. M., Lyle.

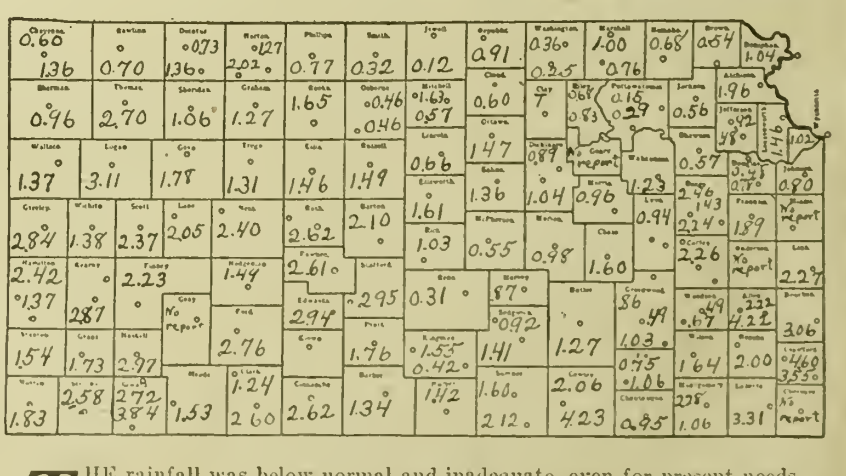
Wednesday, August 29—10 A. M., Clayton; 2 P. M., Lenora; 8 P. M., Densmore.

Thursday, August 30—10 A. M., Fairhaven; 2 P. M., Norton; 8 P. M., Almena.

A quart of canned peaches or tomatoes on the shelf is worth a bushel rotting on the ground.

Rainfall Over Kansas, for July

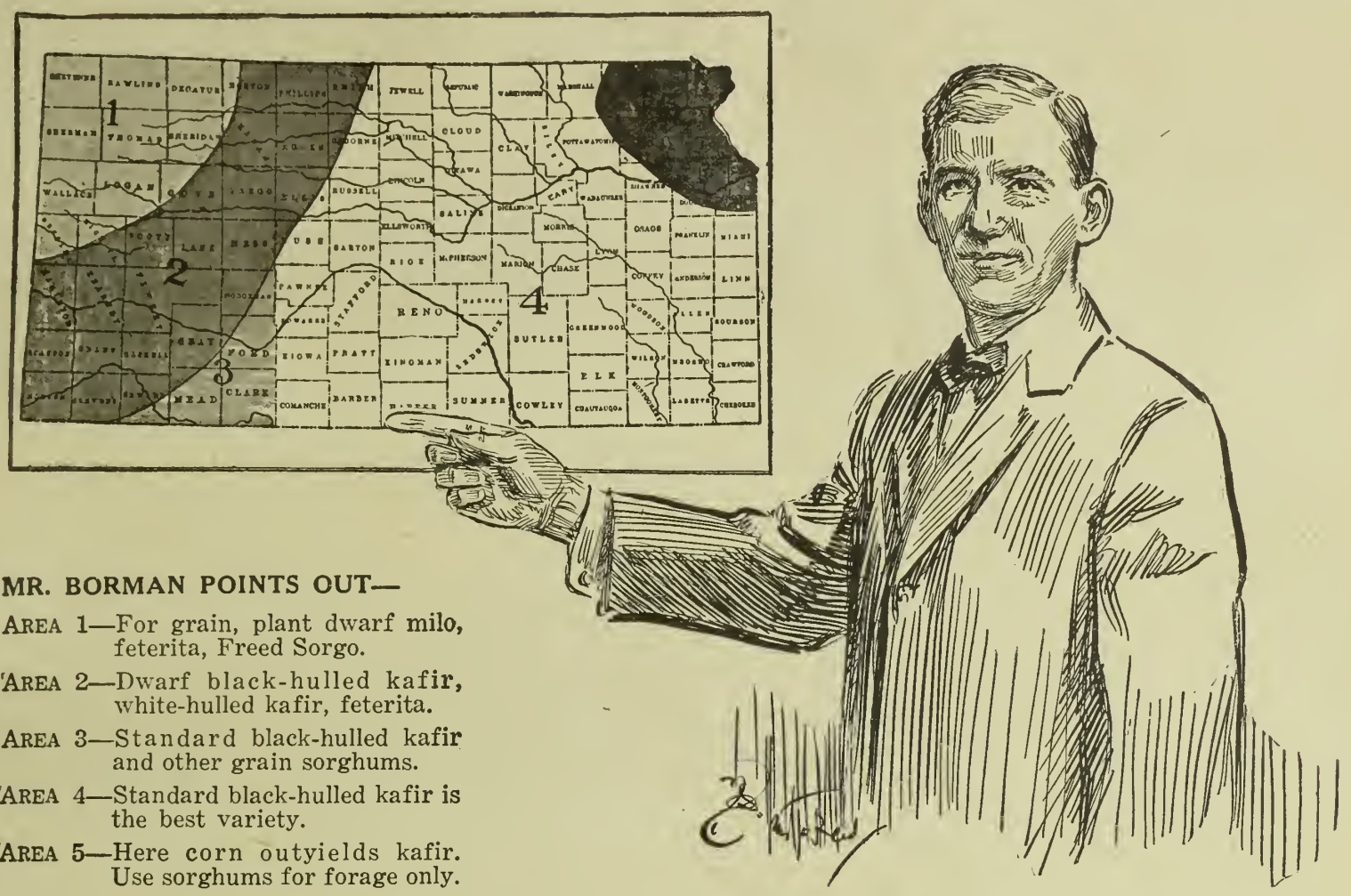
Reports Furnished by S. D. Flora, Meteorologist, Weather Bureau, Topeka



THE rainfall was below normal and inadequate, even for present needs, in almost every county in Kansas this month. In the few counties where good local rains fell, winds from adjoining sections soon dried out the ground so that extra moisture was of but short duration. The month was ideal for harvesting and threshing, but it was very unfavorable for corn, which was already suffering from the effect of the dry weather of June and was badly damaged by the high temperatures, excessive sunshine and hot winds the last ten days of July. Sorghums stood the dry hot weather better, but pastures were burned brown, alfalfa stopped growing and gardens and truck patches were burned out, except where irrigated.

A CROP THAT IS SURE!

THERE IS ONE FOR THE GREAT SOUTHWEST---IT IS THE CROP OF GRAIN SORGHUMS



MR. BORMAN POINTS OUT—

AREA 1—For grain, plant dwarf milo, feterita, Freed Sorgo.

AREA 2—Dwarf black-hulled kafir, white-hulled kafir, feterita.

AREA 3—Standard black-hulled kafir and other grain sorghums.

AREA 4—Standard black-hulled kafir is the best variety.

AREA 5—Here corn outyields kafir. Use sorghums for forage only.

For many years, planted in patches, without the care of corn and wheat, the Sorghums have produced grain and forage year after year in *every Sorghum Belt locality.* This then is a *sure crop,* and sure crops means regular, dependable returns for labor, time and investment. It means a permanent prosperity for whoever rightly farms Sorghums in the Sorghum Belt.

WHY NOT LEARN ALL ABOUT SORGHUM AND KAFIR GROWING AND GROW IT IN A WAY THAT WILL ASSURE YOU ALL THE FEED YOU NEED

After several years' study and investigation of Sorghum, Kafir, Feterita, Milo and all similar grains, known as the Sorghums, Mr. T. A. Borman, Editor of KANSAS FARMER, wrote a most interesting and valuable book on SORGHUMS, SURE FEED CROPS. This book shows how Kafir, Milo and Cane fed to live stock of all kinds WILL INCREASE YOUR FARM CASH AND FEED INCOME.

It is a book not only of value to Sorghum Growers, but is almost equally valuable to every farmer in the Southwest whether he grows Sorghums or other crops. It contains precipitation maps, corn area map, frost date map, map showing number of days in growing season in different sections of Kansas, altitude map, precipitation map, and length of growing season for the entire Southwest.

It discusses every phase of Sorghum farming, selecting seed, planting, cultivation, types, SECTIONAL GROWING SEASON, effect on land, best methods of planting, feeding, handling and hundreds of other important things that have never heretofore been put into book form.

For 12 years in Kansas, Kafir has been 23 per cent more valuable than corn. The average acre value of Kafir in Kansas for a period of 13 years, is $11.41. For 12 years the Kafir average acre value was $2.12 greater than that of corn.

The book is not one of statistics; of course, it contains some figures, but they are woven into an interesting readable and instructive story. The experience of hundreds of sorghum growing farmers are condensed therein.

It is printed on a fine quality of book paper; printed in large, clear type, and is full of pictures. It is neatly and substantially bound in cloth, contains 310 pages, and will be a valuable addition to any library.

The price of the book and a year's subscription to KANSAS FARMER, new or renewal, is $1.50. To order, just write your name and address on the coupon and attach your personal check, draft or money order. Send all orders to **KANSAS FARMER, TOPEKA, KANSAS.**

KANSAS FARMER COMPANY, 625 Jackson Street, Topeka, Kansas

Gentlemen:—I enclose herewith $1.50, for which please send KANSAS FARMER one year and a copy of Mr. Borman's Book on Sorghums, postpaid.

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What They Say About This Book

"It is a practical work, for practical farmers, by a practical man." —J. C. MOHLER, Secretary Kansas State Board of Agriculture.

"It is the most practical, up-to-date, comprehensive and helpful book of its kind."—F. A. MITCHELL, Berumda Stock Farm, Chandler, Okla.

"I am certain that it is a valuable contribution to the agricultural interests of Kansas." —OTIS L. BENTON, Farmer and Banker, Oberlin, Kan.

"I have found it very interesting and full of valuable information. It will prove a helpful guide to any farmer in the Plains country."—GEORGE BISHOP, Farmer, Cordell, Okla.

"It is thoroughly readable and a sane discussion of the subject. It is sure to prove of great value to farmers as well as to the student. It is a distinctly valuable addition to the agricultural literature of the country."—W. M. JARDINE, Director Kansas Agricultural Experiment Station.

"It is the most practical, the most thorough and the most readable book written on forage crops."—H. M. COTTRELL, Agriculturist, Memphis Bureau of Farm Development; former Agricultural Commissioner of the Rock Island Lines.

KANSAS FARMER
Topeka, Kansas

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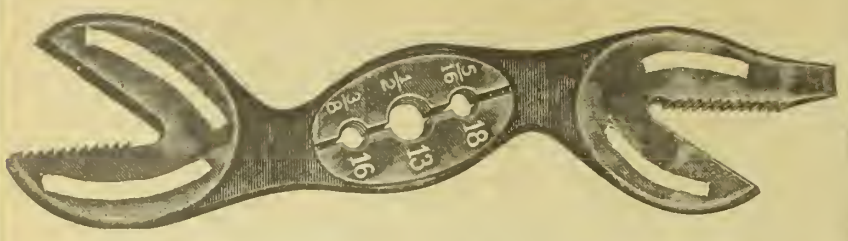

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Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement here reaches over 60,000 farmers for 5 cents a word per week. No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms, always cash with order.

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

HELP WANTED.

THOUSANDS GOVERNMENT JOBS NOW open to men-women. $100 month. Common education sufficient. Vacations. Short hours. Rapid promotion. Write immediately for list of positions. Franklin Institute, Dept. F-82, Rochester, N. Y.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FOR SALE — THREE REGISTERED Shorthorn bulls, six to eighteen months; five yearling Shropshire rams. Adam Andrew, Girard, Kansas.

FOR SALE — TWO REGISTERED HOLstein cows and heifer calf, nicely marked. Cows bred for December and February. W. T. Fitch, Minneapolis, Kansas.

HIGH GRADE CALVES — HOLSTEINS, Shorthorns, Guernseys. Good ones, only $15 to $35, crated to express. Rates furnished. Paul Johnson, South St. Paul, Minn.

FOR SALE—ELEVEN HEAD OF GRADE Holstein cows, five to freshen soon; six giving milk, three heifers. One registered Holstein bull, Kansas State Agricultural College breeding. R. W. Hays, Eureka, Kansas.

FOR SALE—TEN EXTRA LARGE GRADE Jersey cows, heavy milkers. Freshen November to March. Five yearling heifers. One registered bull. Parcels, Hiawatha, Kansas.

FOR SALE — VERY CHOICE HIGH-grade Holstein calves, either sex, three to six weeks old, at $20 per head, crated for shipment. Or if you want dairy cattle of any age, I will buy them at a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

HIGHLY BRED HOLSTEIN CALVES; either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked. $23, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

THE STRAY LIST.

TAKEN UP—BY MARTIN GRUEMKEN, in Sand Creek Township, Meade County, Kansas, about the 12th of October, 1916, two steers, coming twos, red with white faces, branded I G on right hip. Worth about $70. W. W. Pressly, County Clerk, Meade, Kan.

DOGS.

TRAINED RABBIT HOUNDS, FOX hounds, coon, opossum, skunk dogs, setters, pointers, ferrets. List free. Violet Hill Kennels, Hanover, Pa.

COLLIE PUPS FROM GENUINE STOCK dogs that drive from the heel. E. L. Dolan, Route 2, Platte City, Missouri.

TRAINED BEAGLES, RABBIT HOUNDS, foxhounds, coon, opossum, skunk dogs, setters, pointers, house, farm dogs. Ferrets. Catalog 10c. Brown's Kennels, York, Pa.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

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WANTED—TO HEAR FROM OWNER OF good farm for sale. State cash price, full description. D. F. Bush, Minneapolis, Minn.

WANTED—SECOND HAND CLIMAX ENsilage cutter. American Silo Supply Company. Kansas City, Missouri.

WANTED—TO HEAR FROM OWNER OF farm or unimproved land for sale. O. K. Hawley, Baldwin, Wisconsin.

SEEDS

SEED RYE AND WHEAT. LAWNDALE Seed Farm, Hiawatha, Kansas.

FOR SALE—ALFALFA SEED FROM Northwest Kansas, 95% pure, good germination, $5.50 per bushel. Best bags, 40c each extra. Geo. Bowman, Logan, Kansas.

ALFALFA SEED, $8 PER BUSHEL. Good purity and germination but dark color. Better grades for more money. Write for free samples and prices. Henry Field, Shenandoah, Iowa.

HORSES AND MULES.

IMPORTED PERCHERON STALLION, black, sure. Good jack, black with mealy points. Quick and sure. Priced right. W. F. Teague, Collyer, Kansas.

MISCELLANEOUS.

1,024 YEARS AMERICAN HISTORY, 80c postpaid. Elias Pelton, Hudson, Kansas.

TWO OHIO ENSILAGE CUTTERS, Almost as good as new. Will sell or trade. Nos. 11 and 17 with 36 feet of blower pipe with each. B. F. Erwin, Fairfax, Missouri.

AUTO DIMMERS—THE STATE LAW REquires every auto owner to use them. Send 75 cents in silver, name and model of car, and receive prepaid one set. Webb Bros., Protection, Kansas.

POULTRY.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

ROSE COMB BROWN LEGHORN COCKcrels, $1 each during August. Mrs. John Holzhey, Bendena, Kansas.

PURE-BRED SINGLE COMB BROWN Leghorn spring cockerels, 75 cents each. Philip Zimmerman, Hays City, Kansas.

FIVE LARGE FLOCKS UNDER ONE sale management, R. C. Reds, Barred Rocks, Silver Wyandottes, White Wyandottes and White Leghorns, all on separate farms and specially bred by experts. Prize winners in all breeds. Eggs, $5 per hundred, $1.50 per setting. Order from ad. Address E. H. Hartenberger, Route 4, Box 1, Newton, Kan.

STRAW WANTED.

WANTED—FIFTY TONS BALED OATS straw. Shimer & Son, Topeka. Phones 471 and 1302.

HONEY.

HONEY—NEW CROP. SEND FOR PRICE list. Bert W. Hopper, Rocky Ford, Colo.

SITUATION WANTED.

EXPERIENCED FARMER AND STOCKman wants job on farm with everything furnished, as manager or on shares. Address Box 52, Jetmore, Kansas. M. R. A.

Ross & Vincent, of Sterling, Kansas, have announced November 6 as the date of their annual sale of Poland Chinas. This firm owns one of the good herd of Polands in Kansas and will catalog a choice offering for their November 6 sale.

We have just received Volume 35 of the Holstein-Friesian Herd Book. This volume contains the pedigrees of bulls from No. 172520 to 187553, and cows from 307055 to 333561. The volume also contains a lot of information of value to Holstein breeders or anyone interested in Holsteins.

J. O. Southard, the well known Hereford cattle breeder of Comiskey, Kansas, recently sold a choice Hereford show heifer to go to Alberta, Canada. This heifer, Lauretta Monarch, is by Monarch, the great bull in service in the Southard herd. Her dam is Ruth by Bonita Bon Ton by Theodore and out of Dalsette, one of the producing daughters of Beau Brummel.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

No man has any more right to go about unhappy than he has to go about ill-bred. He owes it to himself, to his friends, to society, and to the community in general, to live up to his best spiritual possibilities, not only now and then, once or twice a year, or once in a season, but every day and every hour. — LILIAN WHITING.

Early Training

A great educator in speaking of the early training of children once said: "No unskilled hand should be allowed to play upon an instrument in which the tones remain forever in the strings." Every conscientious mother feels the need of all the skill it is possible to acquire in meeting this greatest of all responsibilities.

Probably no woman is better qualified to speak with authority on this subject than Mrs. Max West, of the Children's Bureau of the United States Department of Labor. Mrs. West is a woman of university training and experience in Government research and is herself the mother of a family of young children. The following is an extract from her bulletin on "Infant Care," which may be obtained on request from the United States Department of Labor at Washington, D. C. This bulletin was prepared after careful study of the standard literature on the hygiene of infancy and consultation with physicians, nurses, and many mothers. It is very helpful and practical and should be in the hands of every mother.

Mrs. West says: "Harsh punishment has no place in the proper upbringing of the baby. A baby knows nothing of right or wrong, but follows his natural inclinations. If these lead him in the wrong direction the mother must be at hand to guide him in another and better one and to divert his eager interest and his energy into wholesome and normal directions. This is the golden rule in the training of babies, and one which applies to the training of children of all ages. Many parents conceive that their whole duty is to thwart and forbid, enforcing their prohibitions with penalties of varying degrees of severity, forgetting that they are dealing with a sensitive being endowed with all the desires, inclinations, and tendencies that they themselves have, and that if these natural feelings are continually suppressed and thwarted they are sure to seek and find some outlet for themselves. A child who is often punished may be so dominated by fear of his parents that, the natural expression of his vital interests being denied him, he becomes sullen and morose as he grows older.

"The training in the use of individual judgment can be begun even in infancy; a child should early be taught to choose certain paths of action for himself; and if he is continually and absolutely forbidden to do this or that he is sometimes seriously handicapped later, because he does not know how to use his own reasoning faculties in making these choices. On the other hand, obedience is one of the most necessary lessons for children to learn. A wise mother will not abuse her privilege in this respect by a too exacting practice. For the most part she can exert her control otherwise than by commands, and if she does so her authority when exercised will have greater force and instant obedience will be more readily given.

"Most of the naughtiness of infancy can be traced to physical causes. Babies who are fussy, restless, and fretful are usually either uncomfortable in some way because they have not been properly fed and taken care of, are sick or ailing, or have been indulged too much. On the other hand, babies who are properly fed, who are kept clean and have plenty of sleep and fresh air, and who have been trained in regular habits of life, have no cause for being 'bad' and are therefore 'good.'

"It must not be forgotten that the period of infancy is a period of education often of greater consequence than any other two years of life. Not only are all the organs and functions given their primary education, but the faculties of the mind as well receive those initial impulses that determine very largely their direction and efficiency through life. The first nervous impulse which passes through the baby's eyes, ears, fingers, or mouth to the tender brain makes a pathway for itself; the next time another impulse travels over the same path it deepens the impression of the first. It is because the brain is so sensitive to these impressions in childhood that we remember throughout life things that have happened in our early years while nearer events are entirely forgotten. If, therefore, these early stimuli are sent in orderly fashion, the habits thus established and also the tendency to form such habits will persist throughout life."

Food Value of Bananas

Much has been written recently about the food value of bananas. Instead of being merely something that is comparatively cheap that can be used as "filling" for hungry children, as many now regard the banana, it has a high food value under certain conditions.

It should be understood, however, that the banana that is green in color, or even yellow, is not ripe enough to be eaten raw. If eaten before ripe, the banana is as indigestible as is a green apple, a green peach, or any other unripe fruit. The green banana contains an excess of starch which is turned into soluble sugar during the ripening process. The skins of bananas that are to be eaten raw should be a deep yellow shade with black spots on them, and those having skins that have become dark over the entire surface are most easily digested, provided the fruit is still firm.

Mary Swartz Rose, assistant professor in the department of nutrition of the teachers' college at Columbia University, gives bananas this value:

"Bananas may be regarded as a staple fresh fruit, high in fuel value, low in price, and easy to prepare. They are often cheapest when at their best, when the skins have darkened and the fruit is soft, though still firm. Digestive difficulties usually arise from eating them too green or too fast. As they ripen, considerable starch is changed to sugar, so they have a higher flavor as well as greater digestibility when fully ripened. Baking ripe bananas in the skin, if properly done, produces a more succulent food of fine flavor. They must be quickly baked till soft and the juice begins to flow, but no longer, or the juice all oozes out and they become tough and dark and lose much of their flavor. Bananas baked before the skins darken will never be as palatable as the fully ripened ones, though they are more digestible than if eaten raw. Unripe bananas are best baked without the skins and basted with a syrup. These may be used as a dessert, while those baked in the skins may take the place of a vegetable in the menu. Bananas can be mashed and stewed with a little water, flavored with lemon juice and sugar, making a palatable sauce."

This simple recipe for baked bananas is worth a trial: Fill a shallow dish with bananas peeled and cut in halves lengthwise and crosswise. Allow one level tablespoonful sugar, one teaspoonful melted butter, a few grains of salt, one teaspoonful lemon juice and two tablespoonfuls water to each banana. Baste frequently with the syrup and bake slowly half an hour, or until bananas are red and syrup thick. Serve hot.

Storing Dried Products

Fruits and vegetables dried in the open are liable to be attacked by moths whole drying. After they have been stored a short time, tiny worms hatch from the eggs laid by the moths. The use of a covered tray in drying affords entire protection from moths, and prod-

ucts dried in trays can be kept without injury if they are promptly placed in moth-proof containers. As an additional precaution they may be heated before being stored, a temperature of 140 degrees Fahrenheit being maintained long enough to allow the heat to penetrate throughout. This will sterilize the material if already infested. In drying by artificial heat the process itself will ordinarily sterilize the product, but after drying it should be stored immediately to prevent infestation.

Although not necessary, tin cans or glass jars make good containers for storing dried fruits and vegetables. Pasteboard with tight covers, stout paper bags, and patented paraffin paper cartons also are well adapted for the purpose when protected from rodents. As paper bags are inexpensive and easily obtained, they should be used extensively. After the bags have been filled, carefully close the opening by twisting the top tightly, then fold it over and tie with a string. If a further precaution against spoilage is thought necessary the bag can be coated with paraffin by painting it with a brush which has been dipped into melted paraffin. Another precaution may be taken by placing the small bags in a tin container with a tightly-fitting cover, such as an ordinary lard can or pail. All bags should bear a label indicating their contents. Dried products should be stored in a cool, dry, well ventilated place.

It is best to put only a small amount in each receptacle, just enough for a few meals, so that it will not be necessary to open more than can be consumed in a short time. The use of the small container also makes it more difficult for insects to spoil large quantities of the dried product.

If fruits or vegetables are packed in tight containers immediately after being dried thoroughly, they will remain just as brittle as when taken from the drier. If, however, they are not thoroughly dried, there will be a tendency for them to "sweat" and mold. For this reason they should be examined after two or three days' storage and if they seem damp, should be taken from the containers and dried more completely.

Need Trained Men and Women

Because of the war upon which we are now entering, many young people are uncertain as to what to do. U. S. Commissioner of Education P. P. Claxton gave the following advice in a circular sent out from his department:

"If the war should be long and severe, there will be great need in its later days for many young men and women of scientific knowledge, training, and skill; and it may then be much more difficult than it is now to support our schools, to spare our children and youth from other service and to permit them to attend school. Therefore, no school should close its doors now or shorten its term unnecessarily. All young men and women in college should remain and use their time to the very best advantage.

"When the war is over, whether within a few months or after many years, there will be such demands upon this country for men and women of scientific knowledge, technical skill, and general culture as have never before come to any country.

"Russia and China are awakening to new life and are on the eve of great industrial development. They will ask of us steel, engines, and cars for railroads, agricultural implements, and machinery for industrial plants. They will also ask for men to install these and to direct much of their development in every line.

"Our own trained men and women should be able and ready to render every possible assistance.

"Therefore, a right conception of patriotism should induce all students who cannot render some immediate service of great value to remain in college, concentrate their energies on their college work, and thus be all the more ready and fit when their services may be needed either for war or for the important work of reconstruction and development in our own and other countries when the war shall have ended.

"All young men below the age of liability to selective draft and those not recommended for special service should be urged to remain and take full advantage of the opportunities offered by the colleges, universities, and technical schools, to the end that they may be able to render the most effective service in the later years of the war and the times of need that will follow. Practically all women students should remain, and all boys and girls graduating from high schools should be urged to enter college, technical school or normal school. The total number of students in these schools should be increased rather than diminished.

"No college, university or technical school that can avoid it should permit its faculty or student body to be scattered or its energy to be dissipated. All should redouble their energies and concentrate them on those things that will be of most service during the progress of the war and which will prepare their students for the most effective service of the country and of the world when the war is over.

"The desire to render immediate service is praiseworthy, and the spirit which prompts it should be fostered, but it is effective service that finally counts.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and hook. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or hooks to Kansas Farmer, Topeka, Kansas.



No. 8315—Boys' Rompers: Cut in sizes 2, 4 and 6 years. A new style of rompers that suggests the Oliver Twist suits is given in No. 8315. The waist is made with a yoke which is only in front, the back having two tucks to hold the interest. The rest of the waist in front is smocked to match the color of the trousers. The straight trousers button to the waist. **No. 8304—Ladies' Waist:** Cut in sizes 36 to 42 inches bust measure. This waist is as plain and practical as anyone could desire. The large pointed collar is the most interesting part of the whole waist, for it looks not unlike a Puritan 'kerchief. The waist fastens at the center front with three large buttons. **No. 8313—Girls' Dress:** Cut in sizes 6, 8, 10 and 12 years. The chief claim for attention to this dress is the large shawl collar which extends down as far as the belt. The waist has a broad tuck at the shoulders in front, which is stitched for a short distance and then pressed in position the rest of the way. The skirt is a straight one-piece model. **No. 8316—Ladies' Dress:** Cut in sizes 34 to 42 inches bust measure. The waist of this dress has the Duchess closing which does not overlap. A very large, pointed collar is the simple but effective means of decorating the waist. The fronts of the waist are gathered to the back, which extends over in shallow yoke effect. The skirt is in one piece, straight at the lower edge, and gathered all around to the slightly raised waist line. **No. 8285—Ladies' Skirt:** Cut in sizes 24 to 34 inches waist measure. This is a style which is becoming to the majority of women, and seems to retain its popularity through one season after another. A broad tuck at center front has big buttons and buttonholes as a trimming feature. The front gores fit smoothly, and the back gore is gathered at the waist line. **No. 8314—Ladies' Apron:** Cut in sizes 36, 40 and 44 inches bust measure. This practical apron, which may be slipped on over any dress for protection, will be hailed with joy by the woman who keeps the domestic machinery in running order. The front and back are broad panels, which are connected by rather wide straps over the shoulders. The side sections are slightly circular and do not run all the way to the waist line, but end at the pockets.

SCHOOLS AND COLLEGES

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Patriots and Loyal Citizens Will Want to Show Their Colors



"Your Flag and My Flag"

"Long may it wave
O'er the land of the free
and the home of the
brave"

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DESK D, KANSAS FARMER, TOPEKA



Mites on Poultry

POULTRY raisers are all too familiar with the common red or gray mite which infests poultry houses. In general those who are making a specialty of poultry raising have comparatively little trouble with mites, or at least they keep them reduced to a point where they are of little importance. On the other hand, farmers and others who raise poultry as an incident to other operations frequently find their chicken houses overrun by mites. The attack of this blood-sucking mite is of an insidious nature which does not readily draw attention to its presence, and often the poultryman is not aware of an infestation until he is attracted to it by the irritation produced by mites on his own body through coming in contact with the infested coops. The presence of the pest may be determined readily by the detection of small areas on the boards specked with black and white as though dusted with salt and pepper. This is the excrement of the mites, which are hidden in adjacent cracks or rough places. Most careful examination will reveal masses of mites in hiding, together with their eggs and the silvery skin cast by the young. In moderately infested poultry houses the injury to the fowls is not very apparent, but the constant blood loss and irritation are shown by decreased egg production and the poor condition of the flesh of fowls. In heavily infested coops it is not unusual for the chickens to become droopy and weak, with pale comb and wattles. Sitting hens desert their nests and thus ruin the eggs or, as is often the case, they are found dead on the nest, being killed outright by the attack of thousands of mites. In extreme cases a considerable percentage of the fowls succumb, even though not sitting, and all are so weakened as to be very susceptible to various diseases.

While the species sometimes become very numerous in the chicken houses in the northern part of the United States, the shorter breeding season there usually makes it of less importance than in the South where breeding continues throughout the year with little or no interruption. Although many assert that dampness has much to do with the abundance of the chicken mite, experience has shown that it occurs in rather greater numbers in the semi-arid and arid regions of the Southwest than in the more humid parts of the South.

Blood is absolutely essential for the development of this mite in all stages. The mite feeds almost entirely at night, except that it often feeds on hens on nests.

Chickens may carry a few mites (sometimes a hundred or more) in their feathers during the day following a night spent in infested quarters, but most of these leave the host during the following night. In some cases mites may remain on chickens during three days and nights, but nearly all become engorged and leave them by the third night.

Within twelve to forty-eight hours after receiving a meal of blood the mature female deposits from three to seven pearly white and elliptical eggs, laid singly in the cracks in which the adults are hiding. The operation of feeding and depositing is repeated as many as eight times, and from twenty-five to thirty-five eggs in all are deposited.

In summer the eggs hatch in about two days, and one to two days later, without feeding, the larvæ shed their skins and become nymphs. With a very short rest these light-colored nymphs engorge with blood, secrete themselves, and molt their skins the second time thirty to forty-eight hours after having fed. These mites of the second nymphal stage soon engorge again, shedding their skins one to two days later and becoming adults.

Thus the chicken mite reproduces very rapidly, the complete life cycle from egg to adult requiring not more than seven days.

The weather is never too hot for this mite to thrive, and development is most rapid in midsummer. In the Southern States the mites are not entirely dormant during the winter, but feed and develop when the temperature is not low. This is also true in the North in chicken houses that are heated. Where some development takes place throughout the year, and where a complete generation of mites is developed in a week's time, hordes of mites will be present in a poultry house within a comparatively short time if something is not done to destroy them.

It is probable that in a poultry house once infested at least four months and probably five will be required before all of the mites will starve if the chickens are removed from the house. In tests made by the writers some mites were still alive after a period of 113 days, and since these individuals were collected from an infested house it is not unlikely that they had matured some time previously. The tests indicate that where the mites are supplied with a certain amount of moisture they will live longer than when kept under very dry conditions. This may account, in part at least, for the idea that mites are worse in damp and badly ventilated chicken houses.

Chicken mites do not feed to any great extent upon other hosts when chickens are at hand. They are carried about chiefly by the interchange of poultry and in crates and boxes in which fowls are shipped. No doubt clean premises sometimes are infested by mites carried on the clothing of people going from one chicken yard to another.

Owing to the fact that mites feed during the night and secrete themselves in cracks and crevices during the day, their presence very often is overlooked until a very heavy infestation has developed. In such cases they should be attacked energetically. Although not hard to kill, the greatest obstacle is the difficulty of reaching them in their hiding places. Dust baths will not control them, as at most only the few which remain on the chickens during the daytime will be destroyed.

The first step necessary to destroy the mites is to get rid of the hiding places so far as possible. The roosts should be taken down and all unnecessary boards and boxes removed. In heavily infested houses the mites are to be found in all parts of the building, including the roof. Where they are less numerous the infestations usually are confined to the roosts and nests and the walls immediately adjacent. For small coops a hand atomizer will suffice for applying insecticides as sprays, but for larger houses a bucket pump, knapsack sprayer, or barrel pump is desirable. A rather coarse spray should be applied from all angles and thoroughly driven into the cracks. The floor also should be treated, as many mites fall to the floor when the roosts are being removed.

In tests conducted during the last two years a considerable number of materials used as sprays have proved effective. One of the so-called wood preservers was found immediately effective and its killing or repelling power lasts for months. As this material is rather expensive (about $1 per gallon) and is too heavy to spray well, it is advisable to reduce it with equal parts of kerosene.

Crude petroleum is almost as effective, retains its killing power for several weeks, and in most localities it is very cheap. It will spray better if thinned with one part of kerosene to four parts of crude oil.—Farmers' Bulletin 801.

B. T. Bisbee, of Plains, Kansas, says: "Milo is the surest of all crops for Kansas and is particularly desirable for poultry. My wife and daughters are very successful with chickens and other poultry and always raise more than we can use. Our poultry also is remarkably free from disease."

H. H. McLelan, of Nebraska, writes that he thinks something must be wrong somewhere with scratch feed selling for five cents a hundred and fries bringing only seventeen cents a pound. Buyers tell him the market is flooded. He thinks that if this is so there will be a flood of buyers next winter and they will have to pay high for stock.

CHESTER WHITE HOGS



FOR SALE
Spring Pigs in Pairs and Trios
Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

O. I. C. SPRING PIGS, BOTH SEXES.
Bred gilts.
HARRY W. HAYNES, GRANTVILLE, KAN.

GUERNSEY CATTLE.

GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

HAMPSHIRE SHEEP.

FIVE EXTRA GOOD HAMPSHIRE RAM LAMBS
Priced right if taken in the next two weeks.
L. M. SHIVES, ROUTE 1, IUKA, KANSAS

HORSES AND MULES.

PERCHERONS—BELGIANS—SHIRES



2, 3, 4 and 5-yr. stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
FRED CHANDLER, R. 7, Charlton, Ia. Above Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes.
Illinois Horse Co., Good Blk., Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

GALLOWAY CATTLE.

GALLOWAY BULLS
SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

BERKSHIRE HOGS.

KING'S BERKSHIRES — Twenty good Berkshire fall boars. One good yearling boar. E. D. KING, Burlington, Kansas.

POLLED DURHAM CATTLE.

FOR SALE—A few choice young bulls, sired by Chief, a son of True Sultan. Priced to sell.
D. C. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 miles S. E. of Topeka.)

Breeders' Directory

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
ANGUS CATTLE.
D. J. White, Clements, Kan.
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

SHORTHORN CATTLE.

Sycamore Springs Shorthorns
Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

Sunflower Herd of Shorthorns
A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

JERSEY CATTLE.

B. C. SETTLES
Jersey Cattle



Pedigrees Public Sale
Catalogs Management
Palmyra - Missouri

120 Jersey Cows and Heifers
Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

REDHURST JERSEYS
Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.
REDMAN & SON - TIPTON, MISSOURI

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

Registered and High Grade Jerseys

SALE BARN, CLAY CENTER, KANSAS, AUGUST 22, 1917.

Sale to Commence at 1 o'Clock p. m.

Twenty-five Cows and Heifers to Freshen from September to March. Several Young Heifers Not Bred. Four Bulls from Five to Twelve Months Old.

These cattle will be sold in very ordinary condition. With a little care you can make them better. I am not advertising much. This is your chance to buy a bargain. Not long since I sold the cow, "Klol," to a farmer for $100. He gave her a chance to make good and sold her at a farm sale to the Agricultural College at Manhattan, Kansas, for $465, where she is still making good. At this sale you can buy her half sister and others equally as good. I am selling because we are short of feed and help. It is no trouble to buy feed, but it is out of the question to get the right kind of help. I have taken great pains to buy the best blood—among this offering you will find a number of choice young things at your own price, tracing to such bulls as **"Stockwell," who sold for $11,500, and Blue Bell's Blue Boy, half brother to Noble of Oaklands, who sold for $15,000.** Many of these cows are bred to **"Royal Missel's Toronto," Hood Farm breeding.**

Catalog sent on request. Time given on approved paper.

S. S. SMITH, OWNER.

Auctioneers—Col. Jas. T. McCulloch, Col. Vernon Noble. J. H. Kirby, Clerk.

POLAND CHINAS



Faulkner's Famous Spotted Polands

The world's greatest pork hog are raised exclusively on

HIGHVIEW BREEDING FARMS

The largest registered herd of old, original, big-boned, spotted Polands on EARTH.

Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.

H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

POLAND CHINAS.

ELKMORE FARM POLAND CHINAS

HOME OF THE GRAND CHAMPION, CALDWELL'S BIG BOB.
See show herd at the Topeka Free Fair. Annual bred sow sale February 19, 1918.

FRED B. CALDWELL, HOWARD, KAN.

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. **CHAS. E. GREENE, Peabody, Kan.**

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the **CEDAR ROW STOCK FARM**

A. S. Alexander, Prop. Burlington, Kansas

OLD ORIGINAL SPOTTED POLANDS
Choice March and April pigs of both sexes.
H. A. MATTOX, Route 2, Burlington, Kan.

Langford's Spotted Polands.—Last call for early spring boars. Yours for good hogs—
T. T. Langford & Sons, Jamesport, Missouri.

POLAND CHINA HOGS 150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

HEREFORD CATTLE.

HEREFORD CATTLE

Want to Sell Forty Cows and Heifers.
Cows have calves at foot and are rebred. Twenty-five bulls of breeding age, real herd headers. Send for my annual sale catalog, October 6, 1917.

J. O. Southard, Comiskey, Kan.

FARM AND HERD NEWS NOTES

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W. J. Cody, Manager Stock Advertising
O. W. Devine, Field Representative

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CLAIM SALE DATES.

Holsteins.
Oct. 16—The Nebraska Holstein Breeders' Consignment Sales Co., Omaha, Neb.; Dwight Williams, 103 Bee Bldg., Omaha.

Red Polled Cattle.
Sept. 4—Milton Pennock, Delphos, Kansas.

Jersey Cattle.
Aug. 22—S. S. Smith, Clay Center, Kansas, sas. B. C. Settles, Sales Manager.

Herefords.
Oct. 6—J. O. Southard, Comiskey, Kansas.

Poland Chinas.
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 5—U. S. Byrne, Saxton, Mo.
Oct. 8—Arthur Anderson, Clyde, Kansas.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Oct. 17—Walter B. Brown, Perry, Kansas.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.
Nov. 6—Ross & Vincent, Sterling, Kansas.
Feb. 18—Deming Ranch, Oswego, Kansas.
Feb. 19—Fred B. Caldwell, Howard, Kansas.
Feb. 20—Bert E. Hodson, Ashland, Kansas. Sale at Wichita.
Feb. 20—B. E. Hodson, Ashland, Kansas; sale at Wichita.
Feb. 21—E. J. Erhart & Son, Ness City, Kansas; sale at Hutchinson.
Feb. 22—F. Olivier & Son, Danville, Kansas.
Feb. 23—V. O. Johnson, Aulne, Kansas.

Hampshire Hogs.
Oct. 12—Kansas Hampshire Swine Breeders' Association and Haleyon Hampshire Pig Club sale at Valley Falls, Kansas. George W. Ela, secretary and manager.

Durocs.
Oct. 20—O. W. Long, Maitland, Missouri.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.
Oct. 25—Geo. M. Klusmire, Holton, Kansas.

O. I. C. Hogs.
Sept. 4—Milton Pennock, Delphos, Kansas.

George M. Klusmire, of Holton, Kansas, has announced October 25 for a fall sale of his famous Durocs. Mr. Klusmire is a constructive breeder of the large smooth Duroc hog. The herd boar used at the head of the herd is A Critic by Critic B and out of a Tatawalla sow by old Tattarax. The herd is a well bred lot. Such sows as Beauty Maid 4th by Model Top, two sows by the largest Duroc boar ever in Iowa; four sows by K's Golden Rule and two granddaughters of old Buddy K. 4th, twenty spring boars and thirty spring gilts will go in this sale.

J. O. Southard, of Comiskey, Kansas, has announced October 6 for his annual fall sale to be held at the farm. One hundred breeding cows and heifers will be sold and twenty-five choice bulls that are real herd headers. Mr. Southard now owns one of the largest and best bred herds of Hereford cattle in the West, and has bought the tops from the best herds in the corn belt. The sale offering promises to be one of the best that will go through a sale ring this year, both from breeding and as to blood lines. The herd bulls used in the herd are "The Mighty" Monarch, King Farmer, Overton, Fairfax, Repeater 91st, Repeater 66th, Bright Domino, and Dispatcher.

O. W. Long, of Maitland, Missouri, is claiming October 20 for a fall sale of Durocs. The herd boar, Favorite, a splendid yearling, is making good as a sire. The herd sows are richly bred in the B. & C.'s Col, blood lines and all have raised good litters. On October 20 Mr. Long will offer twenty-five choice spring boars and twenty-five spring gilts, the pick of seventy head.

Virgil Hunt, of Ravenwood, Missouri, is making a great success with big-type Polands and Shorthorn cattle. At the head of the Poland China herd is the big two-year-old boar, A Wonder Again by old A Wonder, out of a Giantess sow by Pawnee Prince by Bell Prince. Bell Prince was one of the best boars in North Missouri. The brood sows in Mr. Hunt's herd this year all farrowed from seven to thirteen pigs and a feature of the herd at this time is a lot of choice spring boas rhat promise to make real herd headers.

W. T. McBride, of Parker, Kansas, owner of one of the good herds of Durocs, reports his herd doing well. A feature of his herd at this time is the choice lot of spring pigs, including some outstanding young boars.

B. R. Anderson, of McPherson, Kansas, owner of one of the good herds of Duroc hogs, recently purchased from the herd of Waltmeyer & Son, of Iowa, the herd boar, Great Wonder I Am. This boar was sired by the champion, Great Wonder, and his dam is a daughter of the champion, Grand Model. He will be shown at the leading fairs and also at the National Swine Show. He will be mated to the splendid lot of sows and gilts that will go in Mr. Anderson's February sow sale.

The Deming Ranch, of Oswego, Kansas, is the home of one of the largest herds of Poland China hogs in Kansas. They now have 600 head of registered Polands in the herd. This year they raised 300 spring pigs and have 250 acres of very fine corn that insures feed for their big herd. Alfalfa, corn and Poland Chinas have proved to be a profitable combination on this ranch. The herd boars in use in this herd are among the best now in service both in breeding and individuality. They have a very fine herd of sows of the real broow sow type. This year their sows averaged seven and one-half pigs to the litter raised and weaned.

B. F. Erwin, of Fairfax, Missouri, owner of one of Missouri's good flocks of Shropshire sheep, reports his flock doing fine. Mr. Erwin's flock is drawn upon heavily for breeding stock and many of the good flocks in Missouri and other states were started with foundation stock from Mr. Erwin's flock. A feature at this time is the choice lot of breeding stock, including a choice lot of rams. Mr. Erwin also makes a specialty of breeding high-class jacks and at this time has a number of very fine young jacks on his farm.

Arthur Anderson, of Clyde, Kansas, owner of one of the good Poland China herds in Kansas, announces a public sale of registered Polands to be held October 8, 1917. Mr. Anderson will catalog a very choice offering of big, smooth, richly-bred Polands for this sale.

PUBLIC SALE SEPTEMBER 4
Fifty registered O. I. C. hogs. Sixteen male and female Red Polled cattle. Six and one-half miles east, one mile north of Delphos, Kansas. **MILTON PENNOCK.**

HOLSTEIN CATTLE.

CLYDE GIRDD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

HOLSTEIN CATTLE.

MAURER'S HOLSTEIN FARM

Why not buy pure-breds when you can get them at near-grade prices? WE HAVE THEM from three-months-old heifer and bull calves to matured cows, all with exceptionally high class breeding. Finely marked and good individuals. Also grade cows and heifers. Write for description and prices or, still better, call at farm and inspect them.

T. R. MAURER & COMPANY - - - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.

DUROC JERSEYS.

DUROC HERD FOR SALE

Choice herd Duroc Jersey hogs, best blood lines. All ages, including sows bred for September farrow. Will sell worth the money if taken at once. Write for description and breeding.

W. C. WHITNEY - AGRA, KANSAS

15 Duroc Spring Boars

Sired by Illustrator O'Rion 3d and Fancy Vletor and out of my best herd sows. They are real herd prospects, selected from 91 pigs raised. Write today if you want a good spring boar.

John W. Petford
Route 1 Saffordville, Kansas

DEMING RANCH QUALITY

BIG-TYPE POLAND CHINA HOGS.

See our show herd at Topeka Free Fair, Kansas State Fair at Hutchinson, and Oklahoma City. Fifty spring boars for sale. Six hundred head in herd to select from.

H. O. Sheldon, Herd Manager
OSWEGO, KANSAS.

Buy a Boar of Anderson

Durocs from the Royal Herd Farm have always made good. Yearling gilts bred to the great boar, "Proud Chief," for September farrow. Write me your wants or visit my herd.

B. R. ANDERSON, Rte. 7, McPherson, Kan.

JONES SELLS ON APPROVAL

February, March and April Durocs, pairs and trios and herds unrelated. First class pigs at reasonable prices.

W. W. JONES, CLAY CENTER, KANSAS

McBRIDE'S DUROCS

Four-months-old boars for sale. Good ones. Tops, $25, if taken at once.

W. T. McBRIDE - PARKER, KANSAS

CHERRY CHIEF DUROCS

I still have a choice lot of March and April pigs, priced to sell. All immuned. Plenty of length, size and bone.

A. S. GRABLE, JR. - DEARBORN, MO.

LONE TREE DUROC FARM

Herd Boar Graduate Prince by Graduate Col. Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.

GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNE DUROC-JERSEYS

Forty-five head spring boars and gilts, March and April farrow, by Gano Pride 2d by Gano Pride, out of a Graduate Col. sow. Herd sows best of breeding. Write for prices. **T. F. DANNER, Winfield, Kansas.**

IMMUNED DUROCS

With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. **C. G. Ditmars & Co., Turney, Mo.**



Purebred Registered

HOLSTEIN CATTLE

Enthusiastic Holstein Clubs, county, district and state, have been organized all over the country, and they are making wonderful progress in establishing testing associations, and in co-operative effort in eradicating disease among their animals. They inspire in their members a high standard of dealing, and in many ways accomplish the maximum of good for all breeders of Holsteins in their localities. There's big money in the big "Black and White" Holsteins.

Send for FREE Illustrated Descriptive Booklets.

The Holstein-Friesian Association of America
F. L. Houghton, Sec'y. Box 114, Brattleboro, Vt.

HOLSTEIN CALVES

We offer for sale choice, beautifully-marked heifer or male calves, 15-16ths pure-bred, and all from extra large heavy-milking dams, as follows, crated f.o.b. cars: One to two weeks old, $15 each; two to three weeks old, $17 each; five to six weeks old, $20 each. First check takes them. Write

W. C. KENYON & SONS, ELGIN, ILLINOIS

Braeburn Holsteins

Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.

H. B. COWLES, 608 Kan. Av., Topeka, Kan.

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

50 HOLSTEIN HEIFERS

We offer for sale fifty of the best high grade Holstein heifers in Wisconsin. All bred to a 29-pound bull whose dam is sister to the sire of the world's champion cow, Duchess Skylark Ormsby. Also a few choice fall cows.

CLOVER VALLEY HOLSTEIN FARM
Whitewater - - - - Wisconsin

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. **Clover Valley Holstein Farm, Whitewater, Wisconsin.**

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

HOLSTEINS

Registered and high grades, cows and heifers. The milky strain, service bulls, carloads or less. High grade heifer calves, $18 each, crated. Write me. I have what you want.

RAY C. JUDD - ST. CHARLES, ILL.

High Grade Holstein Calves

12 heifers 15-16 pure bred, 4 to 6 weeks old, beautifully marked, $20 each. Safe delivery and satisfaction guaranteed.

FERNWOOD FARMS, WAUWATOSA, WISCONSIN

Nicely marked high-grade Holstein calves, price reasonable. **O. Canuteson, Route 4, Delavan, Wisconsin.**

SHROPSHIRE SHEEP

FOR SALE—Ten registered Shropshire ewes, fifteen registered Shropshire buck lambs, ten pure-bred unregistered Shropshire yearling bucks.

K. HAGUE, Route 6, NEWTON, KANSAS.

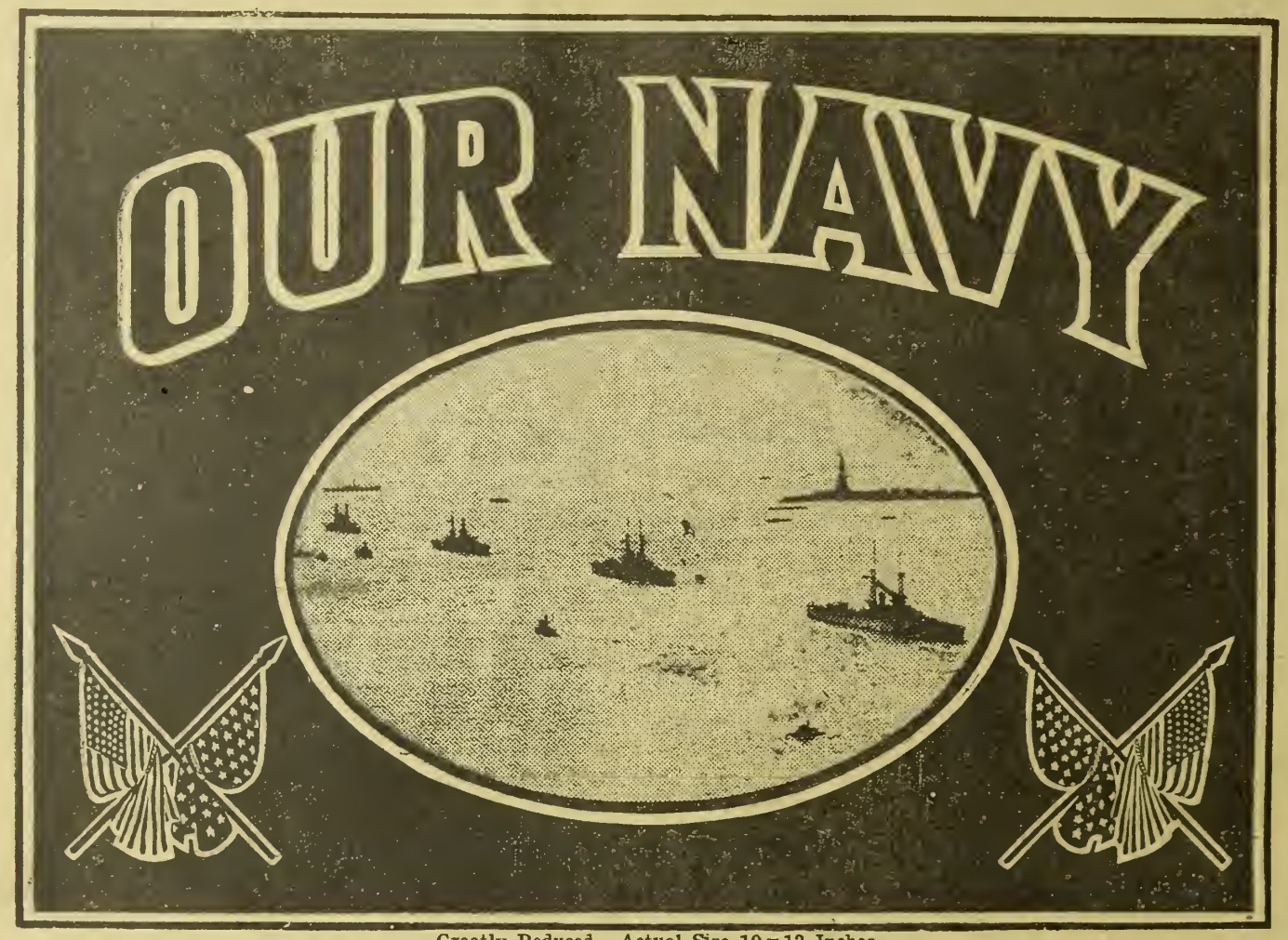
ERWIN'S SHROPSHIRES

Registered Shropshire Rams and registered Jacks and Jennets for sale.

B. F. ERWIN - - FAIRFAX, MO.

H. H. Holmes, of Topeka, owner of one of the best Scotch and Scotch-topped herds of Shorthorn cattle in Kansas, will be at the principal fairs this year with his great show herd. The show stuff from this valuable herd has been one of the Shorthorn attractions at the big fairs for several years and has always been well up in the winnings.

FREE! This Interesting Book Shows Every Type of Vessel in the Navy and Gives Full Text of the President's Great War Message



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LIVE STOCK AND FOOD SUPPLY

Breeding Improved Types of Farm Animals Increases Live Stock Production

IN AN article appearing in the twentieth biennial report of the Kansas State Board of Agriculture, Prof. C. F. Curtis, of the Iowa State College, points out that whatever may be the theories or conclusions concerning the efficiency of a vegetable diet, the fact remains that man is a carniverous animal and that the average citizen of the United States consumes more meat than do the inhabitants of any other civilized country.

The average per capita meat consumption of the United States, according to the United States Department of Agriculture, amounts to 80 pounds of beef, 7.5 pounds of veal, 6.5 of mutton, and 78 of lard—a total of 172 pounds annually, against 119 for Great Britain, 113 for Germany, and 80 for France. In addition to this we consume annually per capita 17.5 pounds of butter, 3.8 pounds of cheese, 17 pounds of ice cream, 1.5 pounds of oleomargarine, and about 475 pounds of milk.

Professor Curtis thinks that the scientists may be right in their contention that there is greater efficiency and economy in the direct consumption of the grains and cereal products as human food than in their transformation into animal products, but virile manhood seems reluctant to accept their doctrine.

About one-third of the nation's food bill goes for meat, and the meat and dairy products combined amount to more than one-half the total expenditure. This does not take into account the consumption of poultry products and fish, both of which constitute large items, and which show a marked tendency to increase as the cost of other foodstuffs advances.

In the operation of a cafe and cafeteria at the Iowa State College during the past year, where about one thousand meals are served daily and the patronage comes mainly from students who are obliged to live economically, the combined meat and dairy bill amounted to 46 per cent of the entire amount paid for provisions.

The meat and dairy products of domestic animals may not constitute the most economical form of food for man, but they seem to be regarded as indispensable to the highest achievement and the best type of civilization. The meat-eating races are the dominant nations of the world.

There would be difficulty in utilizing as human food many products of the farm, field, and plain, if it were not for the transforming power of the meat and milk-producing animal, to say nothing of the service rendered by the domestic animal in clothing the human race. It is stated in Holy Writ that "all flesh is grass," but if grass could not be converted into flesh it might not serve as a very palatable form of human diet without creating a disproportion of the supply of breakfast foods.

The United States Department of Agriculture estimates that the annual meat bill of the United States is nearly two and a half billion dollars, and the daily milk bill is conservatively estimated at one and a quarter millions per day. The meat-slaughtering industry, not including the small local plants, is claimed to be the largest single industry in the United States. It is important, therefore, that every improvement in methods of production or utilization of a product that constitutes so large a part of the nation's daily food bill should have careful consideration.

There has been a marked decrease in the number of beef cattle in the United States since 1900, until within the past year, when there was a slight increase. The fact that the beef cattle supply decreased 30 per cent from 1900 to 1913, while the population of the United States increased 25 per cent during the same period, would tend toward higher-priced meat products in the future; and just now an increasingly large proportion of meat products is being exported on account of the demands created by the European war.

Improvement of live stock and the conditions for live stock production have a vital relation to the nation's food supply. The average dairy cow produces only 150 to 160 pounds of butter a year. Many of the best practical herds have records of from 400 to 500 pounds per cow annually, and there are hundreds of cows that by intensive feeding will approximate 1,000 pounds annually, while a few have gone as high as 1,200. Fortunately, the capability of improvement is inherent in all animal life.

Professor Curtis tells how the dairy husbandry section of the Iowa Agricultural Experiment Station has taken native cows from the Ozark hills of Arkansas, representing as near the unregenerate type as it was possible to secure, and in an investigation extending over a series of years has shown that even these cows were capable of producing 163.6 pounds of butterfat the first year under favorable conditions and good feeding. When mated with pure-bred sires of the dairy breeds the heifers increased their production 25.5 per cent over the records of their dams in the first generation. The native cows when bred to native sires produced heifers that, reared under favorable conditions, increased the yield 10 per cent over that of their dams, and in one case the same cow when bred to a pure-bred sire produced a heifer that increased the production 37 per cent in the first generation. Two of these native cows that have now been under investigation for four years have shown the following increased production from year to year: Second year, 25 per cent; third year, 53 per cent; fourth year, 63 per cent. It is significant and highly encouraging that animals without any improved blood will respond so readily to improved conditions and show such marked increase in yield of food products, and that by improving both environment and blood the increase in production is even much greater.

It has been clearly demonstrated by similar investigations that a corresponding improvement may be made in the meat producing capacity of cattle. Twenty-five years ago John D. Gillette, who was recognized as the most successful beef producer of his time, gave figures showing that it was profitable to produce a steer on an Illinois farm, weighing 2,200 pounds at thirty-six months of age and selling at seven cents a pound on foot. The same method of production on the same farm today would be so unprofitable as to be fatal to the meat-producing industry.

Under existing conditions, on similar but higher priced land and with higher priced feeds, steers of improved breeding must be finished for market weighing 800 to 1,200 pounds at from twelve to twenty months of age, and sold at from eight to ten cents a pound in order to be produced at a profit. Two hundred head of steers of this type were produced recently on an Iowa farm and marketed at thirteen months of age at an average weight of 845 pounds at a cost of $7.03 per hundred pounds, while to produce beef of the same quality under the same conditions from steers a year older, weighing 1,400 pounds per head, would increase the cost of beef to nine to ten cents per pound on foot at the farm. The latter method is most commonly pursued. Improvement must come in the use of better-bred stock that may be finished for market at the earlier age and at the lower cost of production.

It is a well-established principle that digestion is more complete and the conversion of feeds into meat is more efficient in the younger than in the mature animal. It is only in sections where grazing is abundant and cheap that the conditions will warrant the longer feeding periods which produce the mature and heavyweight animals. Practical maturity may be obtained under favorable conditions in one-third the time at one-third less cost, and a finished product that is altogether more desirable and less wasteful for the consumer. In attaining this improvement the farmer must make use of improved breeding and feeding in the same manner as has been pointed out in increasing dairy production.

Improvement in live stock, and thereby the increase of live stock, also contributes to increased food supply in a marked degree in an indirect manner. The grain yields of ten of the best live stock farms in Iowa were compared with ten of the best grain farms in the same locality, extending over a period of five years. The stock farms showed an increase of fourteen bushels of corn per acre, seven bushels of oats per acre and one ton of hay, which was equivalent to a 36 per cent increase of corn yield, 21 per cent of oats and 83 per cent of hay. These results are confirmed in a larger way by the returns from stock and grain farms reported by the 1910 United States census.



THESE PURE-BRED CALVES ARE CLEANING UP A FEED OF SILAGE—GOOD FEEDING AND IMPROVED BREEDING GO TOGETHER

More Milking in Lyon County

The interest in dairying continues to increase in Lyon County. As the result of a circular letter sent out to the different banks of the county, the Miller Bank in the northern part of the county offered to finance any farmer needing money to buy good dairy cows. Nearly a carload of dairy cattle have been spoken for as a result of this offer. F. C. Newman, of the Citizens National Bank of Emporia, has already been instrumental in bringing in several carloads of dairy cows and heifers. Most of this first shipment was taken by boys and girls who are members of the Kansas Farmer Dairy Club. Mr. Newman is urging all the banks of the county to consider the importance of promoting more dairying on the farms of their customers.

One of the big milk distributing companies of Kansas City, Missouri, has recently located two milk stations in the county, one at Olpe and one at Emporia. As this interest in dairying develops it is important that those taking up the milking of cows perfect and maintain a good, live organization among themselves. Such an organization is necessary to help in educating the beginners in dairying to a better understanding of the principles of profitable dairy production. It also can become an important factor in educating consumers and the public generally in the value of dairy products and the cost of producing them and getting them on the market.

Farmers of Cloud County are making up orders for a carload of the new Kanred wheat to be used for seed in that county. Karl Knaus, the county agent, reports that almost every farmer he meets wants ten to twenty-five bushels of this wheat to plant in order to produce seed for next year.



A Sermon Picture

A SHORT time before the above picture was taken, there was a $5,500 barn between the two silos. It burned down. The silos were unharmed. Ask E. H. Salisbury, Kirksville, Mo., who has since erected a new barn, what he thinks of the silos.

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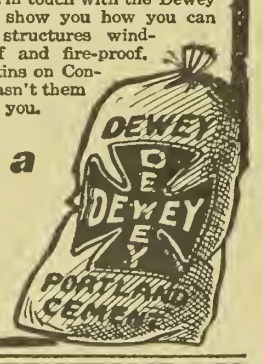

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

SUBSCRIBER J. F. S., of Shawnee County, recently asked for plans for a garage. He wants to build a smoke house also, and suggested making the smoke house a part of the garage by partitioning off one end. We advised against this, principally because of the fire risk. A smoke house need not be a large building, as it is easier and safer to have it built without any connection with any other structure.

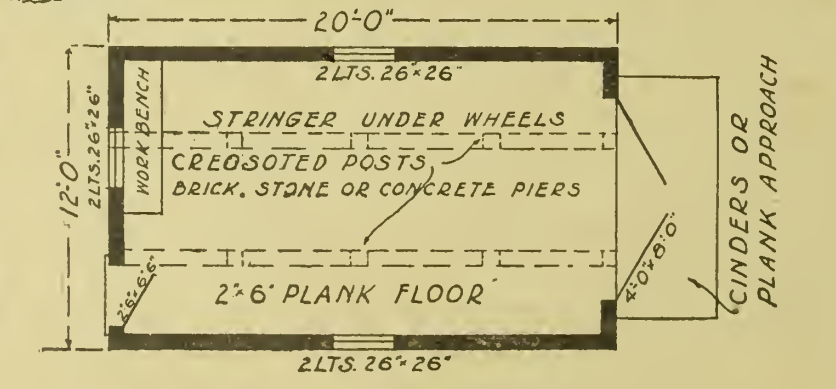
There are so many of our readers now owning automobiles or planning to buy them that we herewith give the plans of a garage which can be economically built on any farm. There are many types of garages from the ready-made metal structures all ready to set up to the more expensive buildings of concrete or tile. Some of these other structures may appeal to those planning to build garages, but the one described is a very satisfactory type. Any lumber yard can from the plans figure the bill of material.

This garage is large enough to house practically any car made. It can be shortened, but it is best to build it of the length given. There is seldom too much room in a garage, and a work bench at one end is almost necessary. In order to make this building warmer it might be sheathed inside and out and a ceiling overhead could be added. Durable wood or creosoted posts could be used for the foundation, or concrete or brick piers, although these will cost perhaps a little more than well creosoted posts. The floor is plenty strong to support the car. The stringers, which consist of two 2 x 6's spiked together, are placed directly under the wheels of the car as it stands in the garage. No other floor supports are necessary. The rafters and studs are spaced three feet apart. The floor is made of 2 x 6 planks, dressed on the upper side. All of the dimension material and siding should be of No. 1 grade, but the roof boards may be a No. 2 grade. If shingles are used, they should be of the best quality and should always be nailed with zinc-coated shingle nails. Ordinary wire nails quickly rust out. The large doors are made of dressed and matched lumber, either four or six inches wide as preferred.

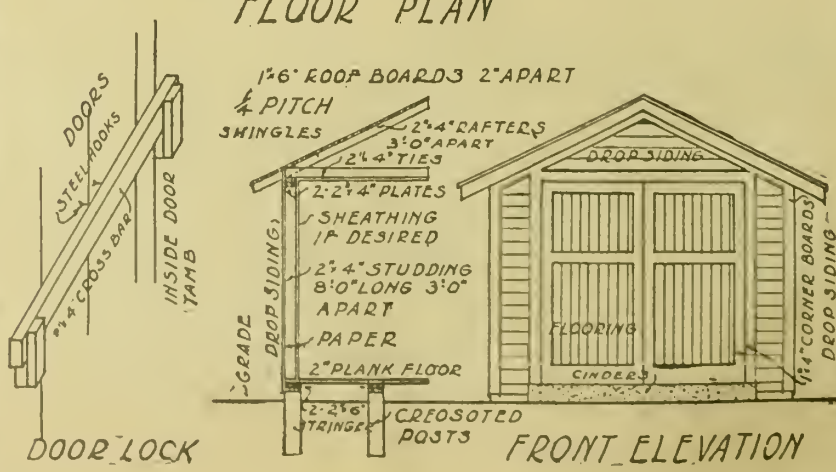
The structure should be thoroughly painted inside and out with a good grade of paint, and it is a good plan to secure a fire-resisting paint. The garage will be lighter if the inside paint is white or light gray. A cement enamel paint can be used on the plank floor so the oil and grease that may be dropped from the car can be easily wiped up. It is always a good plan to place a good, strong lock on the garage, as thieves go where the picking is easiest.

A writer in Power Farming states that in reading over an instruction book for a 10-20 gas tractor of a popular make, he finds this piece of advice: "Don't forget that while your tractor is made of iron and steel that it will appreciate the care given it in returning to you its appreciation in service." That would be a cracking good motto to paint on a nice piece of thin iron and bang on every gas tractor where the wind would wave it around and call the operator's attention to it.





FLOOR PLAN



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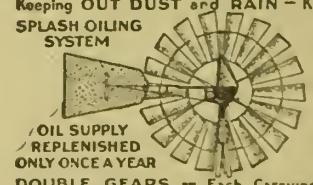

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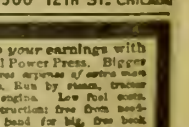

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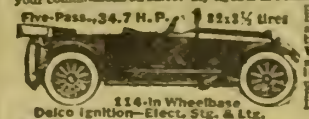

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EXEMPTION CLAIMS OF DAIRYMEN

All farm labor is scarce in Kansas, but no other kind of farm labor is more difficult to obtain than that necessary for carrying on dairy work. Many farm hands cannot or will not milk cows and perform other dairy work. The labor problem is the most serious one with which they have to contend, said dairymen from all parts of the state who attended the meeting of the Kansas State Dairy Association held in Hutchinson August 16.

In discussing the labor question as affected by the operation of the selective draft, the dairymen stood on the proposition set for by President Wilson that the whole nation is being mobilized for war, and not simply an army. District exemption boards all over the country have been appointed to act for the Government in following out this principle in selecting our national army. Acting in this high capacity, these boards are not mere recruiting officers for the army. They have to face the question of mobilizing the whole country for war in the most effective manner possible in practically every case coming before them for decision.

In order that the authorities at Washington may have the facts relative to dairy labor in Kansas, the Kansas State Dairy Association went on record in a definite statement which, while voicing the fullest loyalty to the cause, pointed out very clearly that the dairy production of the state would necessarily be much reduced if dairy labor is drawn upon heavily in selecting men for army service. This statement was placed in the hands of ex-Governor Stubbs, who goes to Washington to represent the Kansas Live Stock Association and the State Dairy Association in emphasizing the need for protecting these great industries in the operation of the selective draft system for raising an army.

The National Dairy Council was also furnished with a copy of the statement for presentation to the Food Administrator.

FOOD CONTROL LAW

The food control law signed by President Wilson August 10 grants to our chief executive for the period of the war most unusual powers. Already the Food Administrator has begun his task of stabilizing prices of food products. In this crisis we are all denouncing the food speculator and it is to be hoped that the law will be so administered as to absolutely prevent unlawful speculation in the necessities of life. It is this feature of food distribution that has stirred with righteous indignation the producers of grain and other farm products.

In his first statement to the public, Herbert Hoover, who has been appointed food administrator, says that he hopes "First, so to guide the trade in the fundamental food commodities as to eliminate vicious speculation, extortion, and wasteful prices, and to stabilize prices in the essential staples; second, to guard our exports so that against the world shortage we retain sufficient supplies for our own people and to co-operate with the allies to prevent inflation of prices; and, third, to so stimulate the saving of food that we may increase exports to our allies to a point which will enable them to provision their armies and to feed their people during the coming winter."

The Government had already planned to take over the distribution of wheat through the section of the law licensing dealers, and in addition it is proposed to establish a system of actual Government buying and distribution. The machinery for putting into operation the Government purchase and distribution of wheat has already been prepared. Twelve men, six representing consumers and six producers, have been appointed as a price-fixing board. President H. J. Waters of the Kansas Agricultural College is a member of this committee. Already the announcement of these Government regulations has resulted in a hundred prominent grain dealers who recently met in Washington passing resolutions which recognize the fact that they are out of business for the period of the war.

It must not be understood that the Government is organizing to buy the surplus of wheat, for there is no surplus. This year's crop is estimated to be only twenty-five million bushels more than is needed in this country on the basis of normal consumption. Europe is expecting to get from one hundred to two hundred million bushels from the United States. Under these conditions it is apparent that an open market would tend to run wheat up to high prices. It is here that the interest of the producer appears. We do not believe that growers of wheat will object to selling their crop at prices which will return a reasonable profit if they can be sure it will go to the consumer with only legitimate handling and milling expenses added.

The big problem of the Food Administration is to make a short wheat crop go as far as possible and at the same time prevent undue hardship from abnormal prices and absolutely cut out speculation. It is only through greater economy in consumption that we can hope to increase our surplus for export. High-priced wheat compels economy in consumption and this point the price-fixing commission of which President Waters is a member can be expected to consider in establishing prices. President Waters championed the two dollar guaranteed price to the producer for the 1918 wheat crop, and his influence had no small part in getting it set at that figure, even though much pressure was brought to bear to make it lower. Farmers of Kansas have the fullest confidence in the stand that President Waters will take on this most important commission to which he has been appointed. We will expect him to insist on a price high enough to insure the wheat growers of Kansas fair and reasonable profit and high enough to enforce the rigid economy necessary on the part of the consumer if we are to increase our surplus for export.

KEEP THE GOOD COWS

The nations of Europe have already been compelled to slaughter thirty-three million head of stock cattle, according to the first statement issued by Food Administrator Hoover. Only recently the little country of Holland has ordered the slaughter of one hundred thousand cows, and these are undoubtedly milk cows. The need of meat and the impossibility of getting feed is responsible for the sacrifice of these cattle. P. W. Enns, a former president of the Kansas State Dairy Association, reported at the recent meeting at Hutchinson that relatives of his in Russia had written him that good high-grade cows were bringing 600 to 800 rubles, which according to rates of exchange before the war would be $300 to $400.

From all the information available, it is evident Europe will be coming to this country for foundation stock as soon as the war is over. The conditions in Europe are such that dairying is the form of live stock farming most extensively practiced. In economy of production on high-priced land, meat animals cannot compete with the dairy cow. It has been estimated that for several years following peace, Europe will take twenty-two million cattle annually from this country if they can get them. The lesson to Kansas dairymen is to stay in the business of breeding and developing good dairy cattle. If feed conditions are such that some stock must be sold, know the individuals of the herd so well that the slackers among the cows can be culled out and the good cows kept. This is a time to start cow testing associations and herd records. The world will need dairy stock, but European buyers will want only foundation and in all probability only pure-bred animals. We have for years been importing foundation stock from Europe, but following the war we must be prepared to return high-class animals in order to enable them to rebuild their depleted herds.

FALL PASTURE FOR COWS

Dairymen who were present at the meeting of the State Dairy Association at Hutchinson last week talked much of economy in milk production. All who spoke emphasized the importance of using pasture this fall to the fullest extent possible. Prof. O. E. Reed of the Agricultural College said they already had a field of rye seeded which would save a lot of grain in feeding the college herd. Conditions have not been more favorable in years for getting fall pasture. Every man in Eastern Kansas who has milk cows to feed this fall should seed some rye for pasture. Even though there is a silo on the farm, planning for fall pasture is a good business proposition. Where is the man who could not have fed silage to advantage during the past summer? If the cows can be kept on green feed until late in the fall, it may not be necessary to open the silo perhaps until December or later. We know of a dairyman in the wheat belt having two silos who hopes to be able to carry one over until next summer by using wheat pasture this fall.

Cows having plenty of green feed will keep up a good flow of milk and very little grain will be needed. The emphasis placed on the use of rye and wheat pasture as a measure of economy in milk production this fall and winter was one of the valuable lessons of the recent meeting. We regret that many more of our readers who milk cows could not have been present. The men who took part in the discussions and gave their experiences are successful dairymen, and we hope those unable to be present will profit by the suggestion coming from these practical men.

PASTURE FOR HOGS

Every good hog man knows that hogs must have some grain, but with present conditions the forehanded man will take advantage of the plentiful supply of moisture in the soil and will grow fall forage so his hogs will not lack for green feed. Rye and rape are ideal forage crops for fall planting. Those who have not grown these crops under the present favorable conditions, can hardly realize what a wealth of feed can be produced by a patch of rye or rape or rye and rape sown together. The richer the land, the larger the growth. Both are cool weather plants. Rye can be pastured all fall and most of the winter and will be ready again early in the spring.

Dwarf Essex rape is a forage much used by our most successful hog men. It will make rapid growth and will produce feed up to the time of killing frosts. Be sure to get the right variety. If there is time, test the seed for germination. It can be done in three or four days. Sow on a fine seed bed and cover lightly with a harrow or brush. Both rye and rape should be put in at once. If it be sown together, prepare the seed bed and drill in the rye and then sow two or three pounds of the Dwarf Essex rape to the acre and cover as suggested.

Hogs are higher than they have ever been and likely to remain high for some months. The present indications are that corn will be a better crop than was expected. The ground has been put in ideal condition to grow green feed in abundance. Many should be able to hold hogs and make some profit from them even though feed is high in price.

Increased yields of eight bushels of wheat to the acre from one field and ten bushels from another resulted from early plowing on a Harvey County farm as compared with the yield from a late-plowed field. Much early plowing has been done in that section this year.

INCREASES OF PRODUCTION COST

If the wheat growers of Kansas raise a big crop next year and sell it for two dollars a bushel or better, they can be sure of a good profit, but there is another side to the story that people generally are apt to overlook and it applies to other agricultural products as well as to wheat. It was brought out in a debate in Congress on the Food Bill that the cost of many things farmers must buy has advanced tremendously. Before the war steel sold for thirty dollars a ton and now it is one hundred thirty dollars a ton. All farm equipment into which steel enters has advanced accordingly.

Coal has advanced from 100 to 250 per cent, wire has advanced 100 per cent, wagons 40 per cent, prepared feeds 100 per cent, tankage 100 per cent, and fertilizers 600 per cent. Binding twine has advanced from eight cents a pound to eighteen, and plow shovels that cost $2.50 before the war now cost $7. Cultivators that sold for $28 before the war now sell at from $50 to $55. Labor and seed of all kinds have likewise made big advances in cost.

These increased costs must be met. Farmers who have been careless in the care of machinery or who have overlooked the many little economies which they might easily have followed, are now keenly alive to the situation and can be depended upon to do their part in keeping down production costs, but there is no getting around the fact that farm products must be high in price to meet these many increases in production costs.

EMERGENCY AGENTS

Emergency demonstration agents are to be employed in many counties of Kansas following the passage of the law providing funds for such work. Both men and women will take up this work. Cowley County has had a man and a woman employed in the emergency work for some weeks and Hodgeman County also has had an emergency agent for some time. Fifteen counties have organized to take advantage of the opportunity to secure help of this kind.

It is not necessary to organize a county farm bureau as in employing the county agricultural agents, of which there are now twenty in the state. These emergency helpers are employed by the county defense council and work under their direction. They have no police or regulatory powers, the service they render being that of helping the defense council in carrying out the various plans for mobilizing more fully the local resources.

To secure one of these emergency agents, the county commissioners must appropriate $800 for the initial expenses, and the Federal Government will provide $1,600 a year. Harry J. Umberger, of the extension division of the Agricultural College, is chairman of the state committee having general supervision over the work of these emergency agents.

We would urge Kansas dairymen who must reduce their herds to look for a market on farms in other sections of the state before sending the cattle to market centers. Even before the abundant rains improved the situation there were communities in the state where plans were being made to go out and bring in dairy cattle. The man who must sell high class dairy animals will find it good business to seek this home market. It is also an act of patriotism to save every dairy animal possible to the industry.

The United States Government has notified manufacturers and jobbers to conserve the condensed milk supply. It is stated that the Government will need 350,000 cases of condensed milk a day for the use of the army and navy. The embargo which was placed on tin has been raised so condenseries will not be prevented from securing the necessary cans.

FARMERS' ELEVATOR HISTORY

Annual Saving of Fifty Million Dollars From Farmers' Elevators



AFTER WHEAT IS GROWN IT MUST BE MARKETED—ELEVATORS ARE IMPORTANT FACTORS IN HANDLING CROP AS IT MOVES TO MARKET

By G. C. SALISBURY

THE enormous amount of wheat marketed in the wheat-growing sections in the early development of the West brought elevators to almost every station. These elevators consisted of three kinds: First, the "independent elevators," owned by a single individual, who bought at some local station direct from the farmer; second, "line elevators," owned by a company, who operated a number of elevators throughout the wheat belt, usually along a certain railroad; and third, the "farmers' elevators," owned by a corporation whose stockholders were chiefly farmers. Such a corporation, as a rule, confined its business to the community where its stockholders lived and depended upon the business of those interested.

In the newly settled country, the independent elevator appeared first, later the line elevator, and more recently the farmers' elevator.

NEED FOR FARMERS' ELEVATORS

Before the development of the farmers' elevator, a definite antagonism had arisen between the farmer and grain buyers. This was due to the large line companies entering into agreements and so monoplizing the grain buying business in a large degree, only hindered by the independent buyers. As a result of this, the prices paid for grain were often depressed. Farmers complained of "short weights." Dishonest dealings on the part of elevators were frequent. The situation grew from bad to worse until the farmers were in reality forced to establish elevators of their own.

In 1884 there was a number of such farmers' elevators established and operated by the farmers throughout the entire wheat belt. Within a few years practically all of these failed, due to mismanagement and other difficulties. With their failure, the entire field was then left open to the independent buyer. Competition among these buyers was naturally keen, and in good crop years track buyers, or "scoopers," appeared in numbers at local stations. These track buyers would bid on the farmers' wheat and load it direct into cars. The farmer, sometimes even selling at auction sale on the street, always sold to the highest bidder. Due to the keen competition many of the grain dealers went bankrupt. Leaky cars and dishonesty on the part of the weighmasters helped to increase their chance of failure. The result was that state associations of independent grain dealers were organized with the purpose of checking such dishonest dealings.

The local elevator companies desired to eliminate the "scooper" because he had nothing invested, paid no taxes, and offered exceptionally keen competition.

The grain dealers' association made up of these independent dealers in the further assistance of their members, asked the commission men in the terminal markets to refuse to handle grain from men who did not own elevators. They also passed a resolution prohibiting members of the association to sell through commission men who handled the business of the local track buyer. Fearing their own business the commission men refused consignments from track buyers. To prohibit the track buyers dealing with the mills, the association made arrangements with the railroad companies so that track buying was almost eliminated.

After eliminating the track buyer, the association passed rules among themselves, allowing each member a small income over the interest on investment.

About 1888 the large grain syndicates, backed by large capital, appeared. These usually operated along a certain railroad line and oftentimes the largest stockholders in the company would be large railroad men. These large syndicates eventually forced the independent buyer out of business entirely. They often owned large warehouses at the terminal markets and through their monopoly they were able, in time, to control the price as well as the grade of all grain coming on the market.

FARMERS ORGANIZE AGAINST SYNDICATE

About all that was left for the farmers to do was to organize against the syndicate and buy their own grain. But because so many farmers were still living who had seen failure in the farmers' elevators in their early days, it was a hard task to get the young farmer interested.

After a few farmers' elevators were built and had started in business, it was easy for the large syndicate to pay a little more than the farmers' elevator could pay and still make a profit, due to the fact that they enjoyed a lower railroad rate. Again the line elevators would not feel seriously embarassed over the loss that would ruin a farmers' elevator company. Furthermore, the line elevators' loss was only temporary, and at points where there were no farmers' elevators they would realize a profit of several cents more per bushel. As a result of the farmers' elevator not being able to compete with the line elevator price, first one and then another farmer would break away and go back to the line elevator. After so long a time there would be only a few farmers left. These few could not afford to hear the burden of loss, and failure resulted, thus leaving the entire field to the competitor.

The price paid for grain would soon fall and the syndicate would in a short time reimburse itself for its loss during its campaign against the farmers' eo-operative elevator.

The results were that the farmer was not receiving any better price for his grain, was in debt due to loss in the campaign against the syndicate, and had a worthless elevator on his hands. The farmer considered the whole affair a losing proposition and charged the account up to experience.

The farmers also had great difficulty in securing sites for their elevators. The appeal to the railroad commission by the farmers was overruled, on the grounds that there were already too many elevators at certain points.

As a result there were few farmers' elevators in Iowa and Illinois from 1890 to 1900, and none in the other grain-growing states.

PENALTY CLAUSE SAVES THE DAY

The first successful farmers' elevator in the United States was built and operated by a group of farmers around Cerro Gordon County, Iowa, in 1890. The success of this elevator in its campaign against the large syndicate was due to a clause in the constitution which had not appeared in the constitution of any of the other farmers' elevators. It was known as the "penalty clause." It merely stated that all farmers belonging to the farmers' elevator company had to pay into the company one-half cent per bushel of grain sold whether they sold to the farmers' elevator or elsewhere. This represented the cost of handling the grain, and enabled the company to stay in business, although the syndicate paid more than the wheat was worth in the terminal market.

When the line elevator would bid so high as to incur a loss which prevented the farmers' elevator from securing any grain, the farmers would weigh the grain at the farmers' elevator and sell to the syndicate, paying the one-half cent fine to their own elevator. In this way the income of the farmers' elevator remained the same with a slight reduction in expenses. After trying every method possible, the syndicate was forced to give up in despair.

A quotation from an observer is as follows: "There in Rockwell, a little village of less than five hundred souls, was waged one of the fiercest commercial battles ever fought on American soil. Every trick of trade known to the modern political jackal and commercial bandit was tried and failed, and a final and complete victory won by the farmers of Cerro."

ATTEMPTS TO CHECK MOVEMENT

After about twenty-four companies had been formed in Iowa and Illinois, the syndicate attempted to check the movement. They circulated literature among the business men of the country stating that the farmers were going to start stores, lumber yards and other commercial enterprises and ultimately ruin their business unless the growth of elevators was checked. They also declared they would start stores and sell at cost if the merchants encouraged farmers' elevators. They published false reports about the financial condition of the farmers' companies, which had some effect, but not to a great degree.

About 1901-2 the syndicate decided to boycott the farmers at the termiual markets. This was the most successful ruse of all and it looked like the farmers' elevator was again doomed. At one time there were only two commission firms who would handle farmers' consignments.

The opposition put forth by the syndicates advertised and hastened the movement of farmers' elevators. The boycotted commission companies also felt the dealings of the large syndicates and, having a limited area, decided to take over the farmers' business, which offered a larger field.

The next step of the farmers' elevator company was to merge into a state organization. Illinois was the first to take this step in 1903. Iowa followed in 1904.

The Iowa Independent Grain Dealers' Association had a representative at this meeting who misrepresented the meeting in published statements.

The commission companies that had had their business affected by the syndicate came to the assistance of the farmers and helped them in organizing, which was successful both to the farmers and commission men. One commission company carried on a campaign which cost them $20,000, organizing 175 farmers' elevators.

By 1905 the movement in Illinois had grown to 175 elevators which demanded recognition in the terminal markets. The movement in Iowa was fully as strong.

The line elevators at this time saw their destruction, but decided to make one more attack on the farmers by attacking the "penalty clause" which they all agreed was the foundation of the whole movement.

They attacked this point by publishing that it was "unfair," "unjust" and "un-American." They also claimed the clause was monopolistic in character and in direct opposition to the Stillman anti-trust grain law. This was overruled by Attorney General H. B. Byers, of Iowa, in a suit in which the syndicate alleged that the penalty clause was in restraint of trade and against public policy.

When all efforts had failed, the so-called "grain dealers" made an effort to secure the confidence of the farmers' elevators which did not operate under the penalty clause, and to induce them to join them in their work against other farmers' elevators operating under the penalty clause. In Iowa, with all of their effort, they were able to secure but one.

A striking example of the farmers' elevator operating under the penalty clause is brought out by the farmers near Solomon, Kansas.

Solomon has three railroads, which had not consolidated at this time. For two years the syndicates had kept the price of wheat at Solomon fourteen cents below the market price at Kansas City. Ordinarily the shipping charges amounted to ten cents. After attempting to get a bill through Congress, which would control the syndicates, the farmers organized their co-operative elevator association, introducing a penalty clause of one cent per bushel.

From the time the elevator opened it received ninety per cent of the wheat marketed at Solomon. One of the syndicates immediately opened fight by paying two cents per bushel more than the farmers' elevator could pay without a loss. The farmers weighed the wheat at their own elevator and sent it over to the syndicate to be sold. The farmer received one cent per bushel over the market price at that point, after paying his own elevator the one cent penalty. In less than three weeks the syndicate gave up the fight, locked its doors and withdrew its agent.

Another scheme was tried by blocking cars on the railroad on whose right-of-way the farmers' elevator was located. The farmers immediately began hauling their wheat over to the other road where they could get cars. An investigation was made in a short time by the railroad company on whose right-of-way they were located, and the results were that they got all the cars they needed.

All the leading grain states have farmers' elevators, except Wisconsin and Indiana. The numbers in the different states in 1913 are as follows: Illinois, 300; Iowa, 347; Minnesota, 307; North Dakota, 350; South Dakota, 220; Nebraska, 200; Kansas, 32.

The most striking result of the farmers' elevators is that prices paid for grain have been invariably higher at a given point after the establishment of a farmers' elevator.

The farmers of Nebraska saved, through their elevators, $2,380,868 in one year, and the few states of the Central West where farmers' elevators have been established, fifty million dollars would be a conservative estimate of the annual savings of the farmers' elevators.

YOUNG MAN'S OPPORTUNITY

On High-Priced Land Must Practice the Most Modern Agricultural Methods

By W. M. JARDINE. Director Kansas Experiment Station

DURING the past fifteen years the farm lands of Kansas have advanced more than 100 per cent in value, while during the same period records show little if any increase in acre yield. Under the system of farming practiced during the past ten years and still in use on the majority of farms, it is impossible for a young man to buy a farm on borrowed capital at 6 to 8 per cent interest and pay for the land from the proceeds of the crop.

INCREASE IN LAND VALUES

While in the days gone by our fathers and grandfathers probably made money in extensive farming of the virgin soils which they secured at very little cost, conditions have changed. The same land today brings from $60 to $150 an acre, and if handled in the old-fashioned way seldom can be made to produce yields that will return a profit on the investment, to say nothing of providing a reasonable salary for its owner.

It is not very likely that many of our farmers who are past the prime of life—and it is these men who own the majority of Kansas farms—will change their methods now. A good many of them are retiring to the city and turning the management of their places over to tenants. According to the best information we have, some 36 per cent of our farms are being operated by tenants. While this is the trend of agricultural conditions, we continue to produce in Kansas large numbers of young men on whose shoulders rests the hope of Kansas agriculture. The majority of these young men, however, cannot become owners of farms in this state except through inheritance, unless they put more intelligence into the business of farming than it is now receiving, because it is practically impossible for crops under the present system of farming to furnish money to pay 7 or 8 per cent interest on $150 an acre land and leave anything to liquidate the principal.

Wheat growing has been and will probably always continue to be one of the chief industries of Kansas. Eight to nine million acres is a large area to plant to one crop every year, but this is what the farmers of Kansas are doing in the case of wheat. We are extensive rather than intensive wheat farmers; that is to say, we operate large areas with big machinery and without much detailed attention. We do not spend much time in figuring out suitable rotations to employ, how to build up the humus of the soil, and how to maintain soil fertility, all of which are essential in intensive farming. The extensiveness of our farming methods is emphasized by our low average acre yield.

In Kansas the cost of producing wheat can be reduced by readjusting the farming business through the production of a diversity of crops in rotation and the growing of live stock on the farm, thus allowing a better distribution of labor, the feeding of by-products, and the upkeep of the fertility of the soil.

While the average farmer today is operating his farm in much the same fashion followed twenty years ago, except that he is employing bigger machinery and is working less hard—which is a very good thing—he does not need to be particularly concerned about increased yields, because he owns his farm and it cost him little. If he secures 3 or 4 per cent interest on his capital he has sufficient to care for himself and family comfortably. It is not for the welfare of this man that I am concerned. It is the young man, the prospective farmer, the farmer of the future, for whom I am concerned and whom I want to reach. Some day, and not in the far distant future, our boys will be the farmers of this state—at least they ought to be and will be if it is made half possible for them to be—and I want to try to show them that there is a way which if followed will enable them to become owners of land even at its present high value.

BETTER YIELDING VARIETIES

In every county of the state it is possible to point out progressive farmers, young and old, who are making money on high-priced land by employing modern business methods in their farming operations together with scientific farm practices developed by our state experiment stations at Manhattan, Hays, Colby, Garden City, Dodge City, and Tribune. For the past twenty-five years we have been experimenting at one or more of these experiment stations with all kinds of crops brought from every section of the world, to determine those best suited to our conditions of soil and climate. Not only do the conditions of Kansas affecting the growing of crops differ from those of other states, but they also vary widely in different parts of the state. As a result of our work, we have almost reached the point where we can say positively what crops are best suited to grow in every county of the state. It has been through tests and experiments at these stations that our hard red winter wheats have been developed and commercialized and the varieties of wheat now grown in Kansas are from pure seed of improved varieties first distributed by the experiment stations.



SCATTERING LIME ON A FARM IN ALLEN COUNTY.—AN ABUNDANCE OF LIME IN THE SOIL IS ESSENTIAL TO THE SUCCESSFUL PRODUCTION OF ALFALFA, SWEET CLOVER, OR COMMON RED CLOVER

We have reached the time when further increase in the yield of wheat must come through the planting of better varieties and using improved planting methods. It is right here that we believe we can help the young farmers. At the Manhattan experiment station during the last six years we have developed new varieties of wheat that are now yielding and have yielded from the first year's test, from two to five bushels an acre more than the best wheat the best farmers in the state are now growing.

If the yield of the wheat crop of the state can be so increased, the same can be done with corn, with the sorghums, and with alfalfa, and the station will develop this work as rapidly as it is possible to find the time, the help, and the money to carry on expensive investigations.

In their growth and development, plants are governed by the same fundamental laws as are animals. The same methods which are employed in improving live stock, and which are familiar to all of us, must be used with a breed of wheat, oats, barley, or any other crop. A man who owns a herd of pure-bred Shorthorn cattle knows well that even though their blood be pure, no two of his animals are alike in every respect, and that if he maintains the high standard of his herd, to say nothing about improving it, each year he must select out for his future seed stock the best individuals.

The same is true as to a strain of wheat. If, as I said, we have the best wheat obtainable in the world in our Turkey and Kharkof red winter wheats, the next step is to see if we cannot find plants among our home seed that are superior to others and from these plants increase the seed and develop a new higher yielding strain. The purest field of wheat in Kansas is composed of individual plants no two of which are alike and it is the problem of the plant breeder to seek the highest yielding plants and propagate them and keep them pure until the seed can be increased sufficiently to put it into the hands of farmers. This is an expensive, tedious, exacting job and one which can be conducted only by experts with the financial support of the state and federal governments.

EXPERIMENTS TAKE MUCH TIME

This is one of the lines of work in progress at our experiment stations. It requires seven or eight years to develop a new breed of wheat. This length of time is required because it is necessary to begin with a single plant—usually the most promising looking heads are chosen. The seed from each of these heads is planted in a single row. The performance of each plant is carefully noted and records are kept on the various characters of the plants, such as hardiness, stiffness of straw—to see if the variety will stand up and not lodge—resistance to disease, earliness of maturity, and so on, as well as on yield. At the end of each growing season the seed from the best yielding rows is saved and kept pure, and milling and baking tests are made to determine the value of the various varieties for bread making. Before all of these points can be determined with certainty, tests must be made for six to eight years.

After the best varieties in the head-row test have been determined, seed of these varieties is planted in one-fortieth acre increase plots from which seed is obtained sufficient to plant a larger area. The next step is to increase the product of these plots still further until sufficient seed can be produced to try out with farmers in various parts of the state.

So much for the improvement of a variety and what it will mean to the young farmer who must take into account every factor that affects the yield if he is going to pay 6 to 8 per cent interest on $100 an acre land. Two bushels increase in yield to the acre resulting from the planting of a better variety means a net gain because it costs practically no more to produce forty bushels to the acre than it does to produce thirty-eight bushels and the extra two bushels to the acre would be a net gain of say $2 an acre, which would mean 6 per cent interest on one-third of the acreage which produced the wheat.

VARYING RATE OF PLANTING

Another way of reducing the cost of producing a bushel of wheat is to vary the rate of planting with the date of planting. In Kansas wheat planting time begins early in September, or the last week in August in certain seasons and in certain localities, and extends into November. In a single season a farmer may plant some wheat early in September and some as late as November and he will plant at the same rate on both of these dates. We have found at the Kansas Experiment Station that the earlier wheat is planted, the less seed it is necessary to plant for maximum yield. If by knowing how much seed to plant at a certain date it is possible to save a half bushel of seed, the saving is a net gain and means say $1.00, which is 12 per cent interest on one-twelfth of the acreage planted if the land is valued at $100 an acre.

There are still other factors in connection with the growing of wheat and other crops that, to the farmer who has been in the business for twenty or more years, who owns his own land and is established in comparative comfort, seem like baby play and not worthy of serious consideration. Their acceptance or rejection by the man who is trying to pay for a farm out of the proceeds of the crop produced, however, will determine his success or failure. I am presenting these facts for the prospective farmer, the young man who is trying to buy his farm on borrowed money and pay for it from his crops. It is these young men that I wish to encourage to become the owners of the 36 per cent of the farms in the state that are now tenanted, because the permanency and soundness of our agriculture will depend largely upon whether the land is farmed by the owner or a tenant.

MUST HAVE GOOD SEED BED

Farmers are beginning to realize that if they profit as they should through planting a high yielding strain of wheat, it is necessary for them to provide a favorable place for it to grow. The preparation of a good seed bed cannot be over-emphasized. It has much more to do with increasing yields than the variety grown and must be kept constantly in mind by the young man who is trying to become a farm owner. Our soils are still rich in fertility, but the fertility is less readily available to the plant than it once was. The soil needs to be plowed a little earlier in the season to bring about the same favorable condition for planting that once could be obtained by the mere scratching of the soil.

DIVERSITY IN FARMING

We need to give our land a rest from wheat once in a while, and plant it to some other crop like corn, alfalfa, or the sorghums. We need to carry some live stock on the land and utilize as feed

(Continued on Page Eleven)



THE three young men beginning on the left are graduates of the Kansas State Agricultural College. They are seeking to take advantage of the opportunities open to young men of special training along agricultural lines. D. A. Robbins, since graduation, has been farming near Colony. G. H. Bunnell is on a farm near Iola. F. J. Robbins is county agricultural agent of Franklin County. They are here shown studying the results of a demonstration in growing alfalfa on upland soil where this crop has not heretofore been successfully grown. From the appearance of the crop, the problem has been solved on this farm. The young man trained in the sciences and principles underlying the practice of agriculture is able to meet and overcome many difficulties which the untrained man finds insurmountable.



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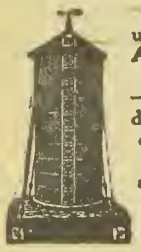

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This Year's Wheat Will Grow

Several samples of this year's wheat were selected in Ellis and Russell counties and tested for germination. F. A. Kiene, of the Hays Station, who made the test, reports that of the six samples the average germination was 91.6 per cent. The result of the test is surprising in view of the doubt expressed by many farmers as to the vitality of this grain. The average of 91.6 per cent of strong germination is very satisfactory when we consider that one sample came from a field that was very weedy, yielding only a little over two bushels per acre, and all were tested without cleaning or grading.

The good germination may be explained by the fact that the germ is formed, fertilized and matured as the first step in the development of the grain. The next step is the deposit of protein and the last is the deposit of starch. This last step was the only one in any way affected by the dry, hot weather.

The test shows that 1917 wheat may be safely used for seed. It will be well to clean and grade this seed for the broken and badly shrunken grains are valuable for chicken feed. Three pecks of cleaned and graded seed per acre from this crop will be sufficient to sow on well prepared land as late as September 25.

Kansas Farmer Dairy Club

Speed Of Separator

PROBABLY many of our Dairy Club members help in separating the milk. We wonder if you can tell by the hum of your cream separator how many revolutions a minute you are turning the crank. If you depend on that method of telling how fast you are turning, the chances are you miss the proper speed more often than you get it right.

The Department of Agriculture has shown conclusively as a result of its investigations that thousands of dollars worth of cream is lost every year because the separators are turned at too low a rate of speed. In some cases the losses in a herd of ten cows run as high as fifty to a hundred dollars a year.

As a result of the careful work being done by our Dairy Club members, we feel sure all are appreciating the importance of accuracy in dairy work. A cream separator will not skim clean if it is turned either faster or slower than the number of turns stated on the crank. If you are not already doing this, try taking out a watch or a clock when you start the separator and count the number of revolutions you are making. It does not take any more time to be careful, and if you gauge your speed by the clock you can be sure you are turning the separator at the speed recommended by the maker.

Finding Cows for Club Work

Boys and girls living in counties having agricultural agents should call on these agents to help them find suitable cows for the club work. The county agricultural agent knows where the good milk cows in his county are, and will be glad to help you find the kind of cow you want. He may be able to find for you, not very far away, just the kind of cow you want at the price you are willing to pay. At any rate, he will be glad to try to do this for you.

You should become acquainted with your county agricultural agent for the same reason that you should become acquainted with your banker, namely, because through your friendship with him you will learn many valuable things about business and other matters with which boys and girls should be familiar. He will be glad to have you call on him.

Paying for Second Cow

I have been a very busy girl this summer, and will have enough money earned when school begins in September to buy my books and clothes for the year. My cow lacked six weeks of giving milk the entire year. She will be fresh this month.

My note drew 6 per cent interest and I paid it off the first of July. Mr. Wulfekuhler, the banker, loaned me the money to buy another cow and I have just made my first payment of ten dollars on her.

Milk from my cow was used to feed a baby whose mother was taken down with typhoid fever when it was two months old and it did fine. Milk from my cow was also the mother's first dict after being brought home from the hospital. I think this is a good test of the way I handle my milk.—MAHALA SMITH, Leavenworth, Kansas.

Mahala will not be able to do the club work for the second year because of her school duties. Se is not giving up the idea, however, of doing dairy work. We will expect her to have the second cow paid for before another year is up, and some money to spare besides.

Last week we said something about the value of skim milk. We wonder how many of our club members know how to make cottage cheese. We happen to know of two boys, both club members, living near a large town, who make their skim milk into cottage cheese and sell it in the town. In this way they get more out of it than any other way they could use it. A hundred pounds of skim milk should make at least fifteen pounds of the cottage cheese. This should bring ten or fifteen cents a pound. This would make the skim milk used return $1.50 to $2.25 a hundred pounds. To make good cottage cheese, use fresh, clean skim milk and keep it at a temperature of sixty-eight or seventy degrees until it is well curdled. This will usually be in about twenty-four hours. Break the curd into large pieces fairly uniform in size. Heat it gently until it reaches a temperature of ninety to ninety-four degrees and keep it at this temperature until the whey clears. It should not be heated too rapidly, as this will injure the product. The time of heating and waiting for the whey to clear should consume thirty or forty minutes. When the whey has well separated, draw it off and hang the curd in a cheesecloth to drain. Cottage cheese should not be sloppy, but should be fairly moist after it is drained. It should be salted to taste and about an ounce of thick cream added to each pound will improve its quality.

Likes Club Stationery

Enclosed you will find my records for last month. I am sorry that I have been so slow about sending my records this last month, but I have been so busy that I did not have time to make them out. I will try to do better next time.

I received the feed records and the Kansas Farmer Dairy Club stationery, and I think it is fine and thank you very much for it and the feed records.

My cow is nearly dry now, but I think I can pay the note off by the first of September.—ERNEST S. ASBURY, Easton.

Buying Hay for Winter

I thank you for the nice Dairy Club stationery.

I worked on the tractor only two and one-half days and then they quit running it. I have a job putting up alfalfa. I have bought about five and one-half tons of alfalfa and I have the promise of about three tons at fifteen dollars a ton in the field. It is fine hay. Most people want about twenty dollars for it or are holding it until winter.

Daisy has sprained her leg and is pretty lame now. I had a veterinarian look at her and he thinks she will get all right pretty soon. I received the scales all right. I like them fine.—HARVEY RUSSELL, Scott City.

High-Priced Cow Pays Out

My cow, Thilda, is doing fine. She gave only forty pounds a day during the hot weather, but now that it is cooler she has gone up to fifty pounds a day. I will have her paid for in about two months.

We are feeding our cows bran and linseed oil meal because we can hardly get corn at all. We mix four pounds of bran with one pound of linseed oil meal. Is that about right, or should we use more of the oil meal?—ELISE REGIER, Whitewater.

The cow Elise has almost paid for cost her $450. This is the highest priced cow used in the contest. She sold the calf for $200 when it was six weeks old. This was quite a help in paying for the cow. The remainder of course was paid from the profits of her milk. The mixture of bran and oil meal is all right. It is not as good a ration as it would be if some corn could be added, but under the circumstances it is probably as good a grain ration as could be fed.

We wonder if any of our club members have "thoroughbred" cows, pigeons, chickens, or pigs on their farms. Be careful how you use this word "thoroughbred." Its incorrect use betrays ignorance of live stock terms. Thoroughbred is the name of the English breed of running horses just as Jersey and Holstein are the names of dairy cows. This breed of horses was established in the seventeenth century, and because they are bred so true to type people formed the habit of incorrectly using the word "thoroughbred" when they wanted to refer to pure-bred animals of other breeds.

Recently John M. Scott, of the Florida Experiment Station, reported on killing flies in dairy barns by the use of formaldehyde, or commercial formalin. Fresh milk to which 10 or 15 per cent of formalin had been added is sprinkled over the floors of the barn and this process repeated as often as the flies seem hungry. In a few days the flies will be gone or greatly reduced in numbers. This treatment should be frequently repeated during the fly season. This is a much better remedy than the use of fly repellants, since it actually destroys the flies and thus prevents their increase. There is but little danger of poisoning from this solution, but like all other poisons it should be used with care.

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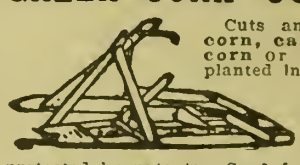

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ECONOMIZING ON GRAIN

LESS grain can be fed by many dairymen without reducing milk production, provided they feed more silage and legume hay. Less grain will be available for feeding to cattle, for much more than usual is needed now for human food, and the emergency demands that every effort be made for its conservation. Milk production must be maintained, hence every effort should be made to substitute other feeds for grain in the dairy ration. To do that the silo will help.

Fruits and green vegetables are canned so as to supply succulent and palatable foods to the family during the winter. Succulence is just as essential to the cow as to a human being. The abundant milk flow obtained from June pasture to a large extent is due to the succulence of the grass. Silage provides succulent feed during winter when pasture is not available. With silage in the ration dairy cattle can be kept in the condition of health common to animals on pasture. The digestive system of a cow is well suited for the utilization of large quantities of green grasses and other coarse, succulent material. Silage is palatable, and no other feed will combine so well with dry hay and a little grain to produce maximum economical results.

Siloing is an excellent way of preserving the mature corn crop or of saving one which for any reason must be harvested before maturity. About 40 per cent of the total food material in the corn plant is in the stalks and leaves. When we harvest only the ears nearly one-half of the crop is lost; on the other hand, when the crop is put into the silo the losses are very small. When dry weather, frost, or insects attack a field of corn before it is ripe, the entire crop may be lost unless a silo is ready in which to preserve it.

No feed crops can be so successfully harvested under widely varying conditions as those that are put into the silo. Only in case of drought or frost is it necessary to rush the filling of the silo; rain or dew on the forage does not injure the silage.

The silo at all times, and particularly now, offers one of the best means of reducing feed bills. The present great national emergency places these questions before everyone who keeps cattle: Have you a silo? If you have not, your herd is not most economically fed; why not build a silo and fill it before frost comes? If you have one, is it big enough to supply all the silage your cattle can eat before the next crop is harvested? If not, build another. You can buy one ready to erect, or you can build it yourself at small cash expenditure. Home-made silos of concrete or wood can be erected with little trouble.

Call on the extension department of your agricultural college for any assistance that you may need in this respect.

Along with the silo in saving grain goes the use of clover, alfalfa, cowpeas, soybeans, or other legume hay. When fed with good silage, these hays will maintain a medium milk production at a relatively low cost.

At the Illinois experiment station the milk flow was slightly increased when eight pounds of alfalfa hay was substituted for an equal weight of concentrates. The Alabama station increased the net profits by substituting cowpea hay for wheat bran. When an eleven-pound grain ration and five pounds of mixed hay were displaced by an equal weight of clover hay, at the New Jersey station, the milk flow fell from 23.8 to 20.1 pounds, but the net profits were increased. In these trials the cows were also fed first-class corn silage. Under ordinary farm conditions it is not to be expected that legume hay can take the place of the entire grain ration, but if it is substituted in part, large quantities of grain will be saved and released for human food.

The first step in bringing this condition about must be the planting of more legumes, and the sooner this is done the better it will be for the individual dairyman as well as for his state and nation. Every dairy farm should produce at least one ton of legume hay for each cow on the place. It is now too late to produce additional legumes this year, but it is none too early to make plans for fall planting, so that next year our milk supply may be maintained by furnishing our dairy cattle, in addition to a liberal allowance of silage, an abundance of legume hay.

The rains we are having will make it possible to get alfalfa started in fine shape this fall. Quite often it is too dry to start alfalfa until late in September and then it is apt to winter-kill. This should be a fall to start alfalfa on farms where there is not enough to supply the needs of the cows.

What Cow Tester Does

There ought to be many more cow test associations in Kansas than there are. In a bulletin of the Illinois Experiment Station the duties of the tester of a cow test association are given in detail. It should be an easy matter to convince almost any man milking cows that the information coming from membership in the association is worth a great deal more than it costs.

The duties of a cow tester are given as follows in this circular:

Weighs feed given to each cow in the evening.

Weighs and samples the milk from each cow in the evening.

Weighs feed given to cow next morning.

Weighs and samples milk from each cow next morning.

Tests samples of milk of each cow for per cent of butterfat.

Computes total feed consumed for the month by each cow, using weights obtained as average.

Computes total milk produced by each cow, using same basis.

At the end of the test year he computes profit or loss for each cow, charging each cow for feed eaten and crediting her with milk and fat produced.

The author of the circular quoted states that in Illinois the cost of testing cows is about $1.50 a cow each year, with a minimum of $15 a year for each herd. In one county the average annual production per cow was increased 1,052 pounds of milk and fifty-two pounds of butterfat as a result of four years' cow testing work. In Sweden a cow testing association brought about an annual increase of 3,174 pounds of milk and one hundred pounds of butterfat as a result of ten years' work.

The kind of cows milked is determined almost entirely by the effort put forth on the part of the producer. It is one factor in production over which he alone has direct control.

Use Good Bull

Too many dairymen seem to be going on the theory that the only way to get a herd of good dairy cows is to buy them. This has been done, but it is a most expensive way to get a herd of high-producing animals. The cheapest possible way is to persistently use a pure-bred sire with plenty of heavy-producing blood back of him, keeping records constantly so as to be able to cull out the cows that are not profitable producers. The editor of Hoard's Dairyman tells of a man who started out to get together by purchase a Jersey herd of twenty-five cows that would average three hundred pounds of butterfat annually. Before he succeeded he had bought and sold a hundred cows. Do not hesitate to put good money into the right kind of a herd bull. There is no surer or safer way to build up a high-producing herd than to breed and develop the cows yourself.

Fat Production True Basis

The American Jersey Cattle Club has discontinued publishing estimated butter production in the Register of Merit records. This is a wise decision and saves a lot of unnecessary work. A cow does not produce butter. She produces butterfat, and the difference between speaking of butterfat and butter is a matter of actual production and mere estimates. If a man wishes to know how much butter a given amount of butterfat will produce, he can himself make the calculation. By speaking of a cow's production in terms of butterfat, we have a uniform basis of comparison. Much confusion has resulted from the use of estimates of butter production because of the different amounts of butterfat estimated to make a pound of butter. One of the cow test associations in Kansas still makes its official reports in terms of butter. We note, however, that the newer associations are all reporting in terms of butterfat, which is the true basis for comparing production records.

Montgomery County has one of the newly organized cow testing associations. This association now has twenty members, representing 385 cows. Of these 103 are pure-bred cows. There are twenty-two pure-bred sires used. Four members do not keep sires of their own, but are using pure-bred animals. There are in the association four pure-bred Holstein herds and three pure-bred Jersey herds and twenty-one cows were on official test in June. George L. Eichler, the cow tester, reports that in June there were three cows in the association producing fifty pounds or more of butterfat, three forty-pound cows, and twenty-eight thirty-pound cows. Butterfat sold for 38 cents a pound, butter 35 cents wholesale, milk 25 cents a gallon wholesale and 10 and 12 cents a quart retail. At the time the June report was made alfalfa hay was worth $15 a ton, corn chop $3.25 a hundred, bran $1.85, cottonseed meal $2.15, oil meal $3.25, and oats 70 cents a bushel.

Owing to the fact that the fall rains have started almost a month earlier than usual, we can count on much more than the usual amount of fall pasture. With grain as high as it is now, it behooves the hog man to make the greatest use possible of pasture crops in saving expensive feed. The experiment station of Missouri has shown that 20 to 40 per cent less grain is required to produce a given amount of pork when good pasture crops are used throughout the season to the fullest extent possible. To effect this saving, it is necessary, however, to limit the amount of grain fed to the hogs on pasture. If fed too heavily on grain, they will not consume as much of the pasture, and of course will be carrying more fat at the end of the season. They should receive enough grain to keep them growing thriftily so that they will be in good condition to finish for market when fed corn later in the season.



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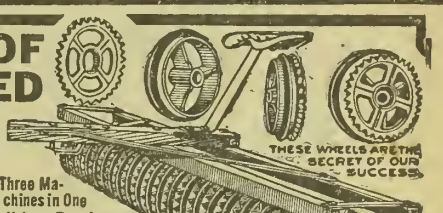

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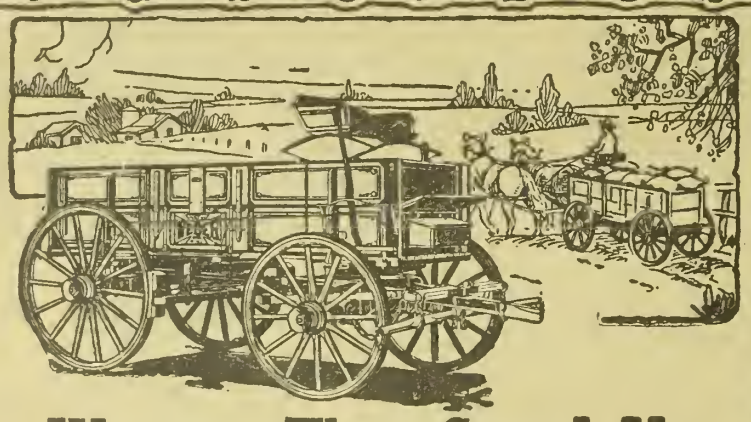

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Proper Seed Bed and Seed

INDICATIONS are most favorable for putting out large acreages of wheat in Kansas this fall. In 1914 we raised 180,000,000 bushels of wheat from 9,000,000 acres of land. Now the country is asking and Kansas is setting herself the job of raising 200,000,000 bushels of wheat from 10,000,000 acres in 1918. Most of this increase must come from Western Kansas, for the eastern part of the state is not capable of great extension of the cropping area.

Much difficulty has been encountered in preparing a seed bed, but August and September offer some time for this work. Late August and early September plowing should be shallow. Disking is a good practice for late seed bed preparation where the weeds are not too large. If the weeds interfere with working the land they should be mowed and stacked for hay or put in silos. The disk will then put the land in good shape for wheat. Early preparation is always advantageous, for time is allowed for settling and packing the soil and for the liberation of abundant plant food.

Securing seed wheat for all the people of Western Kansas is a big problem. Every one should secure his seed from his own bin, from his neighbor or from the nearest place possible. This will relieve the railroads from a heavy burden, save money for the wheat grower, and assist in the distribution of the seed. Where new seed is available it should be cleaned and graded, for the screenings of shriveled and broken grains are too valuable to be put in the ground. Five to fifteen per cent of the new wheat will grade out and the balance will make good seed. A germination test of seven lots of new seed from different counties, made at the Fort Hays Experiment Station, shows that the new crop may be depended upon to produce vigorous and thrifty plants.

At seeding time there should be sufficient moisture present in the soil to germinate the seed quickly and permit it to root well down into the soil. Under dry conditions the small, poorly developed plant may die before rains come. If the seed bed is well prepared and there is an abundance of moisture and plant food in the soil, seeding may be done safely as late as October 15. Stubble land and late plowing should be seeded during the first half of September. Early plowing and fallow land may be seeded later. Likewise the best prepared land may be seeded at a lower rate than the land that is late plowed or stubbled in. Two pecks of good graded seed on good summer fallow planted September 1 and 15 at the Fort Hays Experiment Station has made higher yields than higher rates planted on the same dates.

The Hessian fly has made itself felt in parts of Western Kansas during the last few years, but it is unlikely that serious damage will occur again for several years. October 1 to 5 is considered the fly-free date over most of Western Kansas, and where the fly is known to be present it will be well to seed late in September.

This season is one of extremes which will require the most careful work and planning if best results are secured. Grading the seed, careful regulation of the rate, date of seeding, character of the seed bed, and securing seed near home, will effect a saving that will be considerable under the high cost of seed wheat and transportation.

Replacing Old Foundations

Often wood sills and posts of barns and other farm buildings become rotten and the stone or brick foundations crumble. This frequently happens in buildings which otherwise are in a fair state of preservation and well worth repair. Concrete is the best material to use in replacing the decayed sills and crumbling masonry.

If the foundation is in bad shape, it may be necessary to remove it entirely and build a new one of concrete throughout; or possibly it can be left in position and boxed in with concrete. Again, if that part of the foundation which is below ground is still serviceable, it can be capped with concrete by first leveling off the foundation to the ground line, building a form of the required height and width, and from that point up filling it with concrete. In such a case concrete is placed directly on top of the old foundation without any further preparation except that the old foundation should be cleaned and well soaked with water to prevent excessive absorption of water from the concrete.

The sills and the decayed portion of the posts and siding will have to be replaced. In order to do this, it will be necessary to take the load off the posts and support the building by means of props and braces. In a light building a single row of props either on the inside or outside will be sufficient to carry the load temporarily, but in large buildings bracing may be required on both sides. The props used on the inside should be then placed under the stringers running out from the post and on the outside it will be necessary to nail a block or board at least two inches thick to the wall of the building directly opposite the post to be raised. By the use of wedges the load can readily be taken from the post and carried by the props.

The old sill should be removed and the posts cut off above the decayed portion. If the posts are all decayed to a comparatively uniform height, they can be cut to a uniform length, or any number of adjoining posts may be cut to the same length, and the concrete built up accordingly. If an occasional post is in a worse condition than the others, it can be cut and spliced so that it will be the same length as those next to it.

The mixture for the foundation should be in the proportion of one sack Portland cement to two and one-half cubic feet of coarse clean sand and five parts of well-graded pebbles or broken stone, the largest dimension of which is not more than one inch—all well mixed, using enough water to form a quaky or jelly-



PASTURE SCENE ON FARM OF BOLLA OLIVER, BUCHANAN COUNTY, MISSOURI.—TRIO OF JERSEY BULL CALVES FROM HIGH-PRODUCING MOTHERS

like mixture that will require little tamping.

Concrete should be placed in layers about six inches thick. As soon as each layer is placed in the form, a spade should be inserted between the concrete and the form, and worked up and down so as to force the pebbles away from the surface, thus allowing the cement mortar to come to the face.

Teaching of Agriculture

How can we vitalize the teaching of agriculture in the rural schools?

No more important problem is presented to American educators today. It can be solved in but one way, says P. G. Holden, of the extension department of the International Harvester Company, and that is to rotate the subjects. This will prevent skimming, and repetition; it will sustain interest—keep the subject alive.

The teaching of agriculture in rural schools never will be a success so long as we teach the same thing over and over again, year after year, or allow the teacher to skim all the branches and leave a subject barren and uninteresting for the teacher who follows the next year.

In one-room schools all children in the lower grades become as familiar with subjects taught in the seventh and eighth grades as do their older brothers and sisters. By rotating the subjects a new field is opened to the pupils each year.

Rotation of subjects means the teaching of but one class of subjects each year, such as: First year, farm crops—corn, alfalfa, weeds, seeds, gardens, and for girls, sewing etc. Second year, the making of things—tying and splicing rope, cement work, making fly traps, screens, canning, etc. Third year, animals—live stock, feeding, testing milk, diseases and remedies, cooking, etc. Fourth year, soil and home—saving moisture, rotation of crops, soil fertility, sanitation, flowers, pictures, etc.

Rotating of subjects in this way enables us to teach more agriculture. It eliminates repetition and gives us a new subject each year, which keeps interest alive and keen. It does not kill the subject by skimming or teaching the same thing over and over again, and it makes the directing of the work much easier for the county superintendent who always has more than he can do. Instead of having several lines of instruction to prepare each year, he will have but one.

Agriculture will ultimately be taught in all rural schools. In Oklahoma it is required by the state constitution, in other states by law. Some states have tried it, but in a hit-and-miss fashion. They have skimmed through books; taught words, not things; repeated the same subjects every year; killed interest; made agriculture a dead letter.

If we would teach agriculture in a way to bring the best results we must keep it alive—must develop interest—must rotate the subjects.

Agriculture cannot be successfully introduced in all the rural schools in any state or any county at the same time. It must grow into the schools. That is the basis of the plan adopted in Oklahoma.

They selected twelve county superintendents who are live wires. These superintendents held a three-day meeting, studied how to teach a few definite things and collected the necessary demonstration material.

Each of these superintendents selected from four to a dozen of his best teachers in whose schools agriculture is being taught this year. These teachers were given special instruction at the teachers' institutes.

When the school year opened, the county superintendent and his assistants visited one of these schools and assisted the teacher in starting the work right. Then a second school was visited, and a third, and so on. There are only a few teachers to look after this year. The work of the superintendent is simplified, concentrated, made more effective.

Next year other counties and other schools will be added. Agriculture will grow into the schools. In four or five years it will be taught in every rural school in the state—and taught in the right way.

We cannot put agriculture into all the schools at once. Its teaching is essentially a matter of growth and development. We cannot vitalize agriculture in the rural schools except by rotating the subjects. And the word "agriculture" is used here to mean anything pertaining to the life and welfare of the children and the people of the community—health, sanitation, social conditions, home conveniences, community interests, as well as the things having to do directly with farming.

A pamphlet going more into detail is being published by Professor Holden. If any of our readers would like to receive this little pamphlet, we will endeavor to procure copies for them.

George Throckmorton, Coffey County, writes that the good rains have greatly changed the crop situation. Much upland corn was hurt so badly by dry weather that it cannot make corn. Much of the kafir was poor on account of poor seed and frost, but the fields were so well cultivated in June that they stood the dry weather better than they usually do. Wheat and oats in Coffey County were so fine that farmers will have much feed even if the corn is short.

A Kerosene Oil Can

One of the handy things I have learned to use around the farm is a regular-sized oiler with kerosene or coal oil in it. There are rusty nuts on rusty bolts that will yield to the wrench if a little oil is applied and a little time is allowed for it to penetrate the rust. Of course, kerosene can be applied with a regular gallon oil can, but it wastes the oil and there are a good many places on machinery that cannot be reached with anything so large and bunglesome as a gallon can.

The little can may be used to squirt the oil where it is wanted, and that is where it is almost impossible to get any can, if it has to be poured on.

I like to have the can with the oil in it marked plainly if there is more than one can that looks alike.

I notice that the mechanics who come out to set up machinery among us farmers have about one-fourth machine oil mixed with the kerosene. They say this is a good mixture for a thread that is slightly battered and must be worked down with the nut only.—R. E. Rogers in Power Farming.

Tractor to Fit Farm

Most tractors now on the market are good tractors—the engines are powerful and reliable—they are, as a whole, practical, and with intelligent use, entirely satisfactory. That is, they are satisfactory if the purchaser has looked carefully to his own particular tractor needs before he bought.

Here's the point: The best, most skillfully designed, most carefully made tractor in the world would prove an expensive luxury if it did not fit your own particular requirements. For instance, the farm of 1,000 acres requires an entirely different type of tractor than the small farmer with 80 to 250 acres.

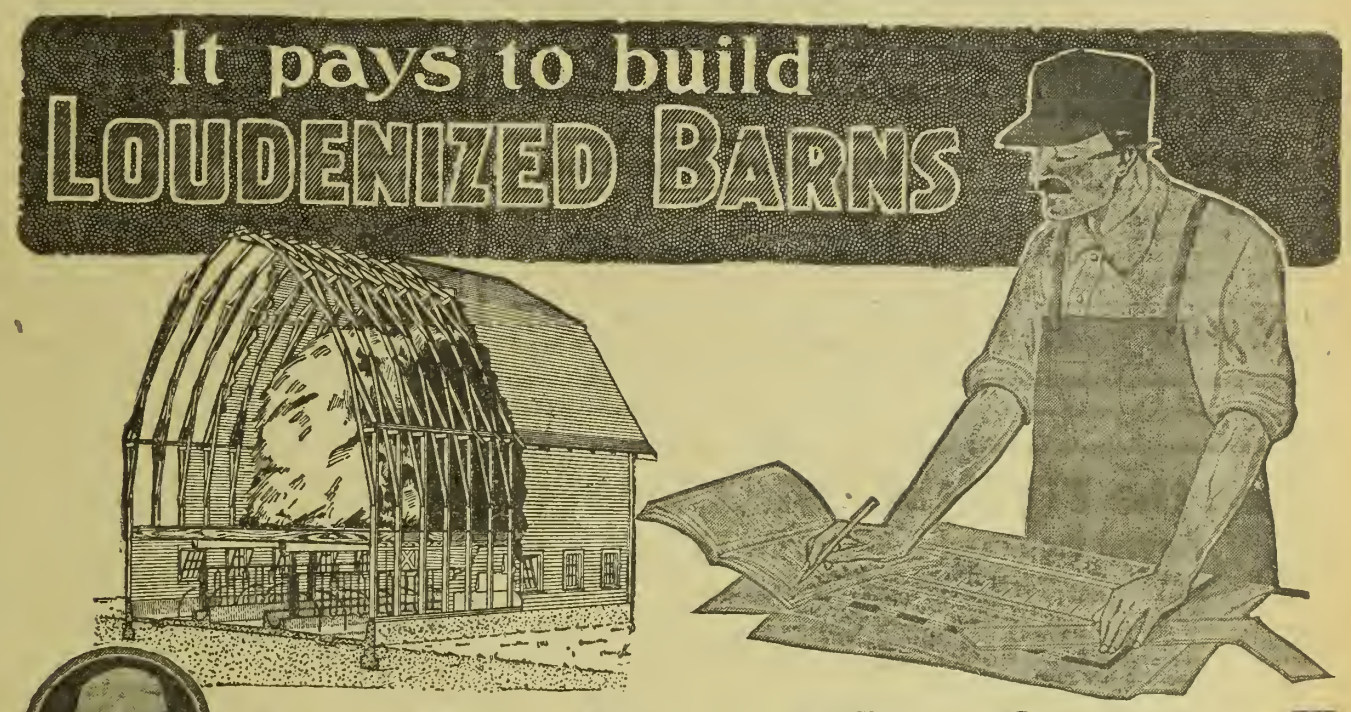
The powerful tractor made to turn great quantities of dirt in plowing vast acreages would most certainly not be fitted for the small farm where a light tractor must be used which will do a wide variety of work—where, in order to be profitable, it must cultivate as well as plow, disk, harrow and drill; where it must pull the mower, binder and wagon as well as fill the silo and do many other belt work jobs.

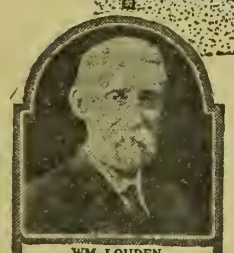
The small farm tractor in order to be profitable must do enough of the things that horses now do, so you will feel safe in eliminating a large per cent of your horses. Therefore, the farmer who "looks before he buys" will look first to his own farm power needs, then look for the tractor which most completely fits those needs.

There are now on the market tractors to "fit" the small as well as the large thousand-acre farm and no farmer need make the mistake of buying a misfit tractor.

The weekly weather report covering the period ending July 31 states that corn has been seriously damaged by the extremely hot and dry weather. In the western and central counties it has been so badly burned that in some sections it will not even produce good fodder, the report states. Grain sorghums, however, are reported to be at a standstill, but not seriously damaged yet except in a few localities. This is the same old story. These crops always pull through dry, hot weather with a minimum of injury. Why not give them a fair chance?

Save your straw. Oat straw especially is a valuable feed and will save many a pound of expensive hay.





Louden Barn Plan Service

Saves Time, Trouble, Material and Labor

The Louden Architectural Department was established for the specific purpose of assisting farmers and dairymen in planning, building and equipping barns. It is the greatest organization of exclusively barn architects in America. This organization is under the personal direction of Mr. Wm. Louden, whose more than 50 years' practical experience makes him the acknowledged leading authority on all matters pertaining to barn building and equipment.

HERE IS WHAT WE OFFER YOU

Practical suggestions by our experts that may save you many dollars in material and building cost; a more easily operated, more profitable barn for the money; preliminary plans in which your own ideas and needs are carefully worked out. We make no charge for this service. Just fill out and send us the coupon or write a postal giving the needed information, and our experts will get busy at once.

For complete working plans with material specifications, we make a very modest charge.

EQUIP YOUR BARN THE LOUDEN WAY

Louden Labor Saving Barn Equipment is used in over a million barns. As profitable with a few cows as with a large herd. Cuts barn-labor to one-third. Keeps cows in greater comfort, safety and health—increases their productiveness. The Louden Line includes:

Stalls and Stanchions
Litter and Feed Carriers
Hay Forks and Carriers
Barn and Garage Door Hangers
Horse Barn Equipment
Automatic Watering Basins
Animal Pens of all kinds
Mangers and Manger Partitions
Cupolas and Ventilators
Power Hoists—Everything for the Barn

224-page Catalog showing full Louden Line sent on request without charge.

"Louden Barn Plans"

Sent Postpaid—No Charge—No Obligation

A 112-page book—not a catalog. Contains illustrations of 74 barns and farm buildings of all sizes and kinds. Full description and estimated cost of each. Also 20 pages devoted to general construction problems, ventilation, drainage, roof construction, laying floors, etc. We will be glad to send you this for the asking.

Let us show you how to build a modern barn at moderate cost, combining greatest comfort for live stock with most convenience and economy in management. Write today.

Fill out and mail us the coupon or write us a postal. Do it now. Consult this book before you build, and save money and trouble.

THE LOUDEN MACHINERY CO.
1517 Court St., Fairfield, Iowa

Please send me postpaid and without charge or obligation, the book checked below.

.....Louden Barn Plans.

.....Louden General Catalog.

I expect to build about (give date) .....

To house.....cows,..... .....horses, ... calves.

My Name.....

P. O.....State.....

THE LOUDEN MACHINERY COMPANY
1517 Court St. *Over 50 Years in Business* Fairfield, Iowa

Kansas Free Fair

Topeka, Sept. 10-11-12-13-14-15, 1917

SIX BIG DAYS AT THE BIG FREE FAIR. The gates stand open day and night. This beautiful 86-acre fair ground, all of the twenty-four permanent buildings and every exhibit is open and free to everybody. No admission charged except races and shows.

Mammoth Live Stock and Agricultural Exhibit

The new Agricultural Hall will be crowded with exhibits of the farm, Boys' and Girls' Clubs, the Junior and Home-Made Departments. A big display by Mother and Daughter Canning Club, Culinary, Art and Textile exhibitors. Ten barns devoted to live stock.

24 Horse Races

The afternoons of Tuesday, Wednesday, Thursday and Friday will be devoted to harness and running races.00. $7,500 in purses. Kansas Derby.

THE BIG FREE FAIR

Auto Races

Fred Horey, the world's champion, will defend his title in a match race for a purse of $1,000.00 on Saturday.

30 Big Shows

Battle in Skies

The Con T. Kennedy Shows will furnish the amusement on Sunflower Trail, where there will be thirty clean and entertaining Coney Island shows.

Katherine Stinson Champion Women Flyer

Katherine Stinson, champion woman flyer, is only twenty years old, but is famed as a flyer. She loops the loop, flies upside-down, does the death drop. Miss Stinson will fly on Saturday, "Katherine Stinson Day," and will race Fred Horey, the auto champion.

Peoples' Pavilion---An Educational Department

In the People's Pavilion, under the auspices of the Kansas Council of Defense, lectures and demonstrations in food conservation and production will be held daily and each day a Mother and Daughter Canning Club will give a canning demonstration.

$30,000 IN PREMIUMS $30,000

Feed the Fighters! Win the War!

Harvest the Crops! Save the Yields!

On the battlefields of France and Flanders the United States boys and the Canadian boys are fighting side by side to win for the World the freedom that Prussianism would destroy.

While doing this they must be fed and every ounce of muscle that can be requisitioned must go into use to save this year's crop. A short harvest period requires the combined forces of the two countries in team work, such as the soldier boys in France and Flanders are demonstrating.

THE COMBINED FIGHTERS IN FRANCE AND FLANDERS
AND THE COMBINED HARVESTERS IN AMERICA
WILL BRING THE ALLIED VICTORY NEARER

A reciprocal arrangement for the use of farm workers has been perfected between the Department of the Interior of Canada and the Departments of Labor and Agriculture of the United States, under which it is proposed to permit the harvesters that are now engaged in the wheat fields of Oklahoma, Kansas, Iowa, North Dakota, South Dakota, Nebraska, Minnesota, and Wisconsin to move over into Canada, with the privilege of later returning to the United States, when the crops in the United States have been conserved, and help to save the enormous crops in Canada which by that time will be ready for harvesting.

HELP YOUR CANADIAN NEIGHBORS WHEN YOUR OWN CROP IS HARVESTED

Canada wants 40,000 Harvest Hands to take care of its

13 Million Acre Wheat Field

One cent a mile railway fare from the International Boundary line to destination and the same rate returning to the International Boundary. High wages, good board, comfortable lodgings.

An Identification Card issued at the boundary by a Canadian Immigration Officer will guarantee no trouble in returning to the United States.

AS SOON AS YOUR OWN HARVEST IS SAVED, move northward and assist your Canadian neighbor in harvesting his; in this way do your bit in helping "Win the War."

For particulars as to routes, identification cards and place where employment may be had, apply to Superintendent of Immigration, Ottawa, Canada, or to

GEO. A. COOK, Canadian Government Agent, 2012 Main St., Kansas City, Mo.

SUBSCRIPTION BLANK

Kansas Farmer, Topeka, Kansas.

Gentlemen: Please find enclosed $.....for which send me

KANSAS FARMER.....year.....

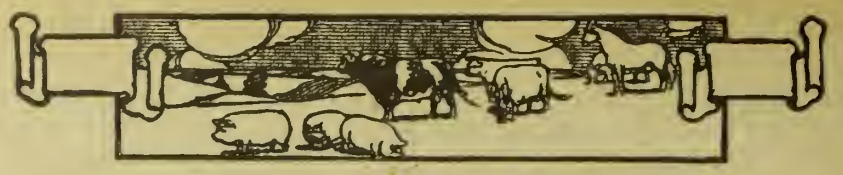
One year for $1.00; two years for $1.50; three years for $2.00.

Name .....

Post Office .....

State..... R. F. D. No.....

Are you already taking KANSAS FARMER? .....



OAT STRAW FOR FEED

EASTERN Kansas has grown the best oats crop in years. Many yields of seventy to eighty or ninety bushels per acre have been reported. These heavy yields of grain were accompanied by a heavy growth of straw. We wonder if this oat straw will all be used to the best advantage possible. The modern wind stacker tends to a waste of straw because the stacks are mere piles and absolutely open to the weather. With hay of all kinds selling at $20 a ton, it will pay to spend considerably more than the usual amount of labor in putting straw stacks in shape to keep. Many stacks have already been seriously injured by the rains of the past few weeks. On a good many farms in Eastern Kansas, however, the oats have not been threshed. They are stacked in good shape and on these farms there is opportunity to have the threshing done at a time when the straw can be properly cared for. Good, clean oat straw is well worth baling and storing in barns or sheds. Where this cannot be done, the stacks can be straightened up and covered with slough hay or sowed cane to protect them from rain damage.

Oat straw is the most valuable of all the straws as feed. Every hundred pounds of oat straw contains a pound of digestible protein, 42.6 pounds of digestible carbohydrate, and nine-tenths of a pound of fat. The carbohydrate part of feed furnishes heat and energy and mature animals can use large amounts of feeds containing relatively high percentages of this nutrient. For wintering stock cattle and horses, good oat straw can be used as a large part of the roughage ration. Such animals require very small amounts of digestible protein. Of course the straw must be classed as a bulky feed, and for that reason is not adapted to being used in large quantities by work horses or heavy milking cows, but mature stock being maintained only through the winter have ample time and energy to chew and digest bulky feeds of all kinds.

We have formed the habit of assuming that the feeding value of straw is so low that it is not worth while to make much effort to save it. Conditions now, however, are vastly different. When all kinds of hay are selling at the present prevailing prices, the man with live stock to winter must plan in every way possible to get the most from his rough feeds having comparatively low market value.

Ewes for New Farm Flocks

The demand for breeding ewes has exhausted the local supply in many sections. Western range ewes are being used to start farm flocks in the corn belt and in the East. In the corn belt these ewes have already proved their ability to produce market-topping lambs when mated to good rams of mutton breeds and when well cared for during the winter and after lambing.

In purchasing these ewes care should be taken to obtain those with sound teeth, udders that are soft and pliable, and teats that are sound and have no hard cores. Ewes from one to three years of age are to be preferred. These ewes may be in thin condition but should suffer no discrimination on this account alone. If thin they cost less per head than if fat, and the flesh needed to put them in good condition can be put on by the purchaser more cheaply than it can be bought in the open market.

These ewes are usually free from stomach worms, and thanks to the regulations governing the interstate shipment of sheep, are free from sheep scab or other communicable disease. They can ordinarily be purchased through commission men on such central markets as Kansas City, St. Joseph, or Omaha, or direct from the range breeders. Organizations interested in effecting an increase in farm flocks have arranged to sell western ewes to eastern farmers at cost.

Regardless of how they are purchased, the buyer should insist that the stock be healthy, sound of teeth, and have good udders and teats.

Farmers' Bulletin No. 576, entitled "Breeds of Sheep for the Farm," will assist the owner of grade ewes in the selection of a pure-bred ram to head the flock. This bulletin discusses the different breeds, their characteristics and adaptabilities. Advice on the different kinds of equipment to be used on the sheep farm can be obtained from Farmers' Bulletin No. 810, dealing with "Equipment for Farm Sheep Raising." These bulletins can be procured free by writing to the U. S. Department of Agriculture, Washington, D. C.

Pure-Bred Flock Pays

In the August news letter sent to farm bureau members by E. J. Macy, agricultural agent in Montgomery County, a very interesting account is given of what has been done on one of the farms of the county in handling pure-bred sheep. Three years ago Ed and Pearl Bushnell sold their grade flock of sheep, paying four times as much for the pure-bred sheep as they received for the grades sold. Their flock now consists of sixty-one head, twenty being mature ewes, nine yearling ewes, two rams, and thirty spring lambs. The thirty lambs were from the twenty mature ewes. This is a very good lamb crop from that number of ewes. Some of the lambs now weigh over a hundred pounds.

The mature ewes sheared an average of ten pounds of wool. The nine yearlings yielded an average of thirteen pounds to the ewe, one of them clipping



LUMBER FOR THIS 10 x 12 MILK HOUSE ON FARM OF J. BALES, DOUGLAS COUNTY, COST SIXTY DOLLARS.—IT CONTAINS A CEMENT TANK FOR COOLING PURPOSES.—THE MILK GOES TO KANSAS CITY

eighteen pounds. One of the rams sheared twenty-two pounds. The wool clipped from this little flock sold for over $190, or at the rate of 61½ cents a pound.

Very little expensive feed was given this flock. For about a month before lambing the ewes were fed some corn silage and oats twice a day. This extra feed accounts for the good lamb crop and the good growth the lambs have made since birth.

The Bushnell's remedy for sheep-killing dogs is a pump gun loaded with buckshot. It is a rather drastic way of handling the situation, but seems to be effective.

In handling sheep on the farm the greatest trouble is the stomach worms, which bother the lambs especially. The plan on this farm is to prevent stomach worm infection by changing pastures every six to ten days during the summer and by keeping before the sheep a mixture consisting of two-thirds barrel salt and one-third tobacco dust. When a lamb appears to be suffering from stomach worm infection, they use the gasoline treatment as a cure. This consists in drenching the lambs, after starving them for twelve hours, with a mixture consisting of one-half tablespoonful of gasoline, one-half ounce of raw linseed oil, and a few ounces of sweet milk —never use water. This drench is given each morning until three doses have been administered. For full-grown sheep the size of the dose is doubled.

Considerable care must be used in drenching the sheep or the mixture will be drawn into the lungs instead of going into the stomach. To drench a lamb, stand him on end in front of you, with his back braced against your legs. Hold his head in a natural position or with the nose raised not higher than the eyes. The medicine should be in a small-neck bottle, and is given by placing the neck of the bottle well back in the lamb's mouth and on top of its tongue. Pour in only a small quantity at a time, removing the bottle to allow it to swallow. It is not safe to get in a hurry while drenching sheep. After this drench has been administered the lamb should not be fed for three hours.

Joseph Baxter, of Clay County, told us recently that he built his silo in 1913 and the poor, stunted crop grown that season was worth more money to him than the good crop of the year before, which was handled without the silo. This sort of testimony is coming constantly from live stock men who have built silos in years of short feed crops. Mr. Baxter says he does not see how the man handling cattle can get along without a silo. As a result of the good rains that have fallen the past two weeks there will be an abundance of good material to put into the silos this year. The rains have revived the corn in Mr. Baxter's neighborhood so that fields thought to be too far gone to be helped are likely to produce half a crop. They are certain to produce a good growth of forage, and only by having a silo can the full value of this part of the crop be realized. Mr. Baxter keeps a herd of Polled Durham cattle on his farm and does not see how he could get along without well-bred cattle to help him market the feeds grown.

Insuring a Beef Supply

Warnings have been sounded for the past decade and more of the nation's diminishing beef supply. Where is the man, woman or child in America or any other country that does not now feel the effect of its depleted condition? Since the outbreak of the European War there has been apparent to those who have studied food production and its conservation, an immediate, decisive shortage in the supply.

The American Shorthorn Breeders' Association early recognized this approaching condition and worked out a definite plan for encouraging breeders of Shorthorns everywhere to increase rather than diminish their herds; to improve the standard of the individuals, and, as far as possible, be prepared to aid in maintaining an adequate beef supply. The field force of this association was increased and instructed to encourage production everywhere. The literature sent out from the office of Secretary Harding was calculated to stimulate a general effort along this line. The quarterly magazine, The Shorthorn in America, which is broadly circulated, is an educational force in this direction.

While it has long been customary for the Association to make liberal appropriations from year to year for fairs and live stock shows, these appropriations have been largely increased and are now made to apply to various state and district combination shows and sales as well as to numerous additional fairs from coast to coast. The annual appropriation for prizes alone now exceeds $50,000 and it is distributed in a way to affect the largest possible number; to give the beginner an equal chance with the man of long experience and to equalize the opportunity as between the man with the small herd and the man with the large one.

All this concerted effort is having a useful effect. It has increased production. It has proven a source of practical education to farmers and encouraged them to increase their output by raising the standard and increasing the number of pounds of beef and milk if not actually increasing the number of head produced. This broad and farseeing course of the Shorthorn Association has stimulated activity among all cattle breeders' associations and by this plan a safeguard is thrown around the nation's meat supply and it is thereby prevented from sagging to a quantity far below its present output.

The people of the nation were counseled a few months ago to have one meatless day each week and later advices suggest two meatless days each week. It is the organized movement just outlined that has a tendency to prevent these meatless days outnumbering those on which we may be privileged to include meat in our diet, and to avert the substitution of horse flesh for beef—a practice which is even now being urged in the larger cities.—Frank D. Tomson.

G. F. Hart, a farm bureau member in Marshall County, has pastured twenty-three head of yearling cattle on a six-acre field of sweet clover since May 1. It has in addition carried ten brood sows and their litters all summer and pastured for three weeks ten old cows. Sweet clover is coming to have an important place with the live stock farm. The county agent in Nemaha County reports that a great deal of sweet clover is being sown in that county. This year that sown in the spring with oats is coming on in fine shape. On the experiment station farm at Manhattan we saw clover in oats that had made a growth of fully eighteen inches at harvest time.

The Federal Farm Loan Board has just completed its first year of service, the members having been sworn in August 7, 1916. During the year the cooperative banking system for farmers, established under the Federal Farm Loan Act, has been put into complete operation in every state, and loans to farmers are now being approved at the rate of nearly one million dollars a day. About twenty-five farm loan associations are being chartered daily, each association representing nearly $50,000 of loans.

On the V. L. Polson farm in Wilson County, 330 bushels of wheat was threshed from a small field shown by actual measurement to contain 4.65 acres. This is at the rate of 71.4 bushels to the acre. The 130 acres of wheat on the farm averaged 37.3 bushels to the acre.

Young Man's Opportunity

(Continued from Page Five)

the roughage that now goes to waste on so many farms, roughage like corn stover, stover of cane and the grain sorghums, and wheat straw. By diversifying crops and maintaining a few head of live stock on each wheat farm, the farmer will furnish himself with profitable employment every working day in the year. Under the present prevailing system of growing wheat a man is out of a job about six months in every year. No other business under the sun would provide a man with even a decent living if conducted in this manner.

Connected with almost every farming operation are little details that have been overlooked and are still being overlooked by our farm owners today and the men who have been on the land since Kansas first became a state. While to such men these details seem not to amount to much, they must be kept in mind by every wheat grower or farmer of the future unless he should have the good fortune—rather the misfortune—to become the possessor of his farm through inheritance.



Answering the Nation's Call

IN this "supreme test" of the nation, private interests must be subordinated to the Government's need. This is as true of the telephone as of all other instrumentalities of service.

The draft for war service which has been made upon the Bell System is summarized in a recent Government report.

Government messages are given precedence over commercial messages by means of 12,000 specially drilled long distance operators all over the country.

The long distance telephone facilities out of Washington have been more than doubled.

Special connections have been established between all military headquarters, army posts, naval stations and mobilization camps throughout the United States.

More than 10,000 miles of special systems of communication have been installed for the exclusive use of Government departments.

Active assistance has been given the Government by the Bell System in providing telephone communications at approximately one hundred lighthouses and two hundred coast guard stations.

Communication has been provided for the National Guard at railroad points, bridges and water supply systems.

A comprehensive system of war communication will be ready at the call of the Chief Signal Officer, and extensive plans for co-operation with the Navy have been put into effect with brilliant success.

As the war continues, the demands of the Government will increase. And the public can help us to meet the extraordinary conditions by putting restraint on all unnecessary and extravagant use of the telephone.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

Write for Attractive Prices on the

National Giant Steel Elevator

Handles all Kinds of Grain—Wheat, Oats, Barley, Shelled and Ear Corn, Etc.

Just the type machines grain farmers are looking for. Our National Giant Steel Elevators are rigid and meet increased strength demands of 36 to 60-foot elevator lengths because they have 16 angles or bends to the section. (Ordinary elevators have only 6.) 4 Wood Ribs running full length and corrugated steel couplers and keeper irons insure everlasting stability. Ribs also keep chain from dragging — lightening draft and eliminating noise.

Get Details and Prices Terms Arranged to Suit

The Grain Tight Machine

The National Section The Best in the World

The National Giant Runs Easier— Requires Less Power—Equipped With Common Sense Feeder

Has greater capacity; 3 inches wider than others. Cribs 60 bushels in 3 to 5 minutes. Screen in bottom keeps out silk and shelled corn—preventing rottage. Just the elevator you want.

HEAD SECTION

Our National Giant Inside Elevator

Most Sensible Inside Machine Ever Made

On cribs 28x38 ft. or less, with half pitch roof, it is not necessary to have a cupola. When cupola is necessary, we can save you from $15 to $30. We also save you the cost of digging a pit. Save you the length of elevator required. This machine has other sensible features. Spout swings around from side to side —fills crib directly back of elevator—also leaves corn on the cob where it belongs. More money in the farmer's pocket.

Write for Crib Plans and Prices

PORTABLE ELEVATOR MFG. CO., 736 E. Grove St., Bloomington, Ill.

Use Instruction Book

An instruction book is furnished with every tractor sold. The owner of a tractor cannot afford to disregard instructions when breaking in his outfit. Practically all the instruction books furnished have been very carefully prepared and contain the results of many expert observations. When first starting to use a new tractor the machine ought to be stopped frequently and looked over thoroughly. There may be loose parts to tighten and necessary adjustments to make. Quite frequently hot bearings will be found and these should be given plenty of lubricant. Occasionally it may be necessary to remove and refit such bearings. In breaking in a new tractor it is always a good plan to favor it somewhat until all the bearings wear to a good fit.

ALLIGATOR WRENCH AND HANDY TOOL FREE



The Alligator Wrench requires no adjustment; simple; always ready for use; never slips. Works in closer quarters than any other wrench. It is light, strong, compact. Easily carried in the pocket.

THREE DIES FOR CUTTING or cleaning threads in bolts used on farm machinery. It is drop-forged from the best steel, scientifically tempered, nothing to get out of order.

OUR SPECIAL FREE OFFER We will send the handy Alligator Wrench free and postpaid to all who send $1.00 for a one-year subscription to Kansas Farmer, and 15 cents extra to pay packing and postage—$1.15 in all. Address

KANSAS FARMER -:- -:- TOPEKA, KANSAS

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks,** for bona fide seekers of employment on farms.

HELP WANTED.

WANTED—A MARRIED MAN FOR GENeral farm work. L. B. Streeter, Wakefield, Kansas.

THOUSANDS GOVERNMENT JOBS NOW open to men-women. $100 month. Common education sufficient. Vacations. Short hours. Rapid promotion. Write immediately for list of positions. Franklin Institute, Dept. F-82, Rochester, N. Y.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FOR SALE — THREE REGISTERED Shorthorn bulls, six to eighteen months; five yearling Shropshire rams. Adam Andrew, Girard, Kansas.

HIGH GRADE CALVES — HOLSTEINS, Shorthorns, Guernseys. Good ones, only $15 to $35, crated to express. Rates furnished. Paul Johnson, South St. Paul, Minn.

HOLSTEIN CALVES, HIGH GRADE, from cows producing up to 60 pounds. Either sex, $15 to $25. L. D. Arnold, Manhattan, Kansas.

FOR SALE — VERY CHOICE HIGH-grade Holstein calves, either sex, three to six weeks old, at $20 per head, crated for shipment. Or if you want dairy cattle of any age, I will buy them at a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

HIGHLY BRED HOLSTEIN CALVES; either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked. $23, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

SHEEP

FOR SALE—TWO REGISTERED YEARling Hampshire Down rams, also spring ram lambs. R. C. Krueger, Burlington, Kan.

THE STRAY LIST.

TAKEN UP—BY MARTIN GRUEMKEN, in Sand Creek Township, Meade County, Kansas, about the 12th of October, 1916, two steers, coming twos, red with white faces, branded I G on right hip. Worth about $70. W. W. Pressly, County Clerk, Meade, Kan.

DOGS.

TRAINED RABBIT HOUNDS, FOX hounds, coon, oppossum, skunk dogs, setters, pointers, ferrets. List free. Violet Hill Kennels, Hanover, Pa.

COLLIE PUPS FROM GENUINE STOCK dogs that drive from the heel. E. L. Dolan, Route 2, Platte City, Missouri.

TRAINED BEAGLES, RABBIT HOUNDS, foxhounds, coon, opossum, skunk dogs, setters, pointers, house, farm dogs. Ferrets. Catalog 10c. Brown's Kennels, York, Pa.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

WANTED

WANTED—TO HEAR FROM OWNER OF black Percheron stallion for sale. Describe and price. P. B. Montford, Burrton, Kansas.

TANNING.

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We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

If we were charged so much for sunsets, or if God sent round a drum before the hawthorns come into flower, what a work we should make about their beauty. —Robert Louis Stevenson.

Canned Fried Chicken

After cleaning and preparing spring frys, season and fry as though preparing for serving directly on the table. Cook until the meat is about three-fourths done. If a whole spring chicken, break the neck and both legs and fold around body of chicken. Roll up tight, tie a string around the chicken, and drop this hot, partially fried product, into hot quart glass jar or enameled tin can. A quart jar will hold two to four small chickens, or from one to three a little larger. Pour liquid from the griddle or frying pan into the container over the chicken. Place rubbers and caps into position, not tight. Cap and tip tin cans. Sterilize in hot water bath two and one-half hours or under ten pounds of steam for one hour. Remove jars and tighten covers.

Cottage Cheese Salad

Cottage cheese, made by heating sour milk gradually over a slow fire until the curd and the whey begin to separate, then straining through cheesecloth to remove the whey from the curd and seasoning the curd with salt, pepper, and cream or butter, is a familiar dish to most housewives. It may be, however, that its use in salad is not quite so general. Nutmeg or a tiny dusting of red pepper sprinkled over the cheese gives it an agreeable flavor, or it may be combined with chopped nuts, olives, cucumber pickle, pimento, or celery, shaped into small balls and served on lettuce with or without a bit of salad dressing. This also makes good sandwich filling.

Dried Sweet Corn

Only very young and tender corn should be used for drying and it should be prepared at once after gathering. Cook on the cob in boiling water two to five minutes or steam eight to ten minutes to set the milk. To improve the flavor a teaspoonful of salt may be used to a gallon of water. Drain well and cut corn from cob, using a very sharp and flexible knife. Cut the grains only half way down to the cob and scrape off any of the chaff next to the cob. Dry from three to four hours at 110 to 145 degrees Fahrenheit, or dry in oven ten to fifteen minutes, spread on trays, and finish drying in the sun. A bulletin giving detailed instructions for the construction of home-made apparatus for drying fruits and vegetables may be obtained either from the extension division of the Agricultural College at Manhattan or from the State Council of Defense at Topeka.

Making Sauer Kraut at Home

If properly handled, sauer kraut of excellent quality can be produced from cabbage at any season of the year. The essential points are the use of only mature, sound cabbage, scrupulous cleanliness throughout the process, and proper care of the surface of the brine after fermentation is completed.

In making sauer kraut for home purposes the outer green leaves of the cabbage should be removed, just as in preparing cabbage for boiling. In addition all decayed or bruised leaves should be discarded and the core removed. Cabbage may be shredded by one of the hand-shredding machines sold upon the market for such purposes, or if such an instrument is not available the heads may be cut into thin slices with a large knife. The core is omitted when machine for shredding is not available, because it is difficult to shred it finely enough with a knife. The shredded cabbage should be packed immediately into a perfectly clean, water-tight receptacle, such as a cider or wine barrel, keg or tub. Four or five-gallon earthenware crocks are recommended for family use. After opening this quantity of sauer kraut it can be used up before spoilage sets in.

As the cabbage is packed into the barrel or crock, salt in the proportion of one pound of salt to forty pounds of cabbage should be added and distributed evenly throughout the cabbage. Experiments have shown that approximately two and one-half pounds of salt to each hundred pounds of shredded cabbage gives the best flavor to the resulting kraut. When the barrel or crock is nearly full, the cabbage should be pressed down as firmly as possible and covered with a clean board cover. It is advisable but not essential that a clean cloth or, better still, a layer of clean cabbage leaves at least an inch thick, be placed over the shredded cabbage before the cover is put into place. If any spoilage should occur on the surface this layer protects the sauer kraut beneath.

The salt soon extracts a considerable amount of the juice from the cabbage and a sufficient weight of clean brick or stone should be added to cause the brine to rise above the wooden cover. Care should be taken not to use lime or sandstone for weights, for the acid produced by fermentation attacks the lime and destroys the keeping quality of the brine. Tubs and covers made of yellow or pitch pine should not be employed because such woods impart a disagreeable flavor.

The barrel or crock is now set aside and fermentation is allowed to proceed undisturbed. If the weather is cold or the product is stored in a cool cellar, it may take from three to five weeks for the fermentation to be completed. If placed in a warm room, fermentation may be completed in ten days to two weeks. As soon as fermentation starts, a foam appears on the surface of the brine. This is soon followed by a film which develops into a heavy scum if allowed to remain. The scum should be removed by skimming as often as it forms, every day if necessary. This scum feeds upon the acid in the brine and if allowed to grow undisturbed, soon destroys both brine and kraut. As soon as gas bubbles cease arising, the scum should be again removed, if any has formed, and a layer of hot melted paraffin about one-fourth to one-half inch thick should be poured upon the brine.

It is advisable to so adjust the amount of brine used and weights on the cover that the brine comes up to but not over the cover. In this case only the brine exposed between the cover and sides need be paraffined, thus saving covering material. If the paraffin is sufficiently hot to make the brine boil when poured upon it, the paraffin will form a smooth even layer before hardening. After solidifying it will effect a perfectly air-tight seal.

Paraffin has, in comparison with liquid oil, the advantage of ease in handling, and of not coming in contact with the fermented vegetables when they are removed. Further, paraffin can be used over and over and thus the expense is small in the long run. If it becomes dirty it can be heated very hot and strained through cheesecloth or a thin layer of cotton. The one disadvantage with paraffin is that the development of gas below the layer will break the seal. If the paraffin breaks, it should be removed, remelted and replaced. Before adding paraffin the containers should be set where they will not be disturbed until ready for use. Any attempt to remove them may break the seal and necessitate remelting and resealing.

If the material is not opened until cool weather, it ought to keep without spoilage until it is used up. If opened in warm weather, it is likely to spoil quite rapidly unless the paraffin is remelted and the container resealed immediately. If the seal is unbroken, the material will keep indefinitely.

When sauer kraut is made during the fall and stored in a cool place, there is

no absolute necessity of a layer of paraffin, for the low temperature will prevent decomposition. No doubt the popular idea that sauer kraut made from early cabbage will not keep is based upon the fact that the fermentation of sauer kraut made from such cabbage occurs in warm weather and the rapid growth of scum soon destroys both brine and krant if the surface is not properly protected.

Good Rubber Rings Essential

Poor rubbers have been responsible for more spoilage in canning with screw top jars than any other one factor. O. H. Benson, of the United States Department of Agriculture, has had this brought to his attention and he urges that only rubber rings conforming to standard requirements be used in canning. He describes the standard ring as follows:

"Rubber rings for the average pint and quart jar—glass top, etc.—should not be less than one-fourth nor more than five-sixteenths of an inch wide, and two and one-fourth inches on the inside diameter, and be cut twelve to the inch; that is, twelve rubber rings placed one upon the other will measure one inch in thickness. They should be able to stand up under sterilization in boiling water or in steam pressure for at least three hours without injury to the rubber. Good rubbers will stretch and return promptly to place without changing the inside diameter. They should also be reasonably firm, and able to stand bending without breakage."

Bread in Disguise

A very appetizing breakfast dish is bread that has been slowly dried and toasted, then crushed with the rolling pin and served with sugar and cream. It will require no effort on the part of the family to eat dry bread served in this way, as it has a delicious flavor and will be relished.

Another way to willingly enlist the members of the family in using dry bread is to dip the slices into a mixture of one cupful of milk or water, one well beaten egg, and one-fourth teaspoonful of salt, and then brown the slices on a griddle or in a frying pan. This fried bread may be served with either syrup or a mixture of sugar and cinnamon sprinkled on it while it is hot.

There are several kinds of patriotism and all are worthy of praise. Men who take their horses and implements into a neighbor's field and plow his corn while he lies sick, or who put up a neighbor's alfalfa for him while he is busy caring for a sick member of his family, surely deserve to be classed as patriotic. We have heard of several instances of this kind in Kansas this summer.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8162—Girl's Dress: Cut in sizes 6 to 12 years. It had to be, of course, that Fashion would favor the small girl just as she did mother, and make her new spring dress with a vest and separate belt having the sides lengthened to form pockets. The fronts of the waist are lapped over the vest with left side free for closing, and the fullness is neatly gathered at normal waistline where a two-gore plaited skirt with panel front and back is joined. **No. 8143—Ladies' Shirtwaist:** Cut in sizes 36 to 42 inches bust measure. The well-tailored woman will want this smart blouse for wear with one of the new semi-tailored skirts. The back is cut to extend over to the front, giving the effect of a shoulder yoke, and the waist fronts have their fullness gathered at this point. A broad collar finishes the V neck. **No. 8174—Girl's Dress:** Cut in sizes 6 to 14 years. A charming example of what is good style for a girl up to fourteen years of age. An interesting feature of this design is having the deep yoke and panel in one piece, front and back. The side belt holding the fullness neatly is quite a decorative feature in contrasting goods; the sailor collar and two-button cuffs are attractive in corresponding note. **No. 8161—Ladies' Apron:** Cut in sizes 36, 40 and 44 inches bust measure. The tidy housekeeper of moderate means does not count an apron a thing apart, but one necessary to the complete furnishing of her wardrobe. The favorite style is the bungalow apron and the one pictured will interest every woman because it may be, with few changes, utilized as a dress or negligee. **No. 8152—Ladies' Skirt:** Cut in sizes 24 to 34 inches waist measure. In this four-gore model you have a combination of style features cleverly blended; the new semi-tailored effect, the straight line idea and the favorite yoke effect carried out. The side and the back gores are gathered to the yoke belt and the front gore is in panel effect. The closing is at left side of back under a plait. **No. 8173—Ladies' House Dress:** Cut in sizes 36 to 44 inches bust measure. For appearance and service, this house dress design stands out as one of merit. A plain waist and three-gore gathered skirt are joined at normal waistline under a belt of contrasting goods which is stitched on to neatly hold the fullness; a sailor collar finishing the V neck is of the same material, and long sleeves are cuffed to correspond, but there is a choice of short sleeves.

English Rocks

- 1½ cupfuls brown sugar
- 3 eggs well beaten
- 1 cupful butter, or part lard
- Pinch of salt
- ½ cupful milk
- ¾ pound raisins, chopped
- 3 cupfuls flour
- 1½ pounds English walnuts before shelled
- 1 teaspoonful soda
- 1 teaspoonful cinnamon

Drop with spoon for baking.

Let us not forget that flies carry tubercuIosis, typhoid fever, and summer complaint, on their feet and wings.

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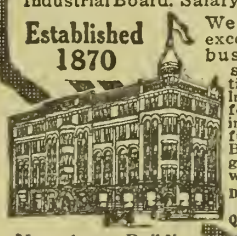
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J. O. Southard, Comiskey, Kan.

If on the market for pure-bred stock, read KANSAS FARMER live stock advertisements. You will find what you want.



CULL POOR LAYERS

RIGHT now, during the months of August and early September, is the time for the farmer and poultryman to cull his poor layers. The reasons for culling at this time of year are that the hens are in their best physical condition and will bring higher prices than later in the season. Poor layers, up to this time of year, do not make good winter layers. The cost of keeping drones in the flock cuts the profits and, at this time of the season, the conditions that indicate the producers and non-producers are more in evidence.

The following observations have been checked on trap-nested layers at the state poultry farm and have been found to be reliable:

The good layer moults late and quickly. She has a rough, ragged and frayed plumage until late in the fall. She has been using her food for the production of eggs instead of feathers.

The good layer of the yellow beak, legs and toes varieties will have faded beak, legs and toes at this time of the year. The good layers, so to speak, lay the yellow coloring matter out of these parts.

The good layer, if a white ear lobed variety, has a pale white ear lobe. Heavy egg production retards the storing of yellow coloring material in the ear lobes, as it is used in the yolk of the eggs.

The good layer is wide between the pelvic bones, which are located just beneath the tail. They are thin and pliable and usually show two or three finger widths apart.

The good layer has three to five finger widths between the pelvic bones and the end of the breast bone. This shows capacity, which is correlated with good egg production.

The poor layer moults early and slowly. She has a new coat of feathers at the time of the year when hens are usually culled and because of her better appearance is kept for the winter layer.

The poor layer, because of her non-production, retains the yellow coloring material in her beak, legs and toes.

The poor layer, if a white ear lobed variety, will store the yellow coloring material derived from the feed in the ear lobe.

The poor layer is narrow between the pelvic bones. In this case the bones are usually thick and lack pliability, and are less than two finger widths apart.

The poor layer usually has less than three finger widths between the pelvic bones and the end of the breast bone.—O. C. UFFORD, in Iowa Agriculturalist.

Prepare for Winter Eggs

Pullets hatched in the spring can be induced to lay more abundantly in the winter if they are properly fed, housed, and handled. On the average general farm very few eggs are secured at the time when eggs bring the highest prices. It will pay the poultry owner, therefore, to devote a little trouble to providing his birds with the most favorable surroundings for the winter.

The house should be thoroughly cleaned, disinfected ,and made tight before the cold weather sets in. If the house has a dirt floor, it is well to remove three or four inches of dirt from the top and replace this material with dry gravel or sand. On cement or wooden floors four or five inches of fresh straw or litter may be thrown down after the floor has been cleaned.

Ventilation is another important factor to consider. The house should be tight on three sides, but for the fourth muslin curtains may be used for from one-third to one-half its extent. In any case there should be some ventilation in the house, even on the coldest nights. Fowls will stand considerable cold air, provided it is dry, and ventilation will keep the air thoroughly dry in the house. On the other hand, drafts are likely to cause roup and other trouble.

Poultry in Storage

The Bureau of Markets of the U. S. Department of Agriculture sends out the statement that the total stocks of frozen poultry reported by 210 storages on August 1, 1917, amounted to 48,588,865 pounds, while the total stocks reported on July 1, 1917, amounted to 53,243,568. The reports of 127 storages show stocks of 32,774,632 pounds on August 1, 1917, as compared with 7,031,998 pounds on August 1, 1916, an increase of 366.1 per cent. The reports show that the stocks decreased 14.5 per cent during July, 1917, while they increased 3.8 per cent during July, 1916.

The total stocks of broilers reported by 116 storages on August 1, 1917, amounted to 2,885,229 pounds, while the total stocks reported by 126 storages on July 1, 1917, amounted to 3,769,671 pounds. The reports of 66 storages show stocks of 1,699,368 pounds on August 1, 1917, as compared with 317,435 pounds on August 1, 1916, an increase of 435.3 per cent. The reports of 104 storages show that the stocks decreased 38.2 per cent during July, 1917, while the reports of 58 storages show stocks increased 77.6 per cent during July, 1916.

Skim Milk for Laying Hens

We have frequently advised the use of skim milk for laying hens, knowing it was good for them. But how good is hard to tell without a regular test. A poultryman has just tested the matter to his entire satisfaction. He put sixty pullets in two pens, equally divided, of the same variety and all as near of an age as possible. He fed exactly alike, but gave different drinks. One pen had sweet skim milk and the other had plenty of fresh water. The test was begun on November 1 and accounts were balanced with both pens May 1 following. Those which drank the water had but little over half as much credit for eggs laid, while their feed had cost more than the pen which had the milk. Some days in the very coldest weather the milk pen of thirty pullets laid twenty-eight eggs and their average for January was twenty-four eggs daily. We never feed milk to the exclusion of water, but give our chickens water in addition to the milk, but it seems this poultryman had extra good success by making the pullets drink milk exclusively.

Cure for Scaly Legs

A correspondent wants a remedy for an aggravated case of scaly legs, saying that the usual remedy of coal oil and lard failed to clean the legs. Maybe the inquirer did not apply the remedy long enough. It will take several applications to remove the scales from some fowls' legs. It should be applied two or three times a week for a month. If you want the legs cleaned in a hurry, a good plan is to anoint them thoroughly with sweet oil in which a few drops of carbolic acid has been mixed, then wrap the legs tightly with a cotton or woolen bandage. After the bandage has been on a few days, take it off and grease the legs again, or if preferred you can leave the bandage on but soak thoroughly with oil and acid. If carbolated vaseline is handy it will take the place of the sweet oil and carbolic acid, as one might if not careful put too much acid in the oil and hurt the fowl's legs.

Give fresh and clean water to the fowls several times a day, and especially let the first drink in the morning be clean water. Water standing over night during warm weather is liable to be full of dust, poison and parasites. These are not good for chickens. Fowls should have all the pure water they can drink, for they drink a great deal in summer and when fresh water is not furnished to them they are apt to drink any foul water they may come across. This is bound to cause trouble by breeding all manner of diseases.

The egg shell is nearly pure carbonate of lime, and lime is found in most of the tissues of the body. It is as absolutely necessary to the hen as air or food. Crushed oyster shells supply lime in a good form cheaply. A hen needs about four pounds a year. In some sections crushed limestone can be used to supply both grit and lime.

POLAND CHINAS

POLAND CHINAS.



Faulkner's Famous Spotted Polands

The world's greatest pork hog are raised exclusively on

HIGHVIEW BREEDING FARMS

The largest registered herd of old, original, big-boned, spotted Polands on EARTH.

Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.

H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

ELKMORE FARM POLAND CHINAS

HOME OF THE GRAND CHAMPION, CALDWELL'S BIG BOB.
See show herd at the Topeka Free Fair. Annual bred sow sale February 19, 1918.

FRED B. CALDWELL, HOWARD, KAN.

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. **CHAS. E. GREENE, Peabody, Kan.**

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

OLD ORIGINAL SPOTTEL POLANDS
Choice March and April pigs of both sexes.
H. A. MATTOX, Route 2, Burlington, Kan.

Langford's Spotted Polands.—Last call for early spring boars. Yours for good hogs—
T. T. Langford & Sons Jamesport, Missouri.

POLAND CHINA HOGS

150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

SPOTTED POLAND BOARS

FOR SALE—Five February boars sired by Spotted Lad and out of Ennis Queen. They are real herd headers, priced at $40. First check gets choice.
C. A. GOOCH - - ORRICK, MISSOURI

REGISTERED SHROPSHIRE RAMS
Ten extra large boned yearling Shropshire rams by imported sire, priced to sell.
E. E. LAUGHLIN
Bates County. Rich Hill, Missouri

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising
O. W. Devine, Field Representative

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CLAIM SALE DATES.

Holsteins.
Oct. 16 — The Nebraska Holstein Breeders' Consignment Sales Co., Omaha, Neb.; Dwight Williams, 103 Bee Bldg., Omaha.

Red Polled Cattle.
Sept. 4—Milton Pennock, Delphos, Kansas.

Polled Angus Cattle
Oct. 4—Sutton & Porteous, Lawrence, Kan.

Jersey Cattle.
Aug. 22—S. S. Smith, Clay Center, Kansas. Sas. B. C. Settles, Sales Manager.

Herefords.
Oct. 6—J. O. Southard, Comiskey, Kansas.

Poland Chinas.
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 13—Arthur Anderson, Clyde, Kansas.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Oct. 17—Walter B. Brown, Perry, Kansas.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.
Nov. 6—Ross & Vincent, Sterling, Kansas.
Nov. 6—U. S. Byrne, Saxton, Missouri.
Nov. 7—H. E. Myers, Gardner, Kansas.
Feb. 18—Deming Ranch, Oswego, Kansas.
Feb. 19—Fred B. Caldwell, Howard, Kansas.
Feb. 20—Bert E. Hodson, Ashland, Kansas. Sale at Wichita.
Feb. 20—B. E. Hodson, Ashland, Kansas; sale at Wichita.
Feb. 21—E. J. Erhart & Son, Ness City, Kansas; sale at Hutchinson.
Feb. 22—F. Ollvier & Son, Danville, Kansas.
Feb. 23—V. O. Johnson, Aulne, Kansas.

Spotted Polands.
Oct. 19—Fred Rhodus, Excelsior Springs, Missouri.

Hampshire Hogs.
Oct. 12—Kansas Hampshire Swine Breeders' Association and Halcyon Hampshire Pig Club sale at Valley Falls, Kansas. George W. Ela, secretary and manager.

Durocs.
Oct. 20—O. W. Long, Maitland, Missouri.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.

O. I. C. Hogs.
Sept. 4—Milton Pennock, Delphos, Kansas.

C. W. Chandler, of Kellerton, Iowa, owner of one of the great flocks of Shropshire sheep in that state, reports his flock doing well. A feature of the flock at this time is the fine lot of young stock sired by the champion ram of the Iowa State Fair, 1916; also a number of imported Buttar rams.

E. D. King, Burlington, Kansas, owner of one of the good flocks of Rambouillet sheep, reports his flock doing well. Mr. King has been breeding this popular breed of sheep for years and has found them very profitable. A feature of his flock at this time is the choice lot of young stock of breeding age.

The Wilver Dell Poland China sale was held August 16, as advertised. The sale was attended by a large number of breeders from several states and the thirty-five sows catalogued sold for an average of $153.28. The top price of $350 was paid for No. 1 in the catalog—a Queen of Wonders sow—by H. E. Myers, of Gardner, Kansas. Mr. Myers is the owner of the dam of the sow, Patsy Defender, and also has a full sister of this sow in his herd. This line of breeding is very popular at this time and Mr. Myers is to be congratulated on making such a valuable purchase. The entire offering was a very high class lot of brood sows and the prices received were very satisfactory to Mr. Head and Mr. Moore.

E. E. Laughlin, of Rich Hill, Missouri, owner of one of Missouri's fine flocks of registered Shropshire sheep, reports his flock doing fine. Mr. Laughlin has been breeding Shropshires for years. His flock was started with foundation stock from the very best flocks in the country and he has owned and used a number of imported rams. At this time he has a very fine lot of young stock, including a lot of choice rams.

Homan & Sons, of Doyle Park Stock Farm, Peabody, Kansas, are among the successful breeders of pure-bred Shropshire sheep in this state. They also breed Percheron horses, Shorthorn cattle and Duroc hogs, but have found their Shropshires the most profitable stock on their farm. Their flock is one of the best in the state and at this time they have a very fine lot of young Shropshires sired by their undefeated show ram.

James Magee, of Magee's Dairy, Chanute, Kansas, reports his Holsteins making a fine record at this time. A feature of his herd is the choice lot of young cows and heifers bred to freshen in from thirty to sixty days. He also has thirty head of choice 30-months-old heifers that will freshen in November and December. Mr. Magee owns one of the heavy producing herds, headed by one of the best sons of King Segis Pontiac.

H. L. Faulkner, of Jamesport, Missouri, held a very successful sale of old original big-boned Spotted Polands August 15. As usual buyers were present from a number of states and the offering, consisting mostly of spring pigs, sold for an average of $53.38 per head. While no records were made, the prices ranged very even on the entire offering.

C. E. Wood, of Forest Hill Farm, Topeka, owner of one of the choice flocks of Cotswold sheep in the state, reports his flock doing well. Mr. Wood recently added to his flock four ewes and a yearling ram from one of Michigan's leading flocks. The animals purchased were shown at all of the leading eastern fairs. One of the ewes was grand champion in her class at the Ohio, Illinois and Indiana state fairs. He has also purchased two ewe lambs from a leading Wisconsin flock. These lambs are out of imported ewes from a number of Missouri's leading flocks. Mr. Wood will be at the leading fairs again this year with his show flock.

One of the great herds of Ayrshire cattle in this country is the South Farm herd at Willoughby, Ohio, owned by John Sterwin, of Cleveland, Ohio. This great herd consists of 300 head. Seventy-five of them are imported and 145 cows in the herd have qualified for advanced registry. It is one of the richly bred Ayrshire herds now assembled.

Clean Fusible Safety Plug

Replacing burned-out safety plugs with bolts instead of with new fusible plugs is one of the common causes of explosion in tractor boilers, according to the department of agricultural engineering of the University of Nebraska. A careful examination and clean-up of the plug is recommended at least once during the threshing season. To make the clean-up thorough, remove the plug and scrape off the scale-like deposit on the top of the plug. This done, low water in the boiler will not result in an explosion, but will merely mean melting the plug to allow the steam to escape into the fire box.

SITUATION WANTED.

EXPERIENCED MARRIED MAN WANTS job on farm or ranch September 1. Earl Miller, 103 The Drive, Topeka, Kansas.

EXPERIENCED FARMER AND STOCKman wants job on farm with everything furnished, as manager or on shares. Address Box 52, Jetmore, Kansas. M. R. A.

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm — F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM

Why not buy pure-breds when you can get them at near-grade prices? WE HAVE THEM from three-months-old heifer and bull calves to matured cows, all with exceptionally high class breeding. Finely marked and good individuals. Also grade cows and heifers. Write for description and prices or, still better, call at farm and inspect them.
T. R. MAURER & COMPANY - - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.

DUROC JERSEYS.

15 Duroc Spring Boars

Sired by Illustrator O'Rion 3d and Fancy Victor and out of my best herd sows. They are real herd prospects, selected from 91 pigs raised. Write today if you want a good spring boar.

John W. Petford
Route 1 Saffordville, Kansas

DEMING RANCH QUALITY

BIG-TYPE POLAND CHINA HOGS.

See our show herd at Topeka Free Fair, Kansas State Fair at Hutchinson, and Oklahoma City. Fifty spring boars for sale. Six hundred head in herd to select from.

H. O. Sheldon, Herd Manager
OSWEGO, KANSAS.

Buy a Boar of Anderson

Durocs from the Royal Herd Farm have always made good. Yearling gilts bred to the great boar, "Proud Chief," for September farrow. Write me your wants or visit my herd.
B. R. ANDERSON, Rte. 7, McPherson, Kan.

JONES SELLS ON APPROVAL

February, March and April Durocs, pairs and trios and herds unrelated. First class pigs at reasonable prices.
W. W. JONES, CLAY CENTER, KANSAS

McBRIDE'S DUROCS

Four-months-old boars for sale. Good ones. Tops, $25, if taken at once.
W. T. McBRIDE - PARKER, KANSAS

CHERRY CHIEF DUROCS

I still have a choice lot of March and April pigs, priced to sell. All immuned. Plenty of length, size and bone.
A. S. GRABLE, JR. - DEARBORN, MO.

LONE TREE DUROC FARM
Herd Boar Gradnate Prince by Gradnate Col. Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.
GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNE DUROC-JERSEYS

Forty-five head spring boars and gilts, March and April farrow, by Gano Pride 2d by Gano Pride, out of a Graduate Col. sow. Herd sows best of breeding. Write for prices. **T. F. DANNER, Winfield, Kansas.**

IMMUNED DUROCS
With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. **C. G. Ditmars & Co., Turney, Mo.**

SHEEP.

A LIFETIME EXPERIENCE proves the Rambouillet the best sheep for Kansas. Stock for sale. **E. D. KING, Burlington, Kansas.**

DOYLE PARK SHROPSHIRES

Sixty Registered Shropshires—Thirty ewes and ewe lambs, thirty rams and ram lambs. Lambs sired by our undefeated ram, Ohio and Michigan, 1916.
HOMAN & SONS - PEABODY, KANSAS

FIVE EXTRA GOOD HAMPSHIRE RAM LAMBS
Priced right if taken in the next two weeks.
L. M. SHIVES, ROUTE 1, IUKA, KANSAS



RAMS Registered Shropshires, bred for WEIGHT and WOOL. Our aged ram was champion 1916 Iowa State Fair. Imported Buttar rams. Also 100 ewes.
C. W. Chandler, Kellerton, Ia.
Above Kansas City.

ERWIN'S SHROPSHIRES

Registered Shropshire Rams and registered Jacks and Jennets for sale.
B. F. ERWIN - - FAIRFAX, MO.

FOR SALE—Ten registered Shropshire ewes, fifteen registered Shropshire buck lambs, ten pure-bred unregistered Shropshire yearling bucks.
K. HAGUE, Route 6, NEWTON, KANSAS.

High Grade Holsteins

YOUR CHOICE OF 65 HIGH-GRADE YOUNG HOLSTEIN COWS
From Three to Six Years Old

Fifty are springing or will be fresh in thirty to sixty days. Nicely marked large dairy type. Heavy producers and high testers. Have records as high as 610 pounds of butter in one year from cow testing association.

ALSO THIRTY LARGE 30-MONTHS-OLD HEIFERS

From high producing dams, due to freshen in September to December, and forty thrifty long yearlings. All stock tuberculin tested regularly by the state. Herd headed by one of the best sons of KING SEGIS PONTIAC.

Magee Dairy
CHANUTE - - - KANSAS

HOLSTEIN CALVES

We offer for sale choice, beautifully-marked heifer or male calves, 15-16ths pure-bred, and all from extra large heavy-milking dams, as follows, crated f.o.b. cars: One to two weeks old, $15 each; two to three weeks old, $17 each; five to six weeks old, $20 each. First check takes them. Write
W. C. KENYON & SONS, ELGIN, ILLINOIS

Braeburn Holsteins Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.
H. B. COWLES, 608 Kan. Av., Topeka, Kan.

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

50 HOLSTEIN HEIFERS

We offer for sale fifty of the best high grade Holstein heifers in Wisconsin. All bred to a 29-pound bull whose dam is sister to the sire of the world's champion cow, Duchess Skylark Ormsby. Also a few choice fall cows.
CLOVER VALLEY HOLSTEIN FARM
Whitewater - - - - Wisconsin

HOLSTEIN CALVES
Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

High Grade Holstein Calves 12 heifers 15-16 pure bred, 4 to 6 weeks old, beautifully marked, $20 each. Safe delivery and satisfaction guaranteed.
FERNWOOD FARMS, WAUWATOSA, WISCONSIN

Nicely marked high-grade Holstein calves, price reasonable. **O. Canuteson, Route 4, Delavan, Wisconsin.**

AYRSHIRE CATTLE.

SOUTH FARM AYRSHIRES

300 HEAD.

75 Animals Imported from Scotland.
143 cows have qualified for advanced registry.
Males and females for sale.

SOUTH FARM
WILLOUGHBY - - - - OHIO

When writing to KANSAS FARMER live stock advertisers, please mention this paper.

The Truth About Tractor Lubrication

By Those Who Know

THEORY has its place in any scientific equation. But for everyday purposes we must rely on practical experience. Recommendations by the Standard Oil Company must be correct, not only in theory but backed up by practical, every-day experience under working conditions.

Your tractor pulls a terrific load. The working temperature of your engine is extreme, whether you burn gasoline or kerosene for fuel.

You must have an oil that will maintain its viscosity under any and all conditions. If it doesn't, metal will touch metal and there is trouble—serious trouble—more expensive than your lubricating oil for several seasons will amount to.

Crookston, Minn., June 28, 1917

To Whom It May Concern:—

Considerable advertising has been done by a great many Oil Companies, stating the amount of saving, etc., which could be made through the use of high priced lubricating oil, and as I am the owner of a Big Four—four cylinder—30-60 Gasoline burning tractor, I was interested in finding out whether high price had anything to do with high-quality, so decided to have a test made.

June 26th I filled my engine crank case with an oil retailing in Crookston at 65c per gallon when purchased in barrel quantities, and which is the oil recommended by the company manufacturing it to be the proper oil for summer use in a 1915 model, Big Four 30-60 tractor.

I ran the tractor myself, pulling the same load under exactly the same conditions as those previously encountered while using Stanolind Gas Engine Tractor Oil, and although there was practically no difference in the weather temperature, it only took two hours work pulling a 30-inch, Model A, Russell Elevator Grader until the temperature of the cooling system had risen 50° higher with the 65c oil than when using Stanolind Gas Engine Tractor Oil.

It is needless to say that with this difference in temperature of the cooling system more gasoline and lubricating oil was used. I, therefore, feel that I can conscientiously recommend Stanolind Gas Engine Tractor Oil, even though it is much cheaper in price, to all operators of Big Four 30-60 Gasoline Burning Tractors.

My tractor was purchased during the season of 1915, and since that time to date I have plowed 1800 acres, broke 475 acres, and have pulled a heavy road grader more than 800 miles in the construction of roads. I have never found it necessary to overhaul the motor as the compression is good and the tractor has plenty of power.

With the exception of one barrel of lubricating oil, I have never used other than Stanolind Gas Engine Tractor Oil manufactured and sold by the Standard Oil Company of Indiana, which is selling today at 29.4c per gallon F. O. B. Crookston.

Yours very truly,

[Signed] E. A. McCOY.

A High-Priced Oil Does Not Mean The Best Oil

There are lubricating oils on the market which sell for double the price of Stanolind Gas Engine Tractor Oil, Standard Gas Engine Oil and Polarine.

But these latter oils are made by the Standard Oil Company (Indiana) and for that reason can be, and are sold, at a low price.

They are made especially for tractors. They are the results of exhaustive and extensive research work on the part of the most complete assemblage of lubricating experts who have devoted their lives to the solution of lubricating problems.

These men recommend Stanolind Gas Engine Tractor Oil for tractors using kerosene; Standard Gas Engine Oil for tractors burning gasoline—and Polarine in various grades for tractors having high speed motors.

They Say—

that these oils add power and life to your motor; that they are of great durability and economical in use; that they lubricate thoroughly even the remotest reciprocating surfaces, reducing friction to a minimum; that they maintain their viscosity even under extreme heat conditions to practically the same degree as the so-called heavy oils.

What Leading Tractor Builders Say—

The International Harvester Company recommends Stanolind Gas Engine Tractor Oil for their tractors. J. I. Case Threshing Machine Company recommends Stanolind Gas Engine Tractor Oil for their tractors, as do numerous other manufacturers recommend one or the other of these superior lubricating oils for their respective tractors.

And the letter from Mr. E. A. McCoy of Crookston, Minn., at the left, needs no comment. If you go to a physician you accept his diagnosis—you don't dispute the judgment of a lawyer on legal matters. Accept the united recommendation of the largest manufacturers of tractors, of the largest refiners of oil, of the best petroleum research men, and an enthusiastic tractor owner.

Made, Recommended and Guaranteed by the

STANDARD OIL COMPANY (Indiana)

72 W. Adams St. Chicago, U. S. A.

Table of Tractor Specifications and Cylinder Oils Recommended

Key S. G. E. Standard Gas Engine Oil
G. T. Stanolind Gas Engine Tractor Oil
Pol. Polarine Oil
H. P. Heavy Polarine Oil
E. H. P. Extra Heavy Polarine

Advance Rumely—		
Oil Pull	30-60	G.T.
"	15-30	G.T.
Gas Pull	15-30	G.T.
All Purpose	8-16	G.T.
"	12-24	G.T.
Allis-Chalmers	10-18	H.P.
Allwork	12-25	G.T.
American	20	S.G.E.
"	60	S.G.E.
" Oil Tract.	20-35	G.T.
Andrews	10-20	Pol.
A & T	18-36	E.H.P.
A & T	25-50	E.H.P.
A & T	30-60	E.H.P.
Avery	5-10	H.P.
"	8-16	H.P.
"	12-25	E.H.P.
"	18-36	E.H.P.
"	25-50	E.H.P.
"	40-80	E.H.P.
Baby Johnson	27-29	Pol.
Bates	10-20	G.T.
"	16-30	G.T.
Bates Steel Mule	30	H.P.
Beeman-Garden	4	G.T.
Best	75	G.T.
Big Bull	7-20	S.G.E.
Boring	10 20	G.T.
Brillion	25	S G.E.
Buckeye, Jr.	8-16	Pol.
Buckeye	40	G.T.
Case	10-20	H.P.
"	12-25	H.P.
"	20-40	G.T.
"	30-60	G.T.
Caterpillar	45-25	G.T.
"	75-50	G.T.
Champion	16	S.G.E.
Chase	25-35	H.P.
"	15-25	H.P.
C.O.D.	18-25	G.T.
Common Sense	15-25	Pol.
Creeping Grip	20-12	G.T.
C.T.4	16-32	Pol.
Dakota No. 1	20-25	Pol.
" No. 2	40-45	Pol.
Denning	10-18	H.P.
Dill	28-47	Pol.
Eagle	12-25	G.T.
Emerson L	12-20	H.P.
" Big 4	20-35	G.T.
" Big 4	30-55	G.T.
" Reeves	40-65	G.T.
Fairmont	24	G.T.
Farm Horse	15-26	S.G.E.
Farmer Boy	35	Pol.
Farmobile	12-20	Pol.
Farquahr	4-30	G.T.
"	4-40	G.T.
Fitch	25	G.T.
Gray	20-35	S.G.E.
"	15-25	S.G.E.
Hackney Auto Plows	20-25	S.G.E.
"	15-20	S.G.E.
Happy Farmer	8-16	S.G.E.
Hart-Parr—		
Little Devil	22	G.T.
Crop Maker	27	G.T.
Oil King	35	H.P.
Steel King	40	H.P.
Old Reliable	60	H.P.
Hoosier	8-16	Pol
Huber	20-40	G.T.
"	35-70	G.T.
Hume	20-30	Pol.
Hume Jr.	12-18	Pol.
I. H. C.—		
Mogul	8-16	G.T.
"	12-25	G.T.
Titan	10-20	G.T.
"	15-30	G.T.
"	30-60	G.T.
Imperial	40	G.T.
Ingeco	10-20	G.T
Iron Horse	15-25	Pol.
K-C	20	Pol.
Kinnard	15-25	G.T
Knox	40	Pol
K-T	12-25	Pol.
Lansen	15-25	H.P.
"	20-35	H P.
Lawter	40	S.G.E.
Leader	12-18	S.G.E.
Leader Jr.	9-18	S G.E.
Leader	25-40	S.G.E.
Lion		S.G.E.
Little Oak		H.P.
Louisville Avery	10-20	G.T.
Maytag	25	Pol.
Minneapolis	15	S G.E.
"	20	G.T.
"	25	G T.
"	40	G.T.
Moline Universal	6-12	G.T.
Morton	60	Pol.
New Age	10-18	Pol.
Neverslip	12-20	S.G.E.
Nilson	40	H.P.
Olin	13-25	G.T.
Paramount		Pol.
Parrett All Pur.	10-20	Pol.
Peoria	8-20	S.G.E.
Phoenix		S.G.E.
Pioneer "30"	30-60	E.H.P.
" Jr.	20-45	E.H.P.
" Pony	15-30	G.T.
Plow Boy	10-20	S.G.E.
Prairie Dog	25	Pol.
Rock Island Heider	10-20	G.T.
Russell	12-24	S.G.E.
"	20-40	S.G.E.
"	30-60	G.T.
Sandusky	38	S.G.E.
Simplex	15-30	S.E.G.
Simplicity	25	G.T.
Smith	10-20	S.G.E.
Standard-Detroit	10-20	Pol.
Stewart	40-60	H.P.
Straddle Row Universal	35	Pol.
Strait, Model 8		Pol.
" " 8		Pol.
Strite		S.G.E.
Sullivan	8-10	G.T.
Tom Thumb	20-12	G.T.
Twin City	15	H.P.
" "	25	H.P.
" "	40	H.P.
" "	60	H.P.
Waite	8-16	G.T.
Wallis (Cub)		G.T.
Waterloo Boy	12-24	H.P.
Wolverine		G.T
Yuba		G.T.

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 35. TOPEKA, KANSAS, SEPTEMBER 1, 1917. Established 1863. $1 a Year

THE FARMHOUSE IMPROVED

Plan Showing Many Conveniences and Labor-Saving Devices

"THE American farmhouse is coming into its own," says Prof. W. A. Etherton, of the Kansas Agricultural College, in his introduction to the bulletin entitled "The Farmhouse Improved." "It has suffered neglect during past years of industrial progress and territorial expansion, but there is no longer a great need as formerly for sacrificing the home 'to get a start.' Moreover, the American farm family knows today, better than ever before, that home improvements are necessary to a relization of the things in life that are most worth while. It knows, too, that the future holds greater opportunities for the farm home and greater incentives for improving it that have obtained in the past.

"The physical and social lines between country and town are growing less distinct. City folk are building their homes in the country and farm families are driving in their automobiles and riding on interurban cars to church and school in town. The obscure farmhouse of today may be on a paved highway or a boulevard tomorrow. Such changes are now accomplished facts in some of the older states and they are encroaching rapidly upon the newer ones. With better roads and more automobiles, with telephones and other home conveniences, there will be better farmhouses, also, and more people who will want to live in them."

It is pointed out in the opening chapter that the house plan needed by the farm owner cannot often be found; it must be made. A thousand good plans and designs of farmhouses would not suffice the need of owners for architectural assistance of this kind. If one had this number of representative plans to select from, less than one-tenth of them would meet one's requirements for size and cost. Probably half or more of this tenth part would not be for the number of stories wanted. Many of the houses would be suitable only for level building sites, whereas one may want to build on a hillside and have entrances from two levels. The building site may be south of the highway, but many of the plans would be made for farmsteads on the north, the east, and the west sides of the road. Some of the plans would be made for semi-tropical, or very temperate climates, but one may need to be comfortably housed during months of cold weather. Some would be suitable for windswept plains, but if one lives in the hill country, a prairie adaptation would be quite out of place. There a Swiss chalet or other type of mountain home would be in demand, whereas many of the designs to select from would be in colonial and Spanish mission.

If, perchance, there should be any of the one thousand plans left, after discarding all that would not meet the foregoing requirements, the weeding-out process should continue according to many additional items that need to be considered in planning a new house or in remodeling an old one.

It may be, for instance, that the prospective builder would want a room for a hired man. He would want this room to be separate and apart from the family rooms, but many farmers do not house their help under the family roof and many good plans would not provide for it. The farm tenant house is regarded by many owners as a better solution of the problem where permanent help is required.

A separate room for a farm office might be in demand. This room could be found in some of the larger and more expensive plans, but not in others for which more important items must be sacrificed.

The wife would have very definite notions about some items pertaining to her workshop and the home of the family. If she has been accustomed to large kitchens, she might discard at once all kitchenette plans. She would be sure about the best location for the laundry and might demand that it be in a building detached from the house, or in the basement, or adjoining the kitchen. She might believe in parlors for the farm home and rightfully demand such a room for her daughters, but there would be many plans without parlors.

Some plans, and probably the larger number of them, would have one convenience in particular that country folk have been slow to accept and to provide. This is the roomy porch which is screened against insects and has folding sash, drop canvas curtains, or some other practical means of protecting the porch from wind and rain. The ultra-conservative builder who regards this convenience as a fad of city folk would be disappointed when making his selection to find so few plans without it.

The many materials of construction and the many ways of using them account for numerous other combinations to choose from, and the weeding-out process could be continued until ten times the number of plans and designs proposed would not furnish the exacting farm owner with one that is quite as good as it might be, and perhaps ought to be, for his particular needs. What, then, can be the value of so few plans as here shown?

"Ready-made plans," says Professor Etherton, "if carefully worked out, are valuable for their suggestions. It is probable, too, that a ready-made plan can be found which is much better for the purpose than another which the owner and the country carpenter may devise. The use of such a plan may help to avoid unforeseen difficulties which are sure to be encountered in building from plans that are not carefully made. But the plans in this bulletin were made as aids in developing, trying out, and explaining important features of the work, and they are here used to exemplify important items in the text. A larger number of plans does not appear needful for this purpose. They are explained briefly in this chapter for the convenience of readers who may not care for the detailed information in succeeding chapters."

Of the plans referred to, we have selected for description and illustration that of House No. 4. This plan has an inclosed porch under the main roof of the house, which is the principal living room for the family in summer and during all but the coldest days of winter. It communicates by double doors with an adjoining room that may be used as a sitting room, a parlor, or a bedroom. It is easily accessible from the kitchen and may be used as a dining room. The porch door which opens to the stair hall is so placed as to make room behind it for a double bed. The porch can be enlarged in width by omitting the porch closet, the dining room closet, and the broom closet, but none of these can well be spared.

This plan provides for a separate dining room. The room is without sunshine, except such as can enter through north windows, but it is well ventilated through wide casements at the two ends and through three doors. It is directly accessible from the wash room and stair hall and has a very direct route from the kitchen.

This is essentially a kitchenette plan. The first effort was to make the kitchen an alcove of the dining room for an example of that kind, but continued efforts for convenience and economy caused the abandonment of that plan. It is the smallest kitchen shown, and, for the housewife who can work alone, or with only one helper in the room, it is the most convenient. It has the fuel and water supply, the waste water drain, and the ash disposal scheme which are provided in the other plans. It has a convenient arrangement of china closet and sink and special provisions for the disposal of slops and also for the temporary disposal of waste paper, strings, broken glass, etc. It has an alcove for pastry work. This alcove is equipped with a work table, cupboards, flour and meal bins, and a cooling closet which has openings in the north wall. The kitchen has a raised ceiling above the range and an opening from this heat pocket into a vent flue. It has a south door through which the summer breezes can blow into the room, and north windows through which the fumes and heat can be carried away. It has a flood of north light. It has the range, sink, work table, and cupboards within two steps of the center of the room. It has direct and short lines to the dining room, the porch, the refrigerator in the hall, the stairs, the water-closet off the stair landing, the laundry, the side exit, and the basement.

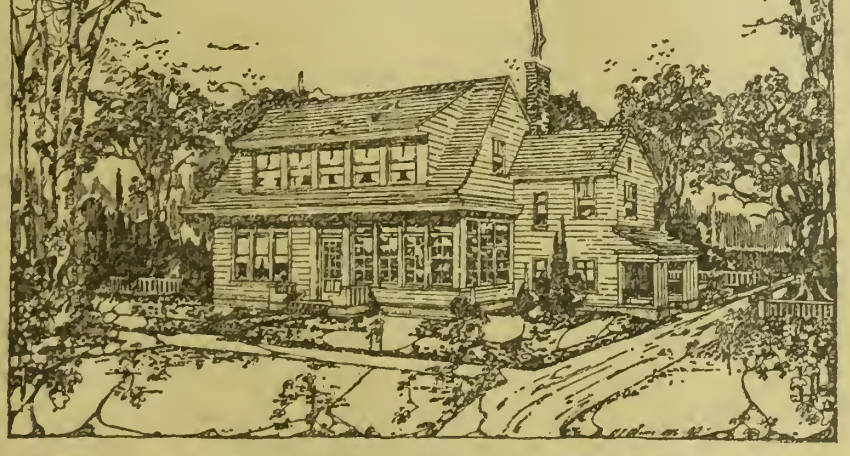
The laundry is convenient to the kitchen and to the side entrance. It is four steps below the first floor level and but one or two steps above the ground. Obviously, it would be more convenient in passing between kitchen and laundry to have both rooms on the same level, and less convenient in passing from laundry to outside or to the basement. The arrangement here shown avoids the outside steps which are so objectionable in winter. It makes possible a concrete floor on the ground. It gives a grade entrance to the basement steps. It lowers the floor of the room above the laundry to the level of the stair landing and thus adds to the economy of the plan.

The laundry is lighted and ventilated by casement windows on the south and by the door on the east. It has stationary wash tubs and room for a clothes basket at either end of the tubs. There is room for a washing machine, but not for a gas engine. Such machinery should be in the basement where small children can be kept away from it, or preferably in a detached wash house.

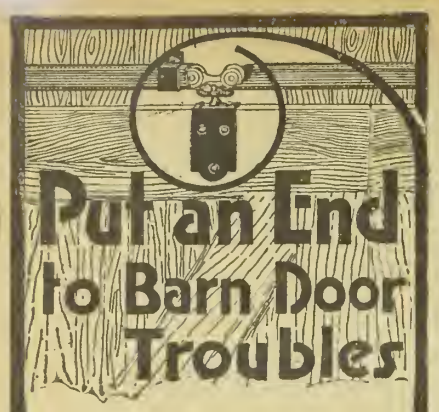
The stove in the laundry is a combined water-and-laundry heater. It has a water jacket, which is intended to be connected with the range boiler in the kitchen for heating water for all domestic purposes. A little fire in this laundry heater will keep an abundant supply of water hot when the kitchen range may not be in use, or when gas or oil may be used for cooking and not for heating the water.

The shower bath is a modern improvement for the farm home, and it is here provided without much additional expense for room and for plumbing connections. The dressing room which adjoins the shower bath inclosure is to be used also as a wash room. It has a corner

(Continued on Page Eight)



DESIGN HERE SHOWN ONE OF MANY THAT CAN BE USED WITH FLOOR PLAN ILLUSTRATED ON PAGE EIGHT



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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

THE effect of the tractor upon American agriculture was discussed by Arnold P. Yerkes, of the Federal Department of Agriculture, at a meeting of the Society of Automotive Engineers in Fremont, Nebraska, during the recent tractor demonstration. Mr. Yerkes is connected with the Bureau of Farm Management, and for several years has been studying the tractor proposition all over the country. He pointed out that there are two angles to the tractor situation—that of the manufacturer and that of the farmer. He chose to speak from the farmer standpoint.

We are indebted to the Implement and Tractor Trade Journal of Kansas City for this report of Mr. Yerkes' remarks:

He does not believe that the tractor will make agriculture more intensive, but does believe that it will make it more extensive. He said that it had been his observation that the tractor had a tendency to increase the farm acreage; that the farmer who owns a tractor rents additional land and farms on a larger scale. In other words the farm acreage will be extended when tractors are in general use. He based his opinions largely on observations he has made since the development of the tractor and also the fact that other improved farm machinery has extended the acreage tended by the individual farmer.

While tractors will be sold throughout the entire United States in time, Mr. Yerkes defined a definite geographical area in which the preponderance of sales will come within the next five years. This district embraces Illinois, Iowa, North and South Dakota, Nebraska, Kansas and Missouri.

Mr. Yerkes gave his auditors the results of his observations regarding the sizes of tractors in most general use and those most practical and economical for the farmer. He believes that in the future the bulk of the tractors in use will be those generally designated as three and four-plow tractors. The two-plow tractor, he says, is all right for small farms where there is but little belt work to be done. But in his opinion the two-plow tractor does not offer enough power for belt work.

Some interesting observations were also offered by Mr. Yerkes on the work performed by tractors. He designated belt work as the most important feature and said that the amount of belt work even exceeds plowing. He says that the tractor must be able not only to plow, but to handle all work on plowed ground. Cultivation of row crops, he believes, is being solved. Mowing was pronounced practical where hitches are employed by which mowers can be worked in multiple to cut a sufficiently wide swath. By inference, the tractor is not economical when used to pull only one binder. Although it is somewhat cumbersome, Mr. Yerkes believes the use of a tractor in harvesting is practical. Much here also depends on the hitch. A side rake attachment for tractors also is possible and practical, in Mr. Yerkes' opinion.

The hauling of manure under present conditions, however, Mr. Yerkes does not consider practical. He believes that a larger manure spreader will come in time by which manure hauling will be made economical with a tractor. He does not believe much in the tractor for road hauling. Only 3 or 4 per cent of a farmer's work is done on the road. Road hauling requires an economic load, which makes a cumbersome outfit. He is more inclined to favor a truck and trailer by which smaller loads can be hauled, but in much faster time.

Mr. Yerkes also paid his respects to tractor service. He said that the farmers should be educated in the use and operation of tractors to such an extent that they would get their service from the tractor, rather than from the manufacturer. Manufacturers have advertised, Mr. Yerkes said, that "even a boy or girl can run our tractor." This idea has a tendency to make the farmer feel that he does not know much if he asks for instruction. The easiest and cheapest way to give service, Mr. Yerkes said, is to educate and instruct the farmer fully before he is turned loose with the machine. Nine out of every ten farmers will respond to instruction.

Caring for Inner Tube

One of the foremost automobile tire dealers in the United States is authority for the statement that more than half of the inner tubes returned for adjustment are nothing more or less than victims of abuse, and are not defective, as claimed by the purchasers, says Albert Marple, writing in the current issue of the American Motorist. This is rather a sweeping statement, and, if true, it appears as though the tire user in general might, with profit to himself and the tire companies, be enlightened as to the proper care of the automobile inner tube.

Says Mr. Marple:

"There are a number of things which absolutely must be done if the tube is to give its best service. In the first place, it must be realized that the tube is made of rubber, and that rubber has a number of natural enemies. Among these are sunlight, oil, grease, acid, water, and the very atmosphere itself. One of the worst of these is sunlight, which has an effect of drying up the rubber, whereupon it becomes brittle and loses its elasticity, when it is known as 'macaroni' (brittle) rubber.

"If the tube is permitted to come in contact with grease or with rags covered or saturated with grease or oil, the rubber in the places touched will quickly deteriorate unless the tube is soon cleaned.

"The method of carrying the spare tube is also important. It should never be carried loose in the tool box, for if carried this way it cannot help becoming injured. If folded and carried unprotected there is danger of the tube becoming chafed at the points where the folds occur, then, when these chafed places are put under pressure, there is great danger of their proving unable to stand the strain.

"Never should the tube be carried anywhere near the battery box of the car, as the acid in the battery means certain death to the tube, and no one can say just when the battery is going to spring a leak and splash over everything in sight.

"Placing undersized tubes in oversized casings is another common fault of car owners. This practice will ruin a tube within a short time."

Economize on Gasoline

After a careful investigation of the present gasoline situation, Van H. Manning, director of the Bureau of Mines of the Department of the Interior, has issued the following statement:

One-half of the gasoline used in the United States (1,250,000,000 gallons) is used in pleasure riding.

It is estimated that the United States Army will need 350,000,000 gallons for aeroplanes, trucks, automobile tractors, and other machines. There is no way of obtaining this in this country except by saving from the existing supply, and this economy may be effected by voluntary cutting down of pleasure riding (for instance, the man who takes his family out on Sunday for a fifty-mile ride can cut this in half).

It has been estimated that by economical use enough gasoline can be saved to supply not only the United States but also its allies for war purposes.

The following suggestions should be observed by automobile owners:

Do not allow your gasoline engine to run idle.

Use kerosene, not gasoline, for cleaning purposes in the garage.

See to it that the carbureter does not leak. Form the habit of shutting off the gasoline at the tank.

By judicious regulation of the mixture of gasoline and air in the motor both greater power and economy of fuel may be obtained.

Automobile owners need not lay up cars, but should use them either for trade or pleasure purposes thoughtfully and judiciously. If this advice is followed there will be no undue scarcity, for the United States possesses an abundant supply for ordinary purposes.

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Important Announcement

See Page 11

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PRICE FOR WHEAT

Wheat growers are anxiously awaiting the fixing of the price of the 1917 crop. Many have the fear that the Food Administration will consider the demands of the consumer more than the cost of production in fixing the price on wheat grown the past year. The one man on the price-fixing commission on whom the farmers of Kansas are pinning their faith is President Waters of the Agricultural College. Doctor Waters knows the conditions under which wheat was grown in Kansas the past year and can be counted on to insist on a price high enough to protect the farmer from loss. We know that President Waters favors a higher price for this year's crop than the Government guarantee for the 1918 crop. Coming as he does from a state producing such large quantities of wheat and being so thoroughly familiar with the conditions, his views are certain to command the serious consideration of his colleagues on the committee.

The present crop has not been grown under normal or average conditions, and it is not an easy matter to adjust prices so as to be fair even to all the men who have grown wheat. At the conference recently held in Kansas City under the auspices of the Federal Department of Agriculture, one speaker presented figures showing that in a certain section the effects of dry weather and winter-killing so reduced the yield that the wheat actually cost $2.71 a bushel on the farm. Another from a section more favored with rains reported a survey of seven hundred farms which indicated that a price of $1.73 a bushel might be fair for that section.

On page five of this issue we print in full the official statement of the Food Administration relative to handling the wheat price situation, in order that our readers may know what is being done and the reasons assigned for such action as is being taken. In reading the considerations enumerated, it would seem that considerable effort is made to express extreme solicitude for the producer. A stabilizing of prices seems to be the objective, and this can hardly be accomplished without price-fixing and undoubtedly means a lower price than would have prevailed under uncontrolled marketing. Wheat growers are not lacking in patriotism and now that this policy has become law, can be depended on to fall into line and co-operate, assuming of course that whatever else is done, illegal manipulation and speculation will be eliminated in the handling of wheat from producer to consumer.

The methods being worked out by the Government constitute a gigantic experiment in cutting out some of the unnecessary complications in handling this great staple crop. We may come through this experience with a fund of knowledge which will enable us to make some big forward strides in handling this problem so as to cut out a lot of the illegal and corrupt manipulations which all farm organizations have been fighting and protesting against for years.

KANSAS FOOD ADMINISTRATOR

It was announced last week that H. J. Waters, president of the Agricultural College, had been appointed food administrator for Kansas. A federal food administrator is to be appointed for each one of the different states. Nineteen of those appointed to date took their oaths of office August 23. This group was in conference with the National Food Administration for two days and received instructions regarding their duties. They are invested with a great deal of power in connection with carrying out in their home states the provisions of the food control law. They were told that the purpose of the law which they are to help enforce, and the policy of the Food Administration, of which they are now agents, is to stabilize and not to disturb conditions and to defend honest enterprise against illegitimate competition. The object is to correct the abnormalities and abuses that have crept into trade by reason of the world disturbance and to restore business as far as may be to a reasonable basis.

They were instructed that the Food Administration feels justified by its experience so far in counting on the patriotic co-operation of the great bulk of business men, but they were told that if any persons try to exploit the country in this time of war they should not hesitate to take steps to see that the drastic powers conferred by Congress on the Food Administration for such cases are employed.

President Waters has the confidence of all classes of people in Kansas. His knowledge of conditions in the state is such that he can be depended on to administer the duties of this office with justice to all. Heavy demands have already been made on his time. As chairman of the Kansas Council of Defense he has devoted much time to directing the work of this organization, and as a member of the wheat price-fixing commission he has been compelled to spend considerable time in Washington in addition to other trips made in the interests of Kansas people. The Kansas Agricultural College is fortunate in having exceptionally capable men as deans of the different departments, and in spite of the extra burdens falling upon them because of the heavy demands made upon President Waters, the executive work of the institution is being well handled in this emergency.

HOW FAIRS CAN HELP

The question, "Shall we hold our fair this year?" has been wisely answered in the affirmative by the managers of all the big fairs of the country. Nearly all the local fairs are also going ahead as usual. The first thought was that with the United States at war it would be an unwise expenditure of energy and money to conduct our fairs as usual. The facts are, however, that the fairs can actually serve the country most efficiently in the present emergency. The fair as an educational feature can be of greatest value in bringing about a fuller realization of all our agricultural resources. Many of the big state fairs will conduct regular schools devoted to food conservation and the conservation of all our natural resources. These schools will be conducted for the purpose of mobilizing the country as a whole so as to help out in winning the war as quickly as possible. It is now up to the people to support the fairs to the fullest extent possible both by sending exhibits and by attending and taking advantage of the opportunities offered.

The editor of a prominent Wisconsin paper most satisfactorily answered the question as to whether fairs should be held when the country was at war. He said:

"In view of the fact that a great war is upon us, the thought of some at first was not to hold a fair this year; but the officers wisely decided to go on as usual and have an exhibition which would reflect the progress of this part of the country.

"The thought of war cannot, and should not, be excluded from the minds of the people. The many who will meet here in reunion next month will be sobered by the thought of war, and the sacrifices which it demands. It will not be an occasion given wholly to pleasure, but an event which will be remembered as having been held at a time of the greatest war in all history, when the strong, young men of the land went forth to battle that freedom might not perish from the earth. It is not at all necessary that the sports and attractions be stricken from the program of the fair. These, under proper control, are always in order on such occasions.

"But it is necessary to give emphasis to the greater things which make for progress, as it has always been the purpose of the management to give proper emphasis to these things. Wisconsin has responded nobly to the country's call for increased production of food. If you would see evidences of this fact, look about you. Fields of grain are nearly ready for harvest, city lots are under cultivation as never before, and fields and gardens promise abundant yields. Year by year advanced methods of production have been introduced with most satisfactory results. No section of the country can show greater progress than ours. Our fairs have greatly aided in the work of advancement. The coming fair will be no exception to the general rule."

NATIONAL FOOD SURVEY

The Federal Department of Agriculture is undertaking a tremendous task in the country-wide canvas being made of the farm products which are now available as food or convertible into food. This nation-wide inventory is authorized by the food production bill recently enacted, which is a separate piece of legislation and entirely independent of the food control bill. The Bureau of Crop Estimates is making this survey. Thirty-five thousand picked volunteers from the bureau's corps of 150,000 crop correspondents will be asked to take part in the farm survey.

Each of the field representatives, a farmer himself and thoroughly familiar with farm conditions in his community, will make a report of food stocks, including meat animals and crops on his farm, and each of these representatives will be supplied with ten extra schedules of inquiry which he will distribute among his neighbors, for reports upon their respective farms. From the 385,000 reports thus obtained, the experts of the bureau, knowing the total number of farms in the United States, will make final estimates for the farms of the country. It is believed that this estimate, judging from the accuracy of other records similarly gathered, will be within a few per cent of actual farm food stocks.

A second survey about November 1, similarly conducted, will cover the fall harvests.

The bureau also will extend its regular crop estimates to crops not reported heretofore and further enlarge its service by special inquiries calculated to gather information arising from extraordinary farm conditions in certain sections.

The county agent of Jewell County had received, up to August, requests for over three thousand carloads of alfalfa. Most of these requests came to the farm bureau office through county agents in Northern Missouri, Iowa, Illinois, and Indiana. The farmers in these sections offered as high as $21 a ton f. o. b. Jewell County points. This is typical of the requests for alfalfa going to other sections of the state. Alfalfa hay and silage is becoming the basic feed combination for feeding milk cows and other live stock as well. It makes it possible to almost cut out the feeding of high-priced grain.

The president of the State Farmers' Union of Kansas is requesting that every local union in the state pass resolutions urging that the wheat price-fixing commission make the price on 1917 wheat at least $2.75 a bushel on the basis of Chicago, and wire these resolutions to Herbert Hoover at Washington, D. C. The price-fixing commission is now in session, and it has been announced that they desire frank statements from farmers as to actual costs of wheat production. They will make public the method for preparing these statements in the near future.

SEED MORE ALFALFA

We know of some farmers who plan to sow wheat this fall where they had intended to seed alfalfa. Under the circumstances this is probably justifiable on some farms, but there is need for alfalfa on many a farm in Eastern Kansas where it is not now grown or is grown in a very limited way. Alfalfa is almost essential to success with live stock and we should not forget that live stock production is fully as important in the present emergency as wheat production.

The moisture conditions have been especially favorable for fall seeding in Eastern Kansas this year. It often happens that there is not sufficient rain until too late in the fall. Fall-seeded alfalfa should get well rooted before winter sets in, and as the rains came early this year alfalfa can be seeded just as soon as the seed bed can be properly prepared. It is seldom advisable to sow later than the latter part of September.

Alfalfa requires well-drained soil—rich especially in nitrogen—and it must be well supplied with lime. In fact the crop cannot be grown successfully in an acid soil. Poor land can be made to grow alfalfa by the use of barnyard manure or the plowing under of sweet clover some time in advance of the seeding. The acidity of the soil can be corrected by spreading crushed limestone.

On farms where alfalfa has never been grown or fed it may be necessary to inoculate the soil with the proper nitrogen-fixing bacteria. This can be done by the pure culture method, these cultures being manufactured and sold commercially, or by spreading just before seeding two or three hundred pounds of surface soil from an old alfalfa field to each acre of the new field and harrowing it in carefully. The pure culture method is simply a process of pouring a liquid containing the proper bacteria over the seed before it is planted. As soon as the alfalfa plants begin to grow the bacteria begin to develop and soon enter the roots of the young plants and form nodules about the size of a millet seed on the tiny rootlets. As the bacteria grow they take nitrogen direct from the air in the soil and when these tiny organisms die this nitrogen becomes available for the alfalfa and other plants as well.

In Eastern Kansas fall is the best time for seeding ordinarily, as it fits best into the crop rotation. A small grain stubble field plowed shallow and early and worked down after every rain until seeding time furnishes ideal seed bed conditions. Such a seed bed is firm underneath, but has sufficient loose soil on top to cover the seed and give the young plant a foothold. In this method of preparation several crops of weed seeds lying on the surface have germinated and been killed before the alfalfa is seeded. Unless the stubble was plowed fairly early the use of the disk would be the safer method of preparing the seed bed, as it is important that it be well settled and have only a thin layer of loose soil on top.

From twelve to fifteen pounds to the acre of good home-grown seed is enough to plant on a well-prepared seed bed. The agronomy department of the Agricultural College does not advise seeding alfalfa in the fall later than September 25. Of course it can be seeded later in the southern part of the state than in the northern.

If you have a patch of land suitable for fall seeding and can get the seed bed in proper condition, you cannot go wrong in starting some alfalfa this fall.

The rising value of good horses due to the war, both directly and indirectly, should be a great encouragement to owners of pure-breds who have never shown their animals heretofore at the big fairs. More Kansas breeders have entered draft horses at the Topeka Free Fair this year than ever before. Those interested in good horses who expect to make purchases could not do better than to visit the fair and become acquainted with Kansas breeders and their stock. The brick and cement building devoted to horses has accommodations for 300 animals. There is a possibility that it may be necessary to provide temporary quarters for the overflow.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

WE HAVE been asked to give the method of treating seed wheat for smut. We have given this treatment once or twice almost every year, but for the benefit of new subscribers or wheat growers who may not have heretofore thought it necessary to treat the seed for smut, we give the treatment commonly recommended. There is no question as to the effectiveness of the treatment, and it is to be regretted that wheat growers do not more generally take this precaution so they can be sure they are not putting infected seed into the ground. Smut in wheat quite appreciably reduces its value on the market.

The stinking smut, which is the kind most commonly found, is best treated by using formaldehyde, or commercial formalin. A pound, or pint, of formalin is used to fifty gallons of water, or at the rate of an ounce to each three gallons of water. A gallon of the mixture is enough for a bushel of grain. Spread the seed wheat in a thin layer on a tarpaulin or clean barn floor and sprinkle it with the mixture until it is thoroughly and evenly wet. Then shovel it over to be sure that every seed is wet and cover the pile with canvas or blankets in order to keep in the fumes of the formaldehyde. In from six to twelve hours it should be shoveled out in a thin layer to dry, and stirred frequently. Seed so treated must be carefully handled to avoid reinfection. The sacks or bins in which it is stored must be treated with the same solution and even the drill should be disinfected before using it.

Russian Thistle Hay

R. L., Sherman County, asks if Russian thistles have sufficient feed value to warrant cutting them for hay. Rough feed of all kinds is extremely scarce, and it seems necessary to save every particle of material having feed value.

In years of short feed crops many a Western Kansas farmer has made money by feeding thistles to his stock. The men on the demonstration silo truck which has been touring Western Kansas the past few weeks report a number of instances where thistle hay has been profitably used. These experiences have come up in connection with the silo and feed discussions at the meetings. E. J. Gilbert, of Wallace County, wintered his cattle the season of 1911 on silage made by running in a load of stunted corn fodder on one side of the cutter and a load of Russian thistles on the other. Thistles have been tried alone as silage, but have not given as satisfactory results as this mixture. Two Russell Springs ranchmen said thistle hay was almost as good as alfalfa for wintering stock cattle. Thistle hay sold as high as $15 a ton in Wallace County the winter of 1911. Alfalfa could scarcely be purchased at all at from $22 to $24 a ton.

Chemical analyses which have been made of Russian thistle forage show that it contains from 9 to 20 per cent of crude protein, which is about the amount found in alfalfa. For hay the thistles should be cut before the spines begin to harden and preferably where they are growing very thickly. The hay should be stored at once while containing considerable moisture.

Expensive Grain in Silo

Some of the farmers in Shawnee County who have corn that is likely to yield a good crop of grain are questioning whether they can afford to put this good corn in their silos. In a general way the statement may be made that corn in silage is just as valuable to the stock as corn husked and fed separately. In other words, in fattening a bunch of steers with silage as part of the ration, less grain will be required and the amount will be very nearly in proportion to the amount in the silage they eat. The question this year really is whether corn should be fed to stock at all when it is worth so much on the market as grain. Corn is unusually high in price, but meat animals are also bringing phenomenally high prices, and unless something unforeseen happens stock can be finished even by feeding some high priced corn without loss.

The fact remains, however, that stock men generally are striving to grow and finish animals with a minimum amount of grain. It is the proper thing to do under present day conditions. We have been too lavish in our use of grain in times past, and must use roughage more largely for animal feeding. Corn is coming down some in price, and with a big crop in sight over the main corn belt states it may get down to a point where it will not be so high as to cause live stock men to leave silos unfilled because they see more money in maturing a crop and marketing it as dry grain.

The silo's chief function is to preserve rough feed so as to make it more valuable and with hay as scarce and high in price as it is this year it is important to use all the fodder and other roughage possible and to use it with a minimum of waste. In order to preserve a corn crop in the silo when corn is worth too much to harvest in this way, some of the ears might be snapped from the crop before running the fodder into the silo. This would of course necessitate somewhat different silage making methods than are ordinarily practiced. When the crop is in prime condition for silage the ears would spoil if snapped and piled up. By waiting until the corn could be safely snapped and stored, the fodder would be too dry to make good silage without the addition of water.

The best silage is made from a crop in which about 75 per cent of the total weight is water. The percentage of water can hardly run below 65 without causing the silage to be poor in quality. Dry corn fodder which has been shocked can be made into fairly satisfactory silage by adding water in about the proportion of a ton of water to a ton of silage. On a live stock farm in a year when all feeds are high and forage is scarce, this is a practice that will pay. It takes a lot of water, however, to make this material keep as silage. From 200 to 250 gallons of water must be used to each ton of dry fodder. An ordinary windmill will not pump more than five to eight gallons a minute with a ten to twelve-mile-an-hour wind. If the cutter is running a ton of fodder into the silo every ten minutes, the wind mill cannot deliver more than one-fifth to one-third of the water necessary. In addition to running all the water the pump will deliver into the blower while the cutter is working, water must be run in while the cutter is idle. The water must be distributed evenly over the surface and not allowed to run down the wall. On some stock farms it is the practice to refill the silo during the winter with shocked corn after snapping out part or all of the ears. We believe farmers having silos should figure closely before they decide to allow them to stand empty because of the high market value of the corn.



HOLSTEIN MILK COWS GRAZING ON SWEET CLOVER, KANSAS EXPERIMENT STATION, MANHATTAN.—THEY HAVE BEEN ON THIS PASTURE NIGHT AND DAY SINCE MAY 7

Rapid or Slow Silo Filling

S. M. R., Wabaunsee County, asks if it is necessary to fill a silo quickly in order to have good silage.

It is much easier to make good silage from slow filling, if the crop will wait, than from rapid filling. It is possible to fill a silo in a day with a big cutter and a large gang of men and teams, but a silo filled in a day is seldom packed solidly enough to make the best silage. In addition it will settle several feet, thus wasting considerable storage space, and even then the silage is not as solid as in a silo filled more slowly. In filling with a small outfit it is not necessary to have so many men tramping on the inside and the silage has time to settle each night. When the filling is finally completed, in the course of a week or more, it will contain more and better feed than if it had been filled quickly.

We believe that with the increasing difficulty of getting together a big silo-filling gang, more small outfits will be used. Outfits that can be handled with the regular labor of the farm or, better yet, by combining the labor of two or three small farms, will be more satisfactory than the big commercial outfit. When these are used it is necessary to get together a big gang and at the end of the day when the silo is full it is not packed solidly and does not contain anywhere near as much silage as the one filled more slowly.

Sweet Clover Pasture

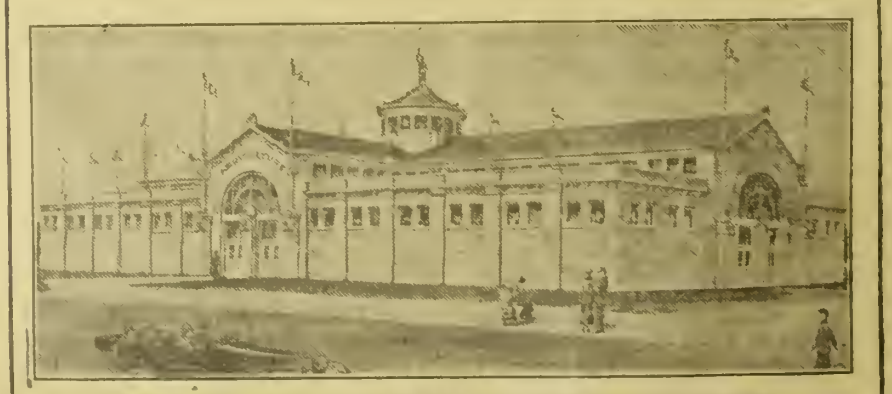
At the Dairy Association meeting held in Hutchinson recently, a member asked about sweet clover as a pasture for milk cows. As Prof. O. E. Reed, of the Agricultural College, was present, he was asked to tell of the results of the test now under way at the Kansas Experiment Station. This experiment in pasturing sweet clover with milk cows has not been completed yet, but it has gone far enough so that some tentative results can be given. Last spring three and eight-tenths acres of sweet clover which had been seeded with oats in 1915 was fenced off and six grade cows turned in May 7. A cheap shed was built in one corner to serve as shelter from the storms and a tank was provided so the cows could be watered. They have been left on the pasture continuously. They had never eaten sweet clover before, but as they had nothing else to eat, they soon acquired an appetite for it and now apparently graze it with as keen a relish as any other pasture. Professor Reed said these cows immediately increased somewhat in milk flow, and all through the summer have done as well as the cows kept at the dairy barn and fed silage and alfalfa hay. During the first month these six cows averaged thirty-three gallons of milk a day, and the daily grain cost was $1.65. The cows were heavy producers and of course were given some grain in addition to the feed they got from the pasture.

Late in June it got so dry that there was not enough feed on this little pasture for the six cows, and three were removed. At the time of a visit made to the agronomy farm by the writer only three cows were on the pasture. The cut on this page shows the cows in the act of grazing. A few weeks later some rain came and one cow has been returned, so four are being carried on the pasture at the present time.

At the time of our visit we noticed that a few plants here and there were blossoming, and it seemed quite possible that even with this heavy pasturing enough seed might set to reseed the pasture. Men at the dairy meeting told of sweet clover pastnres being maintained permanently following a single seeding, this being possible because part of the seed first sown does not germinate until the second year and in addition a few plants here and there will mature seed even when pastured. Sweet clover is a biennial, but, because of the failure of part of the seed to germinate the first season, a pasture will be almost certain to contain plants of the current year and the previous year.

It seemed to be the opinion of those who had had experience with sweet clover that, even on a rough, rocky piece of land where it would be impractical to plow the land and reseed, a permanent pasture could be maintained.

In this test now under way at the Manhattan Experiment Station, the cows have never bloated, although they were on the clover continuously during the heavy rains of May. The plant does not seem anywhere near as likely to cause bloat as alfalfa, and for that reason is apt to become a popular pasture crop for dairy cattle. Some reported successfully seeding sweet clover in the spriug on wheat.



NEW AGRICULTURAL BUILDING, KANSAS STATE FAIR, HUTCHINSON

Government Exhibit at Fair

The Federal Department of Agriculture has arranged for an exhibit at the Kansas State Fair to be held at Hutchinson, which will require 5,000 square feet of space in the new agricultural building. The various bureaus of the department will be represented in this exhibit. The visitors will find this Government exhibit of great educational value.

Big fairs should be meeting places for studying agricultural progress along all the different lines. As illustrating the value of fairs, A. L. Sponsler, secretary of the Kansas State Fair, told us recently of the experience of a prominent farmer who became much interested in the exhibits of corn made by a Marion County exhibitor. He was led to buy seed of the variety shown and last year grew fifteen bushels more corn to the acre from this seed than was grown on an average in his neighborhood. This year the variety has shown itself to be unusually resistant to prolonged dry weather. This is just a sample of the hundreds of ways in which attendance at fairs can be profitable to those who go with their minds open to new ideas along agricultural lines.

Frost doesn't nip canned vegetables.

Home preparedness—cans of food on your cellar shelves.

PRICES FOR 1917 WHEAT

Official Statement From United States Food Administration

PEOPLE everywhere are most keenly interested in the results which will follow the putting into operation of the food control law signed by President Wilson August 10. Kansas people are especially concerned in the first problem taken up by the Food Administration—that of regulating the price of this year's wheat and handling the crop on its movement to the consumer—because this is one of the great wheat producing states. Kansas normally produces about one-tenth of all the wheat grown in the United States, and has produced as high as one-fifth of the total annual crop. While we have grown an abnormally small crop of wheat this year, we feel that our readers will be anxious to know exactly what the Food Administration is doing in this matter of regulating the price and distribution of this year's crop. We therefore print in full the official statement just issued by the Food Adminstration office.

"To win the war the first consideration of the United States in its food program must be to feed the people within the confines of this government.

"The second consideration must be for our people to spare as much food products as can be spared to feed our Allies, France, Italy, the United Kingdom and Belgium, whose normal consumption exceeds their production.

"The third consideration must be to protect American farmers and other essential parties in the wheat trade from disastrous losses that might occur from the unprecedented choking of the world's arteries through which this wheat ordinarily moves.

"France, Italy, the United Kingdom and Belgium under normal conditions import annually 381,000,000 bushels of wheat. These nations have suffered a lowering of their productivity as a result of being in the war. They now have a total wheat deficiency in production of about 200,000,000 bushels. It will be necessary for them to import within the next twelve months about 577,000,000 bushels. Russia had an abundance of grain and a vast surplus, if this surplus could be released; but Russia cannot move any grain to our allies in quantities essentially important.

SITUATION OF THE ALLIES

"Our allies are isolated from practically all markets except the United States and Canada, as compared with ante-war conditions. The supplies of Bulgaria and Roumania are in the hands of the Central Powers. As already stated, the Russian supply is shut off. The voyages from Australia and India are three times as long and will require, therefore, three times as many tons of shipping to move wheat as is required from North Atlantic ports. The voyages from India and Australia are also far more dangerous because of longer exposure to submarine attacks.

NORTH AMERICA'S RESPONSIBILITY

"The responsibility for furnishing our allies this 577,000,000 bushels must fall in no slight degree upon the United States and Canada. The estimated ordinary wheat surplus of the United States for 1917 is 88,000,000 bushels.

"Probably the Canadian surplus will be 120,000,000 bushels. This will still leave a deficiency in wheat supplies of our allies of approximately 369,000,000 bushels. This deficiency is still further enlarged by the fact that the United States must make reservations of wheat for neutral nations with whom we trade and from whom we secure essential products. Such reservations will increase the European deficiency to approximately 400,000,000 bushels.

"The way to keep the allies alive during the war is for us to economize at every turn, and thereby increase the surplus from the United States to 200,000,000 bushels. This, together with shipments from Argentina, Canada and Australia, should supply at least a minimum on which they can live.

HOW ALLIES MEET PROBLEM

"One might think that the American wheat producer stands in a very safe position with regard to prices, but such is not necessarily the case. The allies, foreseeing their situation, have perfected buying arrangements and shipping arrangements, so that all wheat leaving free ports destined for consumption in any of their countries must be brought through a single agency. Arrangements are being made to liberate in far greater quantities the stored-up supplies of India and Australia. Within the last few years Australian wheat has begun to arrive in America, and will continue to arrive in increasing quantities. Other important changes have occurred since the war that seriously undermine the stability of the wheat market and will tend to offset the apparent advantage of the American farmer in the world trade.

AMERICAN GRAIN TRADE DEVELOPMENT

"To understand this situation, it should be remembered that for the past thirty years the marketing of grain in America has depended for its mobility upon the American system of "hedges." This system has grown out of the peculiarities of grain production. Somewhere a crop of grain is always ripening. Somewhere the weather is expanding or contracting the crop. Cable and telegraphic information reaching the buyer and seller on the open marts has been



REMODELED AGRICULTURAL BUILDING ON GROUNDS OF THE TOPEKA FREE FAIR

the basis of their hedging practices which have acted as a kind of insurance to the business. This practice and the unusual transportation facilities of the Great Lakes have enabled American farmers to expand their wheat acreage, the American business men to develop the wheat industry, notwithstanding the competition of other nations with cheaper production costs and greater grain yields, as against our increasing production costs and lessening acre yields.

"So long as the world was at peace and trading had opportunity to function normally, it is doubtful if any fiat price could be made or sustained by any single country. Such fiat prices would have to be by international agreement, which is almost impossible. But with the disruption of world conditions and the shutting off of the sources of grain supply in some countries, and the tendency to exhaust the grain supply in others, a nation like America may find itself in a crisis whereby it is forced to determine and control the price of this commodity to protect its own citizens.

PRECARIOUS CONDITION OF PRODUCERS

"That crisis has arisen. The war has disrupted the world wheat trade. While our reserves are being exhausted, the reserves of other countries are banking up. For three crops the Russian grain has been held, finding very little outlet, and practically no outlet to European consuming centers. Australia has all of her last wheat crop, and part of the crop before, making a total on hand of approximately 180,000,000 bushels.

"Another Australian wheat crop of approximately 100,000,000 bushels will mature in January, and Australia is looking for a market. To find this market Australia has removed her wheat and flour duty, so that this wheat can now move into America, in so far as the limited number of sailing ships available will permit.

"India has a surplus on hand of approximately 100,000,000 bushels with this harvest. This wheat is locked up because of transportation difficulties.

"Although last year's crop conditions were bad in Argentina, there is a greatly expanded acreage, and by January next, when her crop begins to move, Argentina should have a surplus of 150,000,000 bushels.

"The American people are practicing economy as recommended by the Food Administration, and there is a likelihood that our 88,000,000 bushel surplus may be expanded to 200,000,000 bushels to be added to Canada's surplus of 120,000,000 bushels.

A FLOOD OF GOLDEN GRAIN

"It is evident that wheat from Australia, India and Russia is awaiting exportation, restricted only by limited transportation facilities. If the war should end immediately this enormous surplus would be turned loose upon the world, flooding the markets. The war foundations of high prices would be knocked from under American wheat growers, because the normal export requirements do not exceed 600,000,000 bushels.

A WEAKENED FINANCIAL SYSTEM

"Again, the operation of the export embargo and the elimination of exchange trading in wheat futures has taken the underpinning from the financial system which for thirty years has been trained to understand that a loan on wheat purchased by contract was a good security because the hedging system would offset any value depreciation should the market fall.

"Without governmental aid the American farmer would be in a position of greater insecurity in the future than ever before in the history of this country. The danger to the farmer would be more acute because his costs of production have risen enormously during the war, and the ordinary organization of the business world would be powerless to prevent the possible decline in wheat values irrespective of the costs of production, and losses would be enormous. This might disrupt the entire commerce of the United States and bring about a condition of financial insecurity.

PROTECTING PRODUCERS AND CONSUMERS

"To protect the public, Congress has constituted an agency to step in between the central purchasing agency of the allies and the unorganized American farmers. Congress has constituted a food control, placing this control in the hands of the President of the United States, and the President has designated the Food Administration to administer this work. The Food Administration now proposes to act for the American people to protect them in the matter of price and to provide the necessary financial guarantees to buy and store the crop of wheat on hand in 1917 at fair prices; to deal with the allies, giving them only such surplus as can be spared; and to control the margin of profit among trading, milling, baking and distributing factors, to the end that feeds may be conserved for American farmers and cheaper bread and flour may be had by the American consumer. Congress has also made an appropriation of $150,000,000 to enable the Food Administration to finance its operations. The Food Administration will operate without profit, putting only the actual cost of operations as its charge for the handling of the wheat crop.

FAIR PRICE COMMISSION

"In order to finance this undertaking and to supply our allies, a fair price for wheat must be determined as the beginning of this work. Accordingly, the President of the United States has appointed a commission to ascertain what should be a fair price for the 1917 wheat crop. On this commission are represented farmers, consumers and the public at large. The members consist of H. A. Garfield, president of Williams College, chairman; Charles S. Barrett, president of the Farmers' Union, Union City, Georgia; William N. Doak, vice president Brotherhood of Railroad Trainmen, Roanoke, Virginia; Eugene D. Funk, president National Corn Association, Bloomington, Illinois; Edward F. Ladd, president North Dakota Agricultural College, Fargo, North Dakota; R. Goodwyn Rhett, president Chamber of Commerce of the United States, Charleston, South Carolina; J. W. Shorthill, secretary National Council of Farmers' Cooperative Associations, York, Nebraska; James W. Sullivan, American Federation of Labor, Brooklyn, New York; L. J. Tabor, master Ohio State Grange, Barnesville, Ohio; Frank W. Taussig, chairman Federal Tariff Commission, Washington, D. C.; Theo. N. Vail, president American Telephone & Telegraph Company, New York City; Henry J. Waters, president Kansas Agricultural College, Manhattan, Kansas.

"It will be the duty of this commission to make a thorough inquiry into the costs of producing wheat, costs of milling, distributing, baking, etc. When its inquiry is completed and analyzed this body will announce the basic price at which the wheat will begin to be bought. This price will take into consideration not only the costs of production, but also a reasonable profit to farmers on the average, and an incentive to make it worth while for wheat growers to produce wheat in such quantities as may be needed by the United States and our allies.

"The fair price commission desires a frank statement as to his actual costs from every farmer who produces wheat. The method of preparing this statement will be announced and given general publicity within a short time.

HOW FOOD ADMINISTRATION WILL OPERATE

"The Food Administration will then buy this wheat and resell it to American users and to the allies. The Food Administration will regulate the margin of profits throughout the chain of distribution within this nation, so as to protect the interests of all essential factors concerned.

"The Food Administration will immediately license all grain elevators and storage houses that come within the provisions of the act. In this way the government will protect the interests of the American people against any unusual break in prices.

PROTECTION FOR NEXT YEAR

"The act constituting the food control specifically provides a minimum price for farmers of two dollars a bushel on No. 1 northern spring wheat, or its equivalent, as the basis of sales at the principal interior primary markets, subject to such rules and regulations as may be laid down by the President.

"Consequently, American farmers need have no fear that there will be any unexpected heavy slump in prices for the years 1917-18. They may, therefore, in all confidence plant increased wheat acreages in accordance with the recommendations recently made for each district by the United States Department of Agriculture."

Increase in Tractors

W. H. Sanders, instructor in farm motors at the Agricultural College, believes there are more than 6,000 tractors in Kansas, many having been purchased since the figures were published March 1.

From all information obtainable the most popular size is approximately 12.5 horsepower at the drawbar. Most of the demand is for tractors suitable for farms of 200 acres, with a few inquiries for tractors suited for 160-acre farms.

This indicates that either the number of horses is insufficient to supply power for cultivation or that there is an awakening among the farmers tending toward experiments along new lines anticipating better and cheaper power.

Mr. Sanders points out that the use of mechanical power for all farming purposes in Western Kansas will increase in the future. Large tracts of land in that section of the state have not yet been put under cultivation. With the proper utilization of tractor power this land could be made to contribute its bit.



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"Money Saved is Money Earned"
See Page 11

Walker's
Drug Store
Sixth and Jackson

The rubber ring you put on a preserving jar helps to stretch your income.

Kansas Farmer Dairy Club

Dairy Club Contest Ends

RECORDS of all Dairy Club members close with the last milking August 31. Most of the boys and girls of the club started their records earlier in the year, and of course these have already completed their year's work. There are a few, however, whose cows did not freshen until September or a little later, and these must end the year as stated above.

We know you are all anxious to have the prizes awarded, although we believe you have worked in this club with far less thought of the prizes to be won than is usual in club contests of similar nature. The Kansas Farmer Dairy Club has been different from any other club ever conducted. In this club you have learned that you can buy a dairy cow, take her home, and the very next day have some money to apply on the purchase price. If you buy a calf or a pig, you have to wait for it to grow and develop. While you wait you are receiving no income. It is a good deal harder to keep up interest where you do not each day realize the results of your efforts. Of course you can take a pencil and figure that your calf or pig is increasing in value, but with a good cow you do not have to figure out a paper income. You have the product to sell for real money every day. This is one of the reasons why you have found the Dairy Club work so interesting. From the very first day you could feel that you were producing something of real value, and as you saw the note at the bank grow less and less each month, you soon began to work with even greater interest because you could see that you were winning a cow, whether you won any other prize or not. Most of you have already won your cow and own her clear of debt. Some have even purchased a second cow and are following the same method of paying for her. No matter whether you win one of the contest prizes or not, you have earned a cow and besides learned a great deal that will be valuable to you later. This is a contest in which there are no losers.

It will take some time to go over the work of all the members. You can help, hurry along the awarding of the prizes by getting your stories in at once if you have not already done so. If you are among the few who close the year's work September 1, be sure to get all your records in as soon as possible.

In awarding the prizes there are a number of points to consider. Perhaps you became so interested in your work that you have forgotten the rules of the contest. First, the total butterfat production of the cow is to be considered. In this the young cows under five years of age will be given the allowance provided for in the record associations for pure-bred animals. This means that if you milked a two-year-old heifer she will not be expected to give as much butterfat in a year as a cow five years of age. Thirty points of the perfect score are allotted to total butterfat production. Next comes cost of production. Here your skill as a feeder has come in. In calculating the cost, the different feeds used have been figured at the same price for all members, no matter what you actually had to pay for the feed. Thirty points are allowed in this section.

The record part of the work is important and all have had a chance to win twenty points, or perfect. We are sorry all have not done the work so well as to win the twenty points. The way in which milk and cream is handled is also important because milk is a human food and can so easily be made unfit for use. Quite a large proportion of the club members have earned the twenty points by giving the milk and cream the best of care.

There were some special prizes offered which you may have forgotten entirely. These were for letters and pictures you sent in during the year. We have all these letters and pictures and now that the year has ended will look them all over carefully and see who among the members are entitled to these special prizes. You have all written so many good letters and sent us so many pictures that we fear it will not be easy to choose the winners.

If you are back on any of your records, do not delay a single day, but get them in at once so that we can award the prizes at the earliest possible date.

Club members will be sorry to learn that Ernest Wendel was taken down with typhoid fever early in August. He was taken to St. John's Hospital August 5. In case Ernest does not recover in time to get his story in by the first of September, we feel sure the rest of the club members will be glad to have us extend the time for him.

A Cow "Switchboard"

If you have ever milked a cow in fly time, you know what it means to be slapped in the face by the cow's tail. Of course she does not do this from viciousness, but the effect is just as bad as if she really meant to hit you Some dairymen use devices to hold the tail while milking. These simply clamp the switch to the cow's hind leg. We recently saw an entirely different means of protection described in Hoard's Dairyman. It is used on the Alfalfa Guernsey farm of Math. Michels in Wisconsin. Mr. Michels made this device after having one of his eyes almost destroyed by being hit with the cow's tail. He tried clamping the tails while milking, but found by actual test that some of the cows dropped off as much as 25 per cent in their milk when their tails were tied.

His device consists of a board about eight or ten inches wide and four and a half or five feet long. It is hung by two wire hooks from a long wire running lengthwise of the stable just over the edge of the gutter. In milking a long string of cows, the milker slides this board along so that it hangs in just the right place to protect his face when a cow switches her tail. The cows can switch all they like, but cannot strike the milker in the face. We would suggest that our Dairy Club members who have been annoyed by the switching of the cow's tail try this simple device.

New Member Starts Record

My cow was fresh last week. I did not expect her to be fresh until about the first of October. I took the calf away last night, August 20, but will feed it whole milk for a while. My cow has been running on pasture and has had no other feed.—GLEN D. ULM, Emporia.

You should feed your calf whole milk for two or three weeks at least. Be very careful to have the milk clean and sweet. Of course if you take it fresh from the cow it will be all right if you use clean pails. When you start to use skim milk you will have to be very careful. Do not make the change all at once. Begin by putting in a pint of skim milk to take the place of a pint of whole milk. If the calf does all right, increase the amount of skim milk every day or so by a pint until it is taking skim milk entirely.

Do not feed the calf more skim milk than you would whole milk. You have taken the fat out of the milk, but feeding more does not take the place of any of the fat which has been removed. The way to do this is to teach your calf to eat grain about the time you begin to feed it skim milk. You can do this by having some chop and bran mixed and putting a little in the calf's mouth when he is through drinking his milk.

You should never mix grain with the skim milk. As soon as it has learned to eat some grain, you can give it shelled corn, kafir, or oats, with a little bran if you have it. You must always be very careful to have the pails clean and feed the skim milk warm and at about the same temperature each feed. Do not give the calf any of the foam that forms when you separate the milk. This sometimes causes colic.

You probably will have to feed your cow a little more now that she is fresh. Of course she may give considerable milk on pasture alone, but be sure she is getting plenty of pasture. Good cows will usually pay for a little grain.

Banker Supports Club

I have been reading of the Kansas Farmer Dairy Club and would like very much to join. F. N. Nelson, of the First National Bank of Burlingame, has promised to loan me the money to buy a cow. I expect to purchase a good Holstein. I am hoping that I may be a Dairy Club member soon and that I will meet all the requirements.—ROLAND E. RONEY, Scranton.



Concrete
Feeding Floors

SAVING feed is important on the farm of today. A Feeding Floor has become one of the most useful farm improvements—it saves its entire cost in one year. It means the prevention of all waste—and waste at the present prices of feed, is inexcusable. A concrete feeding floor, watering trough, and hog wallow are essentials on every modern farm.

Your livestock will have full protection against disease if you build of concrete. Concrete is sanitary. It is reasonable in initial cost. Above all, it does not decay or deteriorate.

DEWEY
Portland Cement

is the farmer's favorite for making permanent farm improvements.

See the Dewey dealer near you and ask him for the Bulletin on Concrete Feeding Floors. He has it or will get it for you.

Look for the Dewey Sign.



FERTILE KANSAS LAND CHEAP

Those who located in Central Kansas 20 years ago are the big farmers today. Their land has made them independent.

Your chance *now* is in the five Southwestern Kansas counties adjacent to the Santa Fe's new line, where good land is still cheap.

With railroad facilities this country is developing fast. Farmers are making good profits on small investments. It is the place today for the man of moderate means.

Wheat, oats, barley, speltz, kaffir and broom corn, milo and feterita grow abundantly in the Southwest counties referred to. Chickens, hogs, dairy cows and beef cattle increase your profits.

You can get 160 acres for $200 to $300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6 per cent—price $10 to $15 an acre.

Write for our book of letters from farmers who are making good there now, also illustrated folder with particulars of our easy-purchase contract. Address

E. T. Cartlidge,
Santa Fe Land Improvement Co.,
1692 Santa Fe Bldg., Topeka, Kansas.

If on the market for pure-bred stock, read KANSAS FARMER live stock advertisements. You will find what you want.



BUTTERFAT AND INCOME

TO BE profitable a milk cow must be a good producer, but few people realize how rapidly the rate of profit increases as the total production increases. The cost of handling an ordinary cow is almost as much as the cost of handling a high producer. It is easy to see that the overhead expense, as it is called in a factory, is considerably greater on three cows capable of producing 150 pounds of butterfat a year each than on one 450-pound cow, and yet the total amount of butterfat produced is the same.

The dairy division of the Federal Department of Agriculture has prepared some figures based on the records of 1,668 cows in various cow testing associations which show how rapidly the net income increases with increased production of butterfat. The figures are as follows:

Average butterfat production (pounds)	Average income above feed cost
100	$ 4.00
150	18.00
200	29.00
250	43.00
300	56.00
350	68.00
400	88.00
450	108.00

As butterfat production increased from 150 to 300 pounds, income over cost of feed advanced from $18 to $56, or as production doubled income above feed cost increased three times. As butterfat production increased from 150 pounds to 450 pounds, income over cost of feed advanced from $18 to $108, or as production trebled income over feed cost increased six times. If no expenses, except the cost of feed, are considered, the cow that produced 450 pounds of butterfat was as profitable as twenty-seven cows of the first group whose average production was 100 pounds. If labor and miscellaneous expenses also could be taken into consideration the results would be much more striking.

A further study of the records showed that the cost of roughage was about the same for all groups, but that the total cost of feed was somewhat greater for the more productive cows. The increased profit should, therefore, be credited in part to better feeding, but apparently it was more largely due to better cows. The present high cost of feed will eliminate the low-producing cow, or it must eventually eliminate the dairyman who keeps such cows. More cows are needed, but better cows are needed more. Certainly it pays to keep good cows and to feed them well.

The Dairy Cattle Congress

At Waterloo, Iowa, October 1 to 7 inclusive, will be held the Dairy Cattle Congress, which will probably surpass all previous shows because its purpose is so directly in line with the food conservation campaign now being conducted by our Government. Arrangements are under way to give a practical demonstration of every important phase of dairying and emphasize the magnitude of the industry.

Present indications point to the fact that the high standing established for both numbers and quality of cattle shown will be maintained if not materially increased this year. Breeders representing fifteen states have already advised their intention of showing their herds and a much larger territory will undoubtedly be represented by the time entries close. The premiums offered to the five herds, namely: Guernseys, Holsteins, Ayrshires, Jerseys and Brown Swiss, total more than $8,000. The national breed associations and clubs will offer substantial premiums in addition to those given by the show proper.

The manner in which exhibitors of machinery, dairy equipment and supplies have reserved space indicates a great confidence in future dairying. The 48,000 square feet of exhibit space in the buildings and the ten acres of exhibit space on the grounds will be filled to capacity. The man who contemplates the construction of a new barn, the purchase of a cream separator, milking machine, lighting plant, water system, or any piece of up-to-date farm equipment, should visit this show. Here the buyer has a chance to see and have demonstrated to him many different makes and can choose the one that suits his fancy.

The Iowa State Dairy Association will again hold its interesting sessions on the grounds. A well balanced program for both the production and manufacturing sides of the industry will be given. With the many grave problems facing the dairymen and creamerymen this year, there should be a record-breaking attendance at every session. Every day's program will also contain scheduled meetings of national and state organizations for the development of dairying.

Value of Legumes

In these days of high-priced grain and concentrates of all kinds, every dairyman should learn to appreciate the value of legumes. The whole country has come to look upon alfalfa hay as almost essential in the profitable feeding of milk cows. We sometimes wonder how eastern and northern dairymen can pay $20 or more a ton for Kansas alfalfa and in addition pay the freight on it to their own station and then have to haul it out to their farms. Growing leguminous crops is a part of the dairyman's farm business. Here are a few suggestive statements about these most valuable plants taken from a press bulletin of the Wisconsin Experiment Station:

"Alfalfa, clover, beans, peas and the rest of this family produce the most nutritious food and at the same time add more nitrogen to the soil than they remove.

"Legumes come nearer to giving something for nothing than any other plants. Yet there is nothing mysterious about these plants. They have formed a partnership with some bacteria that live on their roots. These bacteria in return for being given a home (nodules) on the plant roots and for food from the plant take nitrogen from the air and leave it in the soil for the plant's use.

"There are millions of dollars' worth of this nitrogen over each acre, so the bacteria have an almost endless supply to draw on.

"The way to tap this great wealth is to grow these plants that have these wonderful bacteria on their roots. These plants do not do well without the bacteria. When alfalfa, clover, peas, beans or any of the older of these legume plants are sown on a piece of land for the first time, it is usually necessary to sow the bacteria as well as the plant seed.

"In these days, when plant food is so important, the greatest possible use should be made of the legumes, the greatest food producers for man and beast.

Skim Rich Cream

"A turn of the cream screw on your separator will put dollars in your pocket—skim a rich cream instead of one low in butterfat," says a folder which is being distributed this month by Wisconsin creameries among their patrons. The booklet was prepared by the dairy department of the university.

"Wisconsin annually sells about 500,000,000 pounds of cream to butter factories. If this cream tested 20 per cent and the test were increased to 35 per cent, about 200,000,000 pounds of skim milk could be saved—skim milk worth about $1,500,000 as feed, the equivalent of a million bushels of corn.

"The farmer is paid not for the actual weight of his cream but for the butterfat it contains. Result: 286 pounds of cream testing 35 per cent contains as many pounds of butterfat as 500 pounds of cream testing 20 per cent. And the 35 per cent cream saves 214 pounds of skim milk, worth at present prices $1.60 for feeding calves, pigs, or chickens."

Skim milk is worth just as much in Kansas as it is in Wisconsin. This is good advice for the Kansas dairyman.

There has been a remarkable increase in the demand for condensed milk. From the custom house office in New York City comes the information that 12,000 tons of American condensed milk has been shipped abroad every month as compared with 2,000 tons before the outbreak of the war. About half of this enormous quantity of condensed milk goes to the allies and the rest is shipped to South American countries, Holland, Denmark and Switzerland. This heavy demand for condensed milk has had a part in raising the prices being paid for milk. We just learned that one of the big condenseries in Kansas has announced that it will pay three dollars a hundred pounds for milk beginning October 1.

Many carloads of alfalfa hay have been shipped out of alfalfa-growing sections of Kansas this year at remarkably high prices. This hay is going to farmers in the northern and eastern states who are paying this high price, adding the freight, and feeding it to their milk cows and other stock. If they can profitably feed this alfalfa after paying freight, we wonder if we could not afford to feed it in Kansas.

IDEAL heating makes a home out of a house



Put in AMERICAN Radiators and an IDEAL Boiler right away and have plenty of heat all winter with a great saving of fuel and labor. Not necessary to have basement or water pressure

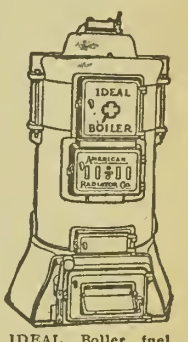
Any building *old* or *new*, in country or city, can be successfully heated with an IDEAL Boiler and AMERICAN Radiators. The economy of IDEAL heating outfits is known to all users. They cannot say enough about the great fuel savings, the splendid comfort, the lack of repairs, the little attention, the cleanliness, and the every-day good, solid service that they get from their IDEAL Boiler and AMERICAN Radiators. They have made *homes* out of their *houses*.

AMERICAN RADIATORS & IDEAL BOILERS

Especially this year you should choose an IDEAL heating outfit for its *great fuel saving features*.

***Any fuel anywhere* can be burned with greatest heating results.**

The IDEAL heating outfit will last forever. We have never heard of one wearing out. Repair bills are unknown and the attention is so slight for getting plenty of heat day and night that you will wonder why you do not have to look after it more than once a day.



IDEAL Boiler fuel pots mix the air and coal gases as in a modern gas mantle, extracting ALL the heat from the fuel.

Save fuel this year with IDEAL heating

If everyone would use IDEAL Boilers in their homes, we would have no high priced fuel question. You can burn the low priced fuels of any localities and IDEAL Boilers and AMERICAN Radiators are such great savers of fuel that you will soon save the first cost of the outfit.

Phone or call on your heating dealer today and get estimate for putting in an IDEAL heating outfit.

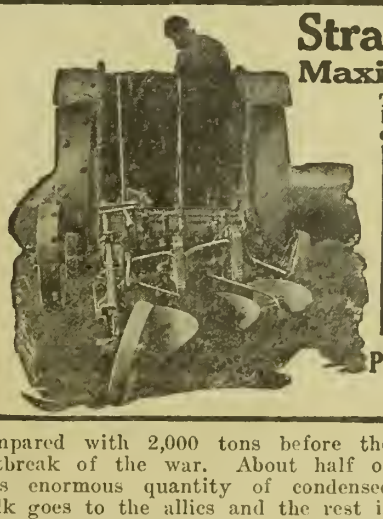
Send for this book (free)

Write today for copy of "Ideal Heating." We want you to read this book through, for it gives you the truth about the heating question and shows why we want you to have IDEAL heating to change your house into a *home*.

Sold by all dealers. No exclusive agents

AMERICAN RADIATOR COMPANY

Write to Department F14 Chicago



Straight Draw-Bar Pull
Maximum Pull—No Side Draft

The Parrett pulls same as horses—direct on the draw-bar. No lost power. Implements always under control of one man. This is one feature which makes the Parrett the superior light weight tractor.

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SPEAKS FOR ITSELF
ONE MAN — ALL PURPOSE

The Original High Wheel Tractor

imitated but not equalled. Operates on gasoline or kerosene for all field, belt or road work. Your inquiry will bring full details about this all purpose tractor.

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Only Two Weeks More

See Page 11



Get Rid of Worms

Figure how much it's worth to you in dollars and cents to keep your hogs free from worms. Worms prevent thrift—retard growth—rob you of good, high-priced pork.

Dr. Hess Stock Tonic

Drives Out the Worms

and at the same time tones and conditions the system. It enables your hogs to be at their best—to do their best. You take no chances. My Stock Tonic is guaranteed. You buy it at an honest price, from my dealer in your town who will return your money if it does not do as claimed.

Why Pay the Peddler Twice My Price?

25-lb. Pail, $2.00; 100-lb. Drum, $6.50.

Except in the far West, South and Canada.
Smaller packages in proportion.

DR. HESS & CLARK, Ashland, Ohio

DR. HESS POULTRY PAN-A-CE-A
will help your hens through the moult.

Dr. Hess Dip and Disinfectant Kills Hog Lice



Get My New Concrete Mixer Offer

I want ten men in every county right now to accept my special co-operative offer. It will help you obtain a Sheldon Batch Mixer at little or no cost. Let me tell you about it.

You probably need a mixer for concreting on your place—most farmers do. The Sheldon is the ideal mixer for the farm.

Light and easily portable, durable, low-priced. You'll find it will prove a mighty good investment. Write for special offer.

Sheldon Batch Mixers $115.00 Up



MAKE BIG MONEY Concreting In Your Section.

You can easily earn $8 to $20 a day with a Sheldon Batch Mixer. Our customers are doing it right now. The jobs go to the man with a Sheldon Mixer every time. Saves labor of 1 to 4 men, according to size of job. Or, if you buy a machine for your own use, you can make many times its cost in a season by renting it to neighbors.

Improve Your Farm

Build your own silo, tanks, troughs, floors, foundations, buildings, etc., out of concrete with a Sheldon Batch Mixer. Will pay for itself on first small job. Beats hand mixing a mile. And it's a lot cheaper too. Takes the backache out of concrete. Makes possible those many small improvements on the farm that you wouldn't do without. Improvements which will add many dollars to the value of your land.

Get My FREE Catalog

Tells how to build your own mixer by using the *Free Plans* which we send with our iron parts. Also shows full line of built-up machines. Two styles, hand and power. Will mix 2 1-2 cu-ft. a minute. Keeps 1 to 6 men busy. Chain drive, self-tilting dump, all parts guaranteed. Write today for catalog and special offer. Geo. C. Sheldon, Pres.

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Build Your Own Concrete Mixer → FREE PLANS

6 1-2 to 10% on your Money

See Page 11

Since the crop conditions have so greatly improved in Kansas, we have heard some criticism of the effort made by Secretary J. C. Mohler of the State Board of Agriculture to help farmers having undeveloped pigs to find a profitable market for them in other states. It was pointed out that this was encouraging the sacrificing of pigs from Kansas farms. The facts were, however, that the pigs were actually being rushed to market. A visit to any stock yards the latter part of July when Mr. Mohler proposed this co-operative plan of helping out the situation, would have shown the yards filled with pigs and piggy sows. These pigs were actually going to market at a sacrifice and Mr. Mohler, being apprised of the fact through the letters he was receiving from all sections of the state, turned his attention to letting feeders in other states know that pigs were being sacrificed. We understand that a good many carloads of pigs have been loaded direct to Missouri and Iowa. Of course with the wonderfully improved feed condition many who might have been compelled to sell their hogs later are now expecting to feed them out. It is probable that some part of the criticism is due to the fact that these shipments were made direct, thus avoiding the payment of any commission charges en route.



Commercial Fertilizer for Wheat

THE use of commercial fertilizers is becoming quite common in some parts of Kansas. The following inquiry is representative of many that come from farmers wishing to know definitely about the profitableness of using fertilizers:

"I am seeking information regarding the use of commercial fertilizer with wheat. I am contemplating sowing several acres of wheat this fall and want to get right on the use of fertilizer. I hear different ones talking. Some say if used once its use must be continued or nothing will be raised thereafter. Others say that land will not raise clover after using fertilizer, etc. I have here a farm of mulatto soil, or rather red soil, and another at Fort Scott that is rather a white soil. Is it necessary to have this soil analyzed to determine the kind of fertilizer to use?"—T. W. W., Linn County.

Prof. R. I. Throckmorton, soils specialist at the Agricultural College, answered this inquiry as follows:

"The use of commercial fertilizer has become very general throughout the eastern counties, and marked increases in yield have been obtained from the use of commercial fertilizers in the growing of wheat in the southeastern part of the state and on those soils which have been derived from limestone and shale. Soils derived from these sources are very low in phosphorus and therefore require applications of this element before giving maximum yields.

"The soils which have been derived from limestone, however, contain fairly large quantities of phosphorus and therefore do not respond so readily to such applications. The fertilizers required on such soils are those which contain a small amount of nitrogen, a high percentage of prosphorus, and no potash. Potash has not given increases sufficient to pay for the material. Such fertilizer may be applied in the form of acid phosphate or some form of bone meal. High grade bone meal fertilizers have given very marked increases.

"The white ashy soil is especially low in phosphorus and applications of this material have given us an increase of 100 per cent in yield in some of our co-operative tests in Southeastern Kansas. Acid phosphate should be applied at the rate of 180 to 200 pounds per acre. The high grade bone meal should be applied at the rate of 160 pounds per acre.

"The question of whether or not to have a chemical analysis of the soil to determine its fertilizer requirements is a very common one and one which naturally arises when the soil seems to lack plant food elements. We have not found it advisable or practical to make chemical analysis of the soils for this purpose. The chemical analysis will give the total amount of plant food in the soil but not the amount which the plant can use.

"Another question which commonly arises is whether or not the use of fertilizers one year will make it necessary to continue the use from that time on. This question may be answered by the statement that an application of fertilizer will increase the yield for three or four years. After this, the yield will gradually decrease until it has dropped back to the original point. However, this is no reason why the use of fertilizers at one time should demand their use at some later date."

Showing Potatoes at Fair

If you raised some good potatoes, why not prepare an exhibit for the fair?

After digging, let the potatoes lie on the ground long enough to dry thoroughly and to toughen the skin.

Carefully wrap each tuber separately in paper.

Place in shallow one-layer boxes and store in a dark cool place.

Take out just before time to send the tubers to the show.

Clean them with a soft brush, removing every particle of the dirt.

Avoid pressure in order not to injure the tubers.

Do not wash; tubers wilt if washed and have an unnatural sheen.

Pick out a model of the type, size, color and eyes of the variety to be exhibited.

Make the rest of the lot as nearly like this model as possible.

See that the skin is clean, smooth and free from sunburn, having a desirable luster and bloom and being free from all blemishes of all sorts.

Wrap in soft paper and pack so that they will not jostle or jar in being shipped.

Silage saves much of the cost of high-priced oil meal and ground feed. Silage is the cheapest milk and meat producing winter roughage known.

THE FARMHOUSE IMPROVED

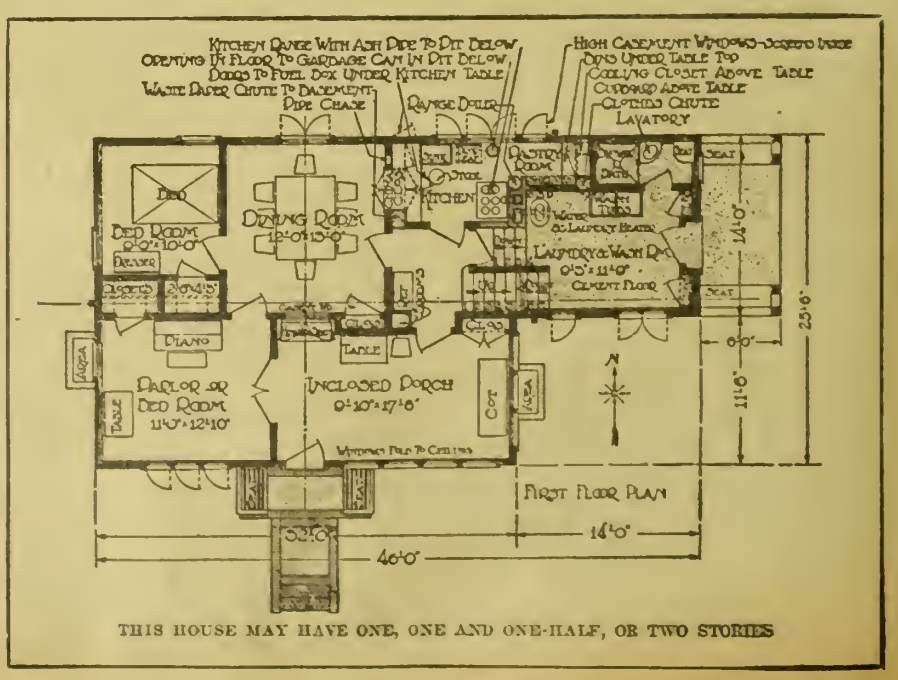
(Continued from Page One)

lavatory for this purpose and a small window under the roof of the east porch for light and ventilation.

The room for the hired help opens off the stair landing and six steps below the family rooms, which are on the second floor. This space can be used for a store room, instead, or it can be made into a sleeping porch and all other space on the second floor be used for rooms. As shown, this little room is well ventilated through a double casement window on the south and a window on the east.

The water closet is on the level of the stair landing for convenience to the first floor. It is detached from the bath room.

Because of lack of space, we cannot show the arrangement of the upstairs rooms or the basement plan. We will reproduce these in a later issue.



THIS HOUSE MAY HAVE ONE, ONE AND ONE-HALF, OR TWO STORIES

Improvements Increase Land Values

THE prosperity of a farming country is gauged by the improvements found on the farms. A good observer in riding through the country can tell from the car window when he is passing through a section of fertile land farmed by progressive, up-to-date farmers and having proper facilities for marketing crops to advantage, by the kind of improvements he sees. Good farm houses, barns, fences, and other farm improvements as a general proposition can be taken as a fair index to the value of the land itself. Of course in a newly opened territory this will not hold good, but as a country develops, nothing so clearly enhances the value of the farming land as good improvements of all kinds.

The value of improvements is not simply a matter of comfort or convenience for the people doing the work. Money invested in improvements on good land is valuable capital. If properly handled it will return as much or more, dollar for dollar, on the investment as the money tied up in the land itself. In sections where the country is fairly well settled, such as Central Kansas and extending west in the better agricultural regions, the value of improvements will be more clearly demonstrated with each passing year.

There are many farms operated by tenants. A good tenant, one who has the ability to make land produce to its fullest capacity, will not be satisfied on a farm having poor improvements. It does not give him a fair chance to demonstrate his ability and compels his family to put up with inferior accommodations and suffer many discomforts. A good tenant will want the place with the good improvements and will usually get it.

Land owners who hold to the idea that land is all that a man needs to make a success of farming, will lose out, whether they farm the land themselves or turn it over to tenants. Land is only a part of the equipment needed to insure success in farming. Too often all the available capital is tied up in land and it cannot be made to return an income on the investment because the farm lacks what might be called working equipment.

In a section where the tenant farms can be picked out because of the lack of improvements, newcomers are apt to get a poor idea of the country. Owners of good farm land in a growing and developing community cannot afford to neglect this matter of farm improvements. We are now being urged to grow maximum crops, especially of wheat, and economic conditions seem favorable to following such a course. Providing the necessary buildings and other improvements will be a most important factor in increasing crop production and enhancing the productive value of farm lands.

The Royal Announcement

The American Royal Live Stock Show will be held this year October 1 to 6 inclusive.

This year's show will be purely a show of the four great registered beef breeds, which will be more strongly represented than any previous year. On account of the prevailing high price of beef cattle, unusual interest is taken in the raising of beef cattle, and herds of the four leading beef breeds of America, namely, Herefords, Shorthorns, Aberdeen-Angus and Galloways, will be represented at the American Royal this year from all quarters of the United States.

On account of inadequate space at Convention Hall, this year's show will be held at Electric Park, the week following Old Glory Week celebration at the park, which closes Saturday, September 29, and it is expected that thousands of visitors in the city for Old Glory Week will remain over for the American Royal, to see one of the finest registered breeding cattle shows to be held in the United States this season.

There will be a horse show several nights, in connection with the American Royal, probably under the auspices of the Parkview Riding Club of Kansas City, consisting of light harness and saddle events. The management is going after some other horse show events, and everything points to a first class horse show for the American Royal visitors.

Space has also been provided for a poultry show, which will be under the management of V. H. Southard, manager of Useful Poultry Culture. Mr. Southard has already employed three poultry judges of national reputation. Poultry exhibits from the various state fairs will be brought here for the poultry show during the week of the American Royal.

Topeka Free Fair Plans

The educational feature will be emphasized more than ever this year at the Topeka Free Fair, which will open its gates to the public with no admission charge, Monday, September 10. The second day of the fair will be known as Farmers' and Stockmen's Day. The management has prepared a People's Pavilion conveniently located where addresses and demonstrations will be given throughout the week. Representatives of the Agricultural College and leaders of agricultural organizations will speak on topics of greatest interest to people of all classes. On Farmers' and Stockmen's Day live stock and other agricultural topics will be given special attention. In the evening there will be a grand patriotic display in front of the grandstand. This feature will be repeated several evenings of the week.

The third day will be Good Roads Day, and road enthusiasts will occupy the center of the stage. There will be good roads talks and demonstrations in the building of roads and the use of road machinery. There will also be tractor demonstrations and canning demonstrations. The parades of live stock will be given daily and there will be special entertainment features each day.

On Thursday the subject of defense will be uppermost. The United States Army, Kansas National Guard, Ladies of the G. A. R., the Navy League, Red Cross, Sons of Veterans, Spanish War veterans, Boy Scouts, Campfire Girls, Daughters of the American Revolution, the Royal Legion, and other patriotic organizations will come to the front in the program for the day.

Old settlers are to hold forth Friday. This is also Woman's Day and Health and Hygiene Day in the People's Pavilion. This will also be the day in which all the prize-winning animals will be especially on display. The awards in all departments will have been made by that time and those who cannot come before can on this day get a complete view of the animals and other exhibits in all classes which have won in the competition. As usual the Topeka fair will have a strong live stock exhibit. People of Kansas can well afford to spend a day or two in attendance at the Topeka Free Fair.

A number of bearings on the tractor must be oiled with the squirt oil can. These require frequent attention. The idea in oiling bearings is to constantly keep an oil film between the wearing surfaces. A small quantity of oil applied every hour is much more effective than a pint in the morning and no more for the rest of the day.

LOANS
On Long Time if Desired
Privileges of Payment
Call or Write for Rates
The Capitol Building and Loan Association
Topeka, Kansas
534 Kansas Avenue

THE TOPEKA STATE BANK
Interest on Deposits Guaranteed Under the Laws of the State of Kansas
Topeka, Kansas

SAVE MONEY

See Page 11

We Have
MONEY TO LOAN
On Farms in Kansas.
Call on us or write.
THE PIONEER MORTGAGE CO.
Mulvane Building, Topeka, Kansas.
We Always Have Money On Hand

DO YOU NEED MONEY?
To Buy a Farm or to Make Improvements?
The Government is asking for co-operation in making every acre produce this year. We have plenty of money and are at your service.
WE MAKE
FARM MORTGAGES IN EASTERN AND CENTRAL KANSAS
A special privilege is given whereby a favorable prepayment option can be granted, giving the borrower the privilege of paying $100 or multiples thereof on the principal note, on the first day of any month after the first interest payment.
THE MERRIAM MORTGAGE COMPANY
Thirty-seven years of continuous and exclusive dealing in farm mortgages
C. W. MERRIAM, President — C. B. MERRIAM, Treasurer
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COLUMBIAN BUILDING — TOPEKA, KANSAS

Zercher Book and Stationery Co.
Topeka, - - - - - Kansas
Books :: Stationery :: Office Equipment :: Shaw-Walker Filing Cabinets

BANK OF TOPEKA
"In Service as Well as in Name"
Established in 1868
Capital and Surplus - - - - - - - $500,000.00

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS



SAVING THE WASTE MAKES THE PROFIT!

In all kinds of manufacturing the by-products are carefully saved and worked into salable merchandise. Farming is, or should be, a great manufacturing business so carefully conducted that no by-product is permitted to go to waste. The land provides the raw materials and the buildings are the factories where the cheap grains and fodders are changed into high-priced butter, pork, eggs, beef, mutton, etc.

Farmers who try to farm without sufficient factory buildings must sell their raw materials and let the next fellow make the profit.

You want to make the most out of farming—then write us for descriptions of farm buildings that will enable you to make the most out of your land. We will make recommendations for buildings and finance you if necessary.

OUR ADVICE COSTS YOU ABSOLUTELY NOTHING.

FILL OUT THE COUPON AND MAIL TO US

I want to know how to save the waste products on my farm. Give me your advice as to what buildings I should have.
My land is in.....County,
.....State, and I own.....acres.
NAME .....
ADDRESS. .....

THE FARM MORTGAGE CO.
TOPEKA - KANSAS

Kansas Free Fair

Topeka, Sept. 10-11-12-13-14-15, 1917

SIX BIG DAYS AT THE BIG FREE FAIR. The gates stand open day and night. This beautiful 86-acre fair ground, all of the twenty-four permanent buildings and every exhibit is open and free to everybody. No admission charged except races and shows.

Mammoth Live Stock and Agricultural Exhibit

The new Agricultural Hall will be crowded with exhibits of the farm, Boys' and Girls' Clubs, the Junior and Home-Made Departments. A big display by Mother and Daughter Canning Club, Culinary, Art and Textile exhibitors. Ten barns devoted to live stock.

24 Horse Races

The afternoons of Tuesday, Wednesday, Thursday and Friday will be devoted to harness and running races.00. $7,500 in purses. Kansas Derby.

THE BIG FREE FAIR

Auto Races

Fred Horey, the world's champion, will defend his title in a match race for a purse of $1,000.00 on Saturday.

30 Big Shows

Battle in Skies

The Con T. Kennedy Shows will furnish the amusement on Sunflower Trail, where there will be thirty clean and entertaining Coney Island shows.

Katherine Stinson Champion Women Flyer

Katherine Stinson, champion woman flyer, is only twenty years old, but is famed as a flyer. She loops the loop, flies upside-down, does the death drop. Miss Stinson will fly on Saturday, "Katherine Stinson Day," and will race Fred Horey, the auto champion.

Peoples' Pavilion---An Educational Department

In the People's Pavilion, under the auspices of the Kansas Council of Defense, lectures and demonstrations in food conservation and production will be held daily and each day a Mother and Daughter Canning Club will give a canning demonstration.

$30,000 IN PREMIUMS $30,000

Feed the Fighters! Win the War!

Harvest the Crops! Save the Yields!

On the battlefields of France and Flanders the United States boys and the Canadian boys are fighting side by side to win for the World the freedom that Prussianism would destroy.

While doing this they must be fed and every ounce of muscle that can be requisitioned must go into use to save this year's crop. A short harvest period requires the combined forces of the two countries in team work, such as the soldier boys in France and Flanders are demonstrating.

THE COMBINED FIGHTERS IN FRANCE AND FLANDERS
AND THE COMBINED HARVESTERS IN AMERICA
WILL BRING THE ALLIED VICTORY NEARER

A reciprocal arrangement for the use of farm workers has been perfected between the Department of the Interior of Canada and the Departments of Labor and Agriculture of the United States, under which it is proposed to permit the harvesters that are now engaged in the wheat fields of Oklahoma, Kansas, Iowa, North Dakota, South Dakota, Nebraska, Minnesota, and Wisconsin to move over into Canada, with the privilege of later returning to the United States, when the crops in the United States have been conserved, and help to save the enormous crops in Canada which by that time will be ready for harvesting.

HELP YOUR CANADIAN NEIGHBORS WHEN YOUR OWN CROP IS HARVESTED

Canada wants 40,000 Harvest Hands to take care of its
13 Million Acre Wheat Field

One cent a mile railway fare from the International Boundary line to destination and the same rate returning to the International Boundary. High wages, good board, comfortable lodgings.

An Identification Card issued at the boundary by a Canadian Immigration Officer will guarantee no trouble in returning to the United States.

AS SOON AS YOUR OWN HARVEST IS SAVED, move northward and assist your Canadian neighbor in harvesting his; in this way do your bit in helping "Win the War."

For particulars as to routes, identification cards and place where employment may be had, apply to Superintendent of Immigration, Ottawa, Canada, or to

GEO. A. COOK, Canadian Government Agent, 2012 Main St., Kansas City, Mo.



MODERN HEATING METHODS

IN BUILDING the modern farmhouse, careful consideration must be given to the question of heating. Prof. W. A. Etherton in his recent bulletin, issued by the Engineering Experiment Station of the Agricultural College in co-operation with the National Lumbermen's Association, devotes a whole chapter to the topic, "Protection from Heat and Cold." After taking up in detail the many structural features involved in building a house that will stand the test in protecting from heat and cold, he gives the main points to be considered in selecting and installing the heating system. In the northern states about the first question asked by a farmer who is planning to build a modern house is, "What system of heating do you recommend?" Professor Etherton says that, while furnace heating is to be recommended for most farm houses, hot water is to be preferred except for first cost, and conditions will oftentimes justify the greater expense.

In selecting a heating system, he mentions the following items for consideration:

"The first cost of furnace heating systems is about one-half as much as direct steam and about one-third as much as direct hot water.

"Structural difficulties may render impracticable the installation of hot air pipes and registers in ready-built houses. If this difficulty obtains for only one or two rooms, a combination furnace and hot water system can well be used. A water disk can be placed within the furnace above the fuel and connected by pipes to the radiators as in an ordinary hot water system. These disks, or heaters, are catalogued as auxiliary parts of furnaces and they can be purchased as such.

"More basement room may be required for furnace installations than for steam or hot water. If ceilings are low, the space below the leaders will probably be useless for other purposes.

A furnace should be located to equalize as nearly as possible the lengths of the several leaders. This requirement places it about the center of the house. A steam or hot water boiler can as well be placed near the end of a building.

"Radiators may occupy valuable space in the rooms. Hot water radiators will occupy about one-half more room than steam radiators. Hot air registers occupy practically no space at all.

"Rooms on the windward side of a house cannot be heated by a furnace when the wind is strong. Circulation of steam and hot water through the system of pipes and radiators is not affected by wind pressure.

"Furnace systems respond easily and quickly. The kindling of a fire may be sufficient to remove the morning chill from the house. If the drafts are closed or if the fire is permitted to go out, the house cools quickly.

"A building can be heated more quickly with steam than with hot water, but water in the boiler must be heated to boiling before steam can be generated. Steam radiators are heated to about 220 degrees, but they lose their heat quickly when pressure in the system fails.

"In a hot water system the water fills the boiler, pipes and radiators. A relatively large amount of heat is required to change the temperature of all this water and to circulate it normally through the system. However, the water begins to circulate as soon as there is a marked difference in temperature in any part of the system, and it will continue to circulate as long as there is fire in the heater. Water enters the radiators at about 160 degrees and it has, at this temperature, so much heat that it continues to warm the rooms long after it begins to cool. This advantage of maintaining a nearly uniform temperature in the house, day and night, with comparatively little attention to the boiler and with an economical consumption of fuel, makes hot water heating the most desirable of any system in common use for domestic purposes. This is especially true for cold climates where heat is needed continuously for several months of the year. In localities where the weather is not severe, but subject to sudden changes, fireplaces may well be used to supplement a hot water heating system.

"Steam heating requires too much care and attention for the busy farm wife who may be left alone much of the day.

"It is quite possible to make a furnace system of heating a good ventilating system also, but this is seldom done. The vent flues for removing foul air from the rooms are seldom provided in residence work and the outside cold air inlets are seldom used when provided. The average owner will not bear the additional expense of operating such a heating-ventilating system. As a result, the inside air and odors are circulated within the house. Herein is an advantage in air leakage through doors, windows, and poorly constructed walls. It compensates, in large measure, for what would otherwise be a bad practice with all systems of residence heating.

"Furnace systems of heating are good, theoretically; but, like other systems, they often fail in practice because of bad installation. It is quite impossible to design furnace work with as much precision as steam and hot water; but, because of its difficulties, it needs even more skillful handling. Unfortunately for the owner and the manufacturers of good furnaces, the installations are too often made by guess and according to eccentric ideas of the mechanics.

"The owner should know, first, that the quantity of air from the furnace which will be required to heat a house will vary considerably, for the several rooms, and according to conditions which must be known and considered carefully and intelligently, to determine, even fairly well, the sizes of the registers, stacks, leaders, furnace, and cold air duct that are necessary for satisfactory results in heating. Second, that the heated air will move along the lines of least resistance and at rates which will vary inversely with the resistance. It is quite desirable, therefore, that all air branches be fairly well equalized in resistance. To this end, the furnace should be located so as to equalize, as nearly as possible, the lengths of the several leaders—the horizontal pipes in the basement. The pipes should have as few bends as possible and these should be made with long-radius elbows. The mechanic should not be permitted to connect a round leader into a narrow vertical stack without an easy elbow or a 'boot' which is made for the purpose. Long leaders and leaders which extend to the windward side of the house should have as much pitch as possible and more than other leaders. The connections of leaders to furnace should be equally distributed about the casing of the furnace. Third, that furnace gases can be and should be excluded from the rooms by making air-tight joints in the furnace castings. Fourth, that these are only a few of the essentials to a good furnace system of heating and that one cannot well afford to sacrifice or to run a risk of sacrificing any essential by employing a heating contractor who has not proved himself wholly capable and trustworthy.

"Steam and hot water systems are more often installed by specialists in heating work than furnace systems, and they can be calculated more precisely by rule, but there is quite as much need for caution in the installation of these systems as in any other.

"It is the keen competition of contractors, aggravated by the poor judgment of many owners who strive for the cheapest possible bids, that accounts for so many 'skinned jobs.' Contractors must have living wages. If they are compelled to bid low to obtain work, they may take larger profits than otherwise, feel justified in doing so, and leave the owner to repent his folly at leisure."

Save Grain Sorghum Seed

The demand for seed of feed crops for late planting was unusual this year.

It was met by those men who had stored seed in the head and kept it dry. At first thought, we felt that these men should have advertised their seed early. But later it seems to us that the interests of the country were served best by holding this seed for late planting. Some of the seed thus held was grown in 1915. Men who put this good seed away and held it proved benefactors, and made money, too.

Now, the suggestion comes from this lesson. Those who have good seed of any feed crops should select as much as they can afford to store and put it away where it can be kept safe from rain and rats.—J. E. PAYNE, Oklahoma.

There has never been a greater demand than now for men and women thoroughly trained in agriculture.



Tracing Live Stock Shipments

ONE of the serious handicaps in marketing live stock is to know how to avoid sending in stock on an overloaded market. The Bureau of Markets of the Federal Department of Agriculture has undertaken a service that is certain to be of great value to shippers. A shipper can learn early in the morning of each day exactly how much live stock is headed for market at that particular time. If he is willing to pay the expense of the message, he can receive this information much earlier by wire. Heretofore the shipper was probably the last man concerned to learn of the movement of live stock en route to market.

As an illustration of the information now available regarding live stock movements, we quote from a statement furnished for a given date: "Today—August 16—there are 3,115 carloads of live stock on the railroads of the United States destined to some 100 markets. Of these cars, 1,772 are loaded with cattle, 699 with hogs, 289 with sheep, 105 with horses and mules, and the rest with mixed stock. The greatest number of cars for any point are bound to Chicago, with Kansas City second, Fort Worth third, and St. Paul fourth. Chicago is the destination of a larger number of cars of each kind of stock than any other city, except in the case of horses and mules and mixed. The largest number of cars of horses and mules were loaded for East St. Louis, while St. Paul was the destination of by far the largest number of cars of mixed stock."

It was pointed out in the report that the greatest number of the Chicago shipments came from Iowa, with Illinois second and Minnesota third. Iowa's large consignment was made up mostly of hogs. These figures represent the typical live stock movement at this season of the year. The real significance of the figures is in the detail and accuracy with which both shipper and packer can know the probable supply on any market on a given day. With the points of origin and point of destination known, the supply of any kind of stock at the various market points can be approximately foretold.

Five hundred and twenty-one division superintendents of all railroads west of the Allegheny Mountains, representing about 225,000 miles of line, nightly report these facts by telegraph. The bureau receives nightly an average of 300 such wires from division superintendents. A night force of telegraph operators and statistical clerks receives and tabulates this information, so that it can be wired to market points at 7 A. M. eastern time.

A tabulated summary of the loadings is wired daily, including Sunday, to the local offices of the Bureau of Markets in Boston, New York City, Philadelphia, Chicago, Kansas City, Omaha, Portland, Fort Worth, and Washington, D. C., for immediate publication in the press. Thus producers of live stock and members of the live stock and meat trade at the markets have an early morning report which will assist in gauging more accurately the receipts at all of the live stock markets. The information contained in these reports should help to avoid the present costly market gluts and should decrease need for the diversions of live stock in transit.

The operation of this market report service is possible through the co-operation of the railroads which give the facts, and its value to stockmen and the live stock trade is greatly extended by the help of the press which disseminates the information.

The instability of live stock prices and the wide fluctuations which occur from time to time resulted, in part at least, from the lack of dependable estimates on the market receipts. The present reports supplant, with definite advance facts concerning live stock loadings, the former method of guessing at market receipts. This service, it is believed, will make for the better distribution of fat stock consignments in accordance with demands at the various markets on the different market days. They allow the commission men to advise their trade more accurately when to ship; and conduce to more stable market conditions, reduce the hazard, and thereby encourage an increase in live stock production.

The reports are mailed free to interested persons making request of the Bureau of Markets, Washington, D. C. Any part or all of the information is telegraphed to those who request wire service, provided they will pay the transmission charges at commercial rates.

Contagious Abortion.

Contagious abortion is one of the most serious diseases that can get into a herd. Only recently some valuable facts have been learned of this disease. It has been found that infected cows do not continue to abort. When it first breaks out in a herd a considerable number usually throw their calves. During the second year the abortions will be less and the third year the cases will be few. In this way the disease disappears automatically, provided that no new susceptible animals are added to the herd. Disposing of the cows that have aborted and buying new ones usually results in prolonging the disease in the herd. The contagious abortion germs are often spread by the bull, so great care need be exercised in purchasing a sire to make sure that he is free from the contagion and also not to allow him to serve cows that are affected.

Cheap Feed Needed

The county agent of Lyon County, in addressing farm bureau members through his monthly news letter, calls attention to the fact that while the long spell of dry weather has greatly reduced the prospect for corn, there is an abundance of material for good silage. There never was a better time to build a silo in that section than the present, and what is true of Lyon County is true of many other sections of the state. Mr. Popenoe figures that with an initial cost of four dollars per ton capacity and a cost for filling of one dollar a ton, it is possible to convert into good feed the corn and other forage crops at a cost of five dollars a ton. No silo should stand empty this year.

R. F. Hoch of that county has a 32-ton silo made of 22-foot fir flooring at a cost of only forty dollars. This furnished him silage enough for nine cows last season at a cost for storage of only $2.25 a ton. He took this silo down for the summer and put it under cover. A silo of this kind of course is not permanent, but it can be used by a renter or man of small means with good profit.

A silo built this year will cut your feed bills, will be a permanent addition to the profit-producing equipment of the farm, and a mighty valuable asset when you wish to rent or sell the place.

Studebaker

Prices of all cars advance September 15th

The FOUR Touring Car will be increased from - - - - $985 to $1050

The SIX Touring Car will be increased from $1250 to $1385

THE costs of materials and labor used in the manufacture of automobiles have been, and are, steadily increasing.

Studebaker uses only the highest grade materials throughout their car, including chrome-nickel and vanadium steels, genuine hand-buffed leather and other materials of the highest quality.

A year ago Studebaker made huge purchases and placed long-term contracts for materials, making it possible to continue the present low prices while other manufacturers of cars in the Studebaker class have already advanced their prices.

But the popular demand for Studebaker cars is rapidly exhausting the materials purchased at old prices, and therefore, prices of all models will have to be increased on September 15th.

It is an invariable Studebaker policy to subordinate price to quality—quality must always be maintained.

You will probably never have another opportunity to buy, for so little money, such a powerful, durable, accessible, roomy and comfortable car.

Every Studebaker car is guaranteed for a full year from date of purchase.

BUY NOW---SAVE MONEY

Four-Cylinder Models

	Present Prices	Prices Sept. 15
Roadster	$ 985	$1025
Touring Car	985	1050
Every-Weather Car	1185	1250

All prices f. o. b. Detroit

STUDEBAKER

Detroit, Mich. South Bend, Ind. Walkerville, Ont.

Address all correspondence to South Bend

Six-Cylinder Models

	Present Prices	Prices Sept. 15
Roadster	$1250	1335
Touring Car	1250	1385
Touring Sedan	1700	1850
Coupe	1750	1850
Limousine	2600	2750

All prices f. o. b. Detroit

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement here reaches over 60,000 farmers for 6 cents a word per week. No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms, always cash with order.

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

AGENTS WANTED.

GENTLEMEN: McNAMES SOLD 29 sprayers and auto-washers one week; profits $2.50 each. Square deal. Write Rusler Co., Johnstown, Ohio.

HELP WANTED.

FARM HAND, $35 PER MONTH, HOUSE and wood furnished. F. G. Houghton, Dunlap, Kansas.

WANTED—MEN-WOMEN, 18 OR OVER. Government jobs, $100 month. Big opportunity for farmers. War necessitates hundreds appointments. Write for list positions. Franklin Institute, Dept. G-82, Rochester, N. Y.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FOR SALE—MY ANNUAL CROP OF registered Hereford cattle, 50 head; 14 young cows, bred; 10 heifer calves; 26 bulls, calves to one year old. G. P. Jones, Olpe, Kansas.

HOLSTEIN CALVES, HIGH GRADE, from cows producing up to 60 pounds. Either sex, $15 to $25. L. D. Arnold, Manhattan, Kansas.

FOR SALE—DOUBLE STANDARD Polled Durham bulls. Write for description and price. C. M. Albright, Route 2, Overbrook, Kansas.

FOR SALE—FORTY (40) HIGH-GRADE Wisconsin Holstein cows in bunches to suit purchaser. Big, young, bagging to calf. Hannon Bros., Olathe, Kansas, 20 miles southwest Kansas City.

FOR SALE — VERY CHOICE HIGH-grade Holstein calves, either sex, three to six weeks old, at $20 per head, crated for shipment. Or if you want dairy cattle of any age, I will buy them at a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked. $23, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

DOGS.

FIVE MONTHS MALE COLLIES, QUICK, $8. Frank Barrington, Sedan, Kansas.

TRAINED RABBIT HOUNDS, FOX hounds, coon, oppossum, skunk dogs, setters, pointers, ferrets. List free. Violet Hill Kennels, Hanover, Pa.

COLLIE PUPS FROM GENUINE STOCK dogs that drive from the heel. E. L. Dolan, Route 2, Platte City, Missouri.

TRAINED BEAGLES, RABBIT HOUNDS, foxhounds, coon, opossum, skunk dogs, setters, pointers, house, farm dogs. Ferrets. Catalog 10c. Brown's Kennels, York, Pa.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

WANTED

WANTED—TO HEAR FROM OWNER OF good farm for sale. State cash price, full description. D. F. Bush, Minneapolis, Minn.

SITUATION WANTED.

EXPERIENCED MARRIED MAN WANTS job on farm or ranch September 1. Earl Miller, 103 The Drive, Topeka, Kansas.

WANTED—WORK ON MODERN PURE-bred dairy farm, by experienced, reliable young man. Lawson Sappington, Centralia, Missouri.

HONEY.

HONEY—NEW CROP. SEND FOR PRICE list. Bert W. Hopper, Rocky Ford, Colo.

SEEDS

WHAT HAVE YOU TO SELL? WHAT do you want to buy? See us fair week. D. O. Coe, 119 E. Sixth St., Topeka.

RYE—NEW CROP, EXCELLENT FOR pasture, soil building or cropping. $2.50 bushel. B. H. Pugh, Topeka, Kansas.

SEED WHEAT, SEED RYE, ALFALFA seed, turnip seed and other seeds for fall planting. Write for prices. The Barteldes Seed Co., Lawrence, Kansas.

PURE-BRED HIGH-YIELDING TURKEY red hard seed wheat, cleaned and graded, at $3.50 a bushel. Ferdinand Hubka, Vlicts, Kansas.

SWEET CLOVER "UPLAND ALFALFA," dairyman's gold mine. Permanent pasture. Grows with wheat, rye, oats. J. Lewis, Madison, Kansas.

TIMOTHY SEED, $4.00 PER BUSHEL. High purity and germination, first class in every way. Timothy-alsike mixture, $4.50 per bushel. Satisfaction or your money back. Henry Field, Shenandoah, Iowa.

POULTRY WANTED.

POULTRY AND EGG MARKET HIGHER. Coops free. For prices, "The Copes," Topeka.

LUMBER.

LUMBER, MILLWORK, POSTS, DIRECT from mill, wholesale prices. Send for carpenter's list for freight prepaid estimate. Millwork catalog free. Keystone Lumber Company, Tacoma, Washington.

HORSES AND MULES.

IMPORTED PERCHERON STALLION, black, sure. Good jack, black with mealy points. Quick and sure. Priced right. W. F. Teague, Collyer, Kansas.

SHEEP

FOR SALE—TWO REGISTERED YEARling Hampshire Down rams, also spring ram lambs. R. C. Krueger, Burlington, Kan.

MISCELLANEOUS.

1,024 YEARS AMERICAN HISTORY, 80c postpaid. Elias Pelton, Hudson, Kansas.

TWO OHIO ENSILAGE CUTTERS, ALmost as good as new. Will sell or trade. Nos. 11 and 17 with 36 feet of blower pipe with each. B. F. Erwin, Fairfax, Missouri.

POULTRY.

BUFF DUCKS, $1.25 EACH. ROBERT Webster, Canton, Kansas.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

POULTRY SUPPLIES

WE HAVE EVERYTHING IN POULTRY feeds and supplies. D. O. Coe, 119 E. Sixth St., Topeka.

Real Estate For Sale

10,000 ACRES of good grazing land, well watered, for $3 to $5. All crops good. No drouth, no hot winds. Grass for cattle and corn for hogs. Best country in the world to live and make money.
W. W. TRACEY - ANDERSON, MISSOURI

SEVERAL GOOD HOUSES TO TRADE FOR LAND.
Six farms to trade for Western Kansas land. Wheat farms at a bargain.
HEMPHILL LAND CO., Lawrence, Kansas.

WOULD YOU BUY

140 Acres, six miles from McAlester, on terms, for $4,500, if we show you $4,500 crop on farm? If so, write
SOUTHERN REALTY CO., McAlester, Okla.

950-ACRE BOTTOM FARM
Four hundred acres in cultivation, 160 acres meadow, balance pasture. Splendid alfalfa, wheat or corn land. Splendid oil possibilities. A fine bargain for some one. Only $75 per acre. Might take a small farm in on the deal. Write
M. T. SPONG - FREDONIA, KANSAS

A BARGAIN

158½ Acres, 3½ miles from good town of 1,000 people, with high school, good school house on the land; seven-room house, good barn, plenty of water, on state automobile road. A splendid farm. Price, $7,200.00; $1,000 cash, balance from one to fifteen years at low rate of interest. Why rent? Send for views of this farm. Address
THE ALLEN COUNTY INVESTMENT CO., Iola, Kansas.

SUMNER COUNTY

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WILLIAM HEMBROW
The Land Man Caldwell, Kansas

FARM AND HERD.

W. R. Huston, of Americus, Kansas, is one of the successful Duroc breeders in Kansas. The herd boars now used in this herd are Taylor's Model Chief, a five-year-old hog by Model Chief 44969, out of R. L.'s Model Chief, a combination of the Ohio Chief and the Colonel cross which has proven one of the best crosses in the Duroc families. Taylor's Model Chief is a very large hog and very evenly balanced and is a very fine cherry color. He has proven to be a sire of some outstanding litters and among them are a number of fine herd boar prospects. This boar was shown in the first prize young herd at the Missouri State Fair in 1912. Mr. Huston has also used a Golden Model boar and also Great Wonder by Long Wonder. There are fifty-six spring pigs on the farm by these two boars out of some of the best sows on the farm. They have all been immuned and are coming along in fine shape. A feature of the herd at this time is a splendid lot of spring boars that are herd prospects.

J. H. McAnaw, of Cameron, Missouri, has succeeded in building up one of the choice herds of Chester White hogs in that state. He makes a specialty of developing breeding stock. All animals for breeding herds are carefully selected and developed along lines to insure good breeders. He has the popular blood lines of the breed in his herd and has the type with size and quality. At this time he has a choice lot of young stock including some outstanding fall and spring boars.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Cheeriness is a thing to be more profoundly grateful for than all that genius ever inspired or talent ever accomplished. Next best to natural, spontaneous cheeriness is deliberate, intended and persistent cheeriness, which we can create, can cultivate and can so foster and cherish that after a few years the world will never suspect that it was not an hereditary gift.—HELEN HUNT JACKSON.

You have a rock somewhere in your own soul, and that is the rock for you to build on. Beware how you borrow a fragment of some other man's and plant it on your sandy places and try to build on that. Dig deep, dig well, dig till you find the proper basis of your own strength.—PHILLIPS BROOKS.

Teeth Facts

Good authorities tell us that children who have perfect teeth are about seven months ahead of other children in physical development and do the same amount of school work in six to twelve months less time than do children with poor teeth.

Many children's chances for physical and mental development could be materially improved by dental attention when it is needed. Because it is the first set of teeth we should not neglect them and excuse ourselves with the thought that there will soon be a new set. Before the new teeth come the child may suffer much unnecessarily and his health may be undermined because his body is undernourished on account of his inability to chew his food. If given attention before the nerve is exposed, such trouble can be easily avoided and the cost will be small.

As soon as the first teeth are through children should be taught to brush them at least twice a day—before breakfast and after supper. This habit is learned easily and is a very valuable one, as keeping the teeth clean will do much toward keeping them sound.

Crooked teeth and teeth that are spoiling the shape of the face also should be given immediate attention, as much can be done early toward correcting their growth. Such deformities interfere with perfect mastication.

Canned Chicken

Mrs. B. H. H., Clay County, asks: "Is it safe to can chicken? If so, how long should it be fried before canning? Should the grease in which it is fried be poured over it? If so, should the jars then be filled with water? We have a number of young chickens and as grain is so high in price it is necessary to use as little as possible and yet we do not want to sell the young chickens, as they are needed for meat."

Having had no experience in canning fried chicken, the inquiry was referred to Otis E. Hall, state club leader, who is an authority on the canning of all fruits, vegetables, and meats. His answer is as follows:

"The canning of chickens and other meats obtainable on the farm is one of the most practical things that can be done at present. We need have no fear of ptomaine or losses if extreme care is used in placing the meat in the can while fresh and if the work of sterilizing is thoroughly done. It is necessary to fry chicken for canning only until it is a little brown on the outside or perhaps cooked one-third as long as it should be for serving. Then pack the chicken in jars, and fill up surplus space in jars with the grease in which the chicken was fried, and process three hours in water that is boiling rapidly, counting time when the water begins to boil again after jars are lowered into it. If a steam pressure outfit is used, chicken should be processed sixty minutes after pressure has reached five pounds, or forty minutes at ten pounds of steam, and it will do no harm to allow the steam to go up to fifteen pounds. A variation of five to fifteen pounds for fifty minutes will do no harm."

This is a very practical way to save both chickens and chicken feed, and it is a guarantee to the housewife that she will not be caught unprepared for visitors.

Young rabbits can be canned in the same way.

Spread the Meat Flavor

Spread the meat flavor over other foods and so economize on the quantity of meat consumed, says the United States Department of Agriculture. Here is one way to utilize left-over meat by spreading its flavor:

MEAT TURNOVERS.—Chop the meat. If the quantity on hand is small, mix with it left-over potato or rice. Season with salt, pepper, onion, etc. Place filling on circular pieces of biscuit dough about the size of a saucer. Fold over the dough and crimp edges together. Bake for about one-half hour in a hot oven.

A brown sauce made from two tablespoonfuls of flour browned in two tablespoonfuls of butter to which a cupful of water or stock and a half teaspoonful of salt is added, may be served over the turnovers.

Soup Stock and Broth

A few jars of chicken soup stock or broth on the emergency shelf will be very convenient for use in case of sickness or on a busy day. For the soup stock, place six pounds of chicken in two gallons of cold water and simmer over the fire for five hours. Remove meat from bones, then strain. Add sufficient water to make two gallons of stock. Fill hot glass jars or enameled tin cans with the hot stock. Partially seal glass jars. Cap and tip tin cans. Sterilize for ninety minutes in hot water bath outfit or one hour under five pounds steam pressure.

To can chicken broth with rice, use twelve ounces of rice to each gallon of soup stock prepared as described in the preceding recipe. Boil the rice thirty minutes. Fill hot jars or enameled tin cans two-thirds full of rice and the remainder with soup stock, then proceed as in canning the soup stock alone.

Use of Fruit and Vegetables

Farmers' Bulletin 871, "Fresh Fruits and Vegetables as Conservers of Other Staple Foods," has just been published by the United States Department of Agriculture, and will be sent to any housewife on request. Address the Division of Publications, United States Department of Agriculture, Washington, D. C.

The scope of the bulletin is given in the preface in these words: "In general, the bulletin points out that peas, beans, and similar legumes would be the most useful as protein (meat) savers; potatoes, sweet potatoes, and similar vegetables as starch savers; and fruits and sweet potatoes as possible sugar savers, while all fruits and green and succulent vegetables are valuable to supply the diet with mineral substances and with certain substances essential to health which are present in them and in many other foods in minute amounts. When vegetables are used to supply protein it is important to supplement them with some other food containing protein, and for this purpose milk, particularly skim milk—so often a by-product, and a perishable one as well—is important. By means of bills of fare and recipes practical application is made of the principles set forth in the bulletin."

Essential Food Principles

The problem of the selection of food grows more complicated as prices advance and the available food materials decrease. One of the most vital points in which the diet is likely to fall short is in the mineral-salt content and in the shortage of growth-promoting substances called vitamines.

The following suggestions are given for conserving these essential nutrients by the Home Economics department of

Ohio University:

Water in which vegetables are cooked should be either served with the vegetable or used in the making of soup.

Potatoes should be cooked in the skins regardless of the final method of serving. This is also true of many other vegetables and fruits.

Unhulled or brown rice is greatly to be preferred to the polished rice from which much valuable material has been removed.

Fine patent flour is deficient in both mineral salts and vitamines. The milling of a higher per cent of the wheat kernel into flour would remedy this deficiency.

Milk should be the last thing excluded from the diet of children, because of its many advantages as a tissue-building and growth-promoting food. "A quart of milk a day for every child" is a good rule.

Skim milk, despite its shortage of fat, is as valuable a source of mineral salts and vitamines as whole milk.

Ordinary "greens" are an excellent source of mineral salts.

If a raw potato is cut across with a sharp knife, a layer called the fibro-vascular layer may be easily noticed just below the skin. This is considerably richer in mineral matter and proteid than the flesh of the potato, and if we peel it off with the skin we lose these valuable ingredients. In order to save these, the United States Department of Agriculture recommends that potatoes be washed, dropped into a vessel of rapidly boiling water, and allowed to cook ten minutes. Remove and strip off the thin skin as when potatoes are peeled after thorough cooking by boiling. The potatoes will still be practically raw and may be handled like raw peeled potatoes in preparing any dish, as scalloped, French, or German fried potatoes, potato chips, etc. An excellent way of cooking the potatoes is to bake them, and the entire potato, including the thin brown crust, may be eaten, or they may be boiled with a pot roast or placed in a roasting pan with a meat roast, removing the cover before they finish cooking to allow them to brown.

Growing children need more tissue-building foods than do persons whose growth is completed. Milk, eggs, meat, fish, cheese, and legumes are all tissue-building foods, but milk and eggs are best for young children.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8300—Girls' Dress: Cut in sizes 4 to 14 years. Ready for any emergency is the junior girl if she is dressed in such a smart little frock as No. 8300. The straight loose lines are particularly good for the slight undeveloped figure. The waist is in the popular Eton jacket effect and fastens at the center front. The straight one-piece skirt is gathered to the upper part around the back and sides as far as the pockets. **No. 8311—Ladies' Waist:** Cut in sizes 34 to 42 inches bust measure. The advantages of simplicity are exploited in this plain but nevertheless good-looking waist. The center front closing is stitched back to form a broad tuck, and the turn-back revers are formed by the extension of the fronts. A separate girdle is included in the pattern and may be of ribbon. **No. 8292—Girls' Jumper Dress:** Cut in sizes 6 to 14 years. Mothers will welcome a new idea for a jumper dress—a style which has always been more or less popular for the junior girl. This dress has a suggestion of a man's vest in the straight pockets, and the deep V-shaped opening at the front. The planted skirt is cut in one piece. **No. 8302—Ladies' Apron:** Cut in sizes 36, 40 and 44 inches bust measure. This model is really intended for an apron, but as a matter of fact it can be worn instead of a dress just as well. Body and sleeves are in one, which saves time in making. The short sleeves may be finished with or without the cuffs. The neck is cut quite low in front, to allow the apron to slip on over the head. **No. 8305—Ladies' Skirt:** Cut in sizes 24 to 32 inches waist measure. A version of the two-piece skirt which is a little different from the usual conception of it is shown in No. 8305. It will make a splendid utility skirt if it is developed in a suitable material, for it has simplicity combined with smartness. The major part of the skirt is in one piece, cut circular. The other piece is used for the front panel. **No. 8301—Ladies' Dress:** Cut in sizes 34 to 40 inches bust measure. This dress fills all requirements for an informal afternoon frock. The waist is in shirtwaist style, but the collar and vest transform it into a dressy affair. The generous opening is filled in with a lacy vest. The simple skirt is a two-piece model, gathered at the top with slash pockets in the side seams.

L. M. Penwell, President — R. M. Johnson, Secretary and Treasurer

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Largest Junk Dealers in Kansas
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"Fling out, fling out, with cheer and shout,
To all the winds, Our Country's Banner;
Be every bar and every star
Displayed in full and glorious manner."

—Cole.



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O'er the land of the free
and the home of the
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The big demand, the scarcity of good dyes and the high price of cotton have made it hard to secure flags. We have been fortunate enough to secure a few high-grade printed flags 3 feet by 5 feet with canvas heading and brass grommets, colors fast.

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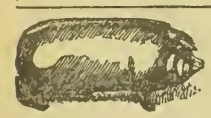

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WHEN WRITING TO ADVERTISERS
PLEASE MENTION KANSAS FARMER



Poultry Show at Free Fair

FROM present indications there will be more chickens than ever at the Topeka Free Fair this year. The poultry building has always been crowded almost to its fullest capacity. Thomas Owen, superintendent of the poultry department, says that he fears the newly created junior department will fairly swamp the poultry section of the fair. While the outlook for entries in the regular classes is fully up to last year, the junior department is meeting with a most enthusiastic response. Mr. Owen, who is an experienced poultryman, makes the following statement regarding this increase in interest in poultry production:

"The poultrymen have raised more chickens this year than ever before, and with the prediction of 75-cent eggs before Thanksgiving, they will be in the millionaire class before long. When war was first declared, poultrymen, like everybody else, were jarred. But they soon got over that and proceeded to raise more chickens than they ever had.

"The American Poultry Association in April called off their annual meeting, which was to have been held in August at Milwaukee, but the officers soon saw their error and are now calling the meeting for September. They had cold feet in April, but the temperature is all right now. The war won't affect our exhibit unless it be to increase it, so put the poultry department down as a foregone success."

The poultry department will be open to entries later than the other stock departments of the fair. Entries may be made until 6 o'clock the evening of September 8, the Saturday before the fair opens.

Don't Force the Molt

Laying hens should be allowed to molt naturally. The common idea that if hens are compelled to molt early they will quickly feather out and commence laying in the fall, is erroneous. An early molt is not a sign of early fall production. Usually the late-molting hen is the heavier producer. In fact a lack of feather growth is suggested by G. W. Hervey of the University of Missouri College of Agriculture as one of the points to consider when selecting hens for winter laying.

Very often show birds are forced into a summer molt by a restriction of feed. This is done so that the birds may be in full feather once more for the early show season. This should never be practiced with utility stock. It will cause production to stop and weaken the hens at a time of the year when full strength is needed. It is unwise to change the general character of the feed. The addition of some oil-carrying ingredient, however, such as sunflower seed, will aid in the development of new feathers.

Poultry a Good War Crop

Poultry has been called the crop that never fails. It offers one of the best ways of increasing food production on short notice. Poultry uses feed more economically probably than any other class of farm animals when it is carefully handled. It will produce a pound of meat or eggs on four pounds of grain when protein concentrates are fed. Pullets will begin laying in from six to eight months. Cockerels are ready for market at the age of twelve to sixteen weeks. There is good money in poultry and eggs if the flock is properly managed. Very little capital is required and expensive stock and equipment are unnecessary. Careful management and feeding are more important than expensive equipment.

Poultry Prices

The present market is lower than a year ago on poultry as a result of the very high prices paid for the 1916 crop, a large percentage of which is yet held in cold storage, for the reason that it was impossible to secure refrigerator steamers in which to export the surplus. Further, the European nations have bought but little of our poultry during the past year. The high price of feed and the low price of poultry do not correspond and as poultry at this time is being marketed at an actual loss when care and feed are considered, we would therefore advise the holding of all pullets and caponizing of the cockerels. There is bound to be high prices paid for eggs and we have never yet found more capons than could be sold advantageously.—FRANK COPE.

Many complaints are coming in stating that young chicks are not doing well. From all chicks that have been sent us, we conclude that the greatest cause is lice. Many sick birds have been received that had a serious bowel trouble. In each case it was found that lice were causing the looseness of the bowels as well as the weak emaciated condition. The hot dry weather was ideal for the development of lice and mites. Blue ointment will kill the lice and coal oil and crude carbolic acid or stock dip will get rid of the mites.

We are not inclined to throw any spasm because of the present grain prices. It has rained and the hysteria has passed. Prices will steady down and the chickens will harvest a good crop of late weed seed and be ready for the business of winter egg production. As a rule after a hot dry summer we may look for a long late fall, which greatly helps the poultryman to get his birds in winter quarters in the best of condition.

Scaly leg is a troublesome and loathsome disease, and is contagious. A mixture of kerosene oil, lard and carbolic acid, if rubbed on the legs, will soon cure this malady.

Oliver the Choice at Fremont



At the National tractor demonstration at Fremont, Oliver tractor plows and other Oliver products were drawn by forty-two different tractors. The same reason that caused sixty-five per cent of the tractor manufacturers not making plows to pull Oliver products in order to secure the best results from their tractors is the reason why you should insist upon an Oliver implement for use with your tractor.

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The world's greatest pork hog are raised exclusively on

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The largest registered herd of old, original, big-boned, spotted Polands on EARTH.

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See show herd at the Topeka Free Fair. Annual bred sow sale February 19, 1918.

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Thirty spring boars, thirty spring gilts. Sired by Billie Sunday, Cainville Giant and Perfect Judge. Sows by Brandywine, Budweiser, Old Clipper and Spotted Giant. Priced to sell.

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Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. **CHAS. E. GREENE, Peabody, Kan.**

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

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OLD ORIGINAL SPOTTED POLANDS
Choice March and April pigs of both sexes.
H. A. MATTOX, Route 2, Burlington, Kan.

Langford's Spotted Polands.—Last call for early spring boars. Yours for good hogs—
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POLAND CHINA HOGS

150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.

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FOR SALE—Five February boars sired by Spotted Lad and out of Ennis Queen. They are real herd headers, priced at $40. First check gets choice.

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FAIRVIEW POLAND CHINAS.
Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.
P. L. WARE & SON - PAOLA, KANSAS

POLAND CHINA HOGS

Twenty-five spring boars ready for service; 25 spring gilts, and a few bred sows. All immuned. Priced to sell. Come and see my herd.

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120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

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Grandsons of Golden Jolly and Noble of Oaklands for sale. Also a few fancy cows and heifers of same breeding. Write.

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CATALOGS ARE READY

For the following Jersey sales to be held under my management:
Lochrie & McCoy, Carl Junction, Mo., September 27.
Oklahoma Breeders' Sale, Oklahoma, Okla., September 29.
Redmon & Son, Tipton, Mo., October 1.
Geo. W. Hagan, Lee's Summit, Mo., Oct. 31.
Write today and ask to be placed on my mailing list. Address
B. C. Settles, Sales Manager, Palmyra, Mo.

HEREFORD CATTLE.

HEREFORD CATTLE

Want to Sell Forty Cows and Heifers. Cows have calves at foot and are rebred. Twenty-five bulls of breeding age, real herd headers. Send for my annual sale catalog, October 6, 1917.

J. O. Southard, Comiskey, Kan.

GUERNSEY CATTLE.

GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. **ADAMS FARM, Gashland, Mo.,** 12 miles from K. C.

FARM AND HERD.

F. H. Rock, owner of Rock's Dairy, Wichita, Kansas, owns one of the great producing herds of Holsteins in Kansas. His herd from the foundation up has been built for production. All breeding stock in the herd is backed by a long line of records that insure profitable dairy cows and it is one of the strongest dairy herds in Kansas at this time. A feature of the herd is the choice lot of young stock and cows all with A. R. O. backing.

F. F. Wood, of Wamego, Kansas, reports his herd of pure-bred Durocs doing well. Mr. Wood has succeeded in building up one of the good Duroc herds in Kansas. He has the popular blood lines and the big, smooth, easy-feeding type that make the profitable market hog. A feature of his herd at this time is the choice lot of young stock of both sexes.

P. L. Ware & Son, of Paola, Kansas, owners of a choice herd of big-type Poland Chinas, report their spring pigs growing out fine. They have about eighty head of March pigs sired by such boars as Miami Chief, Ware's Blue Valley, and Frazier's Timm, and out of dams by Major B. Hadley, Wedd's Long King, Master Orphan, Big Logan Ex., McGrath's Big Jumbo, Wonder King, and Wedd's Expansion.

C. W. Taylor, of Abilene, Kansas, is one of the successful breeders of Shorthorn cattle in Kansas. This herd is larger than the average, numbering eighty-five head, and has been established about twenty-five years. Some of the best Scotch bulls known have been used in the herd. Mr. Taylor has sold cattle in several states to start herds. A feature of the herd at this time is a choice lot of young bulls that are herd bull prospects.

The Illinois Horse Company, of Des Moines, Iowa, report their fine lot of young stallions doing well. They also report a growing demand for choice stallions and a number of good ones from this herd have recently gone to good herds and leading breeding farms.

The Iowa Holstein Breeders' Association will hold a public sale of Holsteins at Waterloo, Iowa, October 4. A very choice offering from the best herds in Iowa will be catalogued for this sale. The offering will represent the best in Holstein breeding and individuality and every animal that will go in this sale will be carefully inspected.

J. O. Riley & Son, of Cainsville, Missouri, are owners of one of the noted herds of old original big-boned Spotted Polands now assembled. Their herd is one that is drawn upon heavily for herd material and a number of the best herds in Missouri and neighboring states were started with foundation stock from this herd. They have all the noted blood lines of the breed and have the type with size and quality. A feature of their herd at this time is the choice lot of young stock of both sexes.

David Ballantyne & Sons, of Herington, Kansas, are among the oldest established breeders of Shorthorn cattle in Kansas. Mr. Ballantyne has maintained this herd on the same farm for more than forty years. The herd now numbers sixty breeding cows, descendants from some of the best Scotch bulls known in the West. Choice Orange by Victor Orange, assisted by Roan Model by Victor Model, now heads the herd. Bulls that have been used in this herd the past few years were such well known bulls as Marshall Abbottsburn by Young Abbottsburn, Goldfinch 115705 out of a Linwood Golden Drop cow, one of the best cows in the late Col. Harris' herd. Collynie's Pride by Imported Collynie was also used for a number of years and this bull left a number of valuable cows that are now in the herd. Dexter by Imported Scottish Chief proved a valuable sire and left a string of good breeding cows in the herd. A feature of the herd at this time is a splendid lot of young bulls that are coming along in good condition.

J. A. Porterfield, of Jamesport, Missouri, is one of the successful breeders of Duroc hogs. Mr. Porterfield is not only a constructive breeder but a feeder, and has built up a herd that has few equals for size and quality combined. The stock sent out from this herd always makes good for the purchaser, as they are grown in a way that insures them valuable breeding stock. A feature of the herd at this time is twenty-five extra large growthy spring boars and gilts, the kind that make good material.

Robert H. Hazlett, of El Dorado, Kansas, will exhibit at the leading state fairs a splendid string of Hereford cattle. Mr. Hazlett has for years attended a number of state fairs and has always taken pride in showing only cattle of his own breeding. He has the means to go out and buy the best cattle that can be found, but his motto is, "Produce them on the Hazford Place." The great bull, Bocaldo 6th, grand champion at all the state fairs last year, is a product of the Hazford herd.

The Deming Ranch Poland China show herd will be one of the full show herds at the big fairs this fall. This is one of the largest Poland China herds in Kansas. The herd boars now used are Big Bob Jumbo by old Big Bob out of a Jumbo sow; King What's Wanted by Long What's Wanted; Big Bob Orange, a litter brother to Big Jumbo, is also used in the herd; Big Logan by Big Tom, the grand champion of Dakota and Minnesota state fairs last year; King Receiver by Old Receiver will also be used in the herd. A feature of this great herd at this time is 300 extra good spring pigs sired by their bunch of herd boars.

O. W. Long, of Maitland, Missouri, is making a great success with his Poland China hogs and Shorthorn cattle. Mr. Long has raised sixty-five spring pigs and they have been well grown out, all immuned, and are the real big-type Poland Chinas. Mr. Long has one of the ideal stock farms in North Missouri and he has made very satisfactory profits from Poland China hogs and Shorthorn cattle, and a feature of the herd at this time is ten Scotch-topped bulls and fifteen choice cows that are bred.

John W. Petford, of Saffordville, Kansas, has one of the best bred herds of Duroc Jersey hogs in Kansas. The head of this herd is Illustrator and O'Rion 3d, a combination of the Illustrator and O'Rion blood mated with sows by Defender, Ohio Chief, Top Notcher and other very popular breeding, such as Belle of Iowa, John's Combination, Grand Lady 46th by Grand Model. This sow raised a litter by Great Wonder, the grand champion at the 1916 Iowa State Fair, and was second at the Omaha Swine Show. Mr. Petford raised ninety-one spring pigs and they are growing out fine.

MODERN HEREFORDS

HAZFORD PLACE

Home of the Grand Champion BOCALDO 6TH, assisted by CALDO 2D, PUBLICAN 4TH AND BEAU BALTIMORE.

All our show cattle our own breeding. Inspection of farm and breeding herd invited. A few choice young bulls reserved to head high-class pure-bred herds now ready for inspection and sale.

William Condell, Herdsman. ROBT. H. HAZLETT, EL DORADO, KANSAS

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM

Why not buy pure-breds when you can get them at near-grade prices? WE HAVE THEM from three-months-old heifer and bull calves to matured cows, all with exceptionally high class breeding. Finely marked and good individuals. Also grade cows and heifers. Write for description and prices or, still better, call at farm and inspect them.

T. R. MAURER & COMPANY - - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER

Way Side Stock Farm - Whitewater, Wis.

DUROC JERSEYS.

15 Duroc Spring Boars

Sired by Illustrator O'Rion 3d and Fancy Victor and out of my best herd sows. They are real herd prospects, selected from 91 pigs raised. Write today if you want a good spring boar.

John W. Petford

Route 1 Saffordville, Kansas

DEMING RANCH QUALITY

BIG-TYPE POLAND CHINA HOGS.

See our show herd at Topeka Free Fair, Kansas State Fair at Hutchinson, and Oklahoma City. Fifty spring boars for sale. Six hundred head in herd to select from.

H. O. Sheldon, Herd Manager
OSWEGO, KANSAS.

PORTERFIELD DUROC JERSEY HOGS

My entire herd, bred sows, spring boars and gilts. All will be sold. Write me your wants. I guarantee satisfaction or refund your money. Don't wait—write today.

J. A. PORTERFIELD, Jamesport, Missouri.

JONES SELLS ON APPROVAL

February, March and April Durocs, pairs and trios and herds unrelated. First class pigs at reasonable prices.

W. W. JONES, CLAY CENTER, KANSAS

McBRIDE'S DUROCS

Four-months-old boars for sale. Good ones. Tops, $25, if taken at once.

W. T. McBRIDE - PARKER, KANSAS

WOOD'S DUROCS

Boars, sows and gilts. Best lines of breeding.
THE WOOD DUROC FARM
F. F. Wood Wamego, Kansas

LONE TREE DUROC FARM
Herd Boar Graduate Prince by Graduate Col. Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.

GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNED DUROCS
With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. **C. G. Ditmars & Co., Turney, Mo.**

FOR SALE

Registered Holstein Heifer Calves, 3 to 5 months old. Bull Calves, 1 to 2 years old. A. R. O. backing. Also milk cows.

BOCK'S DAIRY, Route 9, Wichita, Kansas.

Braeburn Holsteins Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.

H. B. COWLES, 608 Kan. Av., Topeka, Kan.

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

50 HOLSTEIN HEIFERS

We offer for sale fifty of the best high grade Holstein heifers in Wisconsin. All bred to a 29-pound bull whose dam is sister to the sire of the world's champion cow, Duchess Skylark-Ormsby. Also a few choice fall cows.

CLOVER VALLEY HOLSTEIN FARM
Whitewater - - - - Wisconsin

HOLSTEIN CALVES
Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. **Clover Valley Holstein Farm, Whitewater, Wisconsin.**

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

High Grade Holstein Calves 12 heifers 15-16 pure bred, 4 to 6 weeks old, beautifully marked, $20 each. Safe delivery and satisfaction guaranteed.

FERNWOOD FARMS, WAUWATOSA, WISCONSIN

Nicely marked high-grade Holstein calves, price reasonable. O. Canuteson, Route 4, Delavan, Wisconsin.

SHEEP.

A LIFETIME EXPERIENCE proves the Rambouillet the best sheep for Kansas. Stock for sale. **E. D. KING, Burlington, Kansas.**

DOYLE PARK SHROPSHIRES

Sixty Registered Shropshires—Thirty ewes and ewe lambs, thirty rams and ram lambs. Lambs sired by our undefeated ram, Ohio and Michigan, 1916.

HOMAN & SONS - PEABODY, KANSAS

FIVE EXTRA GOOD HAMPSHIRE RAM LAMBS
Priced right if taken in the next two weeks.
L. M. SHIVES, ROUTE 1, IUKA, KANSAS



RAMS Registered Shropshires, bred for WEIGHT and WOOL. Our aged ram was champion 1916 Iowa State Fair. Imported Buttar rams. Also 100 ewes.

C. W. Chandler, Kellerton, Ia.
Above Kansas City.

ERWIN'S SHROPSHIRES

Registered Shropshire Rams and registered Jacks and Jennets for sale.

B. F. ERWIN - - FAIRFAX, MO.

FOR SALE — Ten registered Shropshire ewes, fifteen registered Shropshire buck lambs, ten pure-bred unregistered Shropshire yearling bucks.

K. HAGUE, Route 6, NEWTON, KANSAS.

REGISTERED SHROPSHIRE RAMS
Ten extra large boned yearling Shropshire rams by imported sire, priced to sell.
E. E. LAUGHLIN
Bates County. Rich Hill, Missouri

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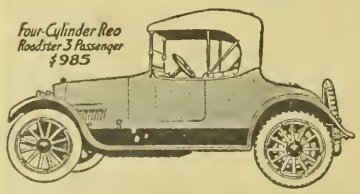
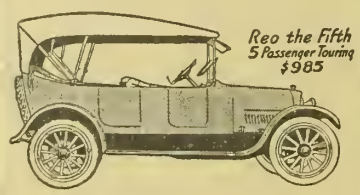
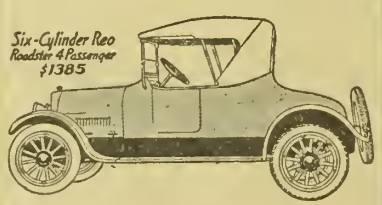
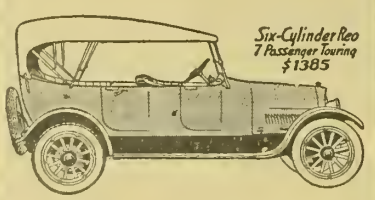
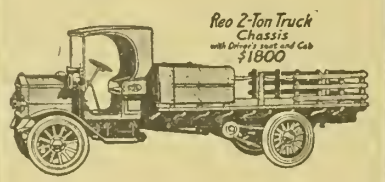
The GOLD STANDARD OF VALUES

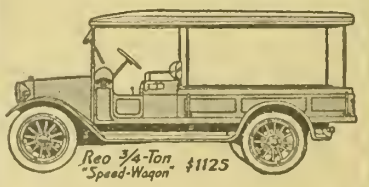












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Reo Quality is Uniform in all Reo Models

AND REO QUALITY at Reo Prices and backed by the Reo guarantee, constitutes "The Gold Standard of Values"—each model in its class.

WE SHOW HERE SIX Reo Models, comprising Fours in Touring and Roadster types; Sixes in Touring and Roadster; and the two Reo Commercial Vehicles—the ¾-Ton "Speed Wagon" and 2-Ton "Heavy Duty" Truck.

IN THIS ADVERTISEMENT we have space only for a brief paragraph pertaining to each Model—lest you forget the line is so complete that you can find the car you desire, in the type you prefer, and in a Reo.

REO THE FIFTH, "The Incomparable Four," is America's most famous automobile. Standard in practically its present form for now eight seasons—"going on nine." At its present price, $985, this car is verily "A gold dollar for ninety cents."

TO REO THE FIFTH more than to any other, is due the movement that is now so apparent—the return to the Four-cylinder type in all cars listing at less than $1000.

THE FOUR IS THE ULTIMATE type in that price class. Economy of upkeep, as demonstrated by this Reo model, has done much to prove the superiority and ruggedness and economy of the Four in that class of car where the buyer must count the cost and yet demands the service and the roominess.

THE FOUR ROADSTER is the handsomest model of its type you'll see on the road—at any price. And, for the present, you can get it for $985 and freight from the factory.

OF THE SIX ROADSTER the same is true, plus the extra luxury it affords the owner at the extra cost—$1385 f. o. b. Lansing.

THESE TWO ROADSTERS are of similar design and identical construction, and are conceded to be the handsomest cars of the type—price aside.

FOR THE FAMILY that needs a car of greater capacity than five and yet of moderate upkeep, the Reo Six Touring Car—also $1385 for the present—knows no equal.

NO MATTER WHAT YOU PAY you cannot obtain a 7-passenger car of better design; one that represents sounder engineering; more experience; better materials and workmanship than enter into the making of this Reo Six.

THAT'S A BROAD CLAIM, but we make it unhesitatingly—and you know that the word of Reo passes at par everywhere.

OF THE REO MOTOR TRUCKS the same is true. The ¾-Ton "Hurry Up" Wagon at $1,125 (chassis $1050); and the famous 2-Ton Reo "Heavy Duty" Truck at $1800—each is the leader in its own class—demand greatly in excess of factory capacity.

BUT THAT IS TRUE of all Reo models, without exception.

THAT'S WHY WE SAY "Reo Quality is Uniform in all Reo Models," the uniform over demand for all Reo models justifies the statement.

ORDER NOW if you'd have your Reo soon. Present prices obtain only from day to day, and are subject to increase without notice.

Reo Motor Car Company

Lansing, Michigan

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AF

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 36. TOPEKA, KANSAS, SEPTEMBER 8, 1917. Established 1863. $1 a Year

WORLD SHORTAGE OF MEAT

Government Recognizes Importance of Live Stock Industry

WE HAVE heard so much lately of the need for more wheat that many have overlooked the fact that fostering the live stock industry is fully as important as growing increased quantities of wheat. We are glad to note that our Department of Agriculture and the Federal Food Administration realizes the necessity for giving serious consideration to the live stock situation. The attention of stockmen and farmers of the country is directed to the world situation in food animals and the provisions which are broadly necessary from a national point of view in the following statement, signed jointly by Secretary of Agriculture D. F. Houston and Food Administrator Herbert Hoover:

One of the incidents of the European War has been the slaughter of large numbers of animals, and it is estimated that already the herds of Europe have been diminished by 28,000,000 cattle, 54,000,000 sheep and 32,000,000 hogs. An accelerated increase in this diminution of meat animals must take place in Europe from month to month as long as the war lasts.

We have two problems in meat supplies: The first is the task of supplying our own soldiers and citizens and helping feed the soldiers and citizens of our allies during the war; and to do this we must furnish larger supplies and must find these supplies for the present largely by reduction in our own consumption and waste.

The second problem is the one which we desire to bring particularly to the attention of the American producer, and that is: After the war, Europe, with diminished animals, and therefore diminished annual production of animal food, will require larger imports of meats during the years of recuperation, and will probably require the actual import of breeding animals. Therefore, in a broad way, the outlook to the American producer from now on and after the war will be a large demand for animal products and a continuing necessity for meat and dairy animals to convert forage and grains not needed for human consumption into meats and dairy products.

The herds and flocks of the country can only be increased over a period of years, and the foundation for such an increase should be laid at once. Such increase is a national interest, and it must be made to the interest of the American producer.

Owing to the large measure of failure in roughage available in western ranges this year there must be either a reduction in western animals or their redistribution into the central and southern states where there is a larger amount of roughage and concentrates available than ever before. Therefore, if the roughage in the central and southern states is saved in an economical manner and if stocker steers, young cows, heifers and ewe lambs of good quality that will be marketed during the next ninety days from the western sections of the country are redistributed, these animals will have been saved and the foundation will have been laid for a material increase of our herds.

Some sections of our country are stocked to capacity with ewes, from which lambs are marketed at from 70 to 80 pounds weight. This is the most economic method of producing mutton, just as "baby beef" is the most economic method of producing beef, and the quality of both these meats is of the best.

What we need is more cows and more ewes producing the 700-pound calf and the 70-pound lamb. We wish to restore the confidence of the farmer in his industry by convincing him that he will get a fair share of a fair price paid by the consumer and extending to him credit on a reasonable basis so he may be able to equip his farm for handling sheep, hogs and cattle successfully. Only by adopting the foregoing methods and prineiples can production be stimulated and the consumer protected.

Many of these same cattle will be required to re-stock the ranges from which they are now being moved, when normal range conditions return the coming year. The nearer to these ranges the cattle can be wintered, the more freights will be saved, both coming out and going back, and the less tax upon the railroads.

It is essential for the future welfare of our nation that the supply of all meat animals be increased. This, not only from the standpoint of directly increasing the food supply of the country, but more live stock on the farm means more fertility in the farm; more fertility means larger grain crops produced at a less cost per bushel; more cheaply produced grain should mean cheaper bread to the consumer as well as more net profit to the farmer. Especially should the energies of the farmer be directed to increasing the sheep stock of the country. Clothing comes next to food as a necessity. Not only does the sheep meet the demand from a food and fertility standpoint, but for its wool for clothing there is no substitute. Every interest that can make itself felt should advocate and encourage the establishing of flocks of sheep in proportion to size of farms in every section of our country. Every farmer should carry to its yearling form every heifer calf of both dairy and beef breeds and every ewe lamb that promises to have an economic future.

Every effort should be made to bring to maturity every heifer calf or ewe lamb whose breeding will give some assurance that it will convert its feed into either profitable meat or profitable dairy products.

State authorities should take immediate action to control the dogs whose depredations have made sheep raising on the farm so difficult a task.

It is equally desirable to increase hog production in this country by every means possible. The increase in demand for pork products is no less than for cattle and sheep products. In this matter the expansion of existing herds is essential, and a redistribution of hogs from centers of less feed supplies to those of greater resources is necessary. Furthermore, the raising of pigs by suburban populations and the utilization of home garbage and perishables not otherwise useful is of double advantage to the nation.

The law that we are now operating under as to food control is conceived and administered in a desire to maintain remunerative and stimulative returns to the producer and to enable these products to reach the consumer with only a reasonable profit allowed for services rendered. Therefore, it is the object of the Administration to eliminate unnecessary cost between producer and consumer.

An intelligent use of the Department of Agriculture's daily reports of the meat situation and the Department's report of the loading of stock at all shipping points should enable the producer to distribute his shipments to better advantage, thereby assisting in lessening the wide fluctuations in market prices for live stock.

In order that a definite and nation-wide campaign to secure these results may be at once undertaken, we have asked prominent stockmen of the country to serve upon a general committee to be known as the United States Live Stock Industry Committee.

We have appointed George M. Rommel and P. H. Rawl, of the Department of Agriculture, and E. C. Lasater and Gifford Pinchot, of the Food Administration, to serve on an executive committee to be added to form the general committee. The State Ageneies, the Department of Agriculture, and the Food Administration, and, we trust, the state agricultural and food institutions, together with state councils of defense, will also co-operate. The county agents of the Department of Agriculture will take orders for cattle, ewes, or ewe lambs, among the small farmers of communities in less than carload lots, and we have arranged with the live stock exchanges to contribute to this mobilization of the nation by buying this stock and seeing to it that it is properly handled while in the yards, free of any charge to the buyer.

This campaign should not be considered to have terminated successfully until the great majority of our farms have their flocks of sheep and a sufficient stock of cattle to consume all roughage now largely wasted.

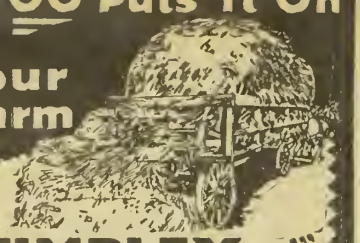
The Live Stock Industry Committte referred to above consists of almost a hundred of the leading live stock men of the country. Kansas is represented Mr. Hoover and Secretary Houston will Governor W. R. Stubbs, of Lawrence, and C. O. McClure, of Kansas City. From the personnel of the committee we feel sure that the advice and counsel given by Dan D. Casement, of Manhattan; exbe such as will favor the expansion of the live stock industry.

The preliminary classification for the 1917 International Live Stock Exposition is now ready for distribution. This great live stock show is the culmination of live stock showing for many of the famous herds of the country. There has been an increase in the premium offerings in several departments. A copy of this preliminary classification will be mailed on application to B. H. Heide, Secretary International Live Stock Exposition, Union Stock Yards, Chicago.



HEREFORD CATTLE GRAZING IN ONE OF THE PASTURES OF W. I. BOWMAN, NESS COUNTY, WHO INSISTS THAT LIVE STOCK FARMING IS THE SALVATION OF WESTERN KANSAS.—ON MANY A FARM THE LIVE STOCK HAS TIDED THE FAMILY OVER THE LEAN YEARS

$100 Puts It On Your Farm



SIMPLEX "2 in 1" Double Duty—STRAW and Manure SPREADER

Here is positively the only machine that actually spreads straw and manure perfectly. Shreds hardest lumps of manure or bright straw into fine pieces and spreads it 21 ft. at a time—20 acres a day! Greatest invention of the day. Thousands of farmers using it to insure big crops this year.

Save Your Wheat From "Winter Kill"

Don't risk $2.00 seed this winter. A straw mulch will save it from Winter Kill—insure big yields. Spread straw and manure for fertilizer. My machine does both. Add 5 to 10 bushels to your crops. Fits any wagon! Has double drive and differential! Will last a lifetime. Costs half the price of a good manure spreader. Write for big catalog, low price, long credit and details of my amazing "Dollar Installing terms," which puts it on your farm for 30 day trial. Do it now.

Manson Campbell, Pres.
Simplex Spreader Mfg. Co.
805 Traders Building
Kansas City, Mo.

30 Days Free TRIAL

TOWER'S FISH BRAND REFLEX SLICKER

is a corker for staying on the job.



Waterproof Absolutely.
Satisfaction Guaranteed.
DEALERS EVERYWHERE.
A. J. TOWER CO. BOSTON.

CHIEF Sunshine Hog House Windows

For the up-to-date, practical hog raiser. Designed and made by specialists—best and most satisfactory window money can buy. Admits direct sunshine and makes hogs healthy. Made of galvanized steel, will not leak—cannot rot, rust, nr warp.



Never need paint or repairs—good for permanent service. Equip YOUR hog house now.

4 Blue Prints of New 4 Hog Houses Free.

Write today for our FREE hog house plans—4 complete plans prepared by experts. Embody all modern features—full details and specifications. Worth money to you. We'll tell you about our other specialties—Chief Steel Ventilating Cupolas, New Chief Ventilating Windows, Chief Sidewall Windows, etc.

SHRAUGER & JOHNSON COMPANY
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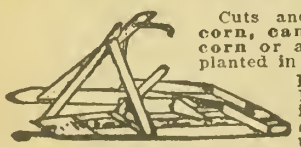

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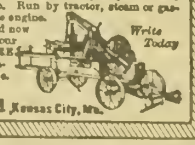

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

MECHANICAL power is performing an important function in increased production and in prosecuting the war. While the number of horses and mules in this country is continually increasing, the demand for power is increasing much more rapidly. Men are learning to do more and more work by animal or mechanical power. Population is also on the increase. Hence it is necessary not only to furnish more power to do the work which was at one time done by hand, but it is necessary also to do the vast amount of work required to feed and clothe the increasing population.

Small gasoline engines are being made use of very largely, but a large portion of the power needed must be in the form of draft. Hence it is necessary to use the tractor. This very easily accounts for the sale of such a vast number of tractors and the ever increasing demand for this farm machine. It is hard to understand how anyone can say the tractor is a fad and back his belief by any sound reasoning.

The tractor is not a fad, but a necessity without which, in the present crisis, this and every other warring nation would be in a sorry plight. It would be impossible to maintain the army at the front without tractors to convey food and to help with the farming operations.

Not only is the tractor necessary from this standpoint, but it has been found more efficient for many kinds of work and is therefore greatly in demand for such operations. In the hot months the farm horse is almost disabled by the effect of heat. The tractor is then at its best.—E. R. GROSS, Ft. Collins, Colo.

Useless Hill Climbing

The high-gear hill-climber is first cousin to the scorcher, and both are bound to become wiser as time goes on, asserts R. O. Allen, writing in the current issue of American Motorist, on the folly of driving motor cars up steep hills in high gear solely for boasting purposes. Continuing, Mr. Allen says:

"I fully understand that the modern automobile is made to climb almost anything but trees. But I wish to demonstrate that to climb a steep hill on the high gear imposes the hardest kind of work not only on the engine, but also on every other part of the car. The low gear ratios are provided for hill climbing and they should be used for it.

"It may be well here to consider a little more carefully the amount of work performed by an automobile climbing a gradient on, say, a gear ratio of three to one. A ratio of three to one means that one revolution of the rear wheels is produced by three revolutions of the engine shaft. With the larger gear ration, the intermediate and the low, the number of engine revolutions becomes still greater as compared to the number of road-wheel revolutions.

"It is not so difficult to compute with exactness the distance which a car is propelled by one explosion in the engine cylinder and the power consumed in hill climbing. The circumference of a thirty-two-inch wheel is approximately 100 inches, and in covering one mile the wheels revolve 633 times. With the motor turning over three times as fast as the road wheels, it will require 1,899 revolutions of the gear shaft to propel the car one mile. Thus, if such a car should proceed at the rate of thirty miles per hour, approximately 950 engine revolutions per minute are required. With two power strokes at every revolution there are 1,900 revolutions per mile and each explosion propels the car one foot and four and a half inches.

"This estimate assumes that the car be propelled over level ground. To mount a hill simply means that grade resistance is added to the various frictional and other stresses. An automobile weighing 2,000 pounds climbing a hill 200 feet high (measured vertically) simply performs the task of overcoming the action of gravity or lifting, and the calculation of the power required to do this must involve the factors from which the horsepower unit is derived. To lift 2,000 pounds 200 feet high in one minute is the same thing as lifting $2,000 \times 200 = 400,000$ pounds one foot high in one minute. Theoretically, then, the lifting of 2,000 pounds 200 feet high requires $400,000 \div 33,000 = 12.12$ horsepower, and the losses through friction, air resistance, etc., consume the remainder of the theoretical horsepower output.

"From all of this it must become apparent that rushing up a steep hill on the high gear must subject any car to enormous stresses, which are likely to affect the life and service of the car to a considerable degree. Gear shifting is not a cumbersome task, and the mounting of gradients will not be attended by harm if the gears are put to the use for which they were intended by the automobile designer."

Keep Your Engine Clean

A dirty engine is the cause of more engine troubles than practically any other one thing. This is especially true with the ignition system. It also cuts out bearings.

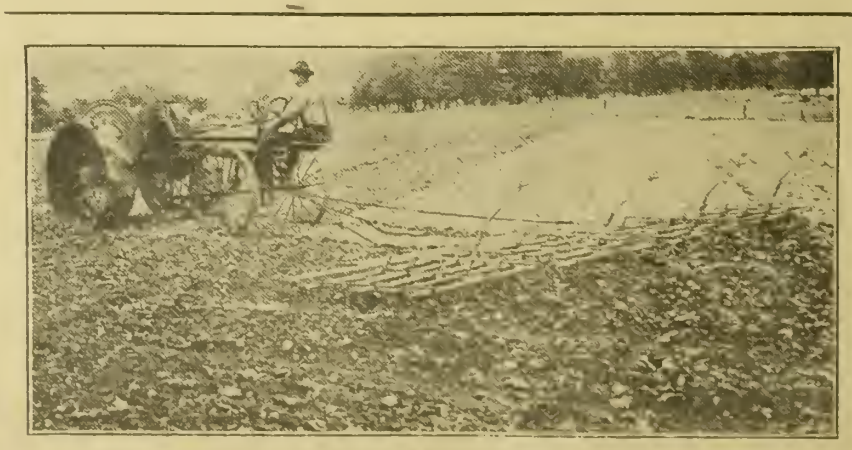
When you examine the bearings on the engine, be sure to clean off the top of the engine thoroughly, so that the dirt does not get into the crankcase and mix with the oil.

Dirty platinum points will cause the magneto to give a poor spark.

Remove the spark plugs once in a while and clean them thoroughly. Don't expect to get a good spark with wet cables, or wet and dirty spark plugs.

A useful precaution in these days of low-grade gasoline is provided in a clean fuel to reach the carbureter. Gasoline enters a lower chamber, where all sediment is supposed to be deposited, and from which it may be drawn off through a drain cock. The gasoline then rises through the filtering element of layers of gauze and special material to an upper chamber, from which it flows into the carbureter.

It is a mistaken idea that tractor gears last longer without oiling. Gears which are not inclosed and running in oil require very frequent lubrication. Some operators use a good grade of machine oil in the gear oilers and whenever possible smear hard oil on the gears to supplement the oil. The oil for gears should drop between the teeth so that it will be carried directly to the wearing surfaces.



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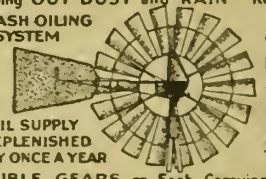

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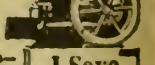

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HOOVER SPEAKS TO FARMERS

IN SPEAKING to the farmers of the country through the editors of farm papers, Herbert Hoover, food administrator, pointed out that even if this war had not come we were due in a few years for an economic revolution. Our productive capacity in foodstuffs has fallen behind our productive capacity in industry. According to Hoover, the war has precipitated this question upon us, for with the reduced consuming power of the world's population due to the destruction of property and life, we shall have after the war less demand upon industry and industry will have become less profitable. But in spite of this, as a result of the destruction of animals and exhaustion of the soil in Europe, there will be no diminution in the demand for food. "Therefore, if I interpret the signs correctly," said Mr. Hoover, "the farmer is coming into his day and it is the duty of all of us to support him."

* * *

Mr. Hoover met over a hundred farm paper editors in Chicago for the purpose of discussing the work of the Food Administration in its relation to the farmers of the nation. He stated that the Food Administration has for its purpose the obtaining of the intelligent coordination of all the forces in the country to solve specific difficulties and food problems which have come through the international situation. It is his idea that the solution of these national difficulties depends entirely upon the cooperation of all those concerned. With our people there can be no force used on production and no force used on consumption. There can, however, be intelligent leadership, and there can be a stimulation of patriotism to effect ends for the common good. As stated above, it is the belief of Mr. Hoover that the majority of the food problems which have arisen in the United States and which will occur in the future would have occurred even if we had not gone into the war. They are based on underlying economic currents and disturbances of economic forces. In some ways the war has made it easier to hasten the solution of these problems.

* * *

While the law itself is called the "Food Control Law" by Congress, the Government insists that its function in carrying out the provisions of the law is that of administration and not control. It seems to be the idea of the Food Administration that the problem is almost entirely administrative and must be worked out through organization entirely in a co-operative manner. The Food Administration has summoned to its assistance from all over the country men who are prominent in their knowledge, experience, and skill in dealing with some of the phases of the problem. On another page of this issue we refer to the character of the Live Stock Industry Committee, consisting of almost a hundred of the leading live stock men of the country. Mr. Hoover told the editors that he resented the statement that the Food Administration is a dictatorship. He said, "I have seen the suffering of ten million people under the wrongs of a dictatorship. Food administration as much as any other function of a democracy must be founded on the good will and consent of the governed. It is for this reason that in our office in Washington not a day goes by but from two to ten conferences, with the producers, distributers, and with specialists take place in order that with the combined wisdom of all we may find solutions to the difficulties that confront us. The Food Administration must be the combined work of thousands. It is beyond any one man."

* * *

One of the first problems confronting the Food Administration was that relating to our own breadstuffs. After studying the problem from every angle, the Food Administration arrived at the conclusion that the world price determination in wheat is entirely destroyed by disruption of the world's commerce; that while we face on one side shortage of supplies, such shortage might be extinguished over night by the flood of supplies now dammed back in other quarters; that the number of buyers in our markets and the ordinary equalization of price with the supplies of the rest of the world have disappeared; that speculation in this particular commodity during the last year was one of the most terrible burdens our consumers had to bear. "I think you will agree with me," said Mr. Hoover in addressing the editors, "that no half-way measures are possible, and the only protection to the producer on one side from possible gluts by shortage in shipping, from possible flood of supplies due to ending the submarine, or to peace and protection to the consumers on every side from speculation, lies in the solution we have proposed, which is that the President should summon a commission composed of the best intelligence in this country, representing an actual majority of the producers themselves, and lay upon that commission the national duty of determining what would be a fair price for this year's harvest with a just return to the farmer." This committee, which had not submitted its report at the time Mr. Hoover was speaking, has since recommended that the administration price for wheat of the 1917 crop be fixed at $2.20 a bushel, Chicago. Mr. Hoover told his listeners that in order to be sure that no speculation enters into the situation, we should so order the distribution of wheat and flour that the speculator has no door, not even a crack, through which he may enter. "We must see that farmers' prices reach the consumer with only the proper and normal cost of distribution." In order to do this, a corporation has been formed, because the ordinary form of Government accounting and finance is ill adapted to the ordinary course and custom of trade. "We must eliminate all 'red tape,' said Mr. Hoover, "and take all short cuts which we may to arrive at our ends." The corporation referred to is simply an accounting organ. It is an instrument of food administration created in order that there should be less disturbance in our trade custom. It is being operated by volunteers—by men who have entirely disassociated themselves from the business of grain trading and have given their services to the Government for the war.

* * *

The Food Administrator called attention to the fact that the shortage in the world's food supply has knocked at every door in the United States, not because of our lack of ample supplies but because of the drain upon us from Europe and the consequent increased price level. One of the results of this condition has been the growth of a vast mushroom of speculation and an unnecessarily higher cost of living in our industrial centers. There have come demands for readjustment of wage levels and thousands of disturbances in our economic life. No one can deny the fact that farmers last year received on an average less than a dollar and a half a bushel for their wheat. The consuming population, however, bought their flour largely on the basis of two dollars and a half for wheat. These unnecessary margins have not been confined to wheat alone. The remedy for this situation is the big problem facing the Food Administration. Now that our harvests are complete, it is possible to know with what supplies we have to face the coming year. It is evident that our supplies in the United States are far below the combined necessities of ourselves and our allies. One means of helping out is to reduce consumption and eliminate all wastes possible. Because of the great shortage in ships, we must confine our shipping to the most concentrated foods. The supplies we send to our allies must be wheat, meat, and dairy products. We have an abundance of many other kinds of foodstuffs and without hardship on the American people these ought to be substituted for the concentrated foods which we can export. Mr. Hoover showed how the distant markets of the world are being eliminated one by one, simply because of the inability to transport their products. This has the same result upon the problem as would a complete crop failure. We are facing a growing shortage of commercial shipping. Eight million tons of commercial shipping are now in war service and five million tons have been destroyed.

* * *

According to Mr. Hoover, the basic facts of the food situation are as follows:

(a) By diversion of millions of men from productive labor to war, the food production of our allies, and of Europe generally for that matter, has greatly diminished. The soil has been depleted on account of shortage of fertilizer and labor; and today we find the present harvest among our western allies is short of the normal by 525,000,000 bushels of grain.

(b) These countries always import a considerable amount of their foodstuffs and today their markets are dislocated and many of them entirely stifled. They are thus thrown upon North America for a larger proportion of their imports, and in fact, if we are to maintain them with food during the coming year, we must export from this country 200,000,000 bushels of wheat, as against our normal export of 80,000,000 bushels. And we must furnish them with 400,000,000 bushels of other cereals as against our normal pre-war export of under 50,000,000 bushels.

(c) The demand for more wheat, shortage in fodder production, and the necessity of confining shipping to the most concentrated of foods, all tend to the depletion of the herds of Europe; and they are now making large inroads into their capital in animals. From now on they will make even larger inroads. With every decrease in shipping it becomes more logical for them to kill and eat their animals and depend upon us to replace their animal foods, than it is to import fodder in hope of maintaining their animals.

(d) The allied countries have reduced the consumption of foodstuffs by every device of which individual loyalty is capable, and of law. Their populations are now drawing foodstuffs on tickets or other restraints in an endeavor to meet, so far as may be, by reduction of consumption and elimination of waste, the decreased food supplies of the world and the threatened still further shortage of shipping. This reduction of consumption, however, does not bear uniformly upon the entire population. The soldiers in the field, the men working from ten to twelve hours in the shops daily, millions of women in physical labor, require a larger percentage of protein and fat. Therefore, restrictions in consumption fall almost wholly upon the aged and upon the women and children.

* * *

In view of the conditions, Mr. Hoover asserts that it is our first duty to stimulate production and use equally strenuous endeavors in the reduction of consumption and waste in order that we may supply the foodstuffs required by our allies. "The fact is," said Mr. Hoover, "this is our war and much as their war, and unless we can keep the women and children of our allies fed, the western line will surely be thrown to our Atlantic seaboard and it may be thrown in an infinitely more dangerous quarter in the ransom of Canada as penalty for England's defeat. The other premise is one equally strong in my mind and is one of simple duty to humanity; that we should out of our abundance and our waste do our part in a world suffering with us to maintain an ideal and a faith which must be the foundation of the world's hope in civilization." In order to meet the physical situation which he had outlined, the Food Administrator stated that it seemed that in production we should guide ourselves with as much forethought as we can summon. There is taking place in Europe a gradual destruction of animal food supplies. This means that we must increase our supplies to meet the deficiency. As time goes on, Europe can turn her production toward food grains and thus enable a further concentration of our food supply. The outstanding fact which Mr. Hoover seemed anxious to bring home to every American producer is that in his own interests, in the interests of the nation, and in the interests of the war, we should turn the face of our agriculture toward increased production of animal food and ultimately decrease our exports of bread and feed grains.

* * *

In closing his remarks to the editors and through them to the farmers of the country, Mr. Hoover stated that he had spent the last two and a half years in the midst of this war. He had been in a position of intimate daily association with armies, with governments, with the tyranny, misery, and the backwash of battle. He said: "I have witnessed the operation of the social system and the aspirations of the ruling classes of Germany in their daily results and their ultimate intention. It is no loose statement that we face a race of people under a government intent upon mastery of the world. The war seems far away to most of our people, but as surely as we were fighting for freedom in 1776 we are fighting for our national existence and our national faith this day and month, 1917." He pointed out that we are fighting a race of people given to efficiency and organization, disciplined for fifty years in development and preparation for an hour of world domination. If our loose democracy, if our ideals of individual liberty and action cannot be co-ordinated in such a manner that we may defend ourselves, our independence will surely not survive for another twenty-five years. We do not desire such an organization in this country. It is against every instinct of our people and opposed to the instinct of democracy. "To adopt it," said Mr. Hoover, "would be to yield ourselves to autocracy within our borders. There is another solution. Democracy can voluntarily organize itself from the bottom up; that by inspiration as to the problem with which it is confronted and as to the methods by which they may be solved by self-imposed discipline, by self-elected leadership and organization it can find solution and defend itself. This is the ideal and intention of the Food Administration. If we fail on this line, we fail because democracy does not provide in itself the efficiency to defend itself."

* * *

Stockmen feel much reassured as to the live stock situation following the positive announcement by Herbert Hoover that no attempt will be made to fix the price of live stock to the producer. Mr. Hoover is on the right track and with the advice and counsel of the committee now meeting in Washington we can hope for encouragement in the production of meat animals.

FEED AND CARE OF DAIRY CALF

Ability to Successfully Rear Calves is One Test of Good Dairyman



CALVES IN STANCHIONS READY FOR THEIR SKIM MILK.—GREAT CONVENIENCE TO CONFINE CALVES IN THIS WAY.—EACH CALF GETS PROPER ALLOWANCE AND CANNOT SUCK EARS OF OTHER CALVES AFTER DRINKING MILK

TO IMPROVE the dairy herd from year to year it is necessary to learn how to feed and care for the calves. It is almost impossible to depend upon buying cows to keep up and improve the herd. In feeding the dairy calf it is not enough to merely keep it alive. The miserable, stunted, pot-bellied calves found on some dairy farms are a disgrace to the dairy business. It is not to be wondered at that good stockmen have derisively spoken of such calves as "buttermilk calves." This is a condition that need not exist. Just as good calves can be raised on skim milk as in the natural way.

In order to become valuable as an addition to the dairy herd, the calf must be well grown and properly developed. No matter how well bred it may be, the stunted, poorly fed calf can never become a valuable cow. Proper feeding and caring for dairy-bred calves thus becomes one of the important lessons for the beginner in dairying to learn. The person who actually feeds and cares for the calf must know what constitutes good care and in addition must be able and willing to apply a considerable amount of observation and good judgment to the work if he is to be successful.

A most instructive circular on the rearing of the dairy calf has recently been prepared by R. S. Hulse and W. B. Nevens, of the Illinois Experiment Station. It gives methods of feeding and care which have been found by experience to give good results. In what follows we have drawn on this pamphlet in giving the important points of successful calf feeding.

It is important that a dry well-ventilated box stall be provided for receiving the calf at birth. This is especially important when calves are born in the fall or winter. A great many of the physical troubles to which calves are subject are caused by cold drafts and dampness. Even if the quarters are warm, if they are ill ventilated or moist, the animal's vitality is lowered and its resistance to cold and disease lessened. An abundance of dry bedding helps to keep the calf dry and warm.

SEPARATING CALF FROM COW

It is well to allow the calf to remain with the dam for a day or two in order that it may receive the colostrum, or first milk. Colostrum milk has a purgative effect which aids in clearing out the calf's digestive system. If the mother's milk is very rich, it may be necessary to feed milk with a lower percentage of butterfat.

It is somewhat easier to teach young calves to drink than it is to teach older ones, but in either case it is necessary for the calf to become hungry by the omission of one or more feeds before it will drink milk from a pail.

One method of teaching the calf to drink is to get it to suck the attendant's finger as its mouth comes in contact with the milk in the pail. The finger can be withdrawn gradually and the calf will usually continue to take in the milk. Patience rather than force is a prerequisite on the part of the feeder.

IMPORTANT TO MEASURE MILK

Guesswork in apportioning milk to the dairy calf is expensive both from the fact that irregular amounts often cause digestive troubles and because more milk than necessary is frequently fed. The milk can be measured into the bucket by the use of a container of known volume, it being understood that a gallon of whole milk weighs about eight and one-half pounds; or the milk may be apportioned by the use of a spring balance scale. The latter method has been used for several years in apportioning milk to calves at the dairy barns at Purdue University.

The importance of feeding the calf regularly cannot be overemphasized. The digestive capacity of the young calf is not suited to receive large quantities of milk at a time, but is better adapted for receiving small amounts often. A young calf fed milk three times daily will thrive better than if fed the same total amount in two feeds, providing the milk is always fed in a uniform condition.

AMOUNT OF MILK TO FEED

A general guide for using whole milk is to feed it at the rate of one pound daily to each pounds of live weight, rarely feeding more than twelve pounds per day. The length of the time whole milk should be fed will depend quite largely on whether skim milk is available.

Raising the dairy calf on whole milk alone is too expensive. There are a number of supplements which may be combined with whole milk in order to lower the cost of the ration. The feeds most commonly used as whole-milk supplements are skim milk, home-mixed meals, commercial calf meals, and hay and grain.

COMBINING WHOLE AND SKIM MILK

On farms where skim milk is available, it may be substituted for whole milk in the ration of a healthy calf when the animal is three or four weeks of age, a few days being necessary to complete the change. If the skim milk is fed in a warm, sweet condition, ordinarily no difficulties will be experienced. The amount of skim milk fed may be increased as the calf increases in size, but it is rarely necessary to feed more than fifteen pounds daily provided grain and a good quality of legume hay is being used. Where the supply of skim milk will permit, it is advisable to continue its use until the animal is five or six months of age in the case of grades, and for a longer period in the case of pure-breds. Skim milk is one of the most economical feeds known for producing growth in calves.

In the feeding schedule outlined by the authors of this circular it is suggested that the day following removing the calf from the cow it should be given about four pounds of whole milk if of the Jersey breed and six pounds if of the Holstein. From three days of age to twenty-eight, feed six to eight pounds daily to the Jersey bred calf and ten to twelve pounds to the Holstein. At this age the change to skim milk can be gradually begun, feeding during the week in which the change is being made three to four pounds of skim milk to Jersey calves and five to six pounds of whole milk and an equal amount of skim milk to Holsteins. During the next three weeks feed the Jersey bred calves from eight to ten pounds of skim milk and the Holsteins ten to twelve. From that time on feed the Jersey bred calves ten to twelve pounds of skim milk and the Holsteins twelve. If plenty of skim milk is available, it can be fed to good advantage at the rate of about fifteen pounds daily, instead of twelve, to calves of the larger breeds.

HOME-MIXED MILK SUPPLEMENTS

The calf meals sold on the market are useful as supplements to whole milk, but as they have not been so compounded that they will successfully replace whole milk before the calf is several weeks old. Calf meals alone, or calf meals, grain, and hay, do not form a complete ration for the young calf, since they do not supply the necessary nutrients in a form readily digested and assimilated. To produce satisfactory growth of the young calf when fed a calf meal, it is best to use the meal as a supplement to milk rather than as a complete substitute for it. It is doubtful if, under average conditions, good gains will be made unless some milk is fed until the calf is about sixty days of age. In most cases the manufacturers of calf meals claim more than is warranted for their products as substitutes for milk.

FEEDING GRAIN

The calf may be encouraged to eat grain at an early age if a small amount is sifted into the pail after the milk has been drunk, or if a fresh supply is kept in a box which is readily accessible. There is often a tendency not to feed grain at as early an age as the calf will eat it. Most calves will begin to nibble it when they are two or three weeks old, and it has been observed that the young calf having access to several different kinds of grain at first prefers such soft feeds as wheat bran and oil meal, but as it becomes older it will eat some of the coarser feeds such as oats and cracked corn in addition and in some instances in preference to the soft feeds.

A mixture of ground corn ten parts, by weight, oats fifty parts, wheat bran thirty parts, and oil meal ten parts, is suitable for the young calf; or these same feeds may be mixed in equal parts, by weight.

A good growing calf at three months of age will consume two to three pounds of grain daily when fed twice a day, and usually more if allowed grain at will.

ROUGHAGE TO FEED

The calf will often nibble hay when a few days old, but will not consume it to any appreciable extent until about four weeks old. A good grade of clover makes an excellent hay for calves. Observation suggests that, in the case of young calves, it does not have the overlaxative tendency that alfalfa sometimes has, although alfalfa seldom causes any difficulties provided other suitable feeds are being used. Legume hays make excellent roughages because they are palatable and contain a large amount of protein and calcium.

A fine grade of legume hay, such as clover or alfalfa, should be kept in a manger or rack so that the calf has access to it at all times. When the leaves have been nibbled off, the coarser portions may be fed to the mature animals.

Corn silage may be introduced into the ration as soon as the calf will eat it. Silage will not be consumed to any extent until the calf is two months old. It is important that the silage be of good quality.

Water should be supplied daily to calves over a month of age. In winter it is well to warm the water.

Salt should be furnished to the calf after it reaches the age of two to three months. It may be sprinkled in small amounts into the empty manger or may be placed in a box provided for that purpose.

The problem of caring for the dairy calf is by no means solved by the end of the milk-feeding period. The animal should be kept gaining constantly from birth to maturity if good growth is to be expected. Calves are frequently well cared for up to four or five months of age and then given little attention. If good growth is to be secured, heifers under a year of age require grain in addition to hay or pasture.

Since the condition of the heifer at pasture is not so closely observed as when in the stall, the heifer beyond the milk-feeding period is more likely to be neglected during the summer when on pasture than during the winter months.

CALF QUARTERS

The calf should have dry, well-lighted quarters, preferably with a southern exposure. The fewer doors a calf barn has, the more effectively can cold be excluded in winter. A rack or manger from which hay may be eaten at will should be provided. Stanchions for fastening the animals at feeding time are desirable. If the calves are stanchioned while they are being fed milk and are given grain before being turned loose, there is not so much tendency for them to suck one another.

The ideal arrangement is to have small stabling pens for each calf. When calves are handled in numbers, it is desirable to group them according to size and to keep the groups small.

TREATMENT FOR SCOURS

Scours is the most common calf ailment. It results from various causes, indigestion and exposure being the most common. Indigestion may be caused by a too liberal supply of milk, too rich milk, a sudden change in the character of the milk, or too large an amount of commercial calf meals.

The cause should be determined at once and removed. In all cases it is well to reduce the feed. If the cause is indigestion, it is recommended that one to two ounces of castor oil be administered. The oil effects the removal of irritating materials and later acts as an astringent.

Milk that has been scalded, raw eggs, and flour, are home remedies which are more or less useful regulators. Half a tablespoonful of a mixture of two parts subnitrate of bismuth and one part salol may be given in the milk at feeding time or as a drench. The dose may be repeated at six-hour intervals until the scours are checked.

Effective remedies for scours and other calf ailments may be obtained from a veterinarian.

White scours is a violent and deadly form of diarrhea which attacks the newborn calf. The disease results from infection by a specific germ. The most noticeable symptom that accompanies the disease is that of a profuse yellowish-white liquid bowel discharge. The calf becomes dull and weakened, and as a rule dies within a day or two. Very little can be done in the way of treatment, but preventive measures should be taken. If the barn is infected with white scours, special care should be taken in disinfecting the box stall in which the cows calve, and in providing dry, clean bedding.

(Continued on Page Nine)

Bread Needs of the Nation

Important That There be Greatly Increased Production of Wheat

WHEAT production was the chief topic of discussion at the series of agricultural conferences that have just been held in various parts of the United States under the auspices of the United States Department of Agriculture. The fourth of these conferences was held in Kansas City last week and the fifth of the series is being held in Spokane, Washington, this week. Secretary Houston is endeavoring in every way possible to bring the Department of Agriculture closely in touch with the actual producers of human food all over the nation. We feel that the people of Kansas will welcome the opportunity of learning direct from the Secretary, who was present at the first conference, the plans and purposes he had in mind. He addressed this conference as follows:

"This is the first of five conferences we have arranged to hold in the country in connection with the wheat problem. Conferences of this sort seem to be in this emergency especially essential. Last April we had a general conference in St. Louis. The impression I then formed has deepened as time has passed, that this nation is exceptionally fortunate in having laid, generations ago, the foundations for scientific and practical agriculture not only for the whole nation in the Federal Department of Agriculture, but also for each state, in the land-grant college, in the state department of agriculture, and in the great farmers' organizations. Representatives of these agencies in St. Louis in two days came to conclusions the wisdom of which has not been generally or successfully questioned, the substantial part of which has now been enacted into law. Not only was there evolved then a program involving legislation, but a program involving organization and coordination of agencies for more effective assistance in this crisis. Such organization was quickly developed, and I imagine that in this direction, as in others, the nation has given demonstrations of efficiency that no other nation has equaled. The response of all the agricultural agencies has been tremendously gratifying. The farmers have done their part with enthusiasm and patriotism and, for the most part, they were favored by Nature. The result is, as you know, that in a number of important crops the nation will have this year enormous yields.

"But singularly enough, from a military standpoint we were unfortunate in respect to the very crop of which we have the most immediate and pressing need. Wheat bread seems to be peculiarly the war bread, due to its own special characteristics as well as to the habits of European nations with whom we are associated in this war. It was not the farmer's fault that we did not have a large wheat crop. A large acreage was planted, but there was a tremendous winter killing; and so we have the very short crop of last year followed by a short crop this year.

INCREASED PRODUCTION ESSENTIAL

"It is highly essential that we omit no step to secure a production of wheat during the next year which will be greatly in excess of the normal needs of this nation. My own conviction is that, whether we have peace or war, this nation is going to be called upon for some time to come to feed a considerable part of the population of Europe and to furnish it with agricultural supplies and equipment. A continent going through what Europe has gone through for the last three years, and is continuing to go through, does not quickly get on its feet. The waste of men, the loss of human life, the impairment of many of those who survive, the destruction of work animals, the waste of farm equipment, the impairment of labor, the disorganization of labor, the disruption of the normal processes of agriculture—all these things entail heavy burdens and handicaps; and it is going to take Europe a considerable period to get where she was before this war came on. There are doubtless some of you who know the condition of the South after the Civil War and recall that in agriculture even the South did not get on a normal basis until well in the eighties.

PRICE-FIXING LEGISLATION

"I speak of this because there may be doubts in the minds of farmers as to whether they will take too great risk in planting a large wheat acreage next year. I am no prophet. None of you perhaps would be willing to dogmatize, but I think we might agree that the economic conditions will be such as to assure wheat producers a normal and profitable return. We should bear in mind also that in the Food Control Bill this compensation matter has been dealt with by the Congress.

CONSIDERATION OF OTHER CROPS

"It is important, as I said, that we have an abundant supply of wheat to satisfy our own needs and a large part of the need of Europe from this time at least to the end of the next wheat season. But it is also very important that the suggestions made shall be wise, that we shall not interrupt our large agricultural enterprises in other directions, unduly unbalance our agriculture or undertake to do things which are not desirable from a physical point of view, which are foreign to the habits of the people, and for which they do not possess the requisite facilities. So that our problem is not merely one of wheat production. It is of necessity in no very small sense a problem of the entire agriculture of the nation. Doubtless this will be revealed fully as you proceed with the discussion.

OTHER CONFERENCES CONTEMPLATED

"It has been our thought that, after holding the wheat conferences we should call conferences to consider live-stock problems and those of general farming for which we shall have more time for reflection.

"It is very gratifying to those of us who are trying to render service here to witness on every hand the most patriotic and fine spirit of service on the part of the people throughout the nation. This is not a task that any one group of men, any set of Government officers can do. Wars are no longer fought by a comparatively few groups of individuals. They are fought by entire nations and won by those nations with the largest resources most effectively organized and directed. I think this Nation is giving a demonstration, and will continue to give a superb demonstration in the field of organization, in the direction of great resources and is going to teach the peoples of the world that Democracy is really what we claim it to be—the best form of government.

THE OPPORTUNITY TO SERVE

"Leadership is as wide as the Nation. No man can say today from what quarter the suggestion may come that may most adequately solve a particular problem, whether it be a civic or a military problem. It is one of the tremendous advantages of Democracy, that any person, no matter how humble, may have the opportunity to serve the Nation. It is stimulating to know that this is so and it is encouraging to realize the prevalence of the spirit of service. I know that you have come here in this spirit of service, in the spirit in which hundreds of thousands of men are coming for different purposes from every corner of the Union. It would be presumptious, almost impertinent, for me to thank you for coming here because you are simply gladly doing your duty."

Leading Fairs and Expositions

Kansas Free Fair: Phil Eastman, secretary, Topeka; September 10-15.
Kansas State Fair: A. L. Sponsler, secretary, Hutchinson; September 15-22.
International Live Stock Exposition, Chicago, December 1-8.
National Dairy Show, Columbus, Ohio, October 18-27.
Dairy Cattle Congress, Waterloo, Iowa, October 1-7.
International Soils Products Exposition, Peoria, Illinois, September 18-29.
American Royal Live Stock Show, Kansas City, Missouri, October 1-6.
Illinois State Fair, Springfield, Illinois, September 7-15.
Indiana State Fair, Indianapolis, Indiana, September 3-7.
Kentucky State Fair, Louisville, Kentucky, September 10-15.
Minnesota State Fair, Hamline, Minnesota, September 3-8.
Missouri State Fair, Sedalia, Missouri, September 22-29.
National Western Stock Show, Denver, Colorado, January 20-27, 1918.
Nebraska State Fair, Lincoln, Nebraska, September 2-7.
Oklahoma State Fair and Exposition, Oklahoma City, Oklahoma, September 22-29.
Oklahoma Free State Fair, Muskogee, Oklahoma, October 8-13.
Pacific International Live Stock Exposition, North Portland, Oregon, November 19-24.
Wichita Exposition, Wichita, Kansas, October 1-13.

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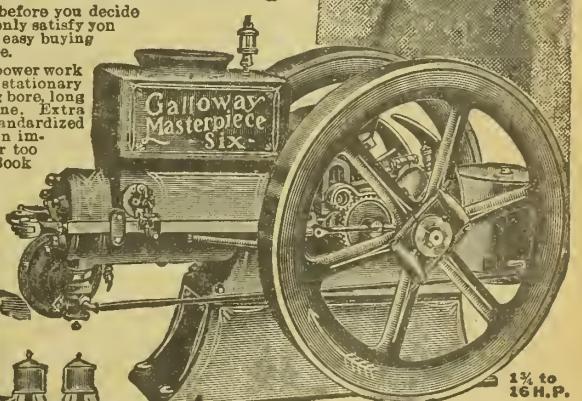

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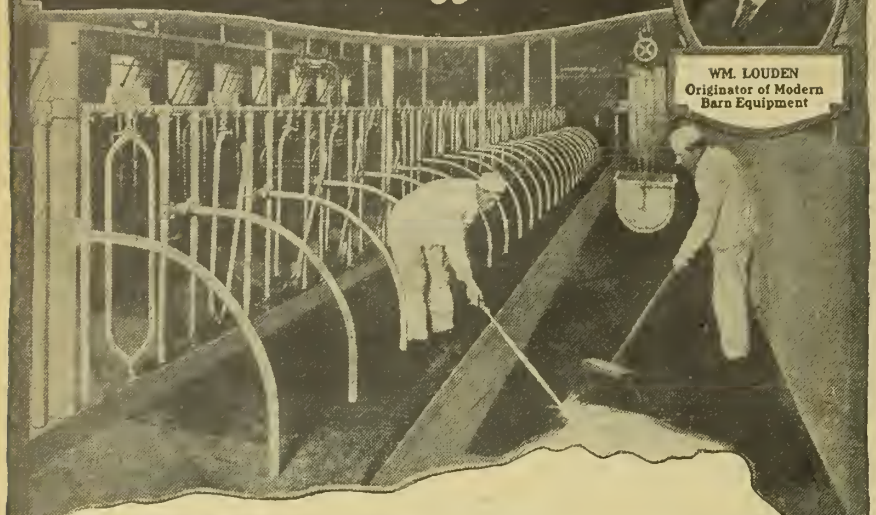

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Kansas Farmer Dairy Club

What to Feed

CARLITO GRISWOLD, a new Dairy Club member at Chanute, writes to ask what amount of feed of each kind he is supposed to give his cow at each feeding. From the form of this question, we assume that Carlito is without much experience in feeding animals. Perhaps many of the club members, even though living on farms, have given little thought heretofore to the proper feeding of milk cows.

In feeding for milk, the first consideration is that plenty of rough feed of a kind the cow likes be given. The feed eaten by the cow must have in it the materials of which milk is made. A good many kinds of rough feed lack protein, which is very essential to milk production. Corn or kafir fodder, prairie hay, millet, and cane hay, all are lacking in protein and for that reason this class of rough feed does not make a very good milk ration. To feed milk cows economically it is almost necessary to give plenty of hay of a kind containing more protein than prairie hay or corn fodder. Alfalfa, clover, cowpeas, and soy beans all contain larger amounts of protein than other kinds of fodder or hay, and for that reason plenty of alfalfa or other hay of the kinds mentioned should be fed to the milk cow. Alfalfa is very high in price now, but it is worth more as a milk cow feed than any other hay on the market.

Silage and alfalfa hay make an ideal combination for a milk cow. By feeding all of these two feeds the cow will eat, very little if any grain will be necessary for the ordinary cow. In figuring how to feed your cow, the first point to consider is the hay and other roughage. If you have to buy all your rough feed, alfalfa will probably be the most economical. Those who can feed silage should of course always give as much silage as the cow will eat. Silage is especially valuable because it contains some of the natural juices of the plant. It is called a succulent feed, and might be compared with grass or other green feed. Almost any kind of feed containing its natural juices is a great help in feeding for milk. Pumpkins, sugar beets, or stock beets are good to feed milk cows. Even turnips can be fed, although they may flavor the milk unless they are always fed just after milking and never before.

With feeds of all kinds as high in price as they are now, it will save expense to have some kind of pasture that can be grazed late in the fall. A patch of rye will be a big help in feeding the milk cow cheaply and now that we have had plenty of rain the ground is in fine condition for seeding rye. If there is any vacant ground in the garden or where the potatoes have been dug, it can be seeded to rye. Of the rough feeds always be sure that the cow has all she will eat.

It is not possible to get the highest production from a heavy milker without feeding grain, and in most dairies where high producing cows are kept some grain is fed. When grain is as high as it is at the present time it is probable that, in many cases at least, it will be more profitable to limit the amount fed, depending on good ronghage. Just at the present time oats are about as cheap a grain as can be fed. Oats compare in milk-producing qualities very favorably with bran. Usually they are too high in price as compared with other grains and mill feeds to be fed. A standard grain mixture fed by many dairymen is made of four parts corn chop, two parts bran, and one part oil meal or cottonseed meal, by weight. If chop gets a little lower than it is now, this combination will probably be as good as any that can be fed.

In feeding grain to a cow it is always important to know whether she is paying for it or not. Since all Dairy Club members are keeping accurate records of the milk given as well as a strict account of the feed, they can know whether the grain they are giving the cow is increasing her milk enough to pay for what it costs. For a cow capable of giving over thirty or thirty-five pounds of milk a day, a good rule for feeding grain is to give the cow each day one pound of the grain mixture to every four pounds of milk she gives. If she is having plenty of good pasture, one pound of grain to every six pounds of milk would be about right. It is always important to watch the milk record very closely for a few days after making any change in the grain ration so as to learn just what effect it is having on the quantity of milk the cow gives. In neighborhoods where there are men who have made some success in feeding dairy cows, it is a good plan for Dairy Club members to get acquainted with them and talk with them about their work. The experience of such men will be valuable to the beginner.

Cow on Pasture Only

John R. Moellman, of Olpe, whose cow recently freshened, writes that she is giving more milk since the cooler weather came. He says he is not giving her any feed except pasture because feed is very scarce and quite expensive. The crops are all doing well since the rain and they will have plenty of rough feed and another good cutting of alfalfa for winter feeding.

Now that the pastures are in such fine condition, John is probably right in making his cow depend entirely upon the green feed she gets. A cow never produces milk so cheaply as when she has plenty of good pasture and now that the weather is cooler and the flies not so troublesome, a cow can make the best use of the grass.

Feeding Sheaf Oats

Theresa O'Mara, of Colony, wrote us the first of August that she had fed sheaf oats during July and did not know what price to charge for them on her records. We suggested that this would depend almost entirely on the amount of grain in the oats, and asked if she could not estimate in some way how much grain each sheaf contained and then figure out from this how much to charge for grain and how much for the straw. In sending in her records for the month, she says: "In figuring the amount of oats in a bundle, I stripped the grain from one bundle and found that it weighed four and one-half pounds and the straw three pounds. On this basis I charged Delphi with straw at the old schedule price of fifty cents a ton and oats at seventy cents a bushel less three and one-half cents a bushel, the cost of threshing.

"Delphi did not gain in milk flow while I fed the sheaf oats, but I believe it kept her from falling off, as the pasture was very dry during July. The rains have helped the grass and I am not feeding the sheaf oats now. She is giving about ten pounds of milk a day now. I have been milking her since the fourth of last September and my year's work will close the last day of August.

"I enclose herewith an article taken from the Garnett Review which shows the difference between selling cream and whole milk. The new condensery at Garnett is now in operation and some of the farmers from here are shipping while milk. It promises to be a success, and they have already planned to build an addition.

"We now have a new county agent and I have found his plans and suggestions valuable in searching for a cow for my second year's work. I have not purchased one yet, but hope to do so soon."

The article in the Garnett paper referred to told of a dairy farmer who sold his cream during the month of July for $105.53, or an average of $3.40 a day. During the ten days in August in which he had sold whole milk to the condensery, his milk sales had averaged $6.72 a day, or figuring on a thirty-one-day month, a gain of $102.92 on the same number of pounds of milk over selling cream.

We are glad to learn that the condensery is resulting in increasing the interest in dairying in that locality. Those who sell whole milk to the condensery should not be too hasty, however, in drawing conclusions as to the relative advantages of selling cream and whole milk. Where the milk is sold there is no skim milk for feeding the calves and pigs. Properly raising the heifer calves is a very important part of the dairy business, since this is the surest and most economical means of improving the herds. We would not discourage the condensery business, but would urge that due consideration be given to the necessity for having some skim milk to properly raise the heifer calves. We would suggest that Dairy Club members refer to KANSAS FARMER of August 11 and read the article on page seven.



THE NO-PURPOSE COW

WE HAVE heard a good deal in the past few months about the unnecessary sacrifice of milk cows. The facts are that it has been a good time to cash in a lot of cows that should have gone long ago. Under ordinary conditions dairying has been so certain of bringing in some profit that a man might worry along with scrub cows and not realize that it was an expensive piece of business to feed cows of that class. It is now necessary to cull out these poor cows or go out of business. We have not heard as yet of very many really good cows being sacrificed owing to the high prices of feeds or insufficient prices for the product. The conditions are simply enforcing the practice of better business methods.

In a pamphlet on dairy farming recently published by the International Harvester Company, C. E. Brown, a dairy farmer of Minnesota, gives some valuable advice. He says: "The great cry of the dairyman is for better cows, and generally the cheapest and most efficient means of bringing about improvements are along the lines of breeding and selection. We hear a great deal about the dual-purpose cow, and when good ones can be obtained they are all right. However, the great menace to the dairy industry is the no-purpose cow.

"In common farm herds we are very apt to find three classes of cows in the same herd. We find those which use their feed for the production of beef, and still others which produce neither milk nor beef at a profit. These unprofitable cows should be eliminated from the dairy herd if the dairy is to be a paying investment because poor cows cut down the profits returned by the good cows. Only by careful selection and culling out and by breeding along dairy lines can a herd be built up cheaply."

It has been our observation that on the farms of Kansas the mistake of poor feeding is perhaps as common as the mistake of using poor cows. It has been demonstrated over and over again that the feeding of even ordinary cows for milk production has resulted in their returning good profit. It takes feed to make milk, and learning how to feed cows for milk production is one of the first lessons in profitable dairy farming. Mr. Brown seems to have made similar observations. He says: "There are a great many cows throughout the country that are not making as large returns as they should simply because they are not given a chance. This is due to the fact that so many do not understand the fundamental principles of feeding.

"Many farmers feed the same amount of grain to each cow, regardless of her size and record of production. By keeping a milk record and having the milk tested from time to time and then feeding a balanced ration in proportion to the capacity for production, the profits can be greatly increased.

"A large cow generally uses more feed for maintenance than a small cow and this should be taken into consideration. I have known of instances where the cows were fed beyond their requirements, but more often it is the other way, and the best cows are not given a chance to do their best. I knew a farmer who bought a cow from a neighbor who was selling her because she was such a big eater. He said that she would eat her own feed and then rob the cows on either side. She was a large cow, weighing three or four hundred pounds more than any other cow in the herd, but she was capable of producing ten thousand pounds of milk a year. He did not take this into consideration, but fed them all the same amount. This cow proved to be a hundred-point cow. She paid a big profit on her feed and care.

"Some balance the grain ration very well, but provide poor and unsuitable roughage. Too many farmers think that if they feed a suitable grain ration they can neglect the roughage and give the cows anything to fill them up. Roughage should not only contain nutriment, but should be relished by the cows. While roughage is ordinarily cheap feed, it is possible for it to become expensive if the cows refuse to eat it and in this way unbalance their rations.

"Another common mistake is to neglect to feed and care for the cow properly before freshening, especially cows that freshen in the spring. A cow that is wintered poorly with nothing but roughage will be thin in flesh in the spring and when turned out on pasture will begin to put on flesh instead of yielding a good flow of milk. By the time the cow has built up her body and is ready to give milk, it is fly season, and this is followed by short fall feed and the cow has been under a handicap the whole season.

"The cow that freshens in the fall has a great many advantages over the cow freshening in the spring because she has been on pasture all summer and is in better condition. However, after she has dried up she should not be neglected. It is easy to neglect the dry cows and let them run down. The fall is the time when they are changing from pasture grass to hay and they should receive good care and attention."

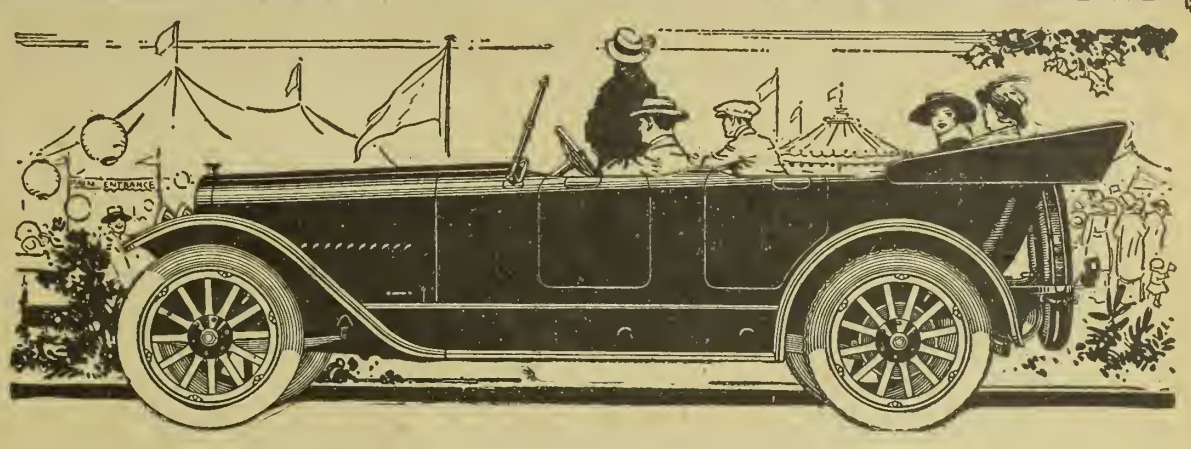
Use Tested Sires

The value of the tested sire has recently been illustrated at the Missouri Experiment Station. Sultana's Virginia Lad was selected as the herd sire at the age of five years on account of the excellent milking qualities of his daughters, although none of them had ever been tested for Register of Merit at the time he was purchased. The first five daughters of this bull to freshen in the college herd have an average production of 9,000.3 pounds of milk and 511.03 pounds of fat as two-year-olds. This is an average per cent increase of 76.6 in milk and 86.3 in fat over the average production of the first lactation of their dams.

Two of these daughters have dropped the second calf and have started their lactation period by producing 1,416 pounds of milk containing 87.28 pounds of fat and 1,284 pounds of milk containing 82.32 pounds of fat respectively during the first month. The production of 87.28 pounds of fat in one month is the record of the herd for that length of time. These figures show that the sire may be even more than half the herd.

The use of the tested sire has been emphasized all the more by present high feed prices. The offspring of the tested sire will usually use feed more economically and produce more than those of the scrub sire.

The boycott on veal and lamb proposed by misguided food conservationists with the view to increasing meat production, cannot be taken seriously by anyone who understands live stock production. Why not boycott eggs because every egg eaten might become a laying hen or a broiler?



What Double Strength

Has Done for Mitchell Sixes—Both Sizes

Three years ago we decided to double our margins of safety. That is, to give all vital parts 100 per cent over-strength. Up to that time most engineers considered 50 per cent extreme. But our 11 years' experience on American roads proved that cars could not be too strong.

Since then, the Mitchell demand has multiplied. The more men see of their endurance the more these cars are wanted. In the first six months of this fiscal year our sales increased 160 per cent.

Mitchell Over-Strength

Not one rear spring built under this standard has ever yet been broken.

Two Mitchell cars that we know of have already run over 200,000 miles each. That is 40 years of ordinary service.

Our export demand has enormously increased to countries with difficult roads.

And a long list of engineers of nation-wide fame have chosen the Mitchell for their personal car.

Mitchell SIXES

TWO SIZES

Mitchell—a roomy 7-passenger Six, with 127-inch wheelbase and a highly developed 48-horsepower motor.

$1525

Four-Passenger Roadster, $1560. Sedan, $2240. Cabriolet, $1960. Coupe, $2060.
Also Town Car and Limousine

Mitchell Junior—a 5-passenger Six on similar lines, with 120-inch wheelbase and a 40-horsepower motor. ¼-inch smaller bore.

$1250

All Prices f. o b. Racine

Still An Under-Price

Note how the Mitchell, with all this over-strength, undersells like-class cars.

You find in addition 31 features which nearly all cars omit. You find vast added luxury, excelling most cars by 25 per cent. Our latest models combine all the attractions we found in 257 show models.

Factory Efficiency

How does the Mitchell afford so much extra value?

It is all due to factory efficiency. We built the whole car—chassis and body—under Bate efficiency methods. In a mammoth plant which was built and equipped to produce this one type economically.

These factory methods, introduced by John W. Bate, save us millions of dollars per year. And that saving pays for these extras.

See what these things mean to you. They are vital points in a car you buy to keep. If you do not know our nearest dealer, ask us for his name.

MITCHELL MOTORS COMPANY, Inc., Racine, Wis., U. S. A.



The Evidence

Concrete Roads Reduce Tractive Effort

THIS means that substantial savings in hauling, in wear and tear on vehicles, in gasoline and tire expenditure, are effected on concrete roads.

Here's the Proof

The Good Roads Bureau of the California Automobile Association in co-operation with the Agricultural Engineering Division of the University of California, has just completed an exhaustive series of tests on all kinds of road surfaces.

Concrete showed the lowest tractive resistance. The table below shows how concrete compares with two well known road surfaces—water-bound macadam and the ordinary dirt road. Concrete offered about ***one-third*** the resistance of water-bound macadam and the earth road required nearly ***four times*** more hauling effort than concrete.

DEWEY

Portland Cement

for road improvements insures a lasting job. Reasonable in initial cost—the upkeep is remarkably low. Smooth surfaces. No mud. No dust. Good 365 days a year. See the Dewey Dealer and ask him for Bulletin on Concrete Roads.

Look for the Dewey Sign



WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

FARM AND HERD.

Fred B. Caldwell, of Howard, Kansas, will be at the Topeka and Hutchinson fairs with a full show herd and will also attend the Lincoln Swine Show. Mr. Caldwell exhibited Caldwell's Big Bob, the grand champion Poland China boar last year, and will have a much stronger and better herd out this year.

George Ela, of Valley Falls, Kansas, the owner of one of the good herds of Hampshire hogs in Kansas, reports his herd doing well. He also reports that they will have a choice offering for the Kansas Hampshire Pig Club sale to be held October 12.

F. Hull & Sons, of Eureka, Kansas, have built up one of the good herds of Scotch Shorthorns in Southwest Kansas. They now have at the head of the herd Kansas Archer, a splendid roan bull by Mistletoe Archer and a grandson of Imported Collynie. The herd now numbers forty-five head of registered cows, representing the very best Scotch families. Hull & Sons own a large tract of pasture land near Eureka, Kansas, and it is their ambition to own one of the best herds of Shorthorns in the corn belt. A feature of the herd at this time is a splendid lot of young bulls that will make herd headers.

E. S. Engle & Son, proprietors of the Sand Spring herd of Holsteins at Abilene, Kansas, report recent sales to M. L. Coryell and H. M. Pierce, of Junction City, Kansas. These gentlemen show their faith and confidence in the big "black and white" cattle by investing at a time when the feed and milk market are very much out of line. There is nothing that so nearly relieves the intense situation as a few good dairy cows, and Messrs. Coryell and Pierce are awake to this fact.

Sutton & Porteous, of Lawrence, Kansas, have announced October 4 for a public sale of seventy-eight head of Angus cattle from the largest herd in the West. They have all the popular breeding, representing the Blackbirds, Ericas and Prides. The offering will consist of sixteen bulls of serviceable age, twenty-six bred heifers and thirty-six cows with calves at foot or bred to drop calves this fall. The entire show herd will be sold. This herd won at the leading fairs last year twenty-seven championships and was one of the best herds exhibited.



Exemption Claims of Farmers

THE farms of Kansas cannot supply the soldiers allotted to the state and in addition do their full part in feeding the army. Agriculture is the great industry of the state, and as food is absolutely essential to a successful military campaign, farmers of the state have been urged to increase food production to the limit.

In talking with farmers of the state we find that as a class they are willing to accept the principle of universal liability to service, but they feel that in selecting the quota of troops allotted to Kansas, farm labor cannot stand heavy drains without crop production being greatly reduced. The principle of universal liability to service and the selective draft method of raising an army is thoroughly democratic. We have had it impressed upon us time and again that we are mobilizing the whole nation for war and that every man had a place to fill where he could serve his country.

Accepting this view of the situation, it would seem that the district exemption boards are in duty bound to get all the information possible concerning the men who come up with exemption claims. If, through ignorance of the requirements or a feeling that it is unpatriotic to bring detailed information before the board, a man fails to supply the necessary facts, should it not be the duty of these boards to use every effort possible to have such information submitted? The boards are intrusted with a tremendous responsibility—a responsibility vastly more far-reaching than acting merely as recruiting agencies for the army. In every case coming before them, as we understand the principle back of the selective draft method of mobilizing an army and making it effective, they must decide where the man can be of the greatest service.

The Grange and the Farmers' Union of Kansas, which organizations represent over a hundred thousand people of the state, recently authorized a joint committee to consider the question of exemptions from army service as being administered by the two exemption boards. This committee interviewed personally every member of the Second District Board and were given a most friendly hearing. With the First District Board they have not been so successful. The chairman of this board does not seem to be open to information bearing on the effect of the selection of so many men from the farms for the army. The following statement addressed to the exemption boards of the state of Kansas has been prepared by this joint committee. It is signed by B. Needham, W. T. Dickson, Frank C. Pomeroy, and A. E. Wedd, representing the Grange, and John R. Chittenden, W. C. Whitney, O. M. Lippert, and B. H. Hasserbroek, representing the Union.

"We, the undersigned, composing a duly authorized joint committee of the Kansas State Grange and the Farmers' Educational and Co-operative Union, have been charged with presenting to your honorable body the conditions that the farmers of Kansas are today confronting.

"The farmers of this state have been urged to increase the production of foodstuffs. They have been led to believe that food is as important a factor in the prosecution of the war as is the man with the gun, and in response to appeals to their patriotism they have put forth every effort to meet the demands of the nation. In spite of reverses in the present season, the majority of them have gone ahead in preparation for greatly increased production next year, many of them having land now in readiness for sowing winter wheat.

"As is well known, there has for years been a shortage of farm labor. Kansas farmers have experienced this shortage, as have the farmers of every other state in the Union.

"We are now called upon to furnish our share of the national conscript army, and your honorable body has already had before it the cases of a large number of actual tillers of the soil. Some of these men have been exempted because of their occupation, but many of them have been certified to service in the army.

"We wish respectfully to invite your attention to the fact that it is a physical impossibility to increase, or even maintain, the present standard of crop production and at the same time furnish the major part of Kansas' quota of the conscript armies. The conscription of large numbers of active young farmers is going to have a very serious effect upon the production of foodstuffs.

"It is with grave apprehension, therefore, that the organizations we represent note the long lists of farmers being certified to service in the army. We fear that the needs for food of the United States and her allies will not be met unless skilled agricultural workers are kept on the farm. We would not be placed in the attitude of dictating as to the administration of the conscript law, but we do want to urge upon your honorable board the most careful scrutiny of each individual case and the retaining in agricultural work of every trained farmer."

Crop Conditions Improved

A tremendous improvement has taken place in crop conditions over Kansas since the July report of the State Board of Agriculture. In issuing the August report, which is based on the state's crop conditions August 24, the correspondents of the board estimate that the prospective yield of corn is approximately 110 million bushels, or a fraction less than twelve bushels to the acre on the 9,207,000 acres planted. Abundant rains during the month of August in all portions, except in a few of the north central and northwestern counties, worked a truly marvelous change in the corn situation, particularly in the main part of the principal corn-growing territory. Nearly two-thirds of the state's promised crop is in the counties of the eastern third, where the prospective average yields per acre in a number of counties are nearly normal, and in as many as a half dozen important corn counties above normal, notably in Doniphan with an average of forty-five bushels reported.

Three of the four eastern counties in the northern tier have the largest prospective aggregate yields, Marshall leading with 4,383,225 bushels, followed by Doniphan with 3,176,325 bushels and Brown with 3,110,750 bushels. Barton, in the central west, comes next with 3,039,872 bushels, from 190,000 acres.

Corn in the major portion of the western third of the state, as well as in most of the north central part and the counties of the southern tier, was so badly damaged by dry weather that there is little prospect for grain except in fields here and there favored by location, local showers and stage of growth owing to the time of planting. Rains, however, over most of this territory assure much silage and fodder of great value to the stockmen.

The 9,207,000 acres planted to corn in Kansas this year is 2,242,000 acres more than was devoted to the crop in 1916, and surpasses the previous record planting of 1910 by 617,000 acres. This year's prospective yield is more than last year's crop by 48,000,000 bushels; is larger than the crops of 1913 and 1914 combined, and less than the output of 1915 by 32,000,000 bushels.

Again the sorghums have demonstrated their dry-weather-resisting qualities. Remaining practically dormant during the period of deficient moisture, they promptly and vigorously responded to improved conditions following the general rains, and in the main are now making gratifying headway. Based on 100 as representing a satisfactory development, the state's 1,448,000 acres of growing kafir is rated at 70, the 369,000 acres of milo at 61, the 231,000 acres of feterita at 60, and the 777,000 acres of "cane" at 64. Aside from the grain these may produce, the heavy tonnage of silage and forage they will provide further relieves the threatened shortage of winter's feed for live stock.

The average condition of the state's broom corn is now given as 73.3 per cent as against 69 per cent reported a month

Spread Straw



Every ton of straw contains $3.00 to $4.00 worth of fertilizer—nitrogen, potash, phosphorus—rich plant food, more than manure.

Perfection Straw Spreader

Spreading straw on your land, adds humus, besides the rich plant foods. Also stops soil blowing, and makes the land take and hold more water. Prevents winter-kill of wheat.

5 Bushels Per Acre More

Increase your crop yields 5 to 7 bushels an acre by spreading straw on wheat, corn, oats and alfalfa. My Perfection spreader makes straw spreading easy and quick work.

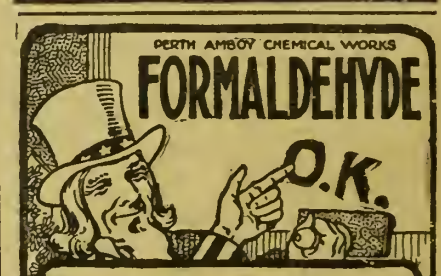
30 Day's Trial Spreads 20 to 25 acres a day, evenly, thick or thin, wind or calm. Guaranteed to work satisfactorily, with 30 days to try it. Now in its 4th year. Thousands in use, increasing the crop yields of their owners.

Free Book My free, fine 32-page book, shows the big profit in spreading your waste and surplus straw. Shows how thousands of farmers have made big money through bigger crops—just as you can do, easily. Write me today.

C. E. WARNER, Pres. WARNER MFG. CO.
410 Union St., Ottawa, Kans.

PERTH AMBOY CHEMICAL WORKS

FORMALDEHYDE



Uncle Sam's O. K.

The U. S. Dept. of Agriculture gives its endorsement to *the* standard seed disinfectant—

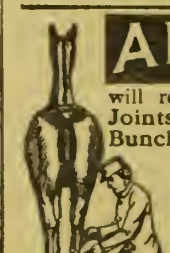
FORMALDEHYDE
The Farmer's Friend

Greatest yield secured first by ridding seed grains of smuts and fungus growth. Formaldehyde is the cheapest and best disinfectant for stables, kennels, chicken houses and cellars—it also kills flies. Formaldehyde in pint bottles, 35 cents at your dealer, treats 40 bushels of seed. Write for new book reporting U. S. Dept. of Agriculture's experiments in seed treatment—FREE on request.

PERTH AMBOY CHEMICAL WORKS
100 WILLIAM STREET NEW YORK

ABSORBINE

TRADE MARK REG. U.S. PAT. OFF.

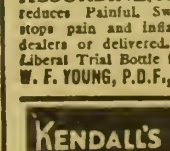


will reduce **inflamed, swollen Joints, Sprains, Bruises, Soft Bunches; Heals Boils, Poll Evil, Quittor, Fistula and infected sores quickly** as it is a positive antiseptic and germicide. Pleasant to use; does not blister or remove the hair, and you can work the horse. $2.00 per bottle, delivered. Book 7 M free.

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful, Swollen Veins, Wens, Strains, Bruises; stops pain and inflammation. Price $1.00 per bottle at dealers or delivered. Will tell you more if you write. Liberal Trial Bottle for 10c in stamps.

W. F. YOUNG, P.D.F., 211 Temple St., Springfield, Mass.

KENDALL'S SPAVIN TREATMENT



The old, reliable remedy you can depend on for Spavin, Curb, Splint, Ringbone or lameness. Thousands have proved it invaluable. Get a bottle from your druggist. Price per bottle $1, 6 for $5. "Treatise on the Horse" Free at druggist or from Dr. B. J. KENDALL CO., Enosburg Falls, Vt., U. S. A.

FARM AND HERD.

W. T. McBride, of Parker, Kansas, reports his Duroc herd doing fine. This year Mr. McBride raised an extra good lot of early spring pigs. They are extra well grown out and the lot includes some outstanding young boars.

Volume 91 of the American Shorthorn Herd Book has just reached us. This volume comprises pedigrees received before June 1, 1916, and numbered from 457001 to 487000. The volume also contains the usual amount of information valuable to Shorthorn breeders.

ago. This crop is grown principally in the southwestern counties, and the nearly 62,000 acres planted for the state is a gain of more than 100 per cent over last year's acreage.

In the main producing territory the yield per acre of prairie hay is reported at about three-fourths of a ton, suggesting a total output for the state of under 1,000,000 tons, or less than last year by 175,000 to 200,000 tons. The third cutting of alfalfa was short, yielding one-fourth to three-fourths ton of hay to the acre.

In marked contrast to the report of a month ago, pastures are now rated as "good" to "very good" everywhere, excepting only in a few counties in the northern portion. The outlook for fall pasturage of grass has probably never been brighter for the time of year.

More than half the plowing for fall crops is done, according to correspondents. Ground that was summer fallowed, which may properly include thousands of acres of well cultivated land where corn failed, is in excellent condition for wheat sowing, and abundant moisture over most of the state gives assurance of well nigh ideal seed beds generally for wheat.

Feed and Care of Dairy Calf

(Continued from Page Four)

DISINFECTION OF CALF'S NAVEL

The navel of the calf is an avenue of infection. When infection of the navel takes place, the joints of the legs frequently swell and the calf usually dies within the course of a few days. Infection by way of the navel is very common in barns infected with white scours or contagious abortion.

To prevent infection of the navel of the new-born calf, several applications of tincture of iodine should be made.

Calves infested with lice do not thrive. Lice are difficult to get rid of when once the barn is infested. Washing the calf thoroughly with a 2 to 5 per cent coal-tar disinfectant such as zenoleum or creolin is effective. The washing should be repeated in a week in order to kill any lice that hatch in the interval. If the washing is done in cold weather, the calves should be thoroughly rubbed with dry cloths and kept blanketed until dry.

DEHORN CALVES YOUNG

Caustic potash properly applied to the rudimentary horns of a calf a few days old will check their growth. Before using the caustic potash, clip the hair from the places to which it is to be applied. Rub the rudimentary horns with the caustic until the surfaces are red but not bleeding. Do not let the caustic come in contact with the calf's skin other than at the points to be treated.

Caustic potash can be purchased at any drug store, and comes in sticks which should not be handled with the bare hand.

Silage and Beef Production

A steer feeding test recently completed at the Missouri College of Agriculture illustrates the possibility of reducing the cost of beef production by the extensive use of corn silage. Sixteen head of two-year-old steers fed for 130 days made an average gain in live weight of 322 pounds per head. They were fed 3.16 tons of corn silage, 750 pounds of alfalfa hay, and 503 pounds of cottonseed meal and old process linseed oil meal per steer. They received no corn other than that contained in the silage. By this method of feeding a fairly satisfactory grade of beef can be produced, and it is possible to fatten three steers on an acre of good corn instead of one, which was usual under former methods of feeding.

Income from Land Varies

Farm management studies made in Missouri have indicated that the cheaper and less productive land is more often rented on a share basis, while the high-priced and more productive land is more often rented for cash or for a share of the crops and cash for pasture land. Land rented for a share of the crops nearly always brings a larger rent to the owner than land rented under any other system. The lowest rate is realized from cash rental. One hundred seventy-six cash rented farms paid the owners an average of $3.50 per acre in rent; 289 farms rented for a share of the crops and cash for pasture land paid the owners $4.90 per acre; 383 share-rented farms paid an average of $6.39 per acre. In paying cash rent a tenant gets the land for less but carries a risk which is offset on share-rented farms by the higher rent rate. The statistics show that a cash renter could afford to lose two crops in five years and still pay a lower rent rate than the share renter.

The cheaper land pays a higher rate of interest than the higher priced land. Land worth $200 per acre or more paid an average of 3.9 per cent interest under all systems of rental. As the land decreases in value the interest paid gradually increases until on land worth less than $40 per acre the average interest on investment paid by the tenants to landlords was 11.6 per cent. The share renter on the cheap land paid practically 17 per cent interest to the owner. The average rent rate per acre paid for the various crops for all land values was as follows: Corn, $6.41; wheat, $5.58; oats, $4; hay, $4.62; pasture, $2.92.

Warning Against Asphyxiation

During the filling of the silo there is danger from the accumulation of carbonic acid gas. Large amounts of gas are produced in the silo and may collect in dangerous quantities if conditions become favorable. To avoid accumulations of gas, doors should be left open as long as possible. Men should not stay in the silo when the blower is not running; and, above all, they should not lie on the fresh silage. If work has been stopped for any length of time, men should not again enter the silo until the blower has been working a few minutes in order to remove the gases. In the case of the pit silo, men should never remain in it when the blower is not running, and the blower should also be running before anyone enters.

Boost the County Fair

"Consider the county fair. It teaches the older folks the miracles that care and intelligence will work; it inspires pride in the farming business; and, above all, it tends to keep the boys on the farm, because it shows them the results of the better grade of farming."

This is the advice of one of the best judges in the country. "My father did not start keeping fine cattle and exhibiting them at fairs until after most of my brothers grew up," said he. "As a result, of the eight children in the family, I am the only one who is a farmer. I am sure I stuck to farming because good stock taught me to like the country."

According to this judge, it is not necessary to exhibit animals loaded heavily with fat. "The judge overlooks fat these days," said he. "Good breeding condition is all he asks. Everybody should boost the county fair."

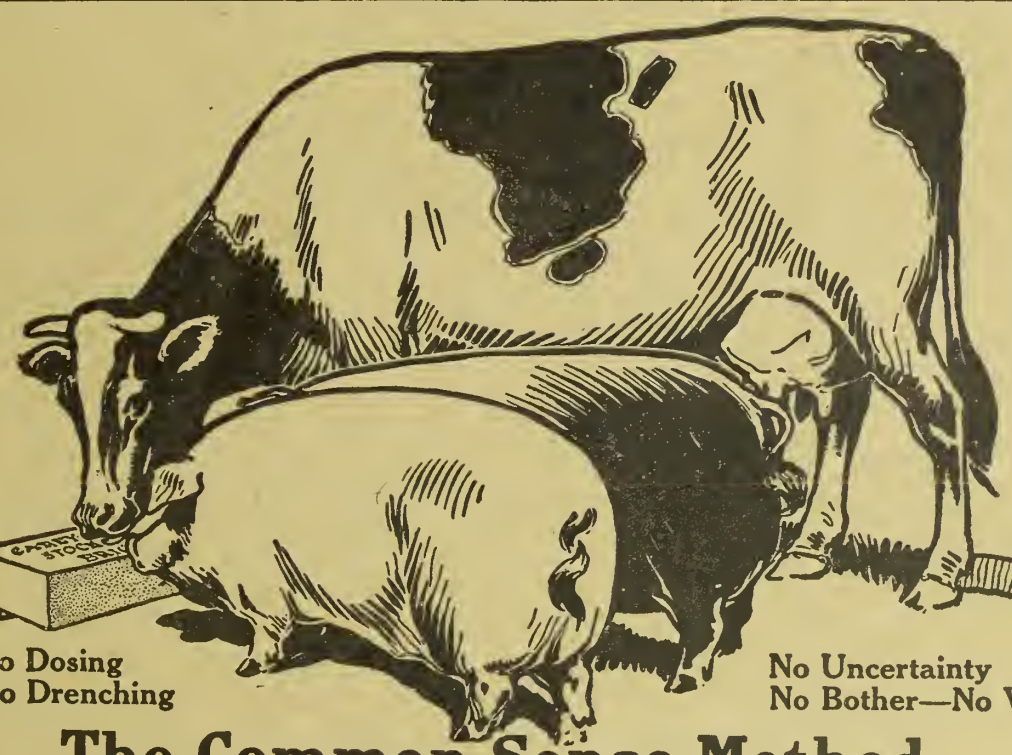
Kafir and Dry Weather

The following remarkable recommendation of kafir was written following one of the dry seasons:

"It was a season of unusual severity (1911) the dryest and hottest in Kansas, as it was in Oklahoma, since 1901. A pitiless sun burned up the Indian corn and parched the native grass upon the prairies. Throughout this trying ordeal our unfailing friend, the hardy and indomitable kafir, stood sentinel upon the prairies with that patient fortitude inherent in its nature, born of centuries of hardship upon the desert; it bided its time and silently waited for rain, springing triumphantly into new life with the first downpour from the heavens. Our prairie hay turned out less than a third of a crop and our alfalfa hay only a little better than half a crop. But notwithstanding this accumulation of calamities, we pushed back the impudent face of famine, cheated the hot winds, and whipped the drouth to a standstill, with kafir."

During the present season kafir has further proved its ability to stand long periods of dry weather and come back when the rains soak the soil.

Hog oilers are the cheapest and most efficient means of ridding the hogs of lice. One application of crude oil kills both lice and nits. The most convenient method of applying the oil is by means of a hog oiler, of which there are several good types. They are always ready and require little attention. The best oiler allows the pig to rub the oil on any part of the body. The oil may also be applied with a sprinkler, spray pump, broom or brush. If there is any indication of skin disease, the parts may be scrubbed with a broom or brush so as to get the oil well into the skin. When crude oil is used, the appearance of skin and hair is greatly improved.



No Dosing
No Drenching

No Uncertainty
No Bother—No Waste

The Common Sense Method of Preserving Animal Health

Place Carey-ized Stock Tonic Brick in the feed lot or feed boxes, where your animals can get at it all the time and you give them the surest and most economical health insurance ever offered the American stock feeder or his live stock. The Carey-ized Way is nature's way. It enables animals to get the right medicine in right quantity at the right time. Does away with costly and troublesome powders and bottled medicines.

Carey-ized Stock Tonic Brick is all pure medicine. It contains all the ingredients approved by medical science to keep the stomach and liver, bowels and kidneys in healthy condition. Destroys worms, purifies the blood, prevents fever, and with the aid of ordinary good feeding builds up a strong, disease-resisting constitution. Its solid brick form makes it convenient to feed, preserves its medicinal value, prevents waste.

CAREY-IZED STOCK TONIC BRICK

A Proven Worm Destroyer and Conditioner

It is not an experiment. Has been on the market for years. Is demonstrating its efficiency in thousands of feed lots. *Here's the proof:*

J. O. Schuler, R. F. D. No. 3, Hutchinson, Kansas, writes: "If every farmer knew the good this Carey-ized Stock Tonic Brick will do, they would not experiment with all kinds of powders that are on the market. You surely have the right thing for knocking the worms."

C. W. Thompson, Hutchinson, Kansas, writes: "300 of our sheep were scouring badly, and in run down condition. Those sheep are now as healthy as the balance of the flock. They are gaining faster than any lot of sheep I ever saw, as a result of feeding Carey-ized Stock Tonic Brick."

Satisfy yourself of the great health promoting, money and trouble saving value of Carey-ized Stock Tonic Brick. We guarantee it to satisfy you or refund all your money after 30 days' trial. Fill out and mail us coupon today, or write us a postal. Our booklet "Making Live Stock Pay" free.



Composed of powdered gentian root, sulphate of iron, bi-carbonate of soda, sulphur, carbonized peet, quassia, charcoal and pure dairy salt. All animals crave it and thrive on it. Supplies needed medicines and salts animals at the same time.

CAREY SALT COMPANY Department 256 Hutchinson, Kansas

Our Liberal 30 Day Trial Offer

Order a dozen or more Carey-ized Stock Tonic Brick from your dealer. Let your animals have free access to it for 30 days. If you are not satisfied with the result, return what you have left and get all your money. We could not afford to make this generous offer if we did not know that Carey-ized Stock Tonic Brick makes good every claim we make for it. If your dealer does not handle Carey-ized Stock Tonic Brick, write us his name and we will see that you are supplied.

CAREY SALT CO.
Dept. 256. Hutchinson, Kansas

Please send me full information on Carey-ized Stock Tonic Brick; also Free Book "Making Live Stock Pay."

My dealer's name.....

P. O......*State*.....

My Name.....

P. O......*State*.....

Kansas Free Fair

Topeka, Sept. 10-11-12-13-14-15, 1917

SIX BIG DAYS AT THE BIG FREE FAIR. The gates stand open day and night. This beautiful 86-acre fair ground, all of the twenty-four permanent buildings and every exhibit is open and free to everybody. No admission charged except races and shows.

Mammoth Live Stock and Agricultural Exhibit

The new Agricultural Hall will be crowded with exhibits of the farm, Boys' and Girls' Clubs, the Junior and Home-Made Departments. A big display by Mother and Daughter Canning Club, Culinary, Art and Textile exhibitors. Ten barns devoted to live stock.

24 Horse Races

The afternoons of Tuesday, Wednesday, Thursday and Friday will be devoted to harness and running races.00. $7,500 in purses. Kansas Derby.

THE BIG FREE FAIR

Auto Races

Fred Horey, the world's champion, will defend his title in a match race for a purse of $1,000.00 on Saturday.

30 Big Shows

Battle in Skies

The Con T. Kennedy Shows will furnish the amusement on Sunflower Trail, where there will be thirty clean and entertaining Coney Island shows.

Katherine Stinson Champion Women Flyer

Katherine Stinson, champion woman flyer, is only twenty years old, but is famed as a flyer. She loops the loop, flies upside-down, does the death drop. Miss Stinson will fly on Saturday, "Katherine Stinson Day," and will race Fred Horey, the auto champion.

Peoples' Pavilion---An Educational Department

In the People's Pavilion, under the auspices of the Kansas Council of Defense, lectures and demonstrations in food conservation and production will be held daily and each day a Mother and Daughter Canning Club will give a canning demonstration.

$30,000 IN PREMIUMS $30,000

Feed the Fighters! Win the War!

Harvest the Crops! Save the Yields!

On the battlefields of France and Flanders the United States boys and the Canadian boys are fighting side by side to win for the World the freedom that Prussianism would destroy.

While doing this they must be fed and every ounce of muscle that can be requisitioned must go into use to save this year's crop. A short harvest period requires the combined forces of the two countries in team work, such as the soldier boys in France and Flanders are demonstrating.

THE COMBINED FIGHTERS IN FRANCE AND FLANDERS AND THE COMBINED HARVESTERS IN AMERICA WILL BRING THE ALLIED VICTORY NEARER

A reciprocal arrangement for the use of farm workers has been perfected between the Department of the Interior of Canada and the Departments of Labor and Agriculture of the United States, under which it is proposed to permit the harvesters that are now engaged in the wheat fields of Oklahoma, Kansas, Iowa, North Dakota, South Dakota, Nebraska, Minnesota, and Wisconsin to move over into Canada, with the privilege of later returning to the United States, when the crops in the United States have been conserved, and help to save the enormous crops in Canada which by that time will be ready for harvesting.

HELP YOUR CANADIAN NEIGHBORS WHEN YOUR OWN CROP IS HARVESTED

Canada wants 40,000 Harvest Hands to take care of its

13 Million Acre Wheat Field

One cent a mile railway fare from the International Boundary line to destination and the same rate returning to the International Boundary. High wages, good board, comfortable lodgings.

An Identification Card issued at the boundary by a Canadian Immigration Officer will guarantee no trouble in returning to the United States.

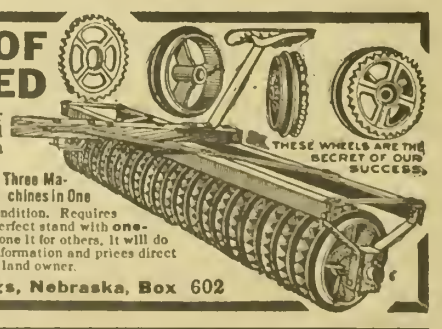
AS SOON AS YOUR OWN HARVEST IS SAVED, move northward and assist your Canadian neighbor in harvesting his; in this way do your bit in helping "Win the War."

For particulars as to routes, identification cards and place where employment may be had, apply to Superintendent of Immigration, Ottawa, Canada, or to

GEO. A. COOK, Canadian Government Agent, 2012 Main St., Kansas City, Mo.

WINTER KILLING OF WHEAT PREVENTED

Millions of dollars were lost by seeding winter wheat last fall in loose, lumpy, unpacked and poorly prepared seed beds. Will it pay to seed in such seed beds again?



Western Pulverizer, Packer and Mulcher Three Machines in One

Prevents winter killing by putting the seed bed in perfect condition. Requires less time, with less work and horse-power, and produces a perfect stand with **one-third less seed.** LET US PROVE IT TO YOU. It has done it for others, it will do it for you. Send for **free** illustrated catalog containing full information and prices direct to you. This book is worth its weight in gold to any farmer or land owner.

WESTERN LAND ROLLER CO., Hastings, Nebraska, Box 602

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

Cave For the Storage of Apples

THE necessity of conserving the surplus crop of apples is being realized by both the producer and the consumer. Storage on the farm is a practical method of conservation, says F. S. Merrill, assistant professor of horticulture in the Agricultural College. It prevents the decomposition or decay of fruits, lengthens the period of consumption and permits the grower to dispose of his crop at a suitable time for selling.

The apple does not decompose as readily when kept at low temperatures, and for this reason it is desirable that the storage house be so constructed as to maintain a uniformly low temperature.

Only the best fruit should be placed in cold storage, since the expense of storage is rarely returned through increased value of low-grade specimens. The fruit should be carefully graded, and the poorly developed, diseased, and bruised fruits should be used for immediate sale or consumption. The maturity of the fruit is of great importance—many growers pick the apples before they have colored well. Such apples have a greater tendency to scald in storage and are less attractive for use or market when removed from the storage. The fruit should be harvested when it has attained full size and good color and is still hard.

The ideal storage conditions demand uniform temperatures, regulated humidity, and good ventilation. These can only be secured in well constructed and managed storages.

For the small grower who is not located near a good commercial storage, the storage cave may often be a valuable asset. Such a cave has been constructed by the horticultural department of the Agricultural College and has been operated successfully for several years.

This cave is 48 feet long, having two rooms, each 24 feet long. These are 13½ feet wide and 7 feet high. The ceiling and walls are made of concrete eight inches thick and the floor is 3½ inches thick.

The ventilation of such a cave is an important factor in the keeping of fruit. An eight-inch tile was placed under the floor of the cave and laid as for ordinary drainage, opening at a distance of fifty feet from the storage room. This exterior opening was covered with a heavy wire screen to prevent small animals from entering. This tile was placed about two feet under the floor level and had sufficient slope to serve as a drain from the cave as well as a ventilator.

Under the cave floor the eight-inch tile was connected with two four-inch cross tiles. By means of elbows these four-inch tiles were brought to the surface of the cave floor, making four openings located 7½ inches from the ends of the cave and two feet from the side walls.

In order to complete the ventilation, three ten-inch tiles were imbedded, flange down, in the roof. Covers were made for these tiles by nailing the boards together V-shaped, leaving the ends open. In this way the water was excluded, but the passage of air was not materially lessened. One tile was placed in the center of the roof and the others three feet from the end, all being placed in a line dividing the width into equal parts. By this arrangement the upper ventilators were placed in a position to draw the air entering below through the entire area of the storage room. A good draft was secured at all times, starting immediately upon closing the cave door and being strongest when the temperature of the cave was about that of the air outside.—MOLLIE SMITH.

Success with Sheep

If you want to start in the sheep business, and do not intend to become a breeder of pure-breds, but intend to produce wool and mutton, the cheapest way to start is to buy western ewes from September 1 to November 1. These ewes can be obtained either by writing to a reliable commission firm at one of the leading markets, or by making the selection in person. This is the advice of Frank Kleinheinz, shepherd at the Wisconsin Experiment Station and one of the acknowledged authorities on sheep of the whole country.

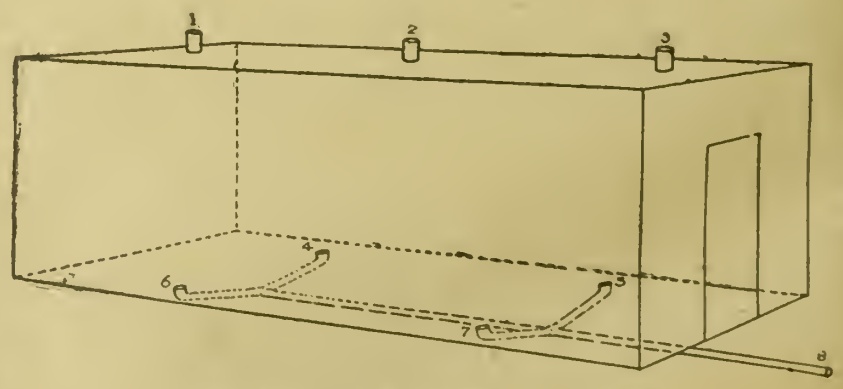
In buying western ewes be sure to get young ewes. Yearlings or two-year-olds are best. Avoid old, broken-mouthed ewes. Get well-built ewes carrying some Merino blood and having dense fleeces. Sometimes a man can buy native ewes of good quality at reasonable prices. Rams for breeding purposes should also be purchased at this time from reliable breeders of pure-bred mutton sheep.

Sheep do not require warmth except at lambing time. Sheds or barns that keep sheep dry and offer protection against winds and cold drafts are all that is necessary in the sheep industry. Buildings that supply sufficient storage space for hay and other feed necessary for winter feeding are desirable.

Fencing may be regarded as one of the necessities for successful sheep production. Closely woven wire four feet high with two or three barbed wires on top and one at the bottom makes a good fence for pasture. The dog has been a menace to the raising of sheep, but the menace is largely overcome by pasturing the flock in a well-fenced lot. Until the farmer has such a fence, he should confine his flock at night in a well-fenced yard or corral.



APPLE STORAGE CAVE CONSTRUCTED BY HORTICULTURAL DEPARTMENT OF KANSAS EXPERIMENT STATION



VENTILATING SYSTEM OF APPLE STORAGE CAVE



Let The Hogs Harvest Corn

IF CORN is to be fed to hogs it is a matter of economy to let the hogs gather the crop themselves. Practical feeders and experiment stations have shown that hogs when properly managed will gain as rapidly and as economically when allowed to harvest the corn crop as when the crop is harvested and fed in the usual manner. As a matter of fact even more pork may be produced from an acre when the hogs do their own harvesting. This statement is proved by tests conducted by various experiment stations. Henry and Morrison in "Feeds and Feeding" show that sixty-eight pigs which were allowed to harvest their own corn, gained 1.4 pounds daily during fifty-three days, and required 488 pounds of concentrates for 100 pounds gain. Another lot of thirty-one pigs which were fed ear corn in a yard gained 1.1 pounds during fifty-seven days and required 546 pounds of concentrates for 100 pounds gain.

Results obtained at the Missouri Experiment Station show that summer pasture combined with hogging down corn in the fall is a profitable method of fattening hogs since high-priced grain is necessary when pork is produced in this manner. The Missouri station has shown that 20 to 40 per cent less grain is required to produce a given amount of pork when good pasture crops are supplied throughout the grazing season. To effect such a saving, however, it is necessary to limit the amount of grain which is fed to hogs on pasture so that at the end of the grazing season they will not be fat but will be grown, and in excellent condition to hog down the corn necessary to finish them for market.

This system of hog management not only reduces the amount of grain required to finish the hog for market, but saves labor, removes less fertility from the farm, keeps the swine herd more healthy, and offers other advantages for cheapening the cost of production.

The number of acres of corn necessary to finish a given number of hogs will vary with the kind of hogs and yield of the crop. It has been estimated that twenty pigs weighing 125 pounds will harvest a yield of forty to seventy bushels per acre in from fifteen to twenty-six days respectively; forty pigs in eight to fourteen days; sixty pigs in five to nine days, and eighty pigs in four to seven days.

Most feeders prefer well grown thin shoats which weigh from 125 to 150 pounds—shoats that have been grown through the summer on forage and have not been previously fed a heavy grain ration. Such hogs will eat a large amount of feed and will gain rapidly. Heavier hogs such as brood sows and fattening hogs almost finished are apt to break down too much corn and not clean it up so well as they go, thereby increasing the waste.

Some nitrogenous supplement must be supplied to make the hogs gain rapidly and economically. At least part of this supplement may be supplied in the form of roughage such as alfalfa, clover pasture, or soybeans. If provision has not been made for clover, alfalfa, or rape pasture in a field adjoining corn, or if soybeans have not been planted in the corn or in an adjacent field, then it is absolutely essential, with feeds at the present prices, to supply some nitrogenous supplement such as tankage, linseed oil meal, or middlings. The particular supplement used would depend upon the relative prices of this class of feeding stuffs. Ordinarily tankage is a cheap supplement.

In hogging down corn it is generally better not to use too large a field at once. Especially is this true toward the latter part of the feeding season when snow is likely to fall before the field is entirely clean and feed is likely to be lost. The farmer can usually make a reasonably close estimate of the yield. Suppose, for instance, he estimates the yield to be about forty bushels per acre and he has shoats averaging about one hundred pounds each. The pigs should gain from one and a fourth to one and a half pounds daily, and to make this gain will require approximately ten to fifteen pounds of corn per day. This means that four or five pigs will eat about one bushel of corn daily. One acre of corn yielding forty bushels will carry the same number of pigs forty days, or twice the number one-half the time, or twenty days.

Hogs are not hard to confine in fields where they have plenty of feed. A 26-inch woven wire fence and poplar or willow posts spaced twenty to twenty-four feet, is generally sufficient. It is a good plan to cut out one row of corn where the line of fence is to come. This can be cut by hand and the corn thrown inside the enclosure where the pigs will clean it up. In this way a clear space is open to drive through the field, and this makes the work of fencing easier. The corner posts should be well set and braced. This is the only particular part of the fencing. After the pasturing season, the fence can be rolled up and stored for another year.

It costs five or six cents a bushel to pick corn and when it is picked a load at a time during the rush of fall work the cost is considerably greater. Add to this the cost of feeding the corn in the dry lot after it is picked and it very probably amounts to eight or nine cents a bushel.

When it is remembered that a bushel of corn should make approximately ten pounds of pork, this means that the pork produced by the old-fashioned method will cost from one-half to three-fourths of a cent, and in some cases one cent a pound more than where the hogs are allowed to harvest their own corn.

Need for Good Horses

In discussing the horse question recently President H. J. Waters of the Kansas Agricultural College pointed out that any immediate increase in the number of cattle, sheep and hogs must be accompanied by a corresponding increase in the production of grain, pasturage and forage. Grain and forage production cannot be increased without horsepower to do the farm work. Nearly, if not quite all the surplus horses of the United States have been exported. There never was a time when the demand for good horses with weight was as great as it is at the present time, and the price as high. For this reason every farmer who has a sound mare of breeding age should breed her to the best draft stallion available in his community. This will insure an adequate amount of horsepower for taking care of the agricultural work which is bound to increase in the future. It will also give to the American farmers a salable horse to meet the needs of European countries which are being stripped of horse flesh by the war.

On many farms a few mares can be profitably bred for fall colts.

Why Save Veal Calf

A great many people seem to think it would be a very easy matter to increase our meat production by prohibiting the use of veal and lamb. In other words make it impossible for producers to sell calves and lambs on the market. People who know little about the live stock business have been springing this idea from time to time for a number of years. "Those who advocate leaving veal and young lambs off the hotel and restaurant menus as well as eliminating them from the home bill of fare are half right and half wrong," says Thomas E. Wilson, who is a member of a live stock commission firm. Mr. Wilson knows, as does every good live stock man, that allowing a large percentage of the present stock of calves to grow up would better neither milk nor beef production. In the case of sheep it is probably much more important that as many ewe lambs as possible be saved for the breeding flocks, since we are seriously in need of an increase in the supply of wool and good mutton. Even here, however, the growers must use their discretion in maturing the ewe lambs because not all of these are suitable to raise to maturity as breeding stock.

People who think that every piece of veal they see served means diminishing the future supply of beef or milk are mistaken. Most of the calves used for veal are fit only for veal. They would not make good milk cows nor cows that would produce good beef animals. They simply are not bred right for either milk or beef production. Under present conditions such calves would not be worth for beef in their matured form as much as the corn it would take to fatten them. It is all nonsense to talk of legislating against the sale of such calves.

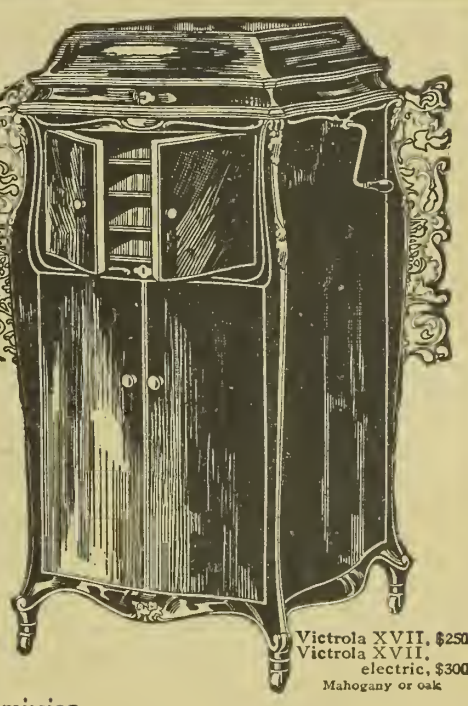
Mr. Wilson states that he is heartily in agreement with the proposition that we ought to raise all the ewe lambs that are fit to raise for the sake of the wool and for breeding purposes. The Government and other agencies should cooperate in finding a market for all such stock as is suitable for breeding purposes. The Government has taken steps already to use the county agricultural agents along the lines indicated.

In view of the shortage of meat the suggestion has been made that many who are milking cows might help by using two males, one a well-bred dairy animal and the other a good type of beef animal. By doing this the poorer cows of the herd could be producing calves that would make fairly good beef animals, while the heifers from the best cows could be raised to go into the herd as milk producers. This is a plan that has been actually put into practice on a number of farms with good success. The principal difficulty is the necessity for having two herd sires. This probably could be overcome through neighborhood co-operation.

You can get your fodder on the table by first putting it in the silo. The silo is one of the greatest of food conservation agencies.

You put a lid on waste every time you seal a preserving jar.





Victrola XVII, $250
Victrola XVII, electric, $300
Mahogany or oak

Victrola-the highest attainment in the arts of sound

The mission of the Victrola is purely one of transmission. The recorder and reproducer should tell the simple truth, no more, no less.

The Victrola is not an instrument in which the interpretation and expression depend on the player like the organ, piano, etc. No instrument can be made to *improve* on Melba, Caruso and the other great artists. The true function of the Victrola is to reproduce faithfully the work of these artists.

The only modifications permissible are those obtained by *changing the needles* from *loud tone* to *soft tone* and by adjusting the *sound doors* to suit the size of the room or the mood of the listener.

There are Victor dealers everywhere, and they will gladly play your favorite music for you and demonstrate the various styles of the Victor and Victrola—$10 to $400. Write to us for the handsome illustrated Victor catalogs, and name and address of nearest Victor dealer.

Victor Talking Machine Co., Camden, N. J.

New Victor Records demonstrated at all dealers on the 1st of each month.

Important Notice. Victor Records and Victor Machines are scientifically coordinated and synchronized by our special processes of manufacture, and their use, one with the other, is absolutely essential to a perfect Victor reproduction.

To insure Victor quality, always look for the famous trademark, "His Master's Voice." It is on all genuine products of the Victor Talking Machine Company.



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"Victrola" is the Registered Trade-mark of the Victor Talking Machine Company designating the products of this Company only. Warning: The use of the word Victrola upon or in the promotion or sale of any other Talking Machine or Phonograph products is misleading and illegal.

Classified Advertising

Advertising **"bargain counter."** Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks,** for bona fide seekers of employment on farms.

HELP WANTED.

SALESMAN ON COMMISSION ONLY, TO represent eastern ribbon manufacturer. Must be ambitious and come well recommended. Box 2800, Kansas Farmer.

WANTED—MEN-WOMEN, 18 OR OVER. Government jobs, $100 month. Big opportunity for farmers. War necessitates hundreds appointments. Write for list positions. Franklin Institute, Dept. G-82, Rochester, N. Y.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

HOLSTEIN CALVES, HIGH GRADE, from cows producing up to 60 pounds. Either sex, $15 to $25. L. D. Arnold, Manhattan, Kansas.

FOR SALE — DOUBLE STANDARD Polled Durham bulls. Write for description and price. C. M. Albright, Route 2, Overbrook, Kansas.

FOR SALE — HIGH-GRADE GUERNSEY cows and heifers, some fresh, close springers and fall cows, all bred to a registered bull. C. R. Ryan, Leavenworth, Kansas.

FOR SALE — VERY CHOICE HIGH-grade Holstein calves, either sex, three to six weeks old, at $20 per head, crated for shipment. Or if you want dairy cattle of any age, I will buy them at a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked, $23, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

DOGS.

SCOTCH TERRIER PUPS—GREAT RAT dogs. Frank Healy, Bedford, Iowa.

FIVE MONTHS MALE COLLIES, QUICK, $8. Frank Barrington, Sedan, Kansas.

TRAINED BEAGLES, RABBIT HOUNDS, foxhounds, coon, opossum, skunk dogs, setters, pointers, house, farm dogs. Ferrets. Catalog 10c. Brown's Kennels, York, Pa.

TRAINED RABBIT HOUNDS, FOX hounds, coon, opossum, skunk dogs, setters, pointers, ferrets. List free. Violet Hill Kennels, Hanover, Pa.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

SITUATION WANTED.

WANTED—WORK ON MODERN PURE-bred dairy farm, by experienced, reliable young man. Lawson Sappington, Centralia, Missouri.

SEEDS

SEED WHEAT, SEED RYE, ALFALFA seed, turnip seed and other seeds for fall planting. Write for prices. The Barteldes Seed Co., Lawrence, Kansas.

PURE-BRED HIGH-YIELDING TURKEY red hard seed wheat, cleaned and graded, at $3.50 a bushel. Ferdinand Hubka, Vliets, Kansas.

TIMOTHY SEED, $4.00 PER BUSHEL. High purity and germination, first class in every way. Timothy-alsike mixture, $4.50 per bushel. Satisfaction or your money back. Henry Field, Shenandoah, Iowa.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

THE STRAY LIST.

TAKEN UP — BY W. A. PATCH, OF Olpe, Center Township, Lyon County, Kansas, on August 15, 1917, one cow, color red with white on flank, dehorned. No marks or brands. Appraised at $45. G. L. Miller, County Clerk.

TAKEN UP—BY EDWARD WARE, OF Eureka Township, Greenwood County, Kansas, one red three-year-old steer branded with letter "W" on left side, 3 - 4 on left hip. Right ear cropped, appraised at $40. Ethel Eastwood, County Clerk.

TAKEN UP—ON THE 23D DAY OF August, 1917, by Alex Shepard, residing nine miles southwest of Leoti, Wichita County, Kansas, one bay pony mare, weight 750 pounds, wire mark across right shoulder; no brands. Deon Trueblood, County Clerk.

MISCELLANEOUS.

1,024 YEARS AMERICAN HISTORY, 80c postpaid. Elias Pelton, Hudson, Kansas.

POULTRY.

BUFF DUCKS, $1.25 EACH. ROBERT Webster, Canton, Kansas.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

CHOICE MARCH-APRIL HATCHED White Rock cockerels, $1.50 and $2. Mrs. Rudolph Johnson, Bendena, Kansas.

SINGLE COMB BROWN LEGHORN cockerels, 75c and $1 each. C. H. Robinson, Urich, Missouri.

POULTRY WANTED.

POULTRY AND EGG MARKET HIGHER. Coops free. For prices, "The Copes," Topeka.

Real Estate For Sale

10,000 ACRES of good grazing land, well watered, for $3 to $5. All crops good. No drouth, no hot winds. Grass for cattle and corn for hogs. Best country in the world to live and make money.

W. W. TRACEY - ANDERSON, MISSOURI

950-ACRE BOTTOM FARM

Four hundred acres in cultivation, 160 acres meadow, balance pasture. Splendid alfalfa, wheat or corn land. Splendid oil possibilities. A fine bargain for some one. Only $75 per acre. Might take a small farm in on the deal. Write

M. T. SPONG - FREDONIA, KANSAS

A BARGAIN

158½ Acres, 3½ miles from good town of 1,000 people, with high school, good school house on the land; seven-room house, good barn, plenty of water, on state automobile road. A splendid farm. **Price, $7,200.00;** $1,000 cash, balance from one to fifteen years at low rate of interest. Why rent? Send for views of this farm. Address

THE ALLEN COUNTY INVESTMENT CO., Iola, Kansas.

SUMNER COUNTY

The great Sumner County withstood the long drouth and high winds of the spring and then produced more high-priced wheat than any other county in the U. S., and yet land prices are very low on improved farms—$40.00 to $75.00 per acre. Write for description and prices.

WILLIAM HEMBROW
The Land Man Caldwell, Kansas

EIGHTY ACRES, 6 miles McAlester, city 15,000. 50 a. cult., mostly dry, black bottom land. All fenced. Some improvements. Corn now on farm, make 40 bu. per acre. $21 per acre. Terms.

SOUTHERN REALTY CO., McAlester, Okla.

Beautiful Shawnee County, Kansas, Farms Near Topeka.

160 a. farm, fine improvements, $80; 160 a. farm, good improvements, $65; fine 43 a. farm, good improvements, $3,800. I can fit you out in any size farm desired. One to two crops will pay for farm. E-Z terms.

J. E. THOMPSON (The Farmer Land Man) Tecumseh, Kansas

FARM AND HERD.

John Coldwater, of Chase, Kansas, one of the successful breeders of pure-bred Shropshire sheep, will be at the State Fair at Hutchinson, Kansas, this year with his show flock. Mr. Coldwater owns one of the outstanding flocks of Shropshire sheep in Kansas and a feature of his flock at this time is the choice lot of young stock, including a lot of fine rams.

J. C. Parks, of Hamilton, Kansas, has made a great success breeding Percheron horses and Shorthorn cattle. Mr. Parks has been breeding Percherons for twenty years and has built up a splendid herd of mares and young stallions. He has worked most of his mares and has grown a number of useful stallions on his farm. They are broken to work when three years old and are handled in a way that they always make good as breeders. The Shorthorns are a useful lot of Scotch and Scotch-topped cattle that would raise the standard of many herds.

E. L. Barrier, of Eureka, Kansas, is one of the successful farmers and breeders of Greenwood County. Mr Barrier owns one of the best herds of Angus cattle in the state, but is also doing a great hog business. At the head of his herd of Poland Chinas is one of the real big-type hogs, Dalebanks Hadley by Big Hadley Jr., he by Major B Hadley, a thousand-pound hog that won grand championship at the American Royal. This hog is assisted by King Jumbo, he by Elkmore Jumbo. The herd now consists of 150 head of registered hogs. A large number of fall yearling gilts are bred for September litters and a strong feature of the herd at this time is twenty-five choice spring boars, a number of them herd header prospects.

Col. Thomas Darcey, well and favorably known to many Western Kansas men, has moved from Dodge City to Hutchinson, where he will continue his profession as auctioneer. For twenty-eight years Mr. Darcey has had charge of sales in Western Kansas and has been very successful. He has been a breeder of pure-bred live stock for many years and knows values of all classes of live stock.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Of Deepest Worth

These are the things I prize
And hold of deepest worth:
Light of the sapphire skies,
Peace of the silent hills,
Shelter of forest, comfort of the grass,
Shadow of clouds that swiftly pass,
And after showers
The smell of flowers,
And of the good brown earth—
And best of all, along the way,
Friendship and mirth.
—Henry Van Dyke.

Truck Farm Cans Products

An order for 2,000 quart tin cans to be used in saving the surplus products of one truck garden, is an index to the food loss of former years that is being checked this summer. The Dudley Company, a farm partnership, which operates a truck garden of 2,200 acres a few miles west of Kansas City, has placed this order for cans through the extension division of the Agricultural College. There is a shortage of tin cans and an effort is being made to keep them out of the hands of speculators. Arrangements have been made by the United States Department of Agriculture with can manufacturers whereby they will supply tin cans for home canning when the order is approved by the state extension director.

Only such products as cannot be sold in the regular way on the Kansas City market, will be canned on this farm. In other years when the market was oversupplied the surplus represented a waste, as there were no facilities on the farm for canning vegetables. At the beginning of the present season Miss Mabel F. Smith, a teacher in one of the Topeka schools, offered to spend her summer vacation period on this truck farm canning the surplus products. A small building was erected for the work. This building has a cement floor, sanitary walls, running water, and is equipped with a community canner.

Before starting her summer's work Miss Smith spent an afternoon at the Agricultural College in conference with Otis E. Hall, state club leader, for the purpose of profiting by his wide experience in the canning of vegetables, meats, and fruits. Her work is being done according to the methods recommended by Mr. Hall to the members of canning clubs in all parts of Kansas.

Corn and tomatoes are the main crops of this truck garden. It is expected that 1,500 quarts of tomatoes will be canned during the summer. Dealers in Kansas City have agreed to buy all the canned goods offered for sale by the Dudley company.

A Few Meat Extenders

The following methods of using left-over meat are recommended by the Home Economics Department of the Ohio State University:

Cottage Pie.—Cover the bottom of a buttered baking dish with mashed potatoes. Add a thick layer of cold roast beef, chopped or cut into small pieces, seasoned with salt and pepper and onion juice, and moisten with some of the gravy. Cover with another layer of mashed potatoes. Bake until dish is heated through and potatoes browned on top.

Minced Meat on Toast. — Chop or grind cold meat, heat with some of the gravy, season with celery salt or onion juice. Serve on toast, or thin slices of hot corn bread.

Escalloped Meat. — Into a baking dish put alternate layers of macaroni or rice and chopped or ground meat. Pour tomato sauce or gravy over each layer. Cover with buttered crumbs prepared by melting one tablespoonful of butter or other fat in a pan, adding four or five tablespoonfuls bread crumbs and mixing thoroughly. Bake until dish is heated through and crumbs brown.

Casserole of Rice and Meat.—Line a buttered mold with cooked rice, fill center with chopped cold meat seasoned with salt, pepper, cayenne, celery salt, onion juice, and lemon juice, and moistened with stock or gravy. Cover meat with rice and then cover whole dish and steam or bake from thirty to forty-five minutes. Serve on a platter surrounded with a sauce made by browning flour in butter or meat gravy and adding meat stock or tomato juice in the proportion of one tablespoonful of butter and one tablespoonful of flour to a cupful of liquid. Season with salt and pepper.

Browned Hash.—Mix together equal parts of chopped meat and chopped boiled potatoes. Moisten slightly with gravy or stock. Season and place in heated frying pan containing a little fat. Press compactly into one-half of the pan. Heat slowly until brown. Turn on a platter and serve with the sauce used in the preceding recipe.

Schools Are Important

The unsettled condition of our nation should not be used as an excuse for paying less attention to the educational training of our youth. Well trained men and women always will be needed, and especially at the close of this world war. Men and women whose heads, hands and hearts are trained are those upon whom the nation must build, and the greater the number of such men and women, the more ideal will be our democracy and the more free will our people be. It is to the trained the greatest opportunities for service come.

Lack of training and limited usefulness, in far too many cases are due to lack of encouragement during the school years. Few children need encouragement in the earliest school years, but as the novelty wears off a new interest in the school work should be created. Children usually attach to the school the same importance given it by their elders, and for this reason the subject should never be treated lightly or overlooked on account of the pressure of other matters.

There may be a tendency this fall to neglect the school, but if necessary a sacrifice should be made in order that all those of school age may enter at the earliest possible date.

In this matter we can learn a valuable lesson from France. The attitude of that country on educational matters is given as follows by John H. Finley, head of the educational system of the State of New York, who has recently returned from a trip to France:

"France is not forgetting the intellectual training of her children and youth in the midst of her peril and sorrow. She is making immortal struggle and immortal sacrifice in the trenched and barbed fields, but she is steadfastly, heroically maintaining her places of moral and intellectual discipline as essential to the perpetuation of the very things she is fighting for. The children must not be deprived of their heritage. At first many school buildings had to be taken for use as hospitals, but gradually other places were found for the sick and wounded that the schools might go on; for democracy herself would perish without these—the flame of France's supreme gift would go out."

If we at this time neglect our schools and underestimate the necessity for standardizing them, we will have committed an offense the harmful effects of which will be felt for many years.

Corn-Meal Breads

Cornmeal breads are low-priced and nutritious and may be quickly and easily prepared. In those raised by soda, great care should be taken in measuring, as more soda than the acid of the sour milk can neutralize is believed to make the bread unwholesome. It is also very important to have the bread thoroughly baked. The safest way is to make the loaves small so that there may be a large proportion of browned crust.

Cornmeal milled by modern processes does not make as moist bread as the old-fashioned type of meal, unless it is heated with water before the bread is mixed. If one understands this point, either kind of meal can be easily and

satisfactorily used. A few recipes for cornmeal breads follow:

SPOON CORNBREAD

2 cups water
1 cup milk
1 cup white corn meal
1 tablespoonful butter
2 eggs
2 teaspoonfuls salt

Mix water and cornmeal, bring slowly to the boiling point, and cook five minutes. Add eggs well beaten and other ingredients. Beat thoroughly and bake in a well-greased pan in a hot oven for twenty-five minutes. Serve with a spoon from the dish in which it was baked. Fruit spoon bread is made by the addition of any fruit that is in season. Cooked dried prunes, apricots, or peaches may be used.

SOUTHERN CORNBREAD

2 cupfuls cornmeal
1½ cupfuls thick sour milk
¾ teaspoonful soda
1 teaspoonful salt
1 egg
3 teaspoonfuls melted drippings

Beat egg in mixing bowl, add milk, sift in meal with soda and salt and add melted fat. Beat quickly until well mixed, pour into hot, well-greased pan, and bake in moderate oven. Cut in squares and serve hot. The egg may be omitted. If sweetened cornbread is preferred, use yellow meal and add three tablespoons of sugar.

The following recipe is similar to the one just given excepting that sweet milk and baking powder are used instead of sour milk and soda, and flour is combined with the meal:

1 cupful cornmeal
½ teaspoonful salt
¼ cupful sugar
1 cupful white flour
1 egg
4 teaspoonfuls baking powder
⅝ cupful milk
¼ cupful melted fat

Mix dry ingredients, add beaten egg, melted fat, and liquid. Mix thoroughly. Bake in a greased pan in a moderate oven.

Mock Duck

Here is a suggestion for making a delicious dish from an inexpensive steak:

On a round steak cut thin, place a stuffing of bread crumbs well seasoned with chopped onions, butter or other fat, salt, pepper, and flavorings such as sage, celery seed, etc., if desired. Roll the steak around the stuffing and tie in several pieces with a string. If the steak is tough, steam or stew the roll until tender before roasting in the oven.

If desired, the roll may be cooked in a casserole, in which case a cupful or more of water should be added.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 7860—Ladies' Shirtwaist: Cut in sizes 34 to 42 inches bust measure. For the esteem of the discriminating woman this waist was planned. Figured and plain materials are advantageously used, but all one material will be just as desirable. A deep cape collar cut in points covers the entire front and has a frill all around its edge; the full sleeves are gathered to deep cuffs. **No. 8171—Girls' Dress:** Cut in sizes 6 to 14 years. For the exact style requirements in a dress for a school girl, look at this model. It is cut in one piece with the bodice and skirt section plaited and joined to deep yokes. The point collar developed in contrasting goods is very effective and a belt with its ends tacked under the first plait in each front is ornamental as well as being necessary to mark the straight line effect at front. **No. 8178—Ladies' Waist:** Cut in sizes 36 to 42 inches bust measure. A blouse of truly distinctive character, cut with ample fullness and having the fronts and back gathered to yokes. An inset vest of contrasting goods is a striking feature; the covered buttons suggest front closing, but in reality the blouse slips on over the head. **No. 8183—Ladies' House Dress:** Cut in sizes 36 to 44 inches bust measure. Anyone can trace the newest style feature in this model. It may be developed in material that will proclaim it for wear in going the round of household duties, or in goods that will put it in a different class. The surplice waist shows a few gathers where the three-gore gathered skirt is joined under a straight belt of contrasting goods. **No. 8179—Ladies' Skirt:** Cut in sizes 24 to 34 inches waist measure. Among the dressy numbers in skirts recently arrived, this is a model that will have wide acquaintance. The four gores are gathered and mounted on a raised waistline and to achieve the straight line of Fashion's acceptance, a box plait is made at each side of the front and back. **No. 8148—Misses' Dress:** Cut in sizes 14 to 20 years. The collar and sleeves give a note of individuality and smartness to this model. The waist is cut full and tucked so as to achieve panel effect front—following the newest lines right down the straight fullness of a two-gore gathered skirt.

17th Annual

Kansas State Fair

HUTCHINSON, SEPTEMBER 15-22, 1917

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GREAT AUTOMOBILE AND FARM MACHINERY SHOW.

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Remember that starch is a cheap kind of body fuel; corn meal contains about 75 per cent of starch.

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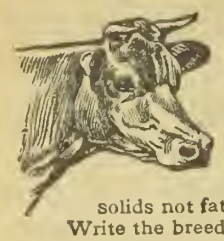
Jerseys for Net Profits



You're in the dairy business for profit—the *net* profit that your herd has made you at the end of the year will determine the size of your bank account. Jerseys yield the largest returns from every ounce of feed—proved by tests at two great expositions. Jersey milk averages 5.3% butter fat, 9.1% solids not fat—highest of all breeds. Buy a Jersey bull. Write the breeders advertised below for prices, pedigrees, etc.



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120 JERSEY COWS AND HEIFERS

Pure-bred and high-grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

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Idylwild Stock Farm

FOR SALE—Bull calf dropped February 26, 1917; dam Idylwild Gladiola 354414, sire Jacoba's Prize Premier 137930.

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WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

War Lessons From English Poultrymen

THE past four weeks I have spent in visiting poultrymen of New York, Massachusetts, Connecticut, Rhode Island, New Jersey, Pennsylvania and Maryland. I also visited the Government farm at Washington and went through the marketing places of Boston and New York City, where a large percentage of our eggs and poultry is finally sold. I also had the pleasure of attending the Massachusetts state convention of poultrymen at their state college and experiment station at Amherst. The sectional meting of the American Association of Instruction and Investigation in Poultry Husbandry was held at the same place and I therefore had the opportunity of meeting the men in charge of the poultry departments of the various agricultural colleges and experiment stations of many of the states and provinces of the United States and Canada.

It is from this meeting that I wish to carry a message to the poultrymen of America — facts which I believe every one engaged in the poultry business in this country would do well to consider. England has been at war for over three years. That country has been put to a test, and its resources and its industries affected as never before. Some of the poultrymen of England are within one hundred miles of the firing line and can sometimes hear the roar of the mighty guns as they are engaged in the present deadly conflict. Would it not be well for us to consider what has been the effect of such a situation upon the poultrymen of that country?

Edward Brown, the most noted English poultryman, author, writer and lecturer, addressed this meeting in Massachusetts, and among other things he stated the following facts, as I gathered them from his lecture: Feed has advanced about 100 per cent since the beginning of the war, and eggs have advanced 80 per cent. If they use the same rations for laying hens as previously, it costs $1.50 more per hen for feed, but they get $2 per hen more for their eggs. The government does not allow the use of wheat or oats as poultry food. Where poultry has been given the range of the farm, in many cases, it costs only 15 to 20 per cent more than formerly to feed the farmer's hens. Many poultrymen are succeeding remarkably well by feeding chiefly on green food, roots and bran, and eliminating most grains. They give all the range possible. They are learning to grow some of their own feeds, especially green food. Mr. Brown advises at this time against easy feeding or wasteful feeding. If, by a little extreme effort, you can save something that is now going to waste, it will pay you to go to that trouble. He stated that he never saw such extravagance as in this country, and he has traveled in many countries. This is not only true with poultry, but with all things. The English "dollar" doesn't go far in America. In spite of the submarine warfare, corn, wheat and oats are cheaper in England than in America. This is something that is hard to understand, for it seems under present conditions they should be cheaper here. It is their custom to feed mashes in the morning and grain at night. Practically every man feeds differently. Each feeds what is at hand, and adapts himself to the circumstances.

Mr. Brown said that the fanciers and poultry shows had been hurt most in England. He said there was a great gulf and a continual fight between the fanciers and the utility men in this country—much more so than here. He advised never letting that division become so marked in this country. He said we should never let that bitter feeling grow up between us as it has there, for they realized more than ever that both fancy and utility were essential. Each was largely dependent upon the other and America would do well to guard the good feeling that now exists between these two branches of the industry in this country.

Particular stress was laid upon the importance of encouraging back lot poultry keeping just at this time. Mr. Brown thought that millions of Americans should be urged to raise poultry in the towns and cities. In England the back-lotters are doing exceptionally well at this time. The waste from the table, the parings from vegetables and fruit, go a long way toward keeping a few hens.

Eggs were selling at 60 cents per dozen and poultry by the piece instead of by the pound. Farm poultry averages 110 to 120 eggs per hen each year, and those in the hands of specialists average about 140 to 145 eggs. Eggs have increased in price more than poultry.

In spite of three years of war right at their door and a condition such as they never saw, Mr. Brown stated that he could not bring many deep-shadowed pictures or discouraging things about poultry conditions in England. Can't America take courage and learn a lesson from that? It seems to me that in the face of the facts and conditions in England and Canada, some American poultry raisers have become frightened unnecessarily. In all my visit through the East, I found every man who had kept records on the cost of production and receipts from sales was staying in the business, and some making more money than ever. They are culling closer, which is a good thing any year, but in the face of the facts it is a great mistake to quit the business. If Canadian and English poultrymen can make money, why cannot Americans?

Mr. Brown thought that this war, in the end, would benefit the industry in many ways in this country. It would bring an end to many of the fads in poultry keeping. People would study the business and proceed along saner lines. Each new condition that the country faces brings new problems, but we should meet and solve them in the same way as the English poultrymen have. The high prices of eggs are going to educate the people to the value of eggs, so that after the war the prices never will be as low again and the consumer will not object so much to paying reasonable prices for eggs in the future. The whole of Europe will have to practically be restocked with poultry at the close of this war, and they will have to depend largely on America for their breeding stock. He stated that in the present crisis and scarcity of food, England regarded her poultry highly, for it was proven that the hens of England were picking up forty-five million dollars worth of grubs and waste products from the soil which would absolutely be wasted and which no other animal would be able to use and to turn into food if it were not for the hen.

The only difference between the poultry business of today and a few years ago is this: Then feed was cheap and a poultryman could make a lot of mistakes and still stay in the business. He can make more money today than he did then, but he must know how. Feed prices are certain to go down some when the growing corn crop goes on the market. Eggs are certain to be higher than ever known. Many incubator companies are already booking more orders in advance than in any previous season. The worst is over, in my opinion, and those who have stock and eggs for market or breeding are certain to make some good money if the right methods are used in handling their poultry.

We must impress upon the general public that eggs at five to eight cents each are still the cheapest, most wholesome meat food that can be purchased at the present time. There is also less chance of waste in bone and fat. If the American Poultry Association, and poultrymen in general, will raise a fund to advertise these facts and get them before the public in the same way that the orange grower, raisin grower and dealers in dairy products do, there will be a big demand for eggs and poultry meat at paying prices. Production will take care of itself, and all poultry raisers will be insured a profit if we will spend our money and energy in educating the consumers to paying the prices and consuming the products. Instead of urging a great production, we had better spend our money in educating the consumers to the value of eggs and poultry and the cost of producing same. As long as there is a demand for these articles at profitable prices, there will be producers in plenty, and no one will be going out of the business.

There is no reason to be greatly alarmed or discouraged. American poultrymen certainly have as much backbone, as much patriotism, as much love for the business, and as much ability to adapt themselves and their methods to meet varying conditions so as to solve poultry problems, as has the poultrymen of England or Canada. Don't sacrifice the great American hen. The facts and conditions don't justify it. Meet the issue with right methods and you are certain to find the business as profitable for the next twelve months as at any time in the past.—T. E. QUISENBERRY.

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Thirty spring boars, thirty spring gilts. Sired by Billie Sunday, Cainville Giant and Perfect Judge. Sows by Brandywine, Budweiser, Old Clipper and Spotted Giant. Priced to sell.
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For Sale—Ten fall yearling gilts, bred for September farrow to Dalebanks Hadley and King Jumbo; twenty-five spring boars ready for service; twenty-five spring gilts open. One hundred and fifty head registered hogs in my herd. Write today what you want.
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Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. **CHAS. E. GREENE, Peabody, Kan.**

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Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
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OLD ORIGINAL SPOTTED POLANDS
Choice March and April pigs of both sexes.
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Langford's Spotted Polands.—Last call for early spring boars. Yours for good hogs—
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150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
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FOR SALE—Five February boars sired by Spotted Lad and out of Ennis Queen. They are real herd headers, priced at $40. First check gets choice.
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Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.
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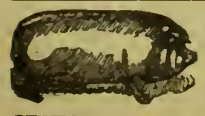

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Spring Pigs in Pairs and Trios Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. **COLEMAN & CRUM, Danville, Kansas.**

O. I. C. SPRING PIGS, BOTH SEXES.
Bred gilts.
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Clinton County Chesters

Booking orders for spring pigs of National Swine Show blood lines. Fall and spring pigs at bargain prices.
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Live Stock and Real Estate Auctioneer.
Fifteen years experience. Write for terms.
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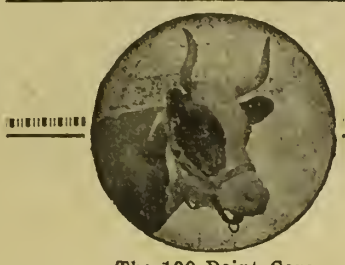
GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. **ADAMS FARM, Gashland, Mo.,** 12 miles from K. C.

AYRSHIRE CATTLE.



The 100 Point Cow.

ITEM	POINTS
Health, Vigor and Beauty	20
Milk Production	20
Percent of Butter Fat	20
Economy in Feed	20
Market Value	20
TOTAL POINTS	100

From every standpoint you will find it to your advantage to own AYRSHIRES. For information and names of nearby breeders write the —

AYRSHIRE BREEDERS' ASSOCIATION
C. M. WINSLOW, Sec'y. - 33 Park St., Brandon, Vt.

SOUTH FARM AYRSHIRES

300 HEAD.

75 Animals Imported from Scotland.
143 cows have qualified for advanced registry.
Males and females for sale.

SOUTH FARM
WILLOUGHBY - - - - OHIO

SHEEP.

A LIFETIME EXPERIENCE proves the Rambouillet the best sheep for Kansas. Stock for sale. **E. D. KING, Burlington, Kansas.**

DOYLE PARK SHROPSHIRES

Sixty Registered Shropshires—Thirty ewes and ewe lambs, thirty rams and ram lambs. Lambs sired by our undefeated ram, Ohio and Michigan, 1916.
HOMAN & SONS - PEABODY, KANSAS

FIVE EXTRA GOOD HAMPSHIRE RAM LAMBS
Priced right if taken in the next two weeks.
L. M. SHIVES, ROUTE 1, IUKA, KANSAS



RAMS Registered Shropshires, bred for WEIGHT and WOOL. Our aged ram was champion 1916 Iowa State Fair. Imported Buttar rams. Also 100 ewes.
C. W. Chandler, Kellerton, Ia.
Above Kansas City.

FOR SALE—Ten registered Shropshire ewes, fifteen registered Shropshire buck lambs, ten pure-bred unregistered Shropshire yearling bucks.
K. HAGUE, Route 6, NEWTON, KANSAS.

REGISTERED SHROPSHIRE RAMS
Ten extra large boned yearling Shropshire rams by imported sire, priced to sell.
E. E. LAUGHLIN
Bates County. Rich Hill, Missouri

First Class Shropshire Rams For Sale

Will exhibit them at Hutchinson, Kansas, State Fair. Don't buy a ram before you see it. I sell and ship on approval.

JOHN COLDWATER, BREEDER,
Chase - - - - - - - - Kansas

FARM AND HERD.

Redmon & Son, the well known Jersey breeders of Tipton, Missouri, have announced a public sale of very high class Jersey cattle to be held at Tipton, October 1. They will catalog over thirty head of Register of Merit cows for this sale, sired by Eminent Brown Lad and Golden Jolly's Masterpiece, both Register of Merit bulls and two of the best now in service in this country. This sale will be under the management of B. C. Settles, of Palmyra, Missouri, and it will be one of the big Jersey sale events of the season.

Walter B. Brown, of Perry, Kansas, will catalog one of the best Poland China offerings for his October 17 sale that will sell in this state during the fall sale season. His offering will consist of the get of the most noted sires of the Poland China breed and will include practically all of the popular blood lines. Among the lot sired will be spring boars and gilts by Gerstdale Knight by the famous Gerstdale Jones. Among the recent additions to his choice herd of big-type sows is a Big Giantess sow, also a Master Orphan sow. Both are very fine individuals.



PERCHERON STALLIONS

FOR SALE THIS FALL AT REDUCED PRICES

Two yearling colts; two 2-year-old colts; two 3-year-old colts; two 4-year-old colts, and one herd stallion. All sound and registered in Percheron Society of America. Blacks and bays. If sold this fall I will cut the prices. Also five registered Shorthorn bulls, reds and roans. Come and see me.
J. C. PARKS - - - - - - HAMILTON, KANSAS

MODERN HEREFORDS

HAZFORD PLACE

Home of the Grand Champion BOCALDO 6TH, assisted by CALDO 2D, PUBLICAN 4TH AND BEAU BALTIMORE.

All our show cattle our own breeding. Inspection of farm and breeding herd invited. A few choice young bulls reserved to head high-class pure-bred herds now ready for inspection and sale.
William Condell, Herdsman. ROBT. H. HAZLETT, EL DORADO, KANSAS

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

Iowa Holstein Breeders' Sale

AT WATERLOO, IOWA, OCTOBER 4

This sale will afford an opportunity to get the best in individuality and breeding. Iowa contains some of the best Holstein herds in the country and the entries for this sale are from these establishments.

All stock has been closely censored so you will get high-class animals. All over six months of age are tuberculin tested, thus insuring healthy stock.

Plan to make this sale and visit the Dairy Cattle Congress. Catalogs ready about September 20.

For further information address

F. C. Barney, Sec. Holstein-Friesian Assn., Chapin, Iowa

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

SAND SPRING HERD

E. S. ENGLE & SON - - - - ABILENE, KANSAS



Not the biggest nor the best herd in Kansas, but a reliable herd of consistent producing Holsteins, famous for their business and debt-paying qualifications. Superintendent Gardner's Advanced Registry report August 1, 1917, gives four of our cows that have an average of 11,700 pounds of milk, 471 pounds butter, in 238 days. For sale, an Ormsby bred bull from a 12-pound two-year-old, born in February, that will please. We won't keep this bull very long. Visitors always welcome.

MAURER'S HOLSTEIN FARM

Why not buy pure-breds when you can get them at near-grade prices? WE HAVE THEM from three-months-old heifer and bull calves to matured cows, all with exceptionally high class breeding. Finely marked and good individuals. Also grade cows and heifers. Write for description and prices or, still better, call at farm and inspect them.
T. R. MAURER & COMPANY - - - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.

DUROC JERSEYS.

15 Duroc Spring Boars

Sired by Illustrator O'Rion 3d and Fancy Victor and out of my best herd sows. They are real herd prospects, selected from 91 pigs raised. Write today if you want a good spring boar.

John W. Petford
Route 1 Saffordville, Kansas

WOOD'S DUROCS

Boars, sows and gilts. Best lines of breeding.
THE WOOD DUROC FARM
F. F. Wood Wamego, Kansas

LONE TREE DUROC FARM
Herd Boar Graduate Prince by Graduate Col. Sows, Ohio Chief, Tatarrax, Model Top and Good Enough Again King blood lines. Spring pigs, two for $35.00, three for $45.00; not related.
GEO. J. BURKE, LITTLE RIVER, KANSAS

IMMUNED DUROCS
With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. **C. G. Ditmars & Co., Turney, Mo.**

McBRIDE'S DUROCS

Six-months-old boars for sale, cherry red and good ones. Priced right.
W. T. McBRIDE - PARKER, KANSAS

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

FOR SALE

Registered Holstein Heifer Calves, 3 to 5 months old. Bull Calves, 1 to 2 years old. A. R. O. backing. Also milk cows.
BOCK'S DAIRY, Route 9, Wichita, Kansas.

Braeburn Holsteins Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.
H. B. COWLES, 608 Kan. Av., Topeka, Kan.

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

HOLSTEIN CALVES
Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. **Clover Valley Holstein Farm, Whitewater, Wisconsin.**

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

HEREFORD CATTLE.

HEREFORD CATTLE

Want to Sell Forty Cows and Heifers.
Cows have calves at foot and are rebred. Twenty-five bulls of breeding age, real herd headers. Send for my annual sale catalog, October 6, 1917.

J. O. Southard, Comiskey, Kan.

PLEASE MENTION KANSAS FARMER WHEN WRITING TO ADVERTISERS



PUT YOUR IDLE ACRES TO WORK

WAR has devasted the fields of Europe. Belgium and France have been laid waste. Millions are starving. Upon the American farmer rests the responsibility of feeding the world. You must raise bigger, better crops. You must plow more acres. You must feed fewer horses and more humans. You must put your idle acres to work. The farms of America are producing only 40 per cent of their possible capacity. You can greatly increase your production and reduce your expenses by the use of a good tractor. It is with pride we call your attention to the

Nilson

THE Nilson is a light weight tractor. It is different from all other tractors. It automatically secures its traction by a patented lever hitch which means grip by the drive wheels just when it is needed. The Nilson develops traction by pull instead of by weight. It does not pack the ground. It carries no dead weight and consumes a minimum of power in propelling itself.

What Automatic Traction Is

If you were to tie a rope to a stump and to the other end your team of horses, put the rope over your shoulder and give the word to your team to pull—you would find yourself with plenty of traction on the ground. The harder your team would pull that rope—the harder your feet would grip the ground.



This is the principle of the Nilson and its patented lever hitch. The line of pull is directed over the drive wheels and the harder the plow or other implement pulls back, the harder the wheels grip the ground and the more traction is secured.

Two Nilson Models

There is a sized Nilson for your farm. The Nilson Senior has 36 H. P. at the Belt, 25 H. P. at the draw bar and pulls a 4-14 inch bottom plow with ease. The Nilson Junior has 25 H. P. at the belt, develops over 16 H. P. at the draw bar and easily pulls a 3-14 inch bottom plow.

As neither of these models carries any dead weight, they are able to do more work at less cost for fuel and upkeep than any other tractor on the market.

For Road Hauling

The Nilson develops a high speed on the road. It will transport your harvest and supplies to and from market in less time and at less expense than you can possibly do with horses. The Nilson road speed is six miles an hour—a good buggy speed.

Waukesha Motor and Hyatt Bearings

The famous Waukesha Motor—made especially for tractors—is used in both Nilson models. This insures a power plant free from trouble. Only the best materials are used in the Nilson, such as Hyatt Roller Bearings, Nilson Perfex Radiator, K-W high tension Magneto Ignition, with impulse starter, and Kingston Carburetor with Bennett Air Cleaner. The Nilson can also be adapted to the use of kerosene.

Has Stood The Test For Four Years

For four years, under all conditions, the Nilson has proven its merits and has stood every test. It is not an experiment. We have hundreds of letters from satisfied Nilson owners.

War has greatly increased the demand for tractors. While our capacity is large, our output is taxed to supply the demand. If you want a tractor this year, write us at once for catalogue and the name of your nearest dealer. Let us explain Nilson service to you. Remember, every acre tilled means human lives saved.

NILSON TRACTOR COMPANY

1651 HENNEPIN AVENUE MINNEAPOLIS, MINN.

GENTLEMEN.—Please send me your catalogue and complete specifications on the NILSON Tractor. This puts me under no obligations. My farm is..... acres. I work.....horses.

Name ..... P. O. Address .....

County ..... State .....

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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 37. TOPEKA, KANSAS, SEPTEMBER 15, 1917. Established 1863. $1 a Year

THE FARM BOYS HIKE

Over Fifty Embryo Montgomery County Farmers Visit Best Farms of County

THIRTY-FIVE of the best farms in Montgomery County were visited by the boys who took part in the annual farm bureau hike, August 15, 16 and 17. There were fifty-two boys in the party and in spite of the rain and muddy roads the boys stayed with it to the end of the trip. They traveled thirty-three miles on foot and fifteen miles by interurban.

District Agricultural Agent Carl G. Elling of Southeast Kansas and Agricultural Agent H. L. Popenoe of Lyon County assisted E. J. Macy, agricultural agent for Montgomery County, in conducting the tour. Professor Tomlinson of the Independence city schools had charge of the sports, while Frank DeHart, a local chef, took care of the feeding of the aggregation, which proved to be quite a job. The boys were very kind in assisting with this work.

Early on the morning of the first day the party gathered at the city hall at Independence, where the plan of the trip was outlined by Mr. Macy. The boys were then divided into three companies, each company being placed under the leadership of one of the agricultural agents. Three different routes were traveled on the first day of the hike and when the parties came together they told each other of the points of interest they had seen.

The trip through the Western States Cement Plant was of great interest to the boys, many of whom saw for the first time the manufacture of cement. At the Aganippe Spring Farm, Company "A" saw an exceptionally fine acreage of sweet potatoes and a well constructed sweet potato storage house. Company "C" visited the Griffin farm and was shown a fine herd of Poland China hogs and given many practical pointers in hog raising. Corn, wheat, and alfalfa are the crops grown on this farm. In the afternoon of the first day two companies visited Mr. Bressie's round barn. This barn is sixty feet in diameter and fifty-eight feet from the floor to the comb of the roof and is a very good example of this type.

At the Reardon orchard one of the companies inspected the apple trees which had previously been found to be infested with cherry and San Jose scale. All parties met at the Ellis farm, which had recently been purchased by Jerome Travis for $37,000. The wheat on this farm averaged fifty bushels to the acre and the methods practiced to obtain this yield were studied by the boys. This farm has a modern waterworks system with hydrants at the barn and in the orchard and complete equipment in the house. It also has two splendid peach orchards and two vineyards.

Much interest was taken in the hog raising equipment on the Ellis farm. Mr. Ellis markets annually from four to six carloads of hogs. The 30 x 98-foot hog house is arranged with pens on either side of the alleys through the center, each pen opening into an outside run. The device used on this farm for castration of pigs is very unique and practical. It consists of a small table, about thirty-six to forty inches in height, to which is fastened a leather band that holds the pig firmly on the table. This band is placed over the pig's belly and is held down by the operator's foot. The proprietors of the farm gave a demonstration of the method of using this castration table.

Almost the entire section visited from the Ellis farm to the end of the trip was in the best orchard land in Montgomery County. It is also in the watermelon growing section, which fact was of special interest to the boys. The adaptability of the soil for these crops was noted especially on the farm of Ernest Miller & Sons northwest of Coffeyville. Mr. Miller has a demonstration orchard under the direction of the Agricultural College. With the help of his sons he has constructed a power sprayer and they have sprayed the orchard under the supervision of George O. Greene, horticulturist of the extension division.

Two irrigation systems are being tried out on the Miller farm. Mr. Miller says the overhead spraying system is especially adapted for early watering where there is need to break the soil. The other was a sub-irrigation system using lines of drain tile every fifteen feet to carry the water. He prefers this latter system when any great quantity of water is needed by the growing crop. The crops noted here were the eggplant, different varieties of tomatoes, different varieties of sweet potatoes, and the effect of prepared tree paint on peach trees. Mr. Miller's son Gus gave a budding demonstration which proved a very interesting feature to the boys. This farm made an impression because of its neat appearance, and the hospitality extended to the boys will long be remembered. Roasting ears, grapes, watermelons, cantaloupes, two pounds of butter, and five dozen hot rolls were added to the commissary.

At the Cline farm the boys were given work in the selection of horses, a pure-bred Percheron mare purchased at the Percheron sale at Manhattan last February being used as an object lesson. This mare is an unusually fine specimen of the breed, and gave the boys a good type to keep in mind when either selecting or judging horses.

On Thursday, the second day of the tour, the march was made through mud and rain. The boys arrived at the Bushnell farm about six o'clock, and after drying out their clothes and getting a good supper, turned in for a long night's sleep only to be interrupted about midnight by heavy showers.

Mr. Bushnell has a splendid herd of pure-bred Shropshire sheep, and the boys were made acquainted with the points of good sheep. They were also told how to avoid trouble from stomach worms, these parasites being most troublesome to the lambs. Mr. Bushnell gave a demonstration of the method of drenching a lamb, showing how to give it a dose of medicine without strangling. The party also inspected his herd of pure-bred Herefords, his gambrel-roof barn, and hollow tile silo.

At the Banks farm, which is managed by C. W. Conrad, the boys found one of the best producing orchards in the county. It has a wonderful set of fruit and shows effects of the spraying work that has been done in demonstrations conducted by the farm bureau. The boys were shown a tree that the county agent had pruned last spring and the differences between it and the adjoining trees of the same variety were noted. The apples were larger and of better color and the tree presented a more thrifty appearance.

At Walker's a 42 x 84 barn was inspected, giving special attention to its tile roof. At the Wheeler farm near Jefferson a dozen melons awaited the company. After these were put where all good melons go, Mr. Wheeler showed his system of raising White Leghorn chickens. He told of his start about fourteen years ago with eleven pullets and one rooster and said that at the present time, even with the high price of feed, his flock is making him a nice little sum for the bank each month. Mr. Wheeler also has a splendid patch of cowpeas which were noted.

On the farm of W. D. Godwin the boys had an unusual opportunity to inspect Jersey cattle, his herd being one of the best in this section. Two of the individuals in this herd came in for special study. One of these had been in the Southwestern Dairy Show at Kansas City last fall and was a remarkably fine specimen of the breed. Mr. Popenoe, county agent of Lyon County, indicated the points to consider in the selection of dairy cows.

At the Ewing farm south of Independence the boys found one of the most interesting places visited on the trip. They inspected Mr. Ewing's dairy barn, his silos and his herd of Holstein cattle and noted the operation of his milking machine. This was very interesting as well as practical to the boys. A class of three aged cows was brought out and the boys tried putting into practice what they had learned about selecting dairy cows. Mr. Ewing's farm was the last one visited. From there the boys took the interurban car for Independence, arriving there at 4:15 the afternoon of the third day of the tour, having traveled thirty-three miles on foot and fifteen miles by the interurban car and having visited thirty-five farms and noted points of interest on all those passed, which amounted to over sixty.

The total expense of a trip of this kind amounts to a trifle over one hundred dollars, the most of this being for foods consumed. With the exception of one place on the route the boys were well received. This is a very practical method of calling the attention of our young people to the best agricultural practices of the section in which they live. Judging from the number of boys who have taken the three hikes, it is evident that they consider it a splendid outing as well as an opportunity to study practical farm methods as followed by the best farmers of the county.



BOYS FORDING VERDIGRIS RIVER.—THIRTY-THREE MILES TRAVELED ON FOOT

Kansas Movie in East

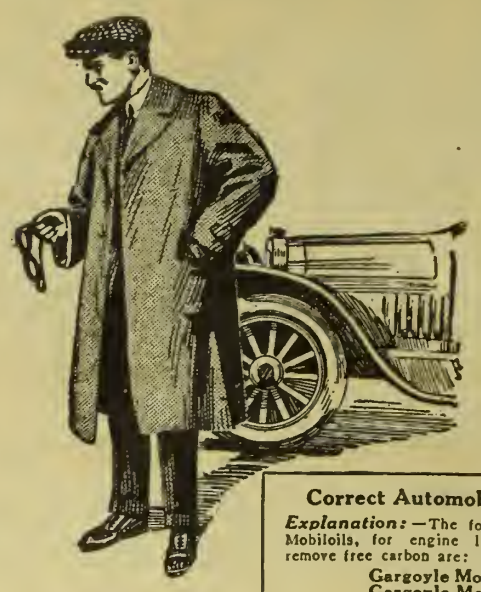
It is rather interesting to learn that one copy of the motion picture film, "Winning with Wheat," prepared by the Kansas Council of Defense and already shown to large audiences in 200 Kansas "movie" houses, is doing service for the Red Cross in Massachusetts this week. Edward C. Johnson, dean of the division of extension in the agricultural college, who is in Massachusetts, is using the film in a Red Cross benefit lecture on Kansas and the war in Medway and Franklin, Mass. L. E. Call, professor of agronomy, is showing the film at New Bedford, Mass., in a Red Cross benefit performance. Mr. Johnson and Mr. Call are on vacation trips.

The Red Cross chapters at all three points requested to have the film shown as a demonstration of some things the great producing section of the United States is doing in this war.

Demand for Better Cows

In Harvey County, respite the early dry weather and threatened scarcity of feed, there is a good demand for dairy cows, especially among farmers who now have a few cows of dairy breed. F. P. Lane, agricultural agent, and three of his farm bureau members spent one day of last week in Sedgwick County where eight head of dairy cattle were bought for one farmer, and three cows for another.





We Protest

Now and then we meet a man who says with some enthusiasm, "I am using Gargoyle Mobiloil and it works fine."

To our great disappointment we sometimes find that this friend is using the wrong grade for his engine.

We are too jealous of the results which can be secured from the proper use of Gargoyle Mobiloils to allow this careless practice to go on without a protest.

Naturally, because of their sheer *quality*, Gargoyle Mobiloils are bound to show good *lubricating* results. But we are aiming to furnish more than protection to the moving parts.

For this reason, we annually determine through our Board of Engineers, which *grade* of Gargoyle Mobiloils is best suited to each make and model of car.

The man who fails to use the *grade* of Gargoyle Mobiloils specified for his car stands to lose some of the greatest benefits which the oils offer him.

For example: Gas consumption depends a great deal on the piston-ring seal. The piston-ring seal depends solely on the "body" and character of the oil used.

In a given engine, oil of the very highest *quality* may be of wrong *body* for proper piston-ring seal. The result then is waste of gas and power with each piston stroke.

To assure your securing best results will you please look at the partial Chart at the right and see if you are using the correct grade for your car. If not, in justice to your own engine, will you, please, insist on being supplied with the correct grade.

Write for new 56-page booklet containing complete discussion of your lubrication problems, list of troubles with remedies and complete Charts of Recommendations for Automobiles, Motorcycles, Tractors and Marine Engines.



Mobiloils

A grade for each type of motor

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the Red Gargoyle on the container. If the dealer has not the grade specified for your car, he can easily secure it for you.

VACUUM OIL COMPANY, Rochester, N. Y., U. S. A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world

Domestic Branches: Detroit New York Philadelphia Minneapolis Boston Chicago Indianapolis Pittsburgh Kansas City, Kan. Des Moines

Correct Automobile Lubrication

Explanation: —The four grades of Gargoyle Mobiloils, for engine lubrication, purified to remove free carbon are:

Gargoyle Mobiloil "A"
Gargoyle Mobiloil "B"
Gargoyle Mobiloil "E"
Gargoyle Mobiloil "Arctic"

In the Chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A." "Arc" means Gargoyle Mobiloil "Arctic," etc. The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

This Chart is compiled by the Vacuum Oil Co.'s Board of Engineers and represents our professional advice on Correct Automobile Lubrication.

Model of	1917		1916		1915		1914		1913	
CARS	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Abbott-Detroit	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
" (8 cyl.)	...	...	A	A	A	"	...	...	...	...
Allen	A	Arc.	A	Arc.	A	Arc.	A	A	A	A
" (Mod. 33-34-35)	...	...	...	...	A	Arc.	...	...	...	...
Apperson	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl.)	A	A	A	...	...	...	...	...	...	...
Auburn (4 cyl.)	...	...	A	Arc.	A	Arc.	A	A	A	A
" (6 cyl.)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	....
Autocar (2 cyl.)	A	Arc.	A	Arc.	A	Arc.	A	Arc	A	Arc.
Briscoe	A	Arc.	A	Arc.	A	Arc.	A	Arc.	...	....
" (8 cyl.)	...	...	A	A	...	...	...	...	...	...
Buick	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	Arc.
Cadillac	...	...	...	...	...	...	Arc.	Arc.	Arc.	Arc.
" (8 cyl.)	A	A	A	A	Arc.	Arc.	...	...	...	...
Case	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Chalmers	...	...	Arc.	Arc.	Arc.	Arc.	A	A	Arc.	Arc.
" (Mod. 6-40)	...	...	A	Arc.	...	...	...	...	...	...
" (Mod. 6-30)	A	A	A	A	...	...	...	...	...	....
Chandler Six	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...
Chevrolet	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	A
Cole	...	...	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl.)	A	A	A	A	A	A	...	...	...	...
Cunningham	...	...	...	...	Arc.	Arc.	Arc.	Arc.	A	A
" (8 cyl.)	A	A	A	A	...	...	...	...	...	...
Dart	A	Arc.	A	Arc.	Arc.	Arc.	A	A	A	Arc.
" (Mod. C)	A	Arc.	A	Arc.	A	Arc.	A	A	...	...
Detroiter	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	A	A	Arc.
" (8 cyl.)	...	...	...	...	Arc.	Arc.	...	...	...	...
Dodge	A	Arc.	A	Arc.	E	E	...	...	...	....
Dort	A	Arc.	A	Arc.	A	Arc.	...	...	...	...
Empire (4 cyl.)	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (6 cyl.)	Arc.	Arc.	Arc.	Arc.	...	...	...	...	...	...
Federal	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Fiat	B	A	B	A	B	A	B	A	B	A
Ford	E	E	E	E	E	E	E	E	E	E
Franklin	A	A	A	A	A	A	A	A	A	Arc.
Grant	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.	...	...
Hal-Twelve	A	A	A	A	...	...	...	...	...	...
Haynes	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" (12 cyl.)	A	A	A	A	...	...	...	...	...	...
Hudson	...	...	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
" (Super Six)	A	Arc.	A	A	...	...	...	...	...	...
Hupmobile	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Jeffery	A	Arc.	A	Arc.	A	Arc.	A	A	...	...
" (6 cyl.)	A	A	...	...	...	...	...	...	...	...
" Com'l.	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.	Arc.	Arc.
Kearns	...	...	E	E	E	E	...	...	...	...
" Com'l.	A	Arc.	A	Arc.	A	Arc.	...	...	...	...
Kelly Springfield	A	A	A	A	A	A	A	A	Arc.	Arc.
King	...	...	...	...	A	Arc.	A	A	A	E
" (8 cyl.)	A	A	A	A	Arc.	Arc.	...	...	...	...
" Com'l.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...
Kissel Kar	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
" " Com'l.	A	Arc.	A	Arc.	A	Arc.	A	Arc.	Arc.	Arc.
" " (Mod. 48)	...	...	A	A	A	A	A	A	...	...
" " (12 cyl.)	A	A	...	...	...	...	...	...	...	...
Lexington	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...
Lippard Stewart	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (Mod. M)	A	Arc.	A	Arc.	...	...	...	...	...	...
" Mod. M W	A	Arc.	...	...	...	...	...	...	...	...
Locomobile	E	E	E	E	E	E	E	E	Arc.	Arc.
McFarlan	A	Arc.	A	A	A	Arc.	A	A	A	Arc.
Marmon	A	A	A	A	Arc.	A	Arc.	A	Arc.	Arc.
Maxwell	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Mercer	A	A	A	A	Arc.	A	Arc.	A	Arc.	Arc.
" (22-70)	...	...	...	Arc.	Arc.	...	...	...	...	....
Mitchell	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Mitchell (8 cyl.)	...	...	A	A	...	...	...	...	...	...
Moline	...	...	...	...	...	...	...	...	A	Arc.
" Knight	A	A	A	A	A	A	A	...	...	...
Moon (4 cyl.)	...	...	...	...	Arc.	Arc.	A	Arc.	Arc.	Arc.
" (6 cyl.)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...
National	Arc.	Arc.	A	Arc.	A	Arc.	A	A	A	A
" (12 cyl.)	A	A	A	A	...	...	...	...	...	...
Oakland	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	Arc.
" (8 cyl.)	...	...	A	A	...	...	...	...	...	...
Oldsmobile	...	...	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl.)	A	A	A	A	...	...	...	...	...	...
Overland	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Packard	...	...	...	...	A	Arc.	A	Arc.	Arc.	Arc.
" (12 cyl.)	A	A	A	A	...	...	...	...	...	...
" Com'l.	A	A	A	A	A	A	Arc.	Arc.	Arc.	Arc.
Paige	...	...	...	...	A	Arc.	A	A	A	E
" (6-46)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...	...
" (6-36 & 38)	A	Arc.	A	Arc.	A	Arc.	...	...	...	...
Pathfinder	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	A	Arc.
" (12 cyl.)	A	A	A	A	...	...	...	...	...	...
Peerless	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl.)	A	A	A	A	...	...	...	...	...	...
Pierce Arrow	A	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" " Com'l.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Premier	A	A	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Regal	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (8 cyl.)	...	...	A	A	Arc.	Arc.	...	...	...	....
Renault (French)	...	...	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Reo	A	Arc.	A	Arc.	A	Arc.	A	Arc.	A	Arc.
Richmond	Arc.	Arc.	Arc.	Arc.	A	Arc.	A	Arc.	Arc.	Arc.
Riker	E	E	...	...	...	...	...	...	...	...
Saxon	E	E	E	E	E	E	E	E	...	...
Selden	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Samplex	A	A	A	A	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
Stearns-Knight	A	A	B	A	B	A	B	A	A	A
" (8 cyl.)	A	A	B	A	...	...	A	...	...	...
Studebaker	A	Arc.	A	Arc.	Arc.	Arc.	A	Arc.	A	Arc.
Stutz	A	A	A	A	A	A	A	A	Arc.	Arc.
Velie (4 cyl.)	...	...	...	...	A	Arc.	A	Arc.	A	Arc.
" (6 cyl.)	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	...	...	...
Westcott	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	A	A	Arc.
White	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.
" (16 valve)	A	A	B	A	B	A	A	A	...	...
Willys-Knight	A	A	B	A	B	A	A	A	...	...
Willys Six	Arc.	Arc.	...	...	...	...	...	...	...	...
Winton	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.	Arc.

Electric Vehicles: For motor bearings and enclosed chains use Gargoyle Mobiloil "A" the year 'round. For open chains and differential, use Gargoyle Mobiloil "C" the year 'round.

Exception: For winter lubrication of pleasure cars use Gargoyle Mobiloil "Arctic" for worm drive and Gargoyle Mobiloil "A" for bevel gear drive.

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KANSAS FARMER

THE FARM PAPER OF KANSAS

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KANSAS FREE FAIR A WINNER

Monday morning, September 10, the Kansas Free Fair for the third time opened its gates to the public without admission charge. The idea of a free gate at a big fair was an innovation in the fair business, and when this Kansas Free Fair Association had the nerve to make the experiment three years ago officials of big fairs and leading exhibitors of the country watched the result with keenest interest. The idea centered around the thought that a big fair was an educational institution and as such should be made absolutely free so that no one need be prevented from getting all the good possible by having to pay for the privilege of attending and studying the exhibits. It is no longer an experiment. The free gate idea has been approved both by the people who attend and by the exhibitors. Those who go to the expense of fitting their products for exhibition are never so well satisfied as when they have a crowd of people around them studying the exhibits and asking questions. The exhibitor is primarily interested in showing his skill to as many people as possible. This is the outstanding feature of the free gate fair. In many of its classes this year's exposition of the Kansas Free Fair breaks all previous records. As we write, the finishing touches are just being given, and before the day closes everything will be in readiness for the people who already are beginning to stream in through the wide open gates.

In hurriedly looking over the exhibits in the live stock department, our attention was first attracted to the fact that the show of draft horses was being made by fifteen or twenty Kansas farmer breeders. The usual horse breeding firms were conspicuous by their absence. This is an indication of the developments certain to take place in breeding draft horses. These men do all their farm work with pure-bred horses and have no difficulty in disposing of the surplus at good prices. Handled in this way the necessary power for conducting farm operations pays for itself. A conspicuous example of this kind of horse breeding is that of the Goodland Stock Farm, of Shawnee County. W. E. Dustin and his son, C. L. Dustin, who have adopted the above name for their farm, are exhibiting twelve head. Two fine mares are in the group that have raised good colts in addition to working hard all the season. One of these mares is only six years old, but now has four filly colts to her credit. Three hundred dollars was recently refused for her yearling. A. P. Loomis, of the Diamond Stock Farm, is showing seven head, among them the three-year-old mare, Francine, the grand champion of the show last year. This mare has five championships and eight blue ribbons to her credit, two of the blues being awarded on groups in which she was shown. Every one of the mares on this farm pays her way in the work performed. Branson & Son, of Overbrook, are on hand with four exhibits headed by their four-year-old iron gray stallion, Hector, that crowded the winning horse for championship last year. Captain Creek Stock Farm, of Baldwin, Kansas, shows mares and colts, all bred and raised on the farm. D. F. McAllister, of Topeka, who showed the champion stallion last year, is another farmer-breeder having ten head in the show this year. A number of others have one or two head each, among them being John Peck, Topeka; R. J. Johnson, St. Marys; W. T. & D. V. Pence, Elmont; O. N. Wilson, Silver Lake; O. P. Bickelhaupt, Silver Lake. Edward Cook, of Freeport, shows four Percheron stallions, and the Kansas section of the Gossard Breeding Estates, Preston, Kansas, shows five year. Barney & Bell, of St. Marys, are the only exhibitors of jacks, and John Bell shows some exceptionally good mules. The largest single exhibit in the show is that made by David Cooper & Son, of Freeport, Kansas, consisting of twenty-four head of Belgians. This herd is headed by as good a Belgian stallion as has ever been shown in Kansas. Take the show of draft horses as a whole, the quality ranks higher than at any previous fair. There are absolutely no tail end exhibits. The management of the fair decided not to conduct the horse show which has been held for several years. This of course removed one of the spectacular features, but from a strictly practical standpoint it is a feature that could be spared without loss. Owing to the fact that none of the exhibitors had large numbers of entries, there was room enough left in the barn to house the horses of Battery A, which is encamped on the fair ground. In one section of the barn was the usual string of Shetland ponies, the principal exhibitor being R. J. Foster, of Topeka. This section is exceedingly popular with the children.

The cattle barn is well filled. Here as in the horse barn there are no animals not worthy to be shown in such a fair. In the Shorthorn breed there are eleven exhibitors showing almost ninety animals. All but five herds are shown by Kansas farmers. There are now no special Kansas classes, and the Kansas breeders seem well able to compete on fairly even terms with breeders from such states as Iowa or Missouri. Among the Kansas breeders showing are A. L. Harris, Osage City; H. H. Holmes, Topeka; A. F. Kitchen, Burlingame; John Regier, Whitewater; T. J. Dawe & Son, Troy, and Doyle Park Stock Farm, Peabody. The principal out-of-the-state breeders are Rapp Brothers, St. Edwards, Nebraska; William Herkleman, Elwood, Iowa; W. E. Pritchard, Walnut, Iowa, and E. M. Parsons & Son, Carroll, Iowa.

Only two exhibitors are showing Polled Durhams, one being Achenbach Brothers, of Washington, Kansas, and the other Albert Hultine, of Saronville, Nebraska. Both have high class show herds, and the competition will be keen when the judges come to place the ribbons. In point of numbers the Herefords have the largest number of entries in the cattle division, although there are not as many breeders represented as in the Shorthorn breed. Only three out-of-the-state herds of Herefords are being shown. Among the Kansas exhibitors are W. I. Bowman & Company of Ness City; Carl Miller, Belvue; Klaus Bros., Bendena. There are only two entries of Polled Herefords, these being shown by Goernandt Brothers, Aurora. Three strong Angus herds are competing for the prize money—Sutton & Porteous, Lawrence, Kansas; R. L. Kershaw, Muskogee, Oklahoma, and D. K. Robertson & Sons, Madison, Nebraska. H. & G. Croft, of Bluff City, Kansas, show Galloways. This is one of the best herds of Galloways in the country. They have always been winners wherever shown. Breeding stock has been too much in demand for the average breeder to fit and show steers. The Agricultural College is the only exhibitor of steers, ten head being shown representing the Shorthorn, Hereford, and Angus breeds.

In point of numbers the dairy cattle show is smaller than that of some previous fairs. As in the other breeds of stock, however, there is a noticeable absence of inferior animals. This might be taken as an indication that it is being more generally recognized that only the very best of live stock can now be profitably kept. In the Holstein breed the Galloway-Messer Farm Company, of Waterloo, Iowa; David Coleman & Son, Denison, Kansas; J. W. Chestnut & Son, Denison, Kansas; Albechar Holstein Farm, Independence, Kansas, and Mr. Harris, of Pauline, are the exhibitors. The Coleman herd bull is showing some offspring of high quality. In the Chestnut herd also can be seen evidences of the prepotent power of the herd sire. The Galloway-Messer Farm herd bull was champion of the Free Fair last year, but the Kansas breeders are not willing to concede defeat this year until the ribbons are tied. The Jersey breed is represented by only two exhibitors, Fred Laptad, of Lawrence, showing ten, and G. T. Braden, of Tulsa, Oklahoma, twenty. Johnson of Aulne is showing a Guernsey bull, and the Guernsey bull owned by the Agricultural College is also on exhibition. This college bull is an outstanding animal of the breed and the college is to be congratulated on having such a high class animal at the head of its Guernsey herd. The only exhibitor of Ayrshires is William Galloway, of Waterloo, Iowa. This is one of the good herds of the country. It is to be regretted that they do not have some competition. As usual the three-day milk and butterfat test is being conducted by the superintendent of the dairy department. Nearly all the cows in good flow of milk are entered in this three-day contest. Good money prizes are offered for the winning cows, and in addition a sweepstake prize consisting of a silver cup is offered by the Kansas Farmer Company. In order to hold this cup permanently it must be won three years in succession by the same exhibitor. It is now held by the Genoa Indian School, Genoa, Nebraska.

In spite of the high prices of corn and all kinds of concentrated feeds, the hog men have turned out in such numbers that the hog show is overflowing the barns provided. A mammoth tent in which have been built over a hundred pens is being used to house the overflow from the regular hog barns. One or two other buildings are also being used to house hogs. There are probably over a thousand hogs entered. The Poland Chinas and the Duroc Jerseys are most numerous. In both of these breeds futurity shows under the auspices of their respective record associations are being held. Fifteen exhibitors are showing full herds of Poland Chinas; nine, Duroc Jerseys; four, Chester Whites; three, Berkshires; and five, Hampshires. The fact that a number of breeders of Spotted Polands have come some distance to make this show adds to the interest in the Poland Chinas. A separate record association has been formed for the Spotted Poland Chinas; and they have been given a separate classification. They differ from the ordinary Poland only in the fact that they are liberally spotted with white. Thirteen boys have taken advantage of the opportunity to show pigs which they had fed and handled since birth. These pigs came in from all over the state, some of them from far western counties.

Only four exhibitors are showing sheep this year. The Agricultural College has representatives of the Shropshire, Hampshire, Dorset, and Southdown breeds, thirty-two animals all told. Prof. A. M. Paterson, who has charge of this exhibit, is an enthusiast on sheep and is doing much to promote the improvement of the sheep of Kansas and their wider use on the farms of the state. Clarence Lacey, of Meriden, Kansas, who has shown sheep at Kansas fairs for a number of years, has fifteen head. As a result of judicious purchases and careful handling of his flock, he has greatly improved the quality of his animals during the past few years. The same might be said of the flock of Cotswolds shown by C. E. Wood, of Topeka. W. W. Waltmire, of Peculiar, Missouri, shows sheep of several different breeds. There is quite a falling off in the number of sheep shown this year, but this is partly due to the fact that the classification was cut down to include only the breeds best adapted to Kansas. In the past when full classifications have been made some out-of-the-state breeders have brought animals of all the breeds for which premiums were offered and won the money without competition, and frequently on animals that were not especially creditable to the breeds they represented.

One of the live stock features of the opening day was the boys' judging contest conducted by Dr. C. W. McCampbell of the Agricultural College. Eighteen boys, representing all sections of the state, took part in this contest which was held Monday forenoon. They judged two classes of horses, two of beef cattle, two of dairy cattle, and two of hogs. It was an interesting sight to see these alert young fellows going carefully over each ring as it was brought out for them to work on and finally marking down their placings and handing them to the superintendent. Upon the young men of the state who begin thus early to study the principles of live stock judging depends in large measure the progress made in live stock improvement in the years to come.

Probably no exhibit in the remodeled agricultural building is attracting more attention than that of the boys' and girls' club work of the state. In this exhibit is shown fully fifty dozen jars of canned fruits and vegetables. Eighty girls have sewing exhibits, and there are numerous exhibits of potatoes, corn, and vegetables. The pigs and chickens shown by boys and girls of the state clubs of course were necessarily exhibited in their proper departments. The Junior Department, which included exhibits made by the boys and girls over the state who were not members of any of the state clubs, also attracted considerable attention. We noticed one exhibit made by a boy which was so unusual as to call for special comment. This exhibit was that of Elwyn Engler, a fourteen-year-old Shawnee County boy. This boy apparently had made collections of every weed, grass, and agricultural plant to be found on the home farm. He had a large collection of insects and the larvæ of many insects, all of which had been collected and preserved or mounted during the past season. It would seem from the comprehensive nature of this exhibit that the boy could hardly have done anything else, but we learned that the work of collecting this exhibit material was done at odd times when he was not busily employed in helping out with the regular work of the farm.

Not for several years has such a large showing been made of the various kinds of farm equipment and machinery. There has been a disposition for several years on the part of some of the larger machinery companies to refrain from showing at the big fairs. This year practically all the space available on the fair grounds at Topeka is filled with tents of machinery and implement exhibitors. There are a number of different kinds of tractors shown, and the exhibits range on down to machinery for doing the work of the house, such as washing, etc. There are a number of different types of farm electric lighting plants on exhibition. This feature of the fair is being closely studied by the visitors. The increasing scarcity of farm labor is making it more and more important that the best of machinery and equipment be used in performing the various farm operations. Farmers are on the alert to find equipment that will enable them to keep their farming operations up to maximum efficiency with a minimum of hand labor.

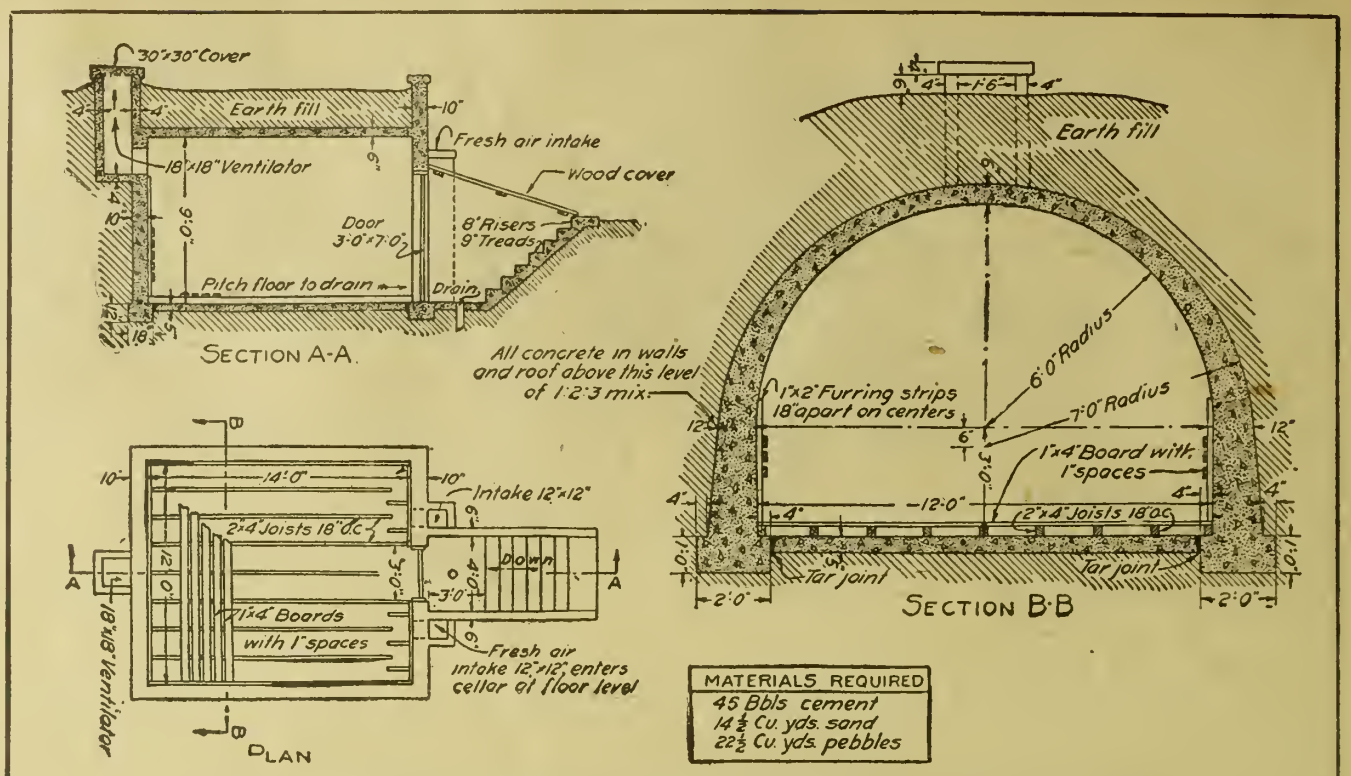
CONCRETE STORAGE CELLARS

Air-Cooled Storage For Fruit and Vegetables Prevents Much Waste

PERISHABLE products such as potatoes, other root crops, and fruits like apples, when stored on a commercial scale, are usually kept in first-class condition by mechanical refrigeration or cold storage. Such methods, however, are impossible on the average farm, as a mechanical refrigeration plant involves an expensive building and equipment. One solution of the farm storage problem for vegetables and fruits is to build some type of air-cooled storage house.

This year, more than ever before, it will be advantageous to provide suitable storage facilities on the farm for fruits and vegetables. The advantages of such storage are that the crop can be marketed in accordance with natural demands, thus preventing any glutting of the market and resulting in maintaining fair prices throughout the year.

On the average farm the practice is to immediately unload on the market practically all of any crop as soon as harvested. All that the producer keeps is a slight surplus over what is needed for domestic use. This glutting of the market occurs at a time when the demand for the produce is not at its maximum, and brings the price level down, frequently to a point where the crop does not bring the cost of production.



CONCRETE STORAGE CELLAR FOR AVERAGE FARM.—CAPACITY ABOUT 600 BUSHELS OF POTATOES. SUITABLE FOR APPLES AND ROOT CROPS

PROPER STORAGE PREVENTS WASTE

Thousands of dollars of waste in the potato crop can be saved by providing suitable storage. The large annual loss in normal years both in potatoes and apples cannot continue under our new scheme of farm economy. If stored under suitable conditions apples and potatoes can be kept in good condition from one season's end to the beginning of the next.

The requirements for vegetable and fruit storage are essentially the same, that is, potatoes and other vegetables and apples may be kept in good condition under practically the same conditions.

Both fruit and vegetables which are to be stored must be properly handled from the beginning. This means first that the seed or trees should be treated to a germicidal solution or spray, so that only healthy produce will result. The crops must be carefully handled to prevent bruising or other injuries when harvested, then they must be cooled quickly to the required temperature, which must be maintained uniform. The storage cellar must also be provided with sufficient moisture to prevent shrinkage and thus keep the fruit or vegetables crisp and plump.

Storage cellars for potatoes and other vegetables and apples are best built at least partly if not entirely underground, therefore the location best adapted to the construction is a hillside. In such a location the excavation generally furnishes enough loose earth to cover the entire structure afterward if this is desired.

TEMPERATURE OF STORAGE

Although cold storage experts are not in entire accord as to the exact temperature which is best for keeping potatoes, apples, and root crops, the majority seem to agree that a temperature of 40 degrees Fahrenheit should not be exceeded for best results.

The average normal temperature of the earth is about 50 degrees Fahrenheit, which is too high for ideal storage conditions. During the early fall months there are nights when the temperature drops near or below the freezing point. This condition should be taken advantage of by building the storage cellar or cave so that it has a good ventilating system, which will provide rapid and ample circulation and change of the contained air. After the interior of the storage cellar has been brought to proper temperature, the cellar should not be opened until the next change of weather which will permit doing so without again warming up the interior.

Root and vegetable storage cellars being built mostly in excavation, the construction material is in constant contact with the earth. Due to the changing conditions of dryness and moisture which naturally prevail in the soil, timber construction rots rapidly. The best wood storage cellar is therefore nothing but a temporary structure. No other material can be used to such advantage in securing all the requirements for a fruit and vegetable storage cellar as concrete.

PLAN FOR CONCRETE STORAGE CELLAR

The concrete storage cellar shown in the cut has been so designed that it can be made any length desired. This plan permits adding to or taking from the length of the structure so that it may be built to any required capacity. The cellar is twelve feet wide and fourteen feet long as designed and nine feet deep on the inside. The entire structure—floor, walls and roof—is of concrete. Such a cellar is not only moisture-proof but will entirely prevent the waste which rats and mice cause to some stored crops.

Concrete mixed in the proportions of one part cement to two and one-half parts sand, to four parts pebbles or stone, may be used throughout except for the floor and the arch of the roof, for which a 1:2:3 mixture should be used as indicated in the plan. Advertisers of cement will gladly furnish booklets giving detailed instruction for concrete work.

The side walls of the plan shown are ten inches thick at the base and taper to six inches thick at the crown. End walls are ten inches thick. This design has been prepared with special reference to ventilation. During cool evenings manhole and cold air intake covers are removed and the cold air permitted to pass down the intakes, circulating through the passage between the concrete floor and the false floor of the bins. The false floor is made by 2 x 4 joists, covered by 1 x 4 boards nailed one inch apart. Openings in the floor allow the air to pass up through the stored contents, thus cooling them.

The outside walls are built so that cool air can circulate up along them. The warm air passes out through the manholes. In the course of one night the entire air in the storage cellar is in this way changed many times, thus thoroughly cooling the cellar before morning.

A root or vegetable storage cellar of concrete is built to stay. Like a concrete silo a concrete storage cellar of proper size should almost pay for itself in a year. This is more than likely to be true when times are as at present, since marketing of crops can be controlled in strict accordance with supply and demand and the most favorable conditions, and waste by rot entirely prevented if crops are stored carefully and when in proper condition.

Planning the Farmhouse

Today the building of a farmhouse is not as simple a problem as it was once when it was made of logs and contained but two or three rooms. The farmhouse now must have nearly all of the conveniences that the modern city home has. In fact we farmers must get away from the idea that our houses must be workshops and figure that we need a home the same as the city man has, and a separate workshop.

There are many conveniences that a modern farmhouse should contain. There should be a large roomy basement with a furnace, a medium-sized kitchen, a large dining room, a large, comfortable living room with an open fireplace, and several large bed rooms, the number of bed rooms should be fixed according to the number of people in the family, providing at least one more than is ordinarily needed.

A few of the conveniences that a farmhouse should contain that are not so essential are as follows: An office at the front, a clothes and wash room at the back of the house with a door opening into the dining room in order that the farm hands may wash and enter the dining room without going through the kitchen; a bath room if running water can be obtained, and if not a sanitary privy in connection with the back of the house or the wood shed so that little children and old people will not have to go out in the severe winter weather to tend to a call of nature. The old-fashioned 2 x 4 privy set out in the back yard has been the cause of a great deal of sickness because of people dreading to venture out in stormy and cold weather and neglecting the calls of nature.

A closed stairway can be arranged to open off the dining room, while an open staircase is not objectionable in the living proom provided a back stairway is made so that the farm hands will not have to go through the living room to get upstairs. An emergency bed room down stairs is often very desirable. Any person who has cared for sick people and run up and down stairs to wait on them can readily appreciate the value of this room. The basement should have an entrance from the kitchen, but it is just as important to have an outside entrance so that the potatoes and fruit can be carried in and out without entering the kitchen.

The arrangement of the rooms in the house is a problem on which one can afford to spend much study. The kitchen should be so located as to be convenient to the dining room and other rooms of the house in order that the housewife can do her work with as little walking as possible. She may easily be forced to walk many miles in a year in a poorly arranged house that it would not be necessary for her to walk in a well arranged house. The kitchen should not be in sight from the dining room or living room. If the living room and the dining room can be so located as to allow for a large door between them, the arrangement will be appreciated when entertaining company.

In summing up the points I have mentioned we see that the farmhouse should be provided with up-to-date, convenient equipment and arrangement of rooms. The farmhouse should not be devoted to the industries of the farm. If other buildings are provided for the farm industries the farmhouse is made a home, and that will go a long way toward solving the problem of keeping the farm hands on the farm, as it is the desire for city conveniences that makes them leave.—P. C. JAMIESON.



MONTGOMERY COUNTY BOYS JUDGING HOLSTEINS ON T. W. EWING FARM

COMMUNITY BREEDING

Great Possibilities in Live Stock Improvement Through Neighborhood Cooperation

THE possibilities in live stock improvement from community cooperation in breeding have been abundantly demonstrated in various parts of the country. We have been impressed over and over again with the value of such community work. The establishment of community breeding centers where all farmers or breeders confine themselves to one breed of beef or dairy cattle and to one breed of horses or other classes of live stock has many advantages over the usual haphazard method of live stock improvement. With the probability that in the future this country will be called upon to restock European breeding herds, the improvement of our own stock becomes more important than ever before. We have been much interested in reading of a community project worked out and put into operation in North Dakota. The results of this effort toward cattle improvement were given by Prof. J. H. Shepperd of the North Dakota Experiment Station at the annual meeting of the Improved Live Stock Association of that state.



A HOLSTEIN RING, TOPEKA FREE FAIR

This community improvement project of which Professor Shepperd told in his address started in the New Salem community in 1909 and by 1910 was well under way. It was a dairy cattle proposition, the breed selected being Holstein. The members of the association all agreed to breed only this kind of dairy cattle. A co-operative enterprise was entered into by the New Salem association, the U. S. Department of Agriculture, and the state experiment station. Representatives from each organization constituted a committee which passed on the sires selected and adjusted all matters of transfer, including the price paid by different members of the association when breeding sires were exchanged. The work of the whole circuit was supervised by a superintendent in the pay of the experiment station and the Federal Government. This man made such tests as were necessary and made himself generally useful by suggesting improvements in methods of feeding and caring for the cattle.

The plan has given the very best of results in actual practice, and Professor Shepperd gave some interesting figures which show the extent of the improvements made in the herds during the time the project has been under way. He called attention to the fact that the Holstein-Friesian A. R. O. requirements are 250.8 pounds of butterfat in one year from a two-year-old cow and one-tenth of a pound for each additional day over two years until the cow is five years of age. At this age and over the cow is required to produce 360 pounds of butterfat in a year. He said: "I have classified the cows of this circuit on the basis of their performance records and have divided them into four classes. In the first class are those which have exceeded the standard requirements. In the second class are those which have come within forty pounds of the standard; in the third class those which have come within one hundred pounds of the standard, and in the fourth class the cows one hundred pounds or more below the requirements." In working out the percentages it was found that in 1914, 26.3 per cent of the cows were in the first class, and in 1915, 40 per cent. For the same years 37 per cent of the cows were in the second class the first year and 26.7 the second year. In the third class 26.2 per cent of the cows were found in 1914, and 33.3 per cent in 1915. In the fourth class there were 10.5 per cent of the cows in 1914 and none in 1915. "I do not flatter myself," said Professor Shepperd. "that improvement in breeding is responsible for all the increased production shown. Silos have been built and silage added to their rations. Grimm alfalfa has been grown, and the circuit cows are getting the hay. Their barns have been improved, and circuit men are feeding more grain. All of these items have had an influence, but I am certain that the subtle thread of heredity has been in part responsible. I am proud of the fact that the two bulls which were sorted out and retained until five and thirteen years old, respectively, should have their three-eighths blood relative and half-sister earn world's championship records.

"The table shows the record of the only herd of the thirteen that I have the 1916 records summed up for. It is the herd which I think has made the best showing during the past year; that is the reason it was summed up first.

No. of Cows.	Year.	Butter-fat.	Cost of feed.	Net profit.
17	1910	131.90	$27.25	$16.90
12	1911	140.70	24.66	13.20
17	1912	189.50	26.52	35.45
16	1913	211.40	38.99	33.09
10	1914	282.44	33.71	50.98
13	1915	291.80	37.09	54.50
14	1916	427.60	57.30	90.21

"It will be noted that this herd started in with about state average performance record in 1910, 131.9 pounds of butterfat, and in 1916 made a herd average of 427.6 pounds of butterfat. The poorest calendar year individual record in this herd for 1916 was 329.8 pounds of butterfat, and the highest 524.8 pounds. The figures quoted are for his entire pure-bred herd of fourteen cows. The circuit as a whole is showing good yields of butterfat progress.

"The circuit was instituted primarily so that large numbers could be secured as a basis for breeding study. In addition, a study of plans and results from co-operation is a feature.

"Any student of breed history will have been impressed with the fact that almost every prominent breed of live stock has sprung from a district of the country where a single breed and type is kept by all citizen farmers. In England and Scotland, where most of them have arisen, a given breed was usually kept exclusively in a county or shire, and you find the fact mirrored in the very names carried by the breeds: Ayrshire, Berkshire, Yorkshire, Hampshire and Shropshire are examples. It is recorded that the father of live stock breeding, Robert Bakewell, hired out his sires, requiring for their hire the choice of their get from the herd upon which they were used.

"Territorial proximity of stock of similar breeding allows the genius for that work to see and sort over large numbers of stock, bringing together the like and fit from among their number. On this general historical basis of fact, the New Salem circuit was founded, with the hope of producing Great Plains bred dairy cattle of a superior performance capacity.

"A breeding problem requires time as well as numbers to give positive and permanent results, and while the New Salem project shows marked progress and clear feasibility for the plan, much of what should accrue to it must come in the future. A measure has been established, the lowest class in performance eliminated, and the highest markedly increased. An individual herd has been raised from state average to 427.6 pounds of butterfat per year, while the number of advanced registrations has been greatly increased. The circuit now furnishes approximately 300 head of pure-bred animals to work with, and is on such a basis that all desirable animals for the work of the circuit can be retained. I feel that the preliminary work is accomplished, and that the circuit will be able to secure results much more rapidly in the future."

This is but an illustration of what might be accomplished in many a community in Kansas. Already beginnings have been made in the starting of several cow testing associations. The dairy department of the Kansas Experiment Station is tireless in its efforts to co-operate with dairymen of the state. The members of this department have already accomplished a great deal in the way of aiding in improvement of the dairy cattle of Kansas. The same is true of the dairymen of the extension division.

Marketing Stock Raised

The whole proposition of live stock farming centers around marketing the stock after it is raised. This broad statement was made by ex-Governor W. R. Stubbs, president of the Kansas Cattlemen's Association, at the cattlemen's meeting held at the Kansas Agricultural College in June. In his talk to the cattlemen Mr. Stubbs said that it was no trouble to raise beef and pork, but the biggest question in the live stock business was to find a permanent market at a fair price. Prices to the consumer are too high; there are millions of people who cannot afford to eat meat now.

"We may get good prices for our stuff this fall because of the war," said Mr. Stubbs, "but during the last few years cattle have frequently been sold at a loss of several dollars a head. The man who produces live stock and the farmer who raises a lot of other food products does not get much over half of what the consumer pays for them. Producers will have to get together and there cannot be an effective organization without the expenditure of some time and money. I think it would be a good plan to have an organization of live-stock interests charging five cents a head on cattle and two and a half cents on hogs and sheep in order to obtain sufficient financial aid to do effective work in the interests of the live-stock producer.

"Cattlemen will come to a place before long where they will feed calves from the time they leave their mothers and ship them out when they are five or six months old. When cattle are marketed at this early age, it will take a lot more of them to produce the beef needed. I believe, however, that it is on this basis that the cattleman has more daylight ahead of him than in any other direction."

In the course of his talk ex-Governor Stubbs presented the thought that stockmen ought to get better acquainted. If a man loses money he ought to tell his brother stockmen about it and tell why. If he makes money, tell how he did it. The suggestion was made that stockmen ought to have a newspaper that would carry every month or every week the experiences of a large number of those interested in live-stock production. It is not, however, so much a matter of more newspapers as it is a matter of the stockman offering his experiences freely to the public. There are plenty of papers that would gladly give publicity to such experiences.



PLACING CLASS OF HEREFORDS, TOPEKA FREE FAIR

Danger from Grade Bull

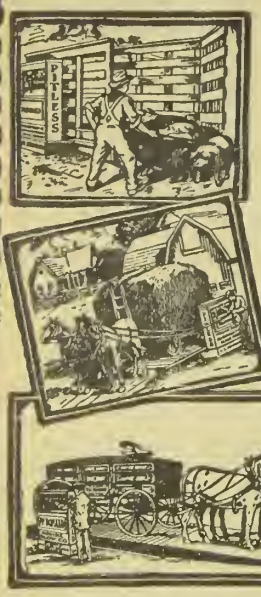
We wish every grade bull in Kansas could be replaced by a pure-bred of good breeding. We are frequently asked why a grade bull from a good cow should not be used. A writer signing himself "Herdsman" writes on this question in Farm and Dairy. He says:

"At the National Dairy Show at Chicago a few years ago I saw exhibited the grade Guernsey cow, 'Jerry,' bred in Wisconsin. Her record was 15,744 pounds of milk and 729.89 pounds of butterfat; over 900 pounds of butter as our Holstein friends figure it. Thousands of pure-bred cows with pedigrees as long as a city sidewalk have no such records as this to their credit. In fact, there are few pure-bred cows of the Guernsey breed that have done better. As an individual, too, 'Jerry' was a wonderful cow—dairy temperament, wonderful capacity and beautiful to look at. And many who looked at her would have jumped at the chance to have gotten one of her bull calves had they then been in the land of the living.

"'Jerry' inherited her wonderful performing powers from her ancestors. Her blood was from two sources; one fountain was a long line of pure-bred sires of the richest breeding; the other source was a common scrub or native cow back in the early days of Wisconsin breeding, and back of that scrub was a long line of scrubs; just as long a line of scrubs as there were aristocrats in the family of 'Jerry's' sire. In 'Jerry's' veins flowed these two lines of breeding. In her progeny either line might come to the front. Here would be the danger of using a grade bull even from so good a cow as 'Jerry.' In a good strain of pure-bred cattle there is no scrub blood to assert itself. Hence the greater prepotency of the pure-bred sire. And viewing the question in the larger light, I never saw a good herd of grade dairy cows that had been developed by the use of grade bulls. Did you?"

A surtax on idle land is proposed by a recent resolution introduced in Congress by Senator Kenyon of Iowa, which calls for an investigation by the Federal Tariff Commission, in order to determine the constitutionality of such a tax with the purpose of amending our constitution in this respect if necessary.

The Scales With A 10 Year Guarantee



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We wonder if Dairy Club members know that serious epidemics of typhoid are sometimes traced to a single farm where the people have not been careful to destroy all disease germs. When typhoid fever occurs on a dairy farm it is of the greatest importance that every precaution possible be taken to prevent the germs getting into the milk. Sometimes through carelessness the water supply becomes infected and through washing of milk utensils the germs get into the milk. Nearly all disease germs increase very rapidly in milk, so when milk becomes infected it becomes a serious danger to those who use it. Club members have learned that thorough scalding with boiling water kills germs of all kinds, whether they be the ones that simply cause milk to sour or germs that cause serious diseases. Milk is a human food and if we always have that in mind we will be sure to do everything we can to keep it perfectly safe for such use.

Kansas Farmer Dairy Club

Importance of Clean Milk

BABIES and invalids are much more apt to suffer from the use of impure milk than grown-up people in perfect health. Boys and girls of the Dairy Club, living as you do on farms, cannot fully realize what it means to the babies of a great city to have milk that is safe. Hundreds of them die every year because it is impossible to get good milk for them. We speak of this because we have just learned how Mahala Smith, of Leavenworth County, has done her "bit" in furnishing at least one baby with perfectly safe milk.

Through no fault of her own, Mahala could not send a sample of her milk to Manhattan to be scored in the market milk contest held during Farm and Home Week in February. As the quality of the product counts for twenty points in the year's work, it was necessary to find some way of learning how carefully she was handling her product so as to know how many points to give her. We learned that milk from her cow had been fed to a two-months-old baby whose mother was taken down with typhoid fever. We wrote to this lady, who is now fully recovered, and asked her about it. She writes us that she was in the hospital five weeks and of course baby had to be fed on cow's milk. Mahala's cow, Beauty, supplied the milk for this baby and Mahala was so careful to keep all kinds of germs out of the milk as she handled it that baby grew and thrived. When its mother came from the hospital, she, too, was put on a diet of milk from the same source. Typhoid fever patients are nearly always given a milk diet while they are recovering and it is very important that the milk be perfectly clean and safe. The baby is now getting milk from Mahala's new cow. Its mother says Mahala certainly knows how to take care of milk so it will be safe for even little babies and people getting over typhoid fever.



PAUL STUDDARD AND HIS CALF

We thought this evidence of the proper care of the product meant as much as a score of eighty points in the milk contest, and have given Mahala the full twenty points on quality of her product. We hope to have a picture of the baby to show in the near future.

Another story of methods of keeping milk clean and safe as practiced by a club member might be interesting to all the boys and girls reading this page. Elise Regier, of Whitewater, could not send a sample of milk to Manhattan to be scored in the milk contest, and in order to find out how many points to give her for quality of product, we asked P. C. McGilliard, the cow tester for the cow testing association to which Elise's father belongs, to write and tell us how she cared for her milk. He says: "On the Regier farm milk is produced under very sanitary conditions. The barn is kept as clean as spade and broom can keep it. The cows' udders and flanks are wiped with a damp cloth before milking and the milking is done in partly covered pails. The milk is strained through a double strainer and separated immediately after milking. The whole farm shows a degree of cleanliness which is found on very few dairy farms. Miss Regier does most of the work with their herd, and I can recommend her very highly as a manager of dairy cattle."

Do you not think milk cared for in this way ought to score eighty points? We do, and have given Elise the full twenty points on quality of product. We really feel proud of the record made by all on this point of quality.

Now, boys, these two stories are about what girls have done. Let us not have it appear that the girls are any cleaner or neater in the dairy work than the boys. Cannot some of you write and tell us all about how you keep the barn clean where you milk your cow and how you keep your milk and cream free from injurious germs of all kinds? We would like to print some stories of this kind, because a lot of people who produce milk and cream do not realize how important it is to protect the product from dirt of all kinds. The cow tester we quoted above visits a great many dairy farms, and we must infer from what he says that on a good many of them the dairy work is not conducted in a thoroughly clean and sanitary manner.

Do not get the idea that modern dairy barns and all sorts of expensive equipment are the important things in producing clean milk. All these things help, but it is "the man behind the gun" that counts most. Some of the poorest of results in producing milk and cream of good quality come from the most expensively equipped dairy farms because the men doing the work do not have the natural instincts of cleanliness. If you want to be clean, you will not let a lack of equipment make you filthy in your work of handling dairy cows and their milk. It may be a little more work where you do not have all of the best of equipment to work with, but do not forget that you yourself are the most important factor after all.

Member Loses Cow

One of our new club members has suffered a serious loss. Emma Mae Lenhert, of Hope, writes us that her cow died last week as a result of what the veterinarian said was acute indigestion. She is almost broken-hearted over her loss, and we are sure the Dairy Club members will sympathize with her. None of you so far have suffered such a serious loss. Perhaps some of you will want to write a few lines of encouragement to Emma. She had her cow insured for a hundred dollars, although of course she cost more than that.

We are advising Emma to try to get another cow as soon as possible and go on with the club work. We know that a good cow will pay for herself and we hope that this setback will not prevent Emma from starting in a second time to pay for a cow. Life is full of disappointments, and the way in which we meet and overcome them is a test of our strength of character.

What do the rest of you think Emma should do? If you have any suggestion or words of comfort, write to her, addressing her at Hope, Kansas, R. F. D. No. 2.

Ernest Wendel's father writes that Ernest has sufficiently recovered from typhoid fever to come home from the hospital. It takes quite a time to get back to usual strength after having typhoid. We hope that Ernest's recovery will be rapid and that he will soon be able to write the story of his year's work in the Dairy Club. Ernest's father bought two of the 101 head of good dairy cows brought into the county by Mr. Wulfekuhler of the Wulfekuhler State Bank and distributed at the farm bureau picnic. We wonder if as close records will be kept on these two cows as on the one Ernest milked and fed in his year's work with the Dairy Club.

Cow Freshens Late

According to the rules of the second year's club, all records must begin on or before October 1. Benjamin E. Zoll, Leavenworth, writes us that he finds his cow is not due to freshen until about the middle of October and wants to know whether he can enter the contest with a cow freshening so late.

We will have to abide by the rule and begin all records October 1, so that members having cows that do not freshen until later will have to begin to keep feed records on that date. They will of course begin their milk records as soon as the cows freshen, and their record year will close with the last milking of September 30, 1918.



Resolutions For Dairymen

IN THE form of a proclamation, the American Jersey Cattle Club has published a leaflet in which it is pointed out that we have come to a crisis in the history of our country where it devolves upon every loyal citizen to do his part for his country as his circumstances and opportunities allow. One great need of the future is the conservation of human industry and the maintenance of human effort by an adequate food supply. It is stated that, while many foods are valuable and all are desirable, there is one indispensable food, and that is the product of the dairy cow. In view of the fact that many dairy cattle have been sent to the butcher on account of the high price offered for beef on the one hand and the high prices of feed and labor on the other hand, the American Jersey Cattle Club calls upon its members and upon all Jersey owners and breeders to take to heart and put into practice forthwith the following resolutions:

1. I will not kill, nor permit to be killed, a productive Jersey cow, nor any of her promising female offspring, because the Jersey is the greatest natural food-making machine, one such cow being capable of producing one of the most necessary elements in human food—fat—equivalent to that obtained from seventeen slaughtered steers.

2. I shall bring my heifers to maturity, not only because this is now a patriotic duty, but because a good Jersey cow has the earning capacity of one thousand dollars securely invested at 5 per cent; and surely it is folly to sell for $125 or less a machine which equals the earning capacity of one thousand dollars.

3. I will not keep or use a poor bull in my herd. My resolve is to breed up, not down, to the end that each generation of my herd shall be an improvement on the preceding one, because my country needs better stock, as well as better and more bountiful production.

4. I will intelligently study feeding, so that the production of my herd may be equal to its capacity. I owe it to my cows, to myself, and to my country to give time and thought to the important subject of profitable and economic feeding; and it is my duty to set an example in intelligent feeding, so that my neighbors may go and do likewise.

5. I will use every endeavor to prevent the waste of skim-milk, as it constitutes a fine food for human beings.

6. I shall plan intelligently to grow my cattle feed on my own farm as far as possible, and thereby lower the cost of production to my customers and increase my own profits at the same time. As in all other lines of work, the nation has the right to demand efficiency and low production cost on my part.

7. I will do all in my power to maintain the fertility of the soil in my care, realizing that I simply hold my lands in trust for coming generations. The welfare of my country in the future depends upon the conservation of the fertility of the soil, and I resolve that I will do my part along this line, so that I will be enabled to give a good account of my stewardship, and hand on to my successors lands better and not worse from my having lived upon them.

These resolutions are equally applicable to those handling any kind of dairy cattle. The dairyman who will follow closely the principles laid down in these brief statements is sure to make progress in his business of milking cows at a profit.

Feeding Grain to Cow

Floyd Gerardy, Americus, Kansas, writes as follows:

"The cow which I purchased a little over two months ago will freshen in about a month or six weeks. She is on good prairie pasture. It is nice and tender since the rains we have had during the last three weeks. She was two years old last spring and has never been milked before. Would you think it advisable to feed her any grain? If so, what kind and how much should be fed each day?"

Now that the pasture is so good, this young cow ought to do well and be in fine condition when she freshens. Of course if she is rather thin in flesh, it might pay to give her some grain even though the pasture is good. We do not lose the grain fed to good milk cows while they are dry. A really good milk cow has the capacity of using the fat of her own body in making milk. It is nearly always a good plan to have such cows in rather fleshy condition when they freshen. They will give more milk than cows that are so poorly fed during the dry period that they are scrawny and thin when they freshen.

If this cow is so thin as to really need some grain, the kind to feed would be a mixture containing considerable protein. Bran and oil meal mixed in the proportion of two or three times as much bran as oil meal would be good. A good standard mixture is four parts of corn chop, two of bran, and one of oil meal or cottonseed meal, all by weight. This is a good grain mixture to feed a cow when she is giving milk. Since grain is so expensive it is probably not advisable to feed very much to a young cow on pasture unless she is very thin and does not seem to be gaining as she should. We would suggest two or three pounds daily as about the limit.

Winter Dairying

On too many of the farms in Kansas where cows are milked, the cows will be going dry in the next few weeks. The old range habit of having calves come in the spring is hard to overcome. Of course the cows give a heavy flow of milk on the luscious spring and early summer pasture and at small feed cost, but it is the busiest time of the year and this period of abundant pasture does not last long. Later in the summer the pastures are certain to dry up and along in the fall when there is time to milk the cows and care for them, they dry up. They have been milked through a comparatively short period when dairy products bring the lowest price of the year and when farm labor is rushed with field work. Through the winter season the feed is simply maintaining a non-producing herd.

The real dairyman who studies the business finds that fall and winter is the time of the year in which there is the greatest profit in milking cows, therefore he plans to have his cows freshen in the fall. He knows that during this season of the year butterfat commands the best price and he also has time to look after the cows and attend to feeding the calves properly. It is also a fact that the cow freshening in the fall and given reasonable care will produce more milk on the average than the cow that freshens in the spring. Under the stimulus of recent calving a good dairy cow will start in and milk during the fall and winter to her fullest capacity, even drawing on her own body if feed is not supplied in abundance. If she is given liberal rations through the winter season and provided with suitable shelter, she will give a good flow of milk all winter, and when the grass comes her milk production is given another stimulus and she will be good for a heavy flow through the flush pasture season. Cows handled in this way are ready to go dry the same time the pastures go dry. Their resting period comes at a time when conditions are most unfavorable for milk production. The dairyman who will make provisions for suitable feed and proper shelter during the winter will find winter dairying means better prices for his products, a larger total production for the year, and a much more even distribution for the labor of the farm, since the heaviest of the dairy work comes at a time when there is no field work and during the season of heavy field work there is the minimum amount of dairy work to perform.

Official Tests of Cows

Early fall is the best time to start cows on official tests. The Nebraska Experiment Station has found that cows will give ten per cent more milk each year when they freshen in the fall than when they freshen in the spring. This is because cows are not bothered by heat and flies at the time they are suffering the hardest strain.

Furthermore, at the end of about seven months, when production usually falls, the milk flow is bolstered up by green grass in the spring. Information regarding official testing may be obtained upon application to the dairy department of our agricultural college at Manhattan.

"Canned green corn," or silage, substituted for grain in the diet of the dairy cow, will keep milk production up to its present level and at the same time save large quantities of cereals for human food. Silage supplies succulent feed for the cow, just as canned fruits and vegetables supply the succulence necessary for the human. Siloing is a good way of preserving a mature crop or of saving a crop that for any reason must be harvested before maturity. About 40 per cent of the total food material in the corn plant is found in the stalks and leaves. Thus, a farmer who harvests only the ears loses nearly half the crop, but the farmer who uses a silo loses but little. When there are no ears, not infrequently the whole crop is lost.

Hominy feed or meal is a by-product from the manufacture of hominy grits for human consumption. It is a good feed for hogs and can be substituted for corn even when one and one-seventh the price of corn per pound.

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A Sermon Picture

A SHORT time before the above picture was taken, there was a $5,500 barn between the two silos. It burned down. The silos were unharmed. Ask E. H. Salisbury, Kirksville, Mo., who has since erected a new barn, what he thinks of the silos.

Consider the Silo

With forty per cent of the food value of corn in the stalks and leaves, silos are an economic necessity on the modern farm. Any agricultural leader, farm expert or banker can give a hundred reasons for silos. In these times of conservation and efficient food utilization—when grain prices are sky high, the silo is a money-maker from the start.

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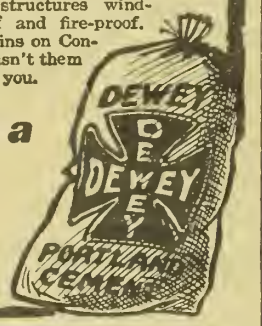

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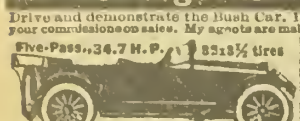

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Free Catalog in colors explains how you can save money on Farm Truck or Road Wagons, also steel or wood wheels to fit any running gear. Send for it today.



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What is Silage Crop Worth?

A MAN who will not have enough of a crop on his own farm to fill his silos asks what he can afford to pay for a silage crop two miles away, this consisting of corn which may not yield more than two or three tons of silage to the acre.

We do not believe that as a general proposition it will pay to haul silage two miles. Silage is heavy material, and with labor as high as it is now the cost of hauling it this distance will add quite materially to the cost of the crop in the silo. Of course the need which exists for rough feed must be taken into consideration. If this seems the only means of securing enough feed so that valuable stock can be carried through the winter, it might pay to put this amount of labor into such a crop. Of course the price asked for the crop in the field is another important consideration.

The buying of silage crops in the field raises frequent questions as to the price that should be paid. Frequently men who have raised a crop to the silage point do not know what they should charge, and the man wishing to buy is uncertain as to what he can afford to pay. We were recently told of a man in Harvey County who asked a neighbor $30 an acre for a crop of corn which was so poor that probably no ears would mature, and it probably would not make more than two or three tons to the acre. The neighbor did not buy this crop, but bought another field at $5 an acre, which probably is a low price, considering the scarcity of rough feed.

When a field of corn will mature some grain, an estimate of the probable yield can be made by snapping the ears from a measured portion of several rows. The value of the corn is a known factor, and it becomes a matter of getting at the cost in the field of a given amount of corn and fixing the value of the fodder which accompanies it. The man who is in a position to sell a crop in this way cannot place a very high value on the fodder because the market for such feed is rather limited except as it can be marketed through good live stock. If he does not have the live stock himself, this part of the crop is worth nothing to him unless some neighbor having stock needs more rough feed than he has grown on his own farm.

In getting at the actual value of silage, a comparison of the total nutrients it contains with the nutrients of hay will help in giving it a cash value. Three tons of good silage contains in total digestible nutrients about as much as a ton of hay. Of course alfalfa or other legume hay contains relatively more protein than silage, and protein has a higher market value than the carbohydrates. Hay usually has a fairly definite market value. When hay is worth $18 to $20 a ton, good silage in the silo ready to feed should be worth $6 or $7 a ton.

Getting a silage crop into the silo is a part of its cost that must always be considered. The cost of filling with good machinery and proper organization should not exceed 75 cents a ton. It will usually range from 50 cents to a dollar a ton. It costs more to harvest a poor crop than a good one, because so much more ground must be covered to get enough to fill the silo.

Wheat Price Statement

Immediately following the report of the wheat price-fixing committee, President Wilson issued the following statement:

"Section 11 of the Food Act provides, among other things, for the purchase and sale of wheat and flour by the Government, and appropriates money for the purpose. The purchase of wheat and flour for our allies, and to a considerable degree for neutral countries also, has been placed under the control of the Food Administration. I have appointed a committee to determine a fair price to be paid in Government purchases. The price now recommended by that committee—$2.20 per bushel at Chicago for the basic grade—will be rigidly adhered to by the Food Administration.

"It is the hope and expectation of the Food Administration, and my own also, that this step will at once stabilize and keep within moderate bounds the price of wheat for all transactions throughout the present crop year, and in consequence the prices of flour and bread also. The Food Act has given large powers for the control of storage and exchange operations, and these powers will be fully exercised. An inevitable consequence will be that financial dealings can not follow their usual course. Whatever the advantages and disadvantages of the ordinary machinery of trade, it can not function well under such disturbed and abnormal conditions as now exist. In its place the Food Administration now fixes for its purchase a fair price, as recommended by a committee representative of all interests and all sections, and believes that thereby it will eliminate speculation, make possible the conduct of every operation in the full light of day, maintain the publicly stated price for all, and, through economies made possible by stabilization and control, better the position of consumers also.

"Mr. Hoover, at his express wish, has taken no part in the deliberations of the committee on whose recommendation I determine the Government's fair price, nor has he in any way intimated an opinion regarding that price."

Buying Seed Co-operatively

The present emergency is teaching some valuable lessons in co-operation. Methods adopted under the stress of present conditions can be followed with profit at all times.

As a result of seed wheat shortage in Washington County, the county farm bureau and the farmers' union are co-operating with the county council of defense in an effort to supply the farmers of the county with seed. Through these agencies the entire county was completely organized with four men in each township acting as a committee on information as to the seed wheat situation. This committee is responsible for locating the seed wheat and seed rye and also for listing those farmers who are in need of seed of either grain.

Through the canvass made 7,900 bush-

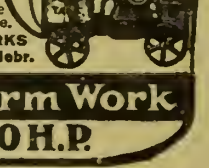
THE point has been reached where war is waged by whole nations. Every man, woman, and child is involved and nearly every adult and most boys and girls can be efficient factors. We are in this war for the purpose of defending our rights, of making sure that, as a nation, we shall be able to live the sort of life and to have the sort of institutions we desire, of making democracy persist in the world, and of safeguarding the world against the recurrence of such a war as this. To accomplish this the nation must aim at the perfection of organization, and therefore each individual must recognize the necessity of making sacrifices for the common good and more than ever of working under limitations—of doing team work. Our people have a genius for organization, and they will not fail in the task they have assumed. Our farmers, on whom a great responsibility rests, are the most efficient farmers in the world when they do their best. They will not be found wanting in this crisis.—D. F. HOUSTON, Secretary of Agriculture

Light Weight Cushman Engines

Built light, built *right*—for farmers who want an engine to do **many jobs in many places**, instead of one job in one place. Easy to move around. Very steady and quiet—no jumping, no loud or violent explosions, but smooth running. **Throttle Governed.** Schebler Carburetor. Friction clutch pulley. Runs at any speed.

4 H. P. Weighs Only 190 lbs.

Mounted on light truck, it may be pulled around by hand. Besides doing all regular farm work, it is original and successful **engine for Binder. 8 H. P. only 320 lbs.** May be mounted on hay baler. **Not cheap** but cheap in the long run. Engine Book free.



CUSHMAN MOTOR WORKS
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For All Farm Work 4 to 20 H.P.

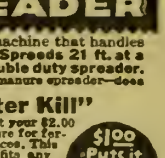
SIMPLEX "2 in 1" Double Duty—STRAW and Manure SPREADER

Wonderful invention! Only machine that handles manure and straw perfectly. Spreads 21 ft. at a time! 20 acres a day!!! It's a double duty spreader. Costs only half what you pay for a manure spreader—does three times the work—with ease!

Prevent "Winter Kill"

Spread a mulch of straw. Protect your $2.00 wheat seed! Spread straw and manure for fertilizer. Insure big crops at high prices. This amazing "double duty" spreader fits any wagon! Easily attached. Has double drive! Lasts a lifetime! Send a postal today. Find out about my 90 day Free Trial—my "One Dollar Installing terms"—my amazing long time credit—my low price. Write today.

$100 Puts it on Your Farm



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Simplex Spreader Mfg. Co.
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2, 3, 4, 6, 8, 12, 16 and 22 H-P.—Direct from the Largest Exclusive Engine Factory in the world, selling by mail. Nothing but engines. Quick Service—Big Saving—90 Day Trial, 5-Year Guarantee. Fuel cost one-half less using kerosene. Write for new book (copyrighted) "How To Judge Engines", printed in colors and fully illustrated, showing how I can save you $15 to $200—sell you on practically your own terms—Cash, Payments or No Money Down.—Ed. H. Witte.

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Only $2 Down One Year to Pay!

$29 Buys the New Butterfly Jr. No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 95 quarts per hour. Made also in five larger sizes up to No. 8 shown here.



30 Days' Free Trial Earns its own cost and more by what it saves in cream. Postal brings Free catalog, folder and "direct-from-factory" offer. Buy from the manufacturer and save money.

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GREEN CORN CUTTER

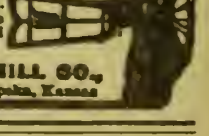


Cuts and gathers corn, cane, kafir corn or anything planted in rows. Runs easy. Long lasting. Thousands in use. Fully protected by patents. Send for free circulars. Price $12.00 f. o. b. Topeka.

J. A. COLE, Mfr., TOPEKA, KANSAS

$16.50 Dread Feed Grinder. | $21.00 Galvanized Steel Wind Mill.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.



CURRIE WIND MILL CO.
410 E. Seventh St., Topeka, Kansas

"If there were silos enough to hold all the fodder in this county we could winter twice as many cattle as there are in the county," is the statement made by Neil Rucker, emergency demonstration agent of Hodgeman County. This county's 1916 silo census showed only twenty-seven of these efficient feed savers, but many more have been built this summer. Many farmers realize that the silo represents the difference between a well stocked farm and one dependent upon cash grain crops.

The grain sorghums, kafir, milo, and feterita, may be substituted for corn when slightly lower in price per pound. They should be ground and fed as meal.

cls of wheat and 2,900 bushels of rye suitable to be used for seed, were located in the county, and this information was sent to 750 inquiring farmers. R. W. Schafer, county agricultural agent, has acted as middleman for the farmers in the seed transactions. In addition to the seed found in the county, five cars of wheat have been ordered from outside the county and this will be financed by the farmers' union and will be handled at cost. This outside wheat will be inspected before being purchased, by the farmers' union manager, the county agricultural agent, and one or two farmers.

Seed wheat has been bought by the bankers and business men of several of the towns in Cloud County and sold to the farmers at actual cost. The county agricultural agent acted as the middleman in this county also in the transactions between the bankers and business men and the farmers. It is expected that five additional carloads of seed wheat will be needed for Cloud County.

Protecting Alfalfa Hay

Alfalfa growers in Central Kansas are using cheap hay sheds to shelter their rough feed. J. E. Payne, of Oklahoma, tells of seeing sheds of this kind on a recent visit he made to Wabaunsee County.

A type quite generally used in this section consists of a roof of corrugated iron, which rests on the ground when the hay shed is empty. A post set firmly in the ground at each corner of the roof holds the roof in place. The roof can be raised to any height necessary to protect the hay which is stored in the shed.

When filling the shed, the roof is raised above where the top of the stack is to be, and when the hay is in, the roof is lowered to rest on it.

Some farmers are using iron roofing as covers for stacks. The sheets are fastened together so as to make roofs for the stacks and are weighted down to keep them from blowing off.

With the scarcity and high price of feed it is good business policy to plan to protect what has been grown.

Treat Seed for Smut

It has been estimated that the average annual loss over the whole country due to the smuts of wheat and rye amounts approximately to 27,500,000 bushels. This is equal to about 3½ per cent of the entire yearly wheat crop and is regarded as a conservative estimate, since only smutted heads actually lost are considered. The increased number of heads which healthy plants would have thrown out were not taken into account. The loss to the billion-bushel wheat crop we hope to see harvested next year would, at 3½ per cent, amount to 35,000,000 bushels. With wheat selling at $2 a bushel this would amount to an exceedingly high tax on the farmers of the country.

Treatment of wheat against stinking smut is fairly easy, not expensive, and fully 95 per cent effective. The efficiency of the treatment is, in fact, practically 100 per cent in most of the wheat-growing regions. Seed treatment costs not to exceed five cents an acre for materials and labor. To this cost, however, must be added the cost of grain, the germinating power of which may be destroyed by the treatment. This amounts at the most to 20 per cent. In every case the value of the wheat saved by treatment would amount to several times the cost of treatment.

Statistics show that the average annual loss of rye from smut is about 1 per cent—considerably less than the loss of wheat. It is well worth while, however, to treat rye seed also.

Several methods of treating seed for the destruction of smut spores are in use, but the best, it is believed, is the formaldehyde treatment. The grain should first be cleaned thoroughly with a fanning mill so that smut balls, shriveled grain, chaff, etc., will be removed. After the grain is clean it may be spread on a floor or a tarpaulin in a layer or pile several inches thick and sprinkled with a solution of formaldehyde made by mixing one pound of commercial formaldehyde with forty-five gallons of water. An ordinary sprinkling can or a spraying machine is used and the grain is shoveled over and over until every kernel is wet. The grain is then placed in a pile and covered with sacks, blankets, or a tarpaulin for two hours or over night. It is then dried sufficiently to be run through the drill, after which it may be sown. If the grain is not passed through a fanning mill it should be placed in a vat or tank of the formaldehyde solution instead of being sprinkled. The smut balls will rise to the surface and may be skimmed off.

If the grain is not to be planted immediately, it must be dried sufficiently to prevent spoiling when placed in bins. If planted while damp and swollen, more grain by measure must be used to allow for the expansion.

Silos in Hodgeman

Many silos will be built in Hodgeman County this year, is the report received from Neil Rucker, emergency demonstration agent for that county. He states that since the rains came a local contractor of cement silos has received all the orders that he can take care of this fall.

Mr. Rucker took four Hodgeman County stockmen to the Ness City meeting of the silo truck special which is being run co-operatively by the Kansas Agricultural College and the Hays Experiment Station, and one of these men started a pit silo the following morning. The feed situation in this county has been changed materially and sufficient roughage for local needs will be produced in many localities.

Rate of Seeding Wheat

Much hard wheat will be sown this year on account of the premium offered by the millers. This recalls a dispute which once occurred concerning the rate of seeding wheat.

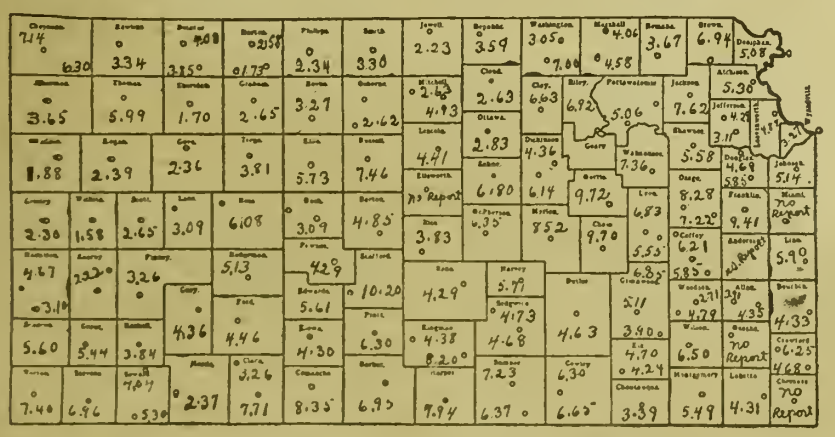
Two men were asked about the rate of seeding wheat. One advised seeding forty-five pounds and the other advised seventy-five pounds per acre. When they got together they found that the one who advised sowing forty-five pounds per acre was thinking of hard wheat while the other was thinking of large-grained soft wheat. Upon counting grains, they found that forty-five pounds of hard wheat per acre would put more grains per foot of row than seventy-five pounds of the soft wheat.

Is this worth considering when we seed our wheat land?—J. E. Payne, Oklahoma.

Held as it is in the center of a great live stock breeding and agricultural section, the National Dairy Show, with more cattle, more demonstration, more exhibits, more entertainment than ever before insures the most valuable National Show ever held. The place is Columbus, Ohio, and the time October 18-27, 1917.

Rainfall Over Kansas for August

Reports Furnished by S. D. Flora, Meteorologist, Weather Bureau, Topeka



THIS was one of the wettest and best crop-growing Augusts ever experienced in Kansas. The rains were widespread and general almost from the first of the month and there were more days on which measurable rain fell than in any other August on the state record. It was the most rain that has fallen in August in twelve years and more than three times the amount that fell in July preceding.

The revival of crops after the rains began was almost magical. Pastures that were bare and brown when the month began soon furnished excellent grazing, and the entire corn crop took on a new growth. The ground was in such fine shape for fall plowing that the greater part of it was finished by the end of the month.

If You Have Running Water in Your Home, You Are Ready For

"Standard" Plumbing Fixtures

THE next step, after installing a water system, is the addition of a labor-saving Kitchen Sink, a Bath Tub, Laundry Trays—real plumbing *comforts* that belong in every home whether it be new or made over.

"Standard" fixtures for Bath, Kitchen, Laundry, represent long experience in manufacture, great variety of styles to select from, and assurance of *service* as rendered by our branches in all principal cities and by leading plumbers everywhere. Demand "Standard" fixtures.

Look for the "Standard" Green and Gold label. Talk to your plumber in any nearby town about the line that is "Standard" in name and fact. Write today for a copy of "Standard" Plumbing Fixtures for the Home."

Standard Sanitary Mfg. Co.
Dept. 211 Pittsburgh

A Copy of This Book to You FREE



Feed the Fighters! Win the War!

Harvest the Crops! Save the Yields!

On the battlefields of France and Flanders the United States boys and the Canadian boys are fighting side by side to win for the World the freedom that Prussianism would destroy.

While doing this they must be fed and every ounce of muscle that can be requisitioned must go into use to save this year's crop. A short harvest period requires the combined forces of the two countries in team work, such as the soldier boys in France and Flanders are demonstrating.

THE COMBINED FIGHTERS IN FRANCE AND FLANDERS AND THE COMBINED HARVESTERS IN AMERICA WILL BRING THE ALLIED VICTORY NEARER

A reciprocal arrangement for the use of farm workers has been perfected between the Department of the Interior of Canada and the Departments of Labor and Agriculture of the United States, under which it is proposed to permit the harvesters that are now engaged in the wheat fields of Oklahoma, Kansas, Iowa, North Dakota, South Dakota, Nebraska, Minnesota, and Wisconsin to move over into Canada, with the privilege of later returning to the United States, when the crops in the United States have been conserved, and help to save the enormous crops in Canada which by that time will be ready for harvesting.

HELP YOUR CANADIAN NEIGHBORS WHEN YOUR OWN CROP IS HARVESTED

Canada wants 40,000 Harvest Hands to take care of its

13 Million Acre Wheat Field

One cent a mile railway fare from the International Boundary line to destination and the same rate returning to the International Boundary. High wages, good board, comfortable lodgings.

An Identification Card issued at the boundary by a Canadian Immigration Officer will guarantee no trouble in returning to the United States.

AS SOON AS YOUR OWN HARVEST IS SAVED, move northward and assist your Canadian neighbor in harvesting his; in this way do your bit in helping "Win the War."

For particulars as to routes, identification cards and place where employment may be had, apply to Superintendent of Immigration, Ottawa, Canada, or to

GEO. A. COOK, Canadian Government Agent, 2012 Main St., Kansas City, Mo.



It's Natural for a Hog to Wallow

Here's a good thing to do: Provide a wallow close to the feeding grounds to which add Dr. Hess Dip and Disinfectant. As the hogs pass back and forth from the wallow to the feed trough, the **DIP** will kill the lice and cleanse the skin, while the **DRIP** will destroy the disease germs and the worms that pollute the ground. That will mean a clean, healthy skin, freedom from lice, a safeguard against disease and larger, better porkers.

Dr. HESS & CLARK
Ashland — Ohio

DR. HESS DIP and DISINFECTANT

FERTILE KANSAS LAND CHEAP

Those who located in Central Kansas 20 years ago are the big farmers today. Their land has made them independent.

Your chance *now* is in the five Southwestern Kansas counties adjacent to the Santa Fe's new line, where good land is still cheap.

With railroad facilities this country is developing fast. Farmers are making good profits on small investments. It is the place today for the man of moderate means.

Wheat, oats, barley, speltz, kaffir and broom corn, milo and feterita grow abundantly in the Southwest counties referred to. Chickens, hogs, dairy cows and beef cattle increase your profits.

You can get 160 acres for $200 to $300 down, and no further payment on principal for two years, then balance one-eighth of purchase price annually, interest only 6 per cent—price $10 to $15 an acre.

Write for our book of letters from farmers who are making good there now, also illustrated folder with particulars of our easy-purchase contract. Address

E. T. Cartlidge,
Santa Fe Land Improvement Co.,
1892 Santa Fe Bldg., Topeka, Kansas.

SAVE ON SILO FILLING
CLIMAX CUTTER $125 and UP
Including Pipe and Extra Knives
Inward shear cut. Free Trial.
Prompt shipment. Write now.
AMERICAN SILO SUPPLY CO.
310 Traders Building,
Kansas City, Missouri.



A new book entitled "Farm Concrete" has just come from the Macmillan press. The use of concrete on farms is being widely extended and it is of considerable importance that dependable information be at hand such as is found in this book. The cost of good concrete in labor and materials is no more than that of poor concrete. This volume, which has been prepared by Prof. K. J. T. Eklaw, of Illinois University, brings together in logical form the essential principles of concrete work and gives many plans for the use of concrete on the farm. The book is priced at $1.60.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

SOME surprising information concerning the use of roads in several Iowa counties has been obtained by a traffic census which is being carried on by the Iowa State College and State Highway Commission. The census is by no means complete and the results obtained up to the present time may be materially modified by later information. They show, however, that the travel over Iowa roads is of a character that makes the improvement of such roads a matter requiring careful thought and sound judgment.

The following facts relate to the travel counted at eight stations on highways leading into market towns of considerable importance. These roads are known as tourists' highways, yet the census shows unexpectedly that only 3 per cent of the traffic should be classed as tourist. The counts were made during the tourist season and should put to rest the assertion that road improvements are mainly for the advantage of people who make no payment of taxes toward the cost of the betterments. As a matter of fact, the great bulk of the traffic—87 per cent—was between towns, what would be called interurban traffic by electric railway companies. The traffic from farms along the roads amounted to only 10 per cent of the total.

Attention is called to this distribution of the traffic because it emphasizes the fact that towns and cities have direct interest in road improvements. Where more than three-fourths of the travel over main roads originates in towns along those roads, as is the case in the Iowa highways which have been under observation, it is self-evident that the expense of road improvement should not be borne mainly by the farmers, as at the present. The principle of rate making for most classes of public service is that the charge for the service should be based on the use made of it. Road improvements form a class which heretofore has generally been exempt from the application of this principle. If more traffic enumerations are made like those in progress in Iowa, the injustice of putting most of the expense for improvement of market roads on farmers will lead eventually to a change in this policy.

It has been known for some time that there are more automobiles in Iowa, in proportion to the population, than in any other state. The returns from the traffic census show that these automobiles are being used very frequently. They are not pleasure vehicles, for Sunday excursions. If the returns which included July 4 are thrown out because of the unusual traffic on that day, the proportion of motor vehicles to horse vehicles using the roads ranges from two to one on one road to eighteen to one on another road. The average proportion at all eight stations, including the counts made on July 4, shows that eleven motor vehicles were used to one horse vehicle. It was also observed that these roads were carrying an average of 387 vehicles daily. When it is considered that this traffic was carried on dirt roads, as a rule, it is evident that the construction and maintenance of Iowa roads with the funds available for the purpose is a very hard problem to solve satisfactorily.

One of the most instructive features of the census returns is the information regarding the use of motor trucks. On one road there were five horse-drawn trucks for every four motor trucks, the lowest proportion of the latter at any of the census stations. On one road there were 2.6 motor trucks for each horse truck and on another road there were 3.3 motor trucks for each truck. The average of all the stations was 1.1 motor trucks for each horse truck. It goes without saying that this proportion will be changed during the season when heavy trucking is being done from the farms to the market towns. It is expected that the proportion of horse trucks to motor trucks will be much higher then. Motor trucking has come so rapidly into favor among farmers, and trucking companies in cities are sending so many trucks into the country to haul agricultural products to market, that it would be surprising if the returns of traffic during the heavy hauling period do not show that motor trucks are rapidly becoming essential for the farmer.

This fact adds to the difficulties of maintaining dirt roads, such as are so numerous in Iowa. While something can be done by regulating the loads and speed of motor trucks to reduce their destructive influence on dirt roads, there is no form of maintenance, so far as is now known, which will keep a dirt road in good condition when many motor trucks are operated at more than very moderate speed over it. It would be interesting and instructive to determine the effect on dirt and gravel roads of trucks operated at different speeds, for it is possible that speed may be found the most important factor in determining the destructive effect of such vehicles. If this should prove the case, road officials will have a means of controlling the destruction of their low-cost roads until they are able to secure the funds for the construction of surfaces better adapted for such traffic.

Faulty Lubrication Waste

Proper lubrication is a most important factor in determining the life of internal combustion engines. The investment in this sort of equipment is almost at the mercy of lubrication. It is one of the important phases of economical operation. The protection of the pocketbook demands that every man using such engines and farm machinery in general realize the deep significance of proper lubrication.

The output of steel is being turned to war materials. Manufacturers of farm machinery are finding it difficult to procure sufficient material to keep up with orders. This shortage must, of necessity, mean higher prices for machinery. This is an added reason why we should save machines by proper care.

The man who buys his first tractor, automobile or gas engine should make the lubrication of his motor a subject of special study. The ravages of friction will quickly destroy unless all moving parts are protected by a clinging film or cushion of good oil. He must not be satisfied with "just oil," but should use the utmost care in selecting his lubricants. And once he has made this selection he should never mix one grade of oil with another.

A temperature of over 2,000 degrees is often developed in the cylinder and, unless his motor oil be of the highest grade and uniform, it will quickly break up and separate. This results in two grave conditions: an inefficient lubrication that causes ruinous wear and an unburned deposit of carbon that reduces power and causes fuel waste.

The best oil is, therefore, one that will perform its function and then mix with the fuel and be entirely burned up. No residue must be left; no friction permitted.

Many motor owners have the idea that too much oil cannot be used. This is not a fact. The sump or reservoir of a motor should not be filled above its correct level. If too much oil is used more will be drawn into the firing chamber than can be used and burned and a carbon-forming paste will result.

This is especially true of tractors for these motors are continually taking in dirty, gritty air and these substances mix with this paste causing a destructive wear on pistons, piston rings and cylinder walls.

If the splash system is used, it is a good practice to drain the oil out of of tractor crank cases at least once a week and replace it with new oil. Some authorities recommend the changing of oil every three days. In either case kerosene should be put in and the engine allowed to run a few minutes to wash out gum and grit, then draw out the kerosene and refill with new oil. Be sure that your filling funnel is absolutely clean and free from sand, dirt and other substances.

The changing of oil in an automobile need not be done as often, but remember that new oil and clean motor surfaces are cheaper than a new motor or even repair bills. The best oil, changed often, is economy.

There has always been more or less criticism of the treatment given to farm implements and machinery. Some of this criticism is just and some is not. Many farmers are not provided with implement sheds. The fact remains, however, that there has been an enormous waste in farm machinery, taking the country as a whole. Under the present conditions this is a waste that should by all means be avoided in the future as much as possible. For many classes of machinery correct lubrication is one of the surest ways to give it longer life and make it return full productive power while it is in use.

Care of the Binder

Providing a shed for the binder to protect it from rain is a paying proposition. When housing the binder for winter, all wearing surfaces should be protected against rust by covering them with heavy grease or oil that will not wash off. The knotter requires special attention because this part of the machine will cause much trouble if it is not in the best condition. Farm machinery of any kind always pays dividends on proper care.

Fuel, spark and compression are the three essential features of your motor. If you will remember these points, you will save yourself a good deal of time. If you are out of fuel, fill your tanks. Test out your magneto for "shorts" and loose connections. You can test compression by turning your engine over by hand, and if it goes easy, you want to examine the valves, also the piston rings. Don't put off caring for them. When you adjust the connecting rod bearings, be sure to replace the cotter pins and spread them.

There appears to be a tendency on the part of farm equipment manufacturers to come back to the state fairs with their exhibits. For a number of years machinery companies refrained to a considerable extent from showing. More tractor companies than ever are showing at the fairs this year. We believe there is no better place to exhibit farm machinery than at our big fairs. Farmers are being compelled more and more to study closely their equipment needs, and exhibits of farm machinery are always the center of groups of interested farmers striving to see if they can in any way more efficiently perform their farm work through the employment of new tools and labor-saving equipment.

Advice to Boys

Every boy should finish his school course. We shall secure more men under the draft than we can arm at the present time.

The individual obligation on the part of each and every citizen for service is manifest, but the boys should remember that they are now serving in the best possible way by preparing themselves to serve more efficiently when the time comes. What we want now is for the boy in school or college to finish his education in order that we may have each year a dependable output of well-educated and well-trained young men.

It is a great mistake for partly educated young boys to rush to the colors now. We don't need them. It is very important they should finish their education.—MAJ. GEN. LEONARD WOOD, in The American Boy.

One of the choice herds of Ayrshire cattle in this country is owned by John Sherwin, of South Farms, Willoughby, Ohio. This herd was started by Mr. Sherwin nine years ago with a few very carefully selected animals. Today the herd numbers 300 head, all of which are registered in the Ayrshire Breeders' Association. Of these 300 head, seventy-five are imported from Scotland. During the last six years 145 cows have qualified and entered into the Advanced Registry. Also during this period several of the cows at South Farm have broken world's records in milk and butterfat as two and three-year-olds. The herd at South Farm has been fortunate in having at its head several of the noted bulls of the Ayrshire breed. The Imp. Bargeagh Bonnie Scotland 11974, Imp. Craigbrae Lord Rosebery 15001, Imp. Holehouse Wanderer 16390, and Imp. Foulton Spicy John 12584 have headed the herd. Also the famous White Cloud of Hickory Island 10377, the bull whose daughters have made him second in the list of the sires in the Advanced Registry for their highest average of milk and butterfat. At the present time Victor of South Farm 13286, a son of White Cloud of Hickory Island, is at the head of the herd. There have also been many other famous bulls at the head of this herd. Recently South Farm made an importation of twenty-five heifers from Scotland, they all being out of Howie's Sir Hugh 9026, the unbeaten champion as a two, three and four-year-old of all the shows of Scotland.



More Meat at Less Cost

THE greatest problem confronting stockmen is how to raise more meat at a lower cost. This statement was made in a recent report of the Market Committee of the American National Live Stock Association. This committee advises that under the present conditions animals should only be fattened to a commercial marketable condition. That is the most economic utilization of animal feeds. The making of fancy finished animals should be discouraged, as it is economic waste. A valuable service would be rendered if the experiment stations of the federal and state governments would enlarge their research work along these lines. The above propositions and others were carefully presented at Washington last week by the members of the Live Stock Industry Committee appointed to cooperate with the Food Administration in working out plans for increasing our meat production.

Under the terms of the Food Control Act, no authority is given the President or any agency he may appoint to fix live stock or meat prices. As already expressed, the Food Administration has no intention of disturbing conditions as regards prices of live stock or meats. It seems to be the aim of the administration to stimulate production by improving market conditions, doing what is possible to facilitate methods of distribution, using its influence in stabilizing prices on a fairly profitable and liberal basis, and in every way inspiring the confidence of live stock producers. The very first official statement made on this point was as follows: "We wish to restore the confidence of the farmer and stockman in his industry by convincing him that he will get a fair share of the price paid by the consumer."

The Marketing Committee of the National Live Stock Association points out that the Government has the power to fulfill this pledge without fixing absolute prices for the future. It will purchase the food supplies needed for our soldiers here and abroad. The centralized buying agency for the allies will probably work co-operatively with that of our own government. The total of these combined purchases will constitute a sufficiently large volume to practically establish a price level to the producers and consumers of this country. Under the licensing power provided for in the law, our Government can equitably protect both consumers and producers from abnormal middlemen's profits and eliminate unnecessary expenses.

The members of the Market Committee and other officers of the National Live Stock Association had a lengthy conference in Chicago recently with the Federal Trade Commission regarding the meat investigation. They also met representatives of the Food Administration and discussed in considerable detail the live stock business of the country. The following are part of the recommendations outlined as a general plan and policy which were submitted at the Washington meeting of the Live Stock Industry Committee:

"While we appreciate the importance of increasing the production of live stock to meet the shortage claimed to exist in the world supply, we also recognize that there are many fundamental factors affecting production—such as lack of confidence in the stability of the market, high prices of animal feeds, better returns from other agricultural pursuits, and fear of disastrous results from overproduction—which exercise a most deterrent influence against any increase, and which must measurably be removed before any increase in production is possible. We believe it is vitally essential for the Government to recognize that, through its purchases of meat products for our army and the Allies, it can practically fix the general level for live stock and meats in this country, and should therefore promptly assure producers that its purchase will be made on such a basis that there will be a liberal profit, so as to encourage those who may be able to increase their production. The Government should also fully announce its plans for the stimulation of production and conservation of the live stock industry, and for the protection of producers as well as consumers. The campaign of the Government urging discrimination against meat and for meatless days certainly does not tend to encourage production. Economy in the use of all foods is highly desirable, but it can be practiced in a rational manner without interfering with the normal dietary. Likewise the clamor to save all breeding stock is both ill-advised and illogical, and impossible to carry out except in certain localities. If put in force, it would unsettle all live-stock conditions, and would result in a prompt decrease of our immediate supply of meat, and a probable glut later on when increased supplies are not needed."

The Market Committee of the National Live Stock Association is doing some fundamental work in the interests of this great industry. The committee was created at the annual convention held in El Paso in January, 1916, and funds to carry on its work were guaranteed by thirty-five stockmen of the country. At the annual convention held in Cheyenne in 1917 it was decided to re-



SHOW HEIFER BELONGING TO H. H. HOLMES

lieve these men of the portion of their guarantee yet unpaid and depend upon the stockmen of the country and of the different live stock associations for the needed money to carry on the work. As yet only a few associations and individuals have contributed to the expense of this committee's important work. Every stockman is vitally interested in what they are doing and will be benefited. The secretary-treasurer is T. W. Tomlinson, 515 Cooper Building, Denver, Colorado. Anyone wishing to contribute to this fund should send his money to this address.

C. S. W., Pottawatomie County, asks if black smut on corn will kill cattle if it is put into the silo. Apparently there is no danger of cattle being poisoned by eating ordinary corn smut. W. A. Henry, the senior author of "Feeds and Feeding," once fed two milk cows at the Wisconsin Experiment Station on well cleaned corn smut mixed with wheat bran in an experiment to find out its effect. He increased the amount of smut until the cows were getting two pounds a day. At this point one refused her feed and the allowance of the other was increased to four pounds a day, or one peck. This cow seemed to be thriving and getting fat, but suddenly sickened and died. At the Michigan Experiment Station Professor Smith once fed cows on well cleaned corn smut until they were eating from one to ten pounds daily. Only one cow showed any indisposition and she recovered. The Bureau of Animal Industry of the Federal Department of Agriculture also has conducted experiments which indicate that in reasonable quantities at least corn smut is probably harmless unless the cows become inordinately fond of it and eat large quantities. As it would occur in the silo there is practically no danger whatever of any one animal getting enough to be harmful.

Barley when crushed is an excellent feed for hogs and can be substituted entirely for corn, even when it costs the same per pound.

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MAN TO WEAR FINE SUIT, ACT AS agent; big pay, easy work. Banner Tailoring Co., Dept. 738, Chicago.

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120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

HOLSTEIN CALVES, HIGH GRADE, from cows producing up to 60 pounds. Either sex, $15 to $25. L. D. Arnold, Manhattan, Kansas.

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WE OFFER FOR SALE CHOICE OF TEN from our herd of twenty high grade Guernsey cows. All our own raising and desirable ages and due to freshen fall and early winter. G. D. Gildden & Sons, Homewood, Kan.

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SCOTCH TERRIER PUPS—GREAT RAT dogs. Frank Healy, Bedford, Iowa.

TRAINED BEAGLES, RABBIT HOUNDS, foxhounds, coon, opossum, skunk dogs, setters, pointers, house, farm dogs. Ferrets. Catalog 10c. Brown's Kennels, York, Pa.

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PURE-BRED HIGH-YIELDING TURKEY red hard seed wheat, cleaned and graded, at $3.00 a bushel. Ferdinand Hubka, Vliets, Kansas.

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TIMOTHY SEED, $4.00 PER BUSHEL. High purity and germination, first class in every way. Timothy-alsike mixture, $4.50 per bushel. Satisfaction or your money back. Henry Field, Shenandoah, Iowa.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

THE STRAY LIST.

TAKEN UP — BY W. A. PATCH, OF Olpe, Center Township, Lyon County, Kansas, on August 15, 1917, one cow, color red with white on flank, dehorned. No marks or brands. Appraised at $45. G. L. Miller, County Clerk.

TAKEN UP—BY EDWARD WARE, OF Eureka Township, Greenwood County, Kansas, one red three-year-old steer branded with letter "W" on left side, 3-4 on left hip. Right ear cropped, appraised at $40. Ethel Eastwood, County Clerk.

TAKEN UP—ON THE 23D DAY OF August, 1917, by Alex Shepard, residing nine miles southwest of Leotl, Wichita County, Kansas, one bay pony mare, weight 750 pounds, wire mark across right shoulder; no brands. Deon Trueblood, County Clerk.

POULTRY.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

PURE BOURBON RED TURKEYS, FOUR months old, $3. Lily Robb, Neal, Kansas.

CHOICE MARCH-APRIL HATCHED White Rock cockerels, $1.50 and $2. Mrs. Rudolph Johnson, Bendena, Kansas.

SINGLE COMB BROWN LEGHORN cockerels, 75c and $1 each. C. H. Robinson, Urich, Missouri.

POULTRY WANTED.

POULTRY AND EGG MARKET HIGHER. Coops free. For prices, "The Copes," Topeka.

WANTED

WANTED — AULTMAN-TAYLOR OR Reeves tractor, large size, late model. Also good eight-bottom gang. B. L. Elliott, Stanley, Iowa.

REAL ESTATE.

FERGUS COUNTY LAND. — WRITE TO Box 440, Roy, Montana.

MISCELLANEOUS.

1,024 YEARS AMERICAN HISTORY, 80c postpaid. Elias Pelton, Hudson, Kansas.

LUMBER.

LUMBER, MILLWORK, POSTS, DIRECT from mill, wholesale prices. Send for carpenter's list for freight prepaid estimate. Millwork catalog free. Keystone Lumber Company, Tacoma, Washington.

HONEY.

HONEY—NEW CROP. SEND FOR PRICE list. Bert W. Hopper, Rocky Ford, Colo.

Real Estate For Sale

10,000 ACRES of good grazing land, well watered, for $3 to $5. All crops good. No drouth, no hot winds. Grass for cattle and corn for hogs. Best country in the world to live and make money.
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Four hundred acres in cultivation, 160 acres meadow, balance pasture. Splendid alfalfa, wheat or corn land. Splendid oil possibilities. A fine bargain for some one. Only $75 per acre. Might take a small farm in on the deal. Write
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EIGHTY ACRES, 6 miles McAlester, city 15,000. 50 a. cult., mostly dry, black bottom land. All fenced. Some improvements. Corn now on farm, make 40 bu. per acre. $21 per acre. Terms.
SOUTHERN REALTY CO., McAlester, Okla.

Beautiful Shawnee County, Kansas, Farms Near Topeka.
160 a. farm, fine improvements, $80; 160 a. farm, good improvements, $65; fine 43 a. farm, good improvements, $3,800. I can fit you out in any size farm desired. One to two crops will pay for farm. E-Z terms.
J. E. THOMPSON (The Farmer Land Man) Tecumseh, Kansas

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The great Sumner County withstood the long drouth and high winds of the spring and then produced more high-priced wheat than any other county in the U. S., and yet land prices are very low on improved farms—$40.00 to $75.00 per acre. Write for description and prices.

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158½ Acres, 3½ miles from good town of 1,000 people, with high school, good school house on the land; seven-room house, good barn, plenty of water, on state automobile road. A splendid farm. **Price, $7,200.00;** $1,000 cash, balance from one to fifteen years at low rate of interest. Why rent? Send for views of this farm. Address
THE ALLEN COUNTY INVESTMENT CO., Iola, Kansas.

NORTH CENTRAL KANSAS

Osborne County seed, grain and stock farms, $20. Best wheat and corn land, $35 to $50. "Here is the place."
J. F. BAUM - - NATOMA, KANSAS

FOR SALE

Or Exchange for Kansas Property
220 acres of rice and timber lands six miles south of Stuttgart, Ark. Address owner,
JOHN W. HARBESON, Tonganoxie, Kansas

A pleasing color as well as flavor is imparted to baked or stewed apples by the little red cinnamon candies known as "cinnamon imperials."

Have you had your teeth examined?



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

This is the gospel of labor,
Ring it, ye bells of the kirk,
The Lord of Love came down from above
To live with the men who work.
This is the rose he planted,
Here in the thorn-cursed soil;
Heaven is blest with perfect rest,
But the blessing of earth is toil.
—Henry Van Dyke.

It is customary but I think it is a mistake, to speak of "happy" childhood. Children are often overanxious and acutely sensitive. Man ought to be man and master of his fate; but children are at the mercy of those around them. Mr. Rarey, the great horse tamer, has told us that he has known an angry word to raise the pulse of a horse ten beats in a minute. Think then how it must affect a child!—Lord Avebury.

Women Emergency Agents

Thirteen Kansas counties have asked for emergency home demonstration agents. Arrangements have been made for these agents in Chase, McPherson, Cowley, Anderson, Finney, Ness, Seward, Stevens, Shawnee, and Wyandotte counties. Agents will be appointed to these counties as soon as capable, experienced women can be found for this work.

Other counties asking for emergency home demonstration agents, but in which the organizations are not complete as yet, are Washington, Morris and Riley.

Emergency home demonstration agents have been at work in Atchison, Kansas City, Wichita, and Topeka, for several weeks.

Miss Frances L. Brown, who is director of home economics of the division of extension of the Kansas Agricultural College, is temporary leader of the emergency home demonstration agents in this state.

Save the Bottles

Catsup, olive, pickle and mustard bottles are ideal containers for grape juice. They may be corked and the cork coated with paraffin. It is often easier, however, to make stoppers of cotton. Make a cotton plug which will fit tightly into the neck. Allow it to remain for a time so that it will retain its shape when removed. When the stoppers are all made, place them on pie tin in the oven. Let them remain until they begin to brown. If not ready to use them, let them remain in oven, but turn off the heat and open the door. When the bottles are filled, place the cotton plugs in securely. Do not fill bottles so full that cotton will touch juice.

Light from Left Side

The well known fact that when using the eyes for any near work the illumination should come from the left side rather than the right, is often disregarded. Let anyone who considers the matter of little importance once demonstrate to himself the difference and he will never forget it. Take a pencil and paper and try to write while in such a position that the light will fall from the right side. The shadow of the hand or pencil or both is thrown on the paper in such a way as partly to cover the characters one is making. This necessitates a closer viewpoint and a conscious strain on the eyes. Now let the position be reversed so that the shadows fall away from the work and leave the field unobscured. In making the change one cannot help noticing the feeling of ease that immediately is experienced by the eyes. This applies to any other kind of near work in which the fingers work under the guidance of the eyes. This fact should be remembered in planning school rooms, work rooms, offices, and any places where steady close work is to be performed. — Bulletin of Kansas Board of Health.

Food for Growing Children

Many persons believe that the chief aim in feeding children is to satisfy their hunger. That this is not sufficient is shown by the fact that in almost every school there are some pupils who seem to have enough food to satisfy their appetites, but who are incapable of doing good mental work largely because of the lack of proper food. In order to build up the growing body and permit the mind to accomplish its best work, food must be supplied that is nourishing without putting too severe a strain on the digestive organs. Listlessness or headache frequently results from improper eating.

The following breakfast menus for children are taken from a bulletin entitled "Suggestions for the Health of Children," published by the New York College of Agriculture. One of these shows certain defects in meeting the dietary needs of the child, and the other shows how these needs may be met with simple, easily prepared food.

Griddle cakes and syrup, sausage, fried potatoes, bread and butter, and coffee, constitute a type of breakfast unsuited to a child. Although this meal may not be bad for a healthy adult, it is unsuited to a child of school age for various reasons. It needs to be modified by the addition of an acid fruit in order to be easily digested by even a grown man doing heavy work. Griddle cakes are in the class of hot breads, which are not suited to the diet of a child. They are often swallowed without much chewing and hence are digested with difficulty. Sausage is largely pork, a meat to be used with moderation even by many grown persons. Some cases of digestive trouble may be caused by the large amount of pork eaten. It contains much fat, an excess of which retards digestion in the stomach even when it does not cause discomfort. The serving of sausage at breakfast usually means serving meat twice a day, which is not an advisable practice for the children's diet. Many dietary experts now believe that meat eaten once a day is sufficient for anyone, and that children under seven years of age, at least, should have none at all. A vigorous adult may be able to digest fried food without much difficulty, but it places too great a tax on the digestive system of a child. Coffee is a stimulant, and therefore should not be used by school children.

As a type of breakfast suited to a child of school age, Miss Knowlton, the author of the bulletin mentioned, suggests rolled oats with cream or milk, apple sauce, bread and butter, milk to drink, egg if desired. The egg, however, should not be fried. The rolled oats should be cooked in a double boiler for several hours, or in a fireless cooker over night. Tissue-building foodstuffs are generously furnished in the rolled oats, the milk, the bread, and the egg. Energy-giving foodstuffs are abundant in the rolled oats, the bread, the butter, and the cream. Lime, which is needed for the growth of bones, as well as for other purposes, is supplied by the milk and the cereal. Iron, which helps to make red blood cells, is found in the egg and the rolled oats. Phosphorus, which is needed by the tissues of the body and which also helps to keep the body in good running order, is furnished by the apple sauce, the rolled oats, the egg, and the milk. The apple sauce and the rolled oats are valuable in stimulating the activity of the intestines and thus preventing constipation. The apple sauce is also valuable in helping to neutralize certain substances that might otherwise cause trouble. Besides furnishing in a simple meal the requirements for growth and activity, this breakfast does not overtax the stomach and hence draw to it some of the blood needed by the brain for thinking.

I would particularly urge upon the young people who are leaving our high schools that as many of them as can do so avail themselves this year of the opportunities offered by the colleges and technical schools, to the end that the country may not lack an adequate supply of trained men and women.—President Wilson.

Wonderful Egg Producer

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit maker, write E. J. Reefer, poultry expert, 4636 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1 (prepaid). So confident is Mr. Reefer of the results that a million dollar bank guarantees if you are not absolutely satisfied your dollar will be returned on request and the "More Eggs" costs you nothing. Send a dollar today or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—(Adv.)

Prepared Mustard

1 tablespoonful sugar
3 tablespoonfuls mustard
1 egg
1 cupful vinegar
1 tablespoonful olive oil or butter

Mix sugar with mustard, then beat in egg until perfectly smooth and add vinegar very gradually to prevent curdling. Cook in a double boiler, stirring for ten minutes, then add olive oil or butter and continue to stir until thoroughly mixed. Remove from fire and cool.

Jelly Roll

2 eggs
1 cupful sugar
Grated rind of one lemon
1 cupful flour
½ teaspoonful salt (scant)
2 teaspoonfuls baking powder
⅓ cupful hot milk
Glass of jelly

Beat eggs until very light. Cream sugar with them, add grated lemon rind, being careful not to grate any of the white layer under the yellow, as this gives a bitter taste. Add flour, sifted three times with the salt and baking powder, and last of all the milk, scalding hot. The use of hot milk enables the cake to be rolled without danger of cracking. Bake in a buttered cake pan in a moderate oven, turn out on a damp cloth, trim off crisp edges, spread with jelly, turn over and over in a roll while still warm. Dredge the top with powdered sugar.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8221—Girls' Dress: Cut in sizes 8 to 14 years. For playtime and school is this little dress. It is just as simple as can be, and therefore very easy for the mother to make. The inset vest is slashed so that the dress may be more easily slipped on over the head, and is laced up with a bright colored ribbon or cord. The two-piece skirt is gathered to the waist. **No. 8185—Ladies' Waist:** Cut in sizes 36 to 42 inches bust measure. A very dainty and girlish looking blouse is shown herewith. Its broad collar with a new outline is an especially becoming style to the majority of women. Crisp ruffles of the same material or of plain white material hemstitched in a color to correspond with that of the waist, add much to its smartness. **No. 8187—Girls' Dress:** Cut in sizes 6, 8, 10, 12 and 14 years. The junior girl, who really wants to be just as up-to-date as her big sister, will be delighted with this clever little one-piece dress. It has all the style features of the grown-up, one-piece dresses, including the popular slot pockets. **No. 7834—Ladies' Dress:** Cut in sizes 36 to 44 inches bust measure. Just full of style and snap with contrasting goods for the collar, rever fronts and cuffs. Novelty pockets in the four-gore skirt give a smart touch to the front where the closing is made. For practical wear in the home, chambray, figured percale or such fabric to withstand wear may be used. **No. 7803—Ladies' Skirt:** Cut in sizes 22 to 30 inches waist measure. For all its simplicity, this smart skirt possesses some degree of style with side panels, a pocket in each front gore and buttons that ornament and close the garment down the front. On modest lines, with its folds rippling into fullness, it may be made of serge, gabardine, whip-cord or linen. **No. 7962—Ladies' Apron:** Cut in sizes 36 and 40 inches bust measure. In the class of serviceable garments attractively made, we may put this apron. Cut in one piece with a yoke facing; other features of interest are the front closing, elastic fastening at the waistline to evenly divide the fullness, and a diagonal pocket with a stitched trimming band to match the yoke facing and the sleeve finish.

"Your Flag and My Flag"

"Fling out, fling out, with cheer and shout,
To all the winds, Our Country's Banner;
Be every bar and every star
Displayed in full and glorious manner."
—Cole.



"Long may it wave
O'er the land of the free
and the home of the
brave"

The big demand, the scarcity of good dyes and the high price of cotton have made it hard to secure flags. We have been fortunate enough to secure a few high-grade printed flags 3 feet by 5 feet with canvas heading and brass grommets, colors fast.

You May Have One of These Flags If You Act Promptly
HERE IS OUR OFFER

For only $1.50 we will enter your subscription or extend your subscription for one year and send you this beautiful flag, postpaid. Price a flag of this size and quality. You will then appreciate our splendid offer.

Don't Delay—Send Your Order NOW, Before It Is Too Late
FLAG OFFER BLANK

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DESK D, KANSAS FARMER, TOPEKA

SCHOOLS AND COLLEGES

GOVERNMENT SCHOOL

The Kansas Wesleyan Business College holds an appointment by the United States Government to teach Morse and Radio Telegraphy. This honor is a fitting recognition of the efficient work of this school.

The War Department furnishes us all needed additional equipment to handle the great classes of young men and women now enrolling.

Graduates are guaranteed immediate appointment with the Signal Service or, if preferred, with the railroads.

Write at once for catalog.

The Kansas Wesleyan Business College, Salina, Kansas

Central Kansas Business College

ABILENE, KANSAS.

Please send me your catalogue, and special tuition rate to first one hundred new students. Positions guaranteed.

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Graduates guaranteed positions and furnished employment to defray expenses while attending.
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"YOUR OWN NAME"

RIGHT SIZE



3¼ INCH

ON THIS EXTRA FINE KNIFE

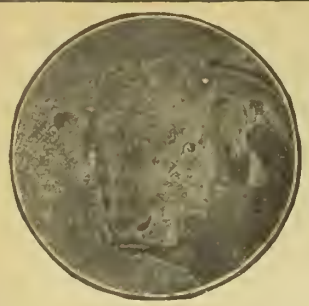
Two best quality steel blades. German silver tips, brass lined. Transparent handle showing your own name.

We will send this beautiful knife with your own name on it for one yearly subscription to Kansas Farmer at $1.50 or a three years' subscription at $2.25. Address
KANSAS FARMER - TOPEKA, KANSAS

If you have more preserving jars than you can fill, lend them to a neighbor who will make them work for the nation.

The larger part of the civilized world will have to be reconstructed after the war. Such reconstruction is almost exclusively the work of engineers. Let me earnestly implore youths who are ready for college and who are not in any way unfitted for technical careers, to take up some branch of engineering or technology. It is not only for the good of the country that I make this appeal but also for the ultimate benefit of the young men themselves.—J. A. L. Waddell, Consulting Engineer.

Proper selection is as important as the proper amount of food.



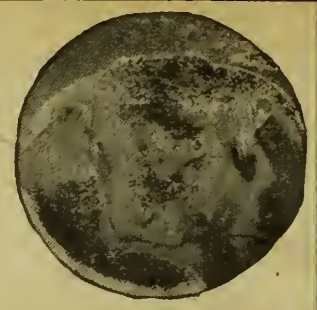
Southard's Monarch Herefords

SELL AT

Comiskey, Kan., Saturday, October 6

(The Day Following the American Royal at Kansas City)

125-------- HEAD -------- 125



One hundred cows and heifers, fifty with calves at side and fifty bred heifers. Twenty-five very choice young bulls all of breeding age that will exert a beneficent influence in the herds to which they are taken.

The calves are sired by and the heifers bred to such bulls as the mighty MONARCH, KING FARMER, LOUIS FAIRFAX, BRIGHT DOMINO, NERO FAIRFAX, AND OTHER NOTED SIRES.

In this sale you will have a chance to buy cattle with pedigrees as good as can be written and individuality as good as you can find.

A great chance to buy real foundation stock tracing to and representing the most noted American and English Herefords.

For catalog, please mention Kansas Farmer and address **J. O. Southard, Comiskey, Kansas**

REGISTER OF MERIT BLOOD

BACKED BY YEARS OF CAREFUL BREEDING

Will Be Sold in

Redmon & Son's Jersey Cattle Sale at TIPTON, MO., MONDAY, OCT. 1st.

Sixty Head of Females. All in milk or heavy in calf, including Register of Merit cows of dairy capacity, conformation, shapely udders and high class individual merit.

Three High Class Bulls ready for service, out of Register of Merit dams and by Register of Merit sires.

Herd is rich in the blood of Oxford Lad, Noble of Oaklands, Golden Fern's Lad, Rosette's Golden Lad and other celebrated families.

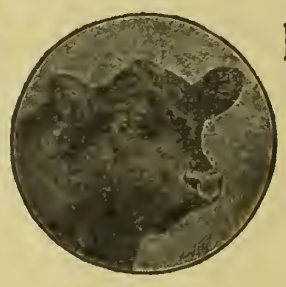
Arrange to attend this great sale of the Best Dairy Cows ever sold in the West. Write today for large catalog on request to

B. C. SETTLES, Sales Manager, PALMYRA, MISSOURI

COL. P. M. GROSS, Auctioneer, KANSAS CITY, MISSOURI

Sutton & Porteous August Sale

Thursday, October 4, At Farm



Lawrence, Ks.

78 HEAD

Angus Cattle



Sixteen Bulls of serviceable age

Twenty-six Bred Heifers

Thirty-six Cows with calves at foot or heavy in calf

All the best families represented—the Blackbirds, Ericas and Prides. Our whole show herd goes in the sale. Twenty-seven championships won by our herd last year. Send for catalog today, mentioning Kansas Farmer.

SUTTON & PORTEOUS - - LAWRENCE, KANSAS

Auctioneers—Cooper and Brady

POLLED DURHAM CATTLE.

FOR SALE—A few choice young bulls, sired by Chief, a son of True Sultan. Priced to sell.
D. C. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 miles S. E. of Topeka.)

POLLED DURHAM CATTLE

Seventeen head of well bred Polled Durham and Shorthorn Cattle to be sold at public sale, October 13, 1917. Write for catalog.
MRS. EMMA HUNDLEY
Route 2 Bogard, Missouri

Breeders' Directory

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
ANGUS CATTLE.
D. J. White, Clements, Kan.
JERSEY CATTLE.
J. B. Porter & Son, Mayetta, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

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PERCHERONS—BELGIANS—SHIRES



2, 3, 4 and 5-yr. stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
FRED CHANDLER, R. 7, Chariton, Ia. Aboye Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes.
Illinois Horse Co., Good Blk., Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

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Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

Live Stock and Real Estate Auctioneer. Fifteen years experience. Write for terms.
Thos. Darcey, Hutchinson, Kansas.

CHESTER WHITE HOGS



FOR SALE
Spring Pigs in Pairs and Trios Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

Clinton County Chesters

Booking orders for spring pigs of National Swine Show blood lines. Fall and spring pigs at bargain prices.
J. H. McANAW - CAMERON, MISSOURI

SHORTHORN CATTLE.

ABBOTSFORD SHORTHORNS

Eighteen young bulls for sale. A few of them about ready for service. Priced to sell. The kind that always please.
D. BALLANTYNE & SON, Herington, Kan.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

SHADY LAWN SHORTHORNS

At head of herd, Kansas Archer 440809 by Mistletoe Archer. For sale, fifteen choice young bulls from spring calves to yearlings. Come and see our herd.
F. H. HULL & SONS - EUREKA, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS

Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Pearl Herd Shorthorns

Valiant 346162 and Marengo's Pearl 391-962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

Can ship on Rock Island, Union Pacific or Santa Fe Railway.
C. W. TAYLOR - ABILENE, KANSAS

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

GUERNSEY CATTLE.

GUERNSEY BULLS.

Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER



PERCHERON STALLIONS

FOR SALE THIS FALL AT REDUCED PRICES

Two yearling colts; two 2-year-old colts; two 3-year-old colts; two 4-year-old colts, and one herd stallion. All sound and registered in Percheron Society of America. Blacks and bays. If sold this fall I will cut the prices. Also five registered Shorthorn bulls, reds and roans. Come and see me.
J. C. PARKS - - - - - HAMILTON, KANSAS

MODERN HEREFORDS

HAZFORD PLACE

Home of the Grand Champion BOCALDO 6TH, assisted by CALDO 2D, PUBLICAN 4TH AND BEAU BALTIMORE.

All our show cattle our own breeding. Inspection of farm and breeding herd invited. A few choice young bulls reserved to head high-class pure-bred herds now ready for inspection and sale.
William Condell, Herdsman. ROBT. H. HAZLETT, EL DORADO, KANSAS

JERSEY CATTLE.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

REDHURST JERSEYS

Will Be Sold at Public Auction October 1.
We have thirty cows in the Register of Merit, and many others that will qualify. This is the best lot of producers to be sold this year. Don't fail to write B. C. Settles, Sales Manager, Palmyra, Missouri, for large catalog which will be ready about September 20.

Redmon & Son - Tipton, Mo.

REGISTERED JERSEYS.
Cows, Heifers and Calves.
Good breeding. Good Individuals. Must reduce herd. Price reasonable.
C. F. PFUETZ
Route 4 Manhattan, Kansas

Mrs. Emma Hundley, of Bogard, Missouri, has announced a sale of Polled Durham and Shorthorn cattle to be held October 13. A choice offering will be catalogued for this sale.

DUROC JERSEYS.

15 Duroc Spring Boars

Sired by Illustrator O'Rion 3d and Fancy Victor and out of my best herd sows. They are real herd prospects, selected from 91 pigs raised. Write today if you want a good spring boar.

John W. Petford

Route 1 Saffordville, Kansas

IMMUNED DUROCS

With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

McBRIDE'S DUROCS

Six-months-old boars for sale, cherry red and good ones. Priced right.
W. T. McBRIDE - PARKER, KANSAS

Redmon & Son, of Tipton, Missouri, owners of one of Missouri's richly-bred heavy-producing herds of Jersey cattle, have announced a public sale of Jerseys to be held at Tipton, October 1. This sale will be under the management of B. C. Settles, the well known Jersey sales manager, of Palmyra, Missouri. The offering will include many Register of Merit cows.

POLAND CHINAS

FAIRVIEW POLAND CHINAS.
Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.
P. L. WARE & SON - PAOLA, KANSAS

Langford's Spotted Polands.—Last call for early spring boars. Yours for good hogs—
T. T. Langford & Sons, Jamesport, Missouri.

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

POLAND CHINAS

For Sale—Ten fall yearling gilts, bred for September farrow to Daicbanks Hadley and King Jumbo; twenty-five spring boars ready for service; twenty-five spring gilts open. One hundred and fifty head registered hogs in my herd. Write today what you want.
E. L. BARRIER - EUREKA, KANSAS

YOU CAN GET

80 Head - World's Record Breeding - 80 Head

At Waterloo, Iowa

Entries Are From State's Largest Herds

All Over Six Months Tuberculin Tested

This sale on OCTOBER 4 will contain more high record animals than any other in this section this season. Think of two sisters and a 30-pound brother of DUCHESS SKYLARK ORMSBY. You'll find them in this sale. Other females that are daughters and granddaughters of and many bred to such sires as JOHANNA McKINLEY SEGIS, SIR ORMSBY SKYLARK, OAK DE KOL OLLIE HOMESTEAD, SIR FAYNE CONCORDIA, DE KOL 2D'S BUTTER BOY 3D, COLANTHA JOHANNA LAD and KING KORNDYKE SADIE VALE. A few bulls from these sires. For further information address

IOWA HOLSTEIN BREEDERS' ASSOCIATION
F. C. BARNEY, Secretary CHAPIN, IOWA

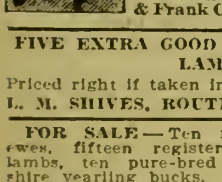
Sale During Dairy Cattle Congress Week

Catalogs Ready Sept. 20

Auctioneer Col. D. L. Perry

POLAND CHINAS.

Faulkner's Famous Spotted Polands



The world's greatest pork hog are raised exclusively on

HIGHVIEW BREEDING FARMS

The largest registered herd of old, original, big-boned, spotted Polands on EARTH.
Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.
H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

Spotted Poland Chinas

Thirty spring boars, thirty spring gilts. Sired by Billie Sunday, Cainville Giant and Perfect Judge. Sows by Brandywine, Budweiser, Old Clipper and Spotted Giant. Priced to sell.
J. O. RILEY & SON - CAINSVILLE, MO.

DEMING RANCH QUALITY

BIG-TYPE POLAND CHINA HOGS.
See our show herd at Topeka Free Fair, Kansas State Fair at Hutchinson, and Oklahoma City. Fifty spring boars for sale. Six hundred head in herd to select from.
H. O. Sheldon, Herd Manager
OSWEGO, KANSAS.

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

SPOTTED POLAND BOARS

FOR SALE—Five February boars sired by Spotted Lad and out of Ennis Queen. They are real herd headers, priced at $40. First check gets choice.
C. A. GOOCH - - ORRICK, MISSOURI

SHEEP.

A LIFETIME EXPERIENCE proves the Rambouillet the best sheep for Kansas. Stock for sale. E. D. KING, Burlington, Kansas.

DOYLL PARK SHROPSHIRES

Sixty Registered Shropshires—Thirty ewes and ewe lambs, thirty rams and ram lambs. Lambs sired by our undefeated ram, Ohio and Michigan, 1916.
HOMAN & SONS - PEABODY, KANSAS



200 — RAMS — 200
REGISTERED SHROPSHIRES
Our flock was awarded 20 prizes at 1917 Iowa State Fair. Weight and wool always win. Rams and ewes for sale. C. W. & Frank Chandler, Kellerton, Ia.

FIVE EXTRA GOOD HAMPSHIRE RAM LAMBS
Priced right if taken in the next two weeks.
L. M. SHIVES, ROUTE 1, IUKA, KANSAS

FOR SALE—Ten registered Shropshire ewes, fifteen registered Shropshire buck lambs, ten pure-bred unregistered Shropshire yearling bucks.
K. HAGUE, Route 6, NEWTON, KANSAS.

FOR SALE—Registered Shropshire ram lambs and yearlings.
W. T. HAMMOND, PORTIS, KANSAS

OXFORD DOWN RAMS AND EWES
Bred from my $200 imported ram.
WM. EMPIE - AMSTERDAM, NEW YORK

REGISTERED SHROPSHIRE RAMS
Ten extra large boned yearling Shropshire rams by imported sire, priced to sell.
E. E. LAUGHLIN
Bates County. Rich Hill, Missouri

First Class Shropshire Rams For Sale

Will exhibit them at Hutchinson, Kansas, State Fair. Don't buy a ram before you see it. I sell and ship on approval.
JOHN COLDWATER, BREEDER,
Chase - - - - - - - - Kansas

S. M. Knox, of Humboldt, Kansas, is building up a very profitable herd of pure Scotch and Scotch-topped Shorthorn cattle. While he has only a small herd, they promise to return a nice profit for the money invested. A feature of the herd at this time is a number of choice young bulls.

AYRSHIRE CATTLE.

SOUTH FARM AYRSHIRES
300 HEAD.
75 Animals Imported from Scotland.
143 cows have qualified for advanced registry.
Males and females for sale.
SOUTH FARM
WILLOUGHBY - - - - OHIO

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G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising
O. W. Devine, Field Representative

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Personal mail may have to be held for several days, or be delayed in forwarding, and Kansas Farmer cannot assume any responsibility for mistakes occurring thereby

CLAIM SALE DATES.

Holsteins.
Oct. 4—Iowa Holstein Breeders' Sale, Waterloo, Iowa. Address F. C. Burney, Secretary Holstein Association, Chapin, Iowa.
Oct. 16 — The Nebraska Holstein Breeders' Consignment Sales Co., Omaha, Neb.; Dwight Williams, 103 Bee Bldg., Omaha.
Oct. 22—W. H. Mott, Herington, Kansas.

Polled Angus Cattle
Oct. 4—Sutton & Porteous, Lawrence, Kan.

Polled Durhams.
Oct. 13—Mrs. Emma Hundley, Bogard, Mo.
Dec. 12—Joseph Baxter, Clay Center, Kan.

Jersey Cattle.
Sept. 27—Lochrie & McCoy, Carl Junction, Mo. B. C. Settles, Palmyra, Mo., sales manager.
Sept. 29—Oklahoma Breeders' Sale, Oklahoma City, Okla. B. S. Settles, Palmyra, Mo., sales manager.
Oct. 1—Redmon & Son, Tipton, Missouri. B. C. Settles, Palmyra, Missouri, sales manager.
Oct. 31—Geo. W. Hagan, Lee's Summit, Mo. B. C. Settles, Palmyra, Mo., sales manager.
Nov. 2—W. L. Hunter & Sons, Lincoln, Neb. B. C. Settles, sales manager, Palmyra, Mo.

Herefords.
Oct. 6—J. O. Southard, Comiskey, Kansas.
Oct. 23—W. H. Rhodes, Manhattan, Kansas.

Shorthorn Cattle.
Nov. 20—W. W. Waltmire & Son, Peculiar, Missouri.

Poland Chinas.
Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 13—Arthur Anderson, Clyde, Kansas.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Oct. 17—Walter B. Brown, Perry, Kansas.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.
Nov. 6—Ross & Vincent, Sterling, Kansas.
Nov. 6—C. S. Byrne, Saxton, Missouri.
Nov. 7—H. E. Myers, Gardner, Kansas.
Feb. 18—Deming Ranch, Oswego, Kansas.
Feb. 19—Fred B. Caldwell, Howard, Kansas.
Feb. 20—Bert E. Hodson, Ashland, Kansas. Sale at Wichita.
Feb. 20—B. E. Hodson, Ashland, Kansas; sale at Wichita.
Feb. 21—E. J. Erhart & Son, Ness City, Kansas; sale at Hutchinson.
Feb. 22—F. Olivier & Son, Danville, Kansas.
Feb. 23—V. O. Johnson, Aulne, Kansas.

Spotted Polands.
Oct. 19—Fred Rhodus, Excelsior Springs, Missouri.

Hampshire Hogs.
Oct. 12—Kansas Hampshire Swine Breeders' Association and Halcyon Hampshire Pig Club sale at Valley Falls, Kansas. George W. Ela, secretary and manager.

Durocs.
Oct. 20—O. W. Long, Maitland, Missouri.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm — F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS
BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

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of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

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HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.
F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.

Chester White Hogs.
Nov. 20—W. W. Waltmire & Son, Peculiar, Missouri.

J. W. Marley, a well known banker of Oswego, Kansas, is one of the live boosters for the dairy interests in Kansas. He recently purchased another carload of dairy cattle in Wisconsin. The entire carload was purchased on special orders for people desiring to start in the dairy business with good foundation stock.

William Empie, of Amsterdam, New York, one of the leading importers and breeders of Oxford Down sheep, reports his flock doing fine. A feature of his flock at this time is the choice lot of young ewes and rams by the high-priced imported ram now in use in this flock.

C. F. Pfuetze, of Manhattan, Kansas, is the owner of one of the good Kansas herds of Jersey cattle. He has succeeded in building up a herd of producers that are dividend payers. A feature of his herd is the fine lot of young cows, heifers and calves.

We have just received Volume 35 of the Holstein-Friesian Herd Book. It contains entries covering the period of time from January 15, 1916, to August 1, 1916. The bull registrations cover 15,034 entries and the cow registrations 26,507, making the total number of entries 41,541. This volume contains the report of the thirty-first annual meeting of the Holstein-Friesian Association of America, together with a list of all members admitted up to June, 1916. It also contains the constitution, by-laws, reports of business meetings held during the year, index matter showing the name and number of each animal registered in the volume, and the name and address of each person whose name appears in the volume as breeder or owner, together with the numbers of the animals registered in his name.

Fifteen of the leading Holstein breeders in Nebraska will consign seventy head of very high quality Holsteins to the Nebraska Holstein breeders' sale to be held at South Omaha, October 16. The offering will consist of fifty-six cows and heifers and fourteen bulls. The sale will be under the management of Dwight Williams, of Omaha.

Albert Early, of Rago, Kansas, is demonstrating that good dairy cows are profit producers on the farm. One of his Holstein cows recently made a thirty-day milk record of 2,559 pounds, with a fat test of 3.5. Her best daily record was 94 pounds, and best seven-day record 635 pounds. This cow is seven years old and in April dropped a heifer calf which Mr. Early gave to his son who has refused an offer of $200 for it. Mr. Early owns one of the richly-bred bulls in Kansas, purchased at a price near $1,000.

Messrs. Charley and Fred McMurray, of Darlow, Kansas, have just made some very choice selections of Holsteins from the Navarre herd of E. S. Engle & Son. The McMurrays are successful farmers and dairymen and firm believers in high class Holsteins as safe and profitable investments. Even with feed conditions so very abnormal this season, the Engles find the demand for good Holsteins the heaviest since their herd was established.

W. T. Hammond, of Portis, Kansas, is one of the successful breeders of pure-bred Shropshire sheep in this state and finds them the most profitable stock on his farm. His flock was started with choice foundation stock and only high class rams have been used. This year he raised a very fine lot of lambs and a feature of the flock at present is the choice lot of young stock, including yearling and ram lambs.

J. O. Southard, of Comiskey, Kansas, owner of one of the famous herds of Hereford cattle now assembled, has catalogued an offering consisting of 125 head of choice Herefords for his sale to be held October 6. Fifty cows with calves at side and fifty bred heifers have been catalogued, also twenty-five choice bulls. They represent the best blood lines of the Hereford breed and this sale will be one of the big sale events of the season.

HOLSTEIN CATTLE.

FOR SALE

Registered Holstein Heifer Calves, 3 to 5 months old. Bull Calves, 1 to 2 years old. A. R. O. backing. Also milk cows.
BOCK'S DAIRY, Route 9, Wichita, Kansas.

Braeburn Holsteins Bull Calves by Walker Copia Champion, whose dam and sire's dam each held world's records in their day.
H. B. COWLES, 608 Kan. Av., Topeka, Kan.

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

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Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

The annual report of the British Berkshire Society for 1917 has just been received in this country. The book contains thirty pages of matter pertaining to the activities of this registry association in its different lines of work. Some of the prize-winning Berkshires of England are illustrated and a complete list of Berkshire awards at the leading fairs is given. At the great Smithfield Show of England in 1916, Berkshires won all the prizes in the carcass competition. There were classes for not over 100 pounds, not over 220 pounds, not over 240 pounds and not over 300 pounds. Three prizes were awarded in each class, Berkshires being awarded first, second and third in each class, as well as championship and reserve championship. The table compiled by Secretary Edgar Humfrey and which is included in his annual report, shows that the carcass competition was added to the Smithfield Club Show in 1904. This class is open to any breed, grade or cross. Pure-bred Berkshires have won both the championship and reserve championship and the first prizes in every class have been won every time by Berkshires except on six occasions, and on two of these the winners were a Berkshire cross. Out of a possible seventy-four firsts and championships, Berkshires were awarded all the championships and all the firsts but six, and two of these six prizes were awarded to a Berkshire cross. Another interesting exhibit in this report is the result of the championship at the Smithfield Club show. The champion pig of the show is chosen from the champions of each separate breed. Since 1883 thirty-four championships have been awarded and of this number pure-bred Berkshires have been chosen sixteen times and Berkshire cross-breds seven times. During the same period pure-bred Berkshires have been awarded the reserve championship nine times.

Wilbur W. Wright, a practical farmer of Harvey County and a Kansas Agricultural College graduate, has been appointed assistant county agricultural agent in Shawnee County. Mr. Wright began his work there September 6. Wyandotte County now has an organized farm bureau and will have an agricultural agent as soon as the right man can be found.

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YOUR machinery is only as good as the lubricant you use.

Your tractor, automobile or gas engine is only as efficient as the gasoline that gives it power.

The cheeriness and satisfaction of home lighting is in ratio to the quality of kerosene you burn.

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En-ar-co "White Rose" is a pure, dry, homogeneous gasoline that gives utmost power to the last drop.

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It does not char the wick like ordinary coal-oil.



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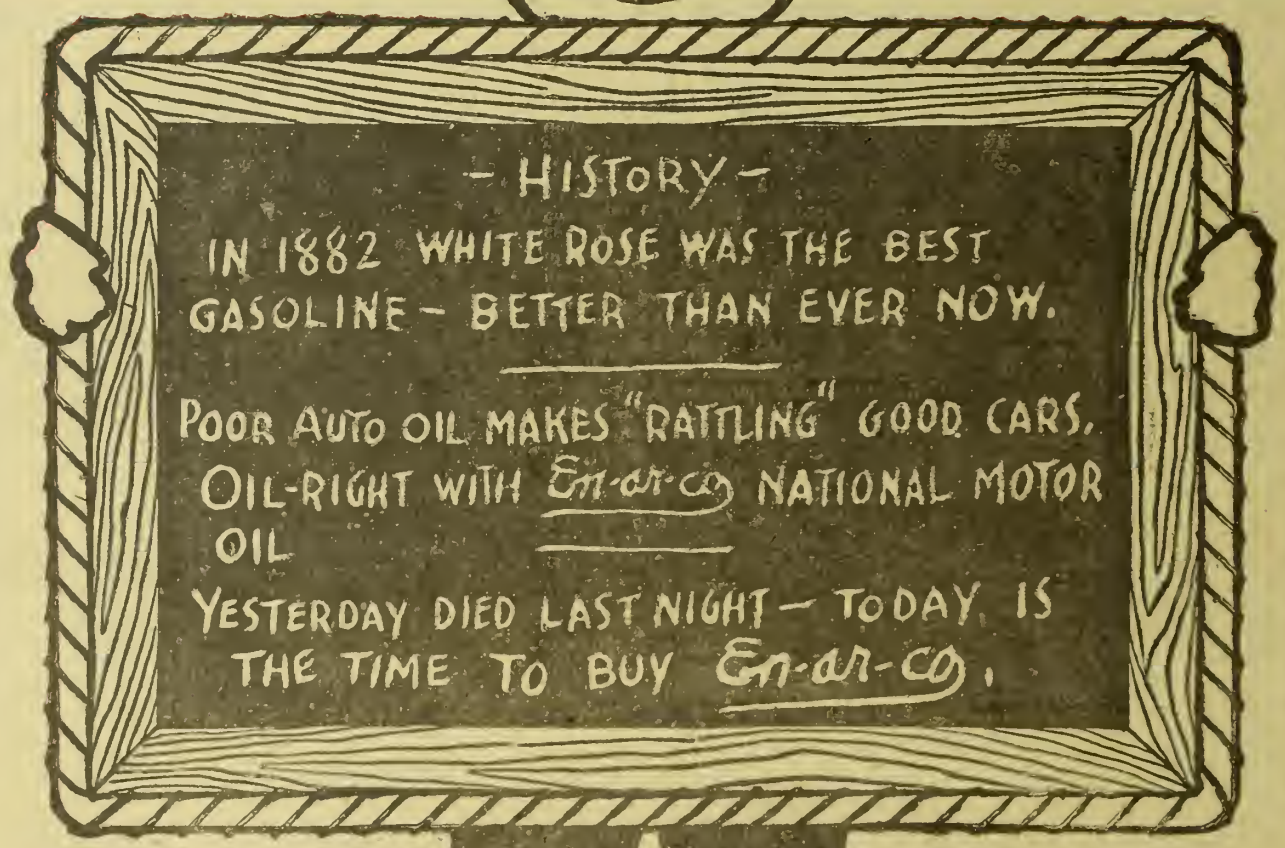

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SEP 22 1917

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 38. TOPEKA, KANSAS, SEPTEMBER 22, 1917. Established 1863. $1 a Year

FREE FAIR BREAKS RECORDS

In Attendance and Quality of Exhibits, All Previous Shows Surpassed

THE Kansas Free Fair has again broken all attendance records. It seemed last year that on Thursday, the big day, not another automobile or person could have gotten inside the gates. This year, due to especially favorable weather and the spread of the free fair idea, people came from far and near in greater numbers than ever before. By using a little more system in parking the cars, the seemingly impossible was accomplished and places were found for several hundred more inside the gates. Hundreds of cars, however, were unable to get inside. On Thursday and Friday every street leading away from the fair grounds was parked full on each side for two blocks. It is evident that all the Free Fair needs in order to have an enormous attendance is the right kind of weather. With favorable conditions people will come hundreds of miles to take advantage of this splendid opportunity to get a line on the agricultural and industrial progress of the past year and to take a little wholesome recreation.

While the county and state support takes care of premiums and some expenses in equipment, these funds are not sufficient to care for a great many of the necessary expenses of conducting a big fair. The management must depend on concessions and paid admissions to the grandstand for the races, for which no state money can be used, and the evening attractions, to make up the balance of the expense of conducting the fair. The weather was somewhat threatening last year and as a result the attendance at the evening attractions was rather disappointing, but fortune favored this year, and the bleachers and grandstand were crowded for practically every afternoon and evening program. The evening entertainment consisted mainly of a most spectacular exhibition of fireworks, supplemented by exhibition drills of Battery A of the Kansas Guards, which is encamped on the fair grounds, and other features of similar nature.

The choicest location on the grounds was occupied as usual by the carnival shows and concessions, this being almost a necessity because of the location of the permanent buildings for housing the various exhibits. The people in attendance who were interested in live stock and the agricultural machinery exhibits found their way to the barns and buildings, however, and these were crowded almost beyond their capacity nearly the whole week.

* * *

A good many people seemed to think the horse department was not up to the usual standard for Topeka. As a matter of fact, it was the best strictly Kansas breeders' show of draft horses ever made. None of the large establishments breeding and handling horses are showing this year. The Kansas farmer breeders of draft horses, however, are coming to the front and some splendid types of drafters were shown. A careful study of the exhibits of some fifteen or more Kansas breeders would convince anyone that Kansas can produce draft horses with plenty of quality and size.

The exhibitors were in no sense professional showmen. The colts shown had been suckled by mares that had done a heavy season's work on the farm. This evidence of the practical manner in which horse breeding is being handled was prominent all through the horse show.

It is always interesting to note the manner in which animals develop from year to year. Those who remembered the Percheron mare, Francine, winner of the grand championship last year, found her showing this year as a two-year-old of fine Percheron type. Mr. Loomis has good reason to be proud of this young mare. She was again the junior champion mare, but was defeated for the grand championship by the massive clean-cut black mare, Gazelda, shown by the Gossard Breeding Estates of Preston. Branson & Sons, of Overbrook, showed the grand champion stallion, Hector. This dark iron-gray horse has filled out and developed as a four-year-old and shows plenty of substance combined with good action and quality. His offspring show his power as a breeder. The Dustins won first and second on two yearling stallions of their own breeding. A most interesting exhibit in the Percheron class was the get of sire, such a class always showing the skill of the breeder and the prepotency of his breeding animals. D. F. McAlister, of Topeka, won the first place on the get of Improver, the grand champion stallion of last year. George Cook & Sons, of Freeport, Kansas, made an especially strong showing in the two and three-year-old stallion classes. Their two-year-old Pluto won the junior championship.

David Cooper & Son, of Freeport, Kansas, with their twenty-four head of Belgians, had no competition. This is to be regretted, as no breeder likes to win the prizes without strong competition.

* * *

The cattle barn was well filled with a balanced group of exhibits representing the four beef breeds and Holstein, Jersey, Ayrshire, and Guernsey breeds of dairy cattle. Twelve herds of Shorthorns were shown, seven being by Kansas exhibitors. The beef cattle were not shown in quite so high condition as usual, but perhaps this is to be commended, as there is a tendency to overfit breeding animals of the beef breeds. There have been larger numbers of Shorthorns at previous fairs, but never a lot showing more evenness in quality all through. In fact, this statement could be made of all the beef breeds on exhibition.

The beef cattle were judged under a large tent, which was a big improvement over judging out in the open as has been the previous practice. There is nothing more seriously needed on the Topeka fair grounds than a suitable live stock judging pavilion of permanent construction. Such a building would be an important factor in making this fair one of the leading live stock fairs of the Middle West.

One exhibitor—D. F. Cowden & Son—came from Texas with a herd of Angus cattle. They showed a senior yearling, Myra of Topeka, that was made grand champion Angus female of the show. This thick-meated finely-fitted heifer was born on the Topeka fair grounds two years ago, her mother, Myra of Rosemere, being the grand champion female that year. In the Herefords there were three out-of-the-state herds. One—the LaVernet from Mississippi—has been showing at Topeka for several years. The Engle herd of Missouri is also well known to Topeka fair visitors. We were especially pleased to observe the scale and fine beef qualities our Kansas breeders of Herefords are getting in their herds of this breed. Few people realize what it means to bring such well-fitted herds to a fair following the feed conditions that have prevailed during the past season.

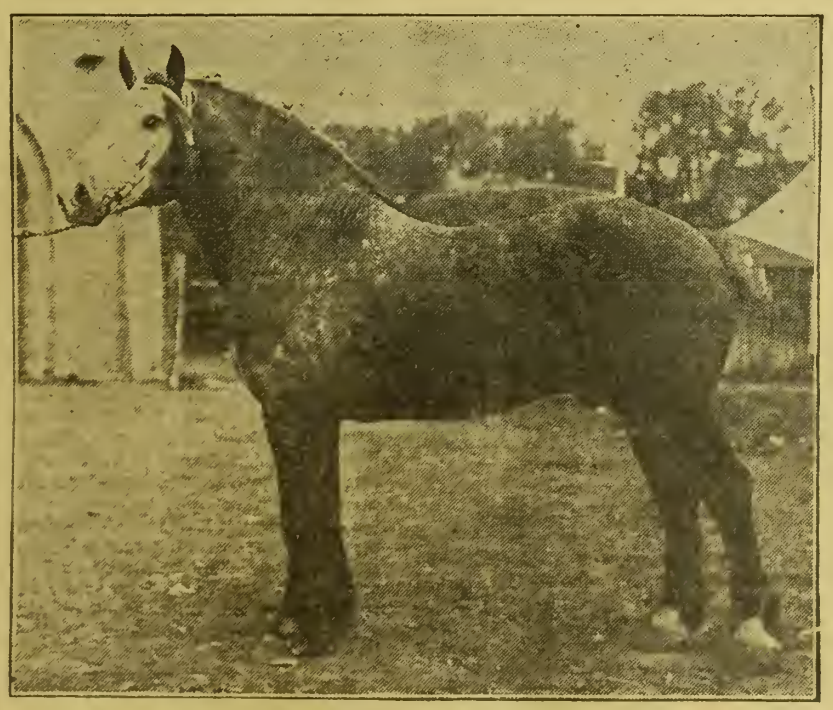
Carl Miller, of Belvue, Kansas, has not been showing long, but he is forging ahead and is making older breeders "sit up and take notice." Carl is a graduate of the Kansas Agricultural College who has gone back to the farm and is making good.

The W. I. Bowman herd, of Western Kansas, was a splendid exposition of what can be done with beef cattle in that section.

In point of numbers the steer show was small, but the quality was fully up to the standard of previous years. In the two-year-old class, all breeds showing together, Herkelmann of Iowa won first with his white Shorthorn. The Kansas Agricultural College won second with a Hereford and third with a Shorthorn. Kershaw, of Oklahoma, was fourth with an Angus. In the yearling class the college Shorthorn, Barmpton Prince, won first after an hour's session by the three judges. Kershaw's Angus was second, an Agricultural College Hereford third, and the Sutton & Porteous Angus fourth. It took the judges fully an hour to decide this class, and the beef cattle exhibitors in the barn were still arguing over the respective merits of the steers when the show broke up Friday afternoon. The steer calf awards were as follows: Agricultural College first on Victor Hessler, a Hereford, second on Golden Dale, a Shorthorn; a Kershaw Angus steer was third, the college Shorthorn fourth, and Sutton & Porteous fifth with an Angus. The Hereford calf, Victor Hessler, bred and fitted by the Kansas Agricultural College, was made champion steer.

* * *

The Kansas Free Fair simply must have additional barns for housing hogs. The exhibitors of hogs this year were an exceptionally good-natured bunch of men and they put up with all sorts of inconveniences because the hog show has outgrown the capacity of the six barns available. A big tent was used for the overflow and some other extemporized buildings. Anxious as the hog men are to show at a fair having such a large and representative attendance as the Kansas Free Fair, they cannot be expected to put up indefinitely with such makeshift accommodations. This year it was necessary to turn down late applications for entry and advise them to stay away because of the impossibility of caring for additional exhibits. The sheep exhibits were housed in one of the hog barns. These most profitable farm animals are claiming more attention each year and provision must be made for showing them and giving them proper care during the fair week.



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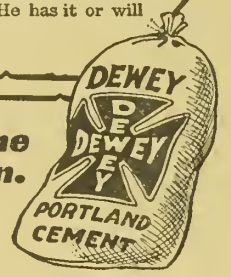

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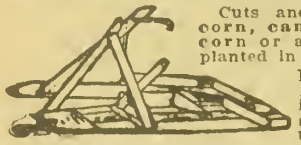

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If the Government will not take chances on typhoid fever, but compels all soldiers and sailors to be vaccinated, you cannot afford to take chances either. Better get vaccinated now!

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

THE tractor is being used extensively as a solution for the problem of farm labor. All over the United States there is a need for men and horses to work on the farms; horses have been shipped abroad by the hundred thousands since the war began, and men have left the farms to meet the demands of the factories.

This year we are asking that more acres be farmed and that this land be more thoroughly and carefully worked so that the maximum production may be obtained. To properly prepare the seed bed for this large area, a great amount of work must be expended. It is necessary to plow deeply and at the right time and because the season is short, the crops have to be rushed in. The time rate of doing work is known as power and the crying need of the farmer is sufficient power to do the work required. The chief power producing agency on the farm has been the faithful horse but with the price of horses as high as it now is the farmer has to turn to something that, even though an added investment is necessary, still will repay him in larger returns.

Mechanical power is the solution and the modern tractor, although it has not reached its fullest development, is proving a success.

Primarily, the tractor does replace horses, but as their supplement it is even more important. The small machines of the two, three, and four-plow sizes, so popular today, do not do away with many horses on any given farm, but the farmer can fit the tractor into his program so that more can be accomplished at a reduced cost.

Let me illustrate this by a concrete example of a farm in Illinois. Last spring, on a four hundred acre farm, it was found necessary to plow up sixty acres of hay land that had winter killed—in addition to the extra land it was intended to farm because of being patriotic. In all, the farmer was to have two hundred and forty acres of plowed land. Two hundred and twenty acres of this land had to be plowed last spring as only about twenty acres were done last fall. Only eight of his ten horses could be worked to their fullest extent. The time period for putting in these crops was from April 4 to about May 25 and during these seven weeks, eleven days were rainy or too wet to do field work. A three-plow tractor was purchased and by keeping this plowing and disking, the horses were relieved of the heavy work and the crops were put in on time. Furthermore, the land was plowed more deeply and was disked more times than it had ever been. There are similar instances throughout the West and all show the added advantage of the tractor.

But not in field work alone is the tractor of special use. In this year of the mobilizing of the nation's agricultural forces for maximum crop production, we shall find much need of the tractor for running belt machinery. All modern farms have silos, and the machines for filling them have to have prime movers. The small individual threshing machines for one or two farms only are coming into general use. The day of the custom thresher with the accompanying large crew of help is passing. So the tractor is used for driving threshing machines, feed grinders, and hay balers. It is not hard to see that inventive ingenuity is meeting the extra requirements of the American farmers for feeding the world by placing at their disposal a machine that makes for greater accomplishment at a reduced cost.—E. R. WIGGINS in the American Thresherman and Farm Power.

Rural Fire Protection

In an Ohio paper an account was given recently of what is said to be the first rural fire department in the United States. This company serves the farmers of Wayne County, Indiana, and Darke County, Ohio, who live within a radius of five miles of Hollandsburg.

An auto truck of the most modern type has been purchased, and has just been delivered. It is provided with two large chemical tanks and can make thirty miles an hour. The equipment was bought by farmers and will be maintained by annual dues of the membership. If the department is called to extinguish a fire at the home of a member, no charge is made. If the call comes from a farmer who is not a member, the service will cost the farmer $50.

If the plan proves a success, as it should, it will not alone prove of benefit locally, but will pave the way for the organization of these little companies in other communities. There is no question but that the tremendous annual fire waste in farm properties can be materially lessened by the organization of these motor companies, say, in every township. In this day of good roads, telephone service, and the speedy motor apparatus, there is not much excuse for the farmer to be without fire protection.

Washing Machines on Farm

It is harder for the women of the farm to get help in the house than it is for their husbands to get labor for the farm work. We are asked to increase our production and that means women must increase their burdens. It is necessary that labor-saving machinery be installed to lessen the sixteen-hours-a-day labor of the farmer's wife.

The family washing is the hardest part of the farm woman's housework. And while all kinds of labor saving machinery is being installed to do the farm work, surely no woman should be expected to break her back over the old-time wash tub, and the old-time ironing board.

There is much back-breaking work in the farm home which might be lightened up by up-to-date labor-saving devices, but the conditions under which the washing is done in many farm homes not only wears out many women, but endangers the life of the coming generation. Scrubbing out the family wash on an old-fashioned washboard is obsolete and no woman should be expected to do it, and no woman with a spark of self-assertion will do it these days.

A writer in the Wisconsin Agriculturist tells of visiting a neighbor having an electric washer and noting the ease with which the large washing was done. Not every farmer has electricity, but nearly every one now has a gasoline engine, which might operate a washing machine and wringer, and today the washing machine is quite as necessary on the farm as the gasoline engine.

With a power washing machine a washing can be done easily in two hours which in the old back-breaking way would take half a day. This is the day of labor-saving devices and the farmer is a back number who does not avail himself of these helps to successful farming, but nowhere are labor-saving devices needed more than in the farm household.

Many women are shortening their days by carrying water into the house, doing the family washing by old methods, and emptying heavy tubs of water, when labor-saving machinery might just as well be provided for them as it is provided outside on the farm. Any washing machine, whether it is electric, gasoline or hand power, is better than the old way, and the sooner this labor-saving machinery is installed in every farm home, the better.

The Kansas State Good Roads Association staged an exhibit in the agricultural building which could hardly be passed by without pausing to study it closely. On the wall back of the exhibit are some very striking cartoons which call to mind most vividly the cost of poor roads. Below on the table and in the form of pictures is a great deal of material showing the different methods of road making and in many ways attracting the attention of visitors to the progress that is being made in highway construction. The result of such an exhibit is to lead those who study it carefully to see the importance of giving a great deal more attention to the subject of roads.

Hospitality, like any other grace, loses grace when it calculates. It is most charming when least studied. Don't worry yourself over the guest—nor worry him.—The Continent.



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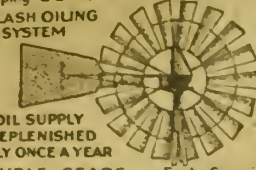

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TIME TO SEED WHEAT

For a number of years Hessian fly has caused serious damage in Kansas wheat fields. In controlling this serious pest, one of the measures, along with early plowing and the destruction of all volunteer wheat, is observing the fly-free date for the different sections of the state. When the fly infestation is serious, as it has been over parts of Kansas, early sown fields become badly infested. This year, however, conditions are somewhat different, and, since late sowing is more apt to winter-kill, Professors L. E. Call and G. A. Dean, of the Agricultural College, after a careful canvass of the Hessian fly situation, are advising that wheat be sown a little earlier this fall over most of Eastern and Central Kansas than has been customary during the past four or five years. They find that the danger from Hessian fly injury is less serious than it has been for several years except in isolated areas in the central part of the state. There is, however, a slight infestation of fly over the entire eastern half of the state, and they are urging that great care be taken to destroy all volunteer wheat. This volunteer wheat is the greatest source of danger because it affords an excellent means of carrying the fly over the winter to infest the main crop of wheat in the spring.

Reasonably early seeding is advisable because it is better able to withstand the winter. In fighting the Hessian fly, the wheat grower has been compelled to choose the lesser of two evils. The earlier sown wheat gets its root system better established and hence is less subject to injury from dry weather and hot winds. Late sown wheat tillers, or stools, very little, and for this reason the stand is thin unless considerably more seed is sown.

It ripens late and in the eastern part of the state is more likely to be injured by rust than wheat that is sown somewhat earlier. The quality is usually poor as compared with wheat planted earlier. On the other hand, early seeding may give a low yield in dry seasons, because the heavy growth uses all the moisture stored in the soil and leaves the crop entirely dependent on seasonal rains. There is also more danger of early sown wheat producing an excessive growth and lodging on the more fertile bottom soils, or on other soils in seasons of excessive rainfall.

Professors Call and Dean point out that this fall wheat should be sown sufficiently early to enable it to make a satisfactory fall growth, especially a satisfactory root development. The exact time to sow for best results will vary with the section of the state, the character of the soil, the manner in which the seed bed has been prepared, the variety of wheat, and the quantity of seed sown.

The proper seeding time differs in different sections of the state. Wheat should be sown earlier in the northern and western part of the state than in the eastern and southern part. This is because the greater elevation in the western part and latitude in the northern part shortens the season, and grain must be sown earlier to make the same amount of growth before winter. In North Central Kansas, wheat seeded between September 15 and September 25 should give best results, when sown on well prepared ground. In South Central Kansas seeding may be from five to ten days later than in the north central part of the state, but unless the ground is well prepared, it is not advisable to delay seeding much after September 25. In Northeastern Kansas the best yields are usually obtained where the wheat is sown between September 20 and October 1, while in Southeastern Kansas slightly later seeding can be practiced. It is not advisable to delay seeding much later, because soft wheat, which is the common type of wheat sown, must be seeded earlier than hard wheat for best results. In Western Kansas there is less choice with respect to time of seeding than in the rest of the state, because of dry falls. Wheat may be sown in this part of the state any time during the months of September or October that moisture conditions are favorable.

The seed bed preparation should be taken into consideration. Wheat may be sown considerably later on ground that has been plowed early and deep and well prepared, than if it has been carelessly prepared. Where ground is plowed early, plant food is developed very rapidly and water is usually stored in the soil for the growth of the plant. As a result, growth is rapid, the plants tiller abundantly and strong roots are developed before winter. As a general rule, the later ground is plowed the earlier the wheat should be sown, and the greater the quantity of seed that should be planted.

The rate to seed wheat bears a very definite relation to the time of seeding. Wheat that is planted early tillers abundantly and produces many heads from a single grain. On the other hand late sown wheat often germinates poorly and produces but one or two heads to the plant. For these reasons less seed is required when the crop is sown early, and more is required when sown late. The condition of the seed bed also affects the rate at which the crop should be sown. Less seed is required on well prepared ground than on ground plowed late and poorly prepared. More seed is needed in Eastern than in Central and Western Kansas, also more seed of the soft varieties should be sown than of the hard varieties. In Southeastern Kansas, where soft wheat is generally grown, a bushel and a half of wheat to the acre will usually give best results, when the wheat is sown at the proper time. In Northeastern Kansas a bushel and a peck should be sown; in Central Kansas about one bushel will prove sufficient, and in Western Kansas often one-half bushel to three pecks of seed is sufficient to produce maximum yields when the crop is sown early on well prepared ground. For every seven to ten days that seeding is delayed after the best date of seeding, an additional peck of seed should be sown to the acre. At the Agricultural College, as an average of the past five years, wheat seeded after October 15 has given best results when sown at the rate of two bushels per acre, and between October 1 and October 15 at the rate of one and one-half bushels.

* * *

We wonder how the people of the farms look upon the carnival features of our big agricultural fairs. Never in the history of the Kansas Free Fair have such crowds gathered on the fair grounds as this year. The carnival section seemed to be crowded most of the time, but so were the barns and exhibits. These crowds continued through the whole week. Thursday, the usual big day, broke all previous attendance records, but on Friday there seemed to be fully as many people, and on Saturday, which day was devoted entirely to the automobile races, aeroplane flights, and the carnival shows, there were several thousand more people in the grandstand and on the quarter stretch than either Thursday or Friday. These features are all apart from the showing of live stock, farm machinery and equipment and the various agricultural products, which is the real basis or excuse for a big agricultural fair. The Topeka Fair has established the free gate idea, which means that no one pays a cent to see any part of the educational features of the exposition. It takes more money, however, to run a big fair than is provided by the county and state appropriations. These funds can be used only for certain specific purposes, such as payment of agricultural and live stock premiums. We have never had the time nor been inclined to attend any of these carnival shows. There is nothing elevating about them. In fact the very reverse is true, and it is to be regretted that they occupy such a prominent place in a big fair. It is up to the people who patronize these big fairs, however, to formulate the policy of the management as regards the prominence given to the carnival feature. The men in charge argue that people want these things, and it is only by accepting the money coming from these big concessions that a big exposition can be properly financed. What do KANSAS FARMER readers think? Do you favor furnishing such support to a big fair as will enable it to put the educational features to the front in a large way, or are you content to sit back and say nothing, thus compelling the management to accept questionable features in order to come out even?

* * *

The Junior Department was a new departure at the Topeka Fair this year. Its purpose was to encourage Kansas boys and girls to take greater interest in growing pigs, poultry, and the various farm products. Miss M'Edna Corbet, county superintendent of Shawnee County, was superintendent of this department, and some very creditable work was shown in the various sections. We feel that it is a mistake, however, to divide up the work of the boys and girls as was done at this fair. It would be much more inspiring and attract a great deal more attention if it could all be gathered together in one place under its own management. A Boys' and Girls' Club Department was also featured for the first time this year. The state club work, which is under the direction of Otis E. Hall, state club leader, of the extension division of the Agricultural College, offers the best avenue for developing the farm and home interests of the boys and girls. We believe it would be much more effective to center all the boys' and girls' work at the big fairs under the state club direction. The exhibits made at the fairs would then all represent the work of a constructive program covering a whole year under active and sympathetic local leadership. The educational value of work so directed is far greater than work performed without a well defined program. Comments on the Boys' and Girls' Club Department will be found on another page of this issue.

* * *

We wish to commend the energy and ability of the farmers who presented general farm exhibits at the Kansas Free Fair. To prepare and show a creditable exhibit of the products of a single farm requires a great deal of time and work. The agricultural products of such a farm have practically no outlet except through the regular market channels. An exhibitor of pedigreed live stock can build up a prestige through successful showing of his animals that will greatly increase his returns from the sale of breeding stock. It is a valuable form of advertising. The man who shows a collection of agricultural products from his farm has no such prospect of realizing on his efforts as a showman unless it be where certain strains of pure-bred wheat, corn, or other staple crops are being featured. As a rule, the man making the collective farm exhibit has nothing but the premium to pay him for his effort, outside the feeling of satisfaction coming from performing a public-spirited act in helping to show the agricultural possibilities of his home community. The premiums are not large enough to pay for the work involved, and those who prepare these exhibits should be given due credit for doing their part in making the agricultural part of a fair successful. One of these collective exhibits at the Free Fair was made by Wylie Engler, a Shawnee County boy only fourteen years of age. He had made no attempt to follow the regulations laid down for competing in this classification. He had collected and gathered together insects, weeds, grains, and the various agricultural plants from sheer love of learning all he could about these many things found on every farm. This boy's work, as shown in his exhibit, was unusual, and his interest in everything related to farm work is most commendable. He was given fourth place by the judges. Paul Gilman, of Leavenworth, won first; Archie Smith, of Jewell, second, and Mrs. Kriepe, of Tecumseh, third.

* * *

A study of the truck farm exhibit made by L. W. Orner, of Oakland, furnished convincing evidence of the adaptability of Kaw Valley soil for producing vegetables of a high quality. The uncertain element is the possibility of insufficient rainfall at certain seasons, and that could be overcome in truck farming by installing pumps to draw upon the water of the underflow. The possibilities of this section for producing large quantities of vegetables of all kinds has not been sufficiently exploited. Mr. Orner made a most comprehensive exhibit and easily won the blue ribbon in this classification.

* * *

Five county collective exhibits were made at the Free Fair. These exhibits are prepared and staged by men who have almost become professionals in the business. Such exhibits attract much attention and serve to most effectively advertise the county they represent. A large amount of work is involved, and there are few men willing and able to spend the time and effort necessary to prepare such exhibits. They were especially attractive this year because of the exceptionally fine quality of the small grain shown in the sheaf or bundle. This material is admirably adapted to the decorative feature. The ranking was as follows: Leavenworth County, first; Jewell, second; Franklin, third; Douglas, fourth; and Jefferson, fifth.

* * *

A few years ago such an exhibition of Holstein cattle as was made at Topeka would have been impossible in Kansas, but the state is forging ahead rapidly in breeding dairy cattle. The four Kansas herds would have been a credit to any Holstein show. The Galloway-Messer Farm of Iowa had a classy lot of cattle of this breed, but they were met with cattle fully as good. The Galloway-Messer herd took away with them the cow championship and the junior bull championship and won first place on their aged herd, but the Kansas exhibitors got a fair share of the blue and championship ribbons, including the grand championship bull of the show.

The Jersey men of Kansas were represented by Fred Laptad, of Lawrence. This is a good working herd of Jerseys, but they were up against a herd backed with a lot of money made in other ways than by milking cows. The Kansas Jersey Cattle Breeders' Association occupied some space in the Jersey section of the barn. J. A. Porter, of Mayetta, secretary of this organization, was in this display booth most of the time, handing out Jersey literature and boosting for the breed. This organization, now less than a year old, has more members than any other pure-bred cattle breeders' association in the state. Even though the Jersey show was light, people who visited the barn were impressed with the merits of the breed through the efforts of this live organization.

* * *

This year has settled beyond the shadow of a doubt the desirability of having a free gate at this fair. Topeka has never been visited by so many people at one time. In order to take the place to which it is entitled, more permanent buildings are absolutely necessary. In addition there must be good sidewalks to all parts of the grounds so that people can get around in comfort in bad weather.

* * *

The live stock awards will be found in full on other pages of this issue, with the exception of the sheep awards, which will be given later. Comments on other departments of the fair will also be found on other pages of this issue.

COOPERATIVE MARKETING

Shortening Route From Producer to Consumer

By R. C. GANO



HOLSTEIN COWS BROUGHT TO LEAVENWORTH COUNTY BY WULFEKUHLER STATE BANK AND DISTRIBUTED AMONG THE FARMERS OF THAT COUNTY

THERE are many indications that there is coming to be a nation-wide awakening in this country on the subject of co-operative marketing. The farmer's attention in years past has been mainly concentrated on the science of producing. Many agencies have helped him in this, and today there is no reason why every farmer should not be something of an expert in producing his crops. It is natural now that he should begin turning his attention to the subject of scientific selling, too long neglected. For he cannot have failed to note the great number of speculators and other middlemen who are making more money out of farm crops than is the farmer. The desire for scientific selling is leading unerringly to co-operation.

Co-operative marketing as a means of preserving for the farmer the profits from his labor, started in Denmark in 1882 with the establishment of a co-operative creamery by a small group of dairymen. But it is interesting to know that fifteen years before that a reaction of United States farmers against the high cost of distribution had resulted in the formation of a fraternal order, the first of its kind, called the Patrons of Husbandry. This organization was the forerunner of a number of societies, at least one of which—the Farmers' Union—is an established power today with an unquestioned influence on cotton production and prices.

With the exception of the co-operative creamery, cheese factory, and egg circle, all of which originated in Denmark, the United States has really been the pioneer in co-operative crop marketing. The co-operative grain elevator movement had its origin in this country at Rockwell, Iowa, and the co-operative marketing of fruits, which is the third really big movement of this sort, was first tried in Southern California in 1885-93.

CO-OPERATIVE CREAMERIES

The co-operative creamery idea has shown a remarkably rapid growth. In thirty-five years it has reached practically every cream producing territory in the world. Germany, Switzerland, Ireland, France and the United States were all quick to follow Denmark's example.

Egg circles have seen only slight development here, being operated usually in connection with co-operative creameries. The dairy states of the Northwest, however, have a number of highly successful egg circles.

The thing that is needed in order to secure rapid growth of the creamery movement is federation of the creameries for large scale marketing. To date co-operation is confined to restricted areas and the economies possible are limited to just the extent that the movement is localized. It has been through federation of neighborhood associations that both the grain elevator and fruit marketing movements have secured their market triumphs. Little progress in this direction has been made among the creameries. Yet the university farm in Minnesota has gathered data to show that farmers of that state who are selling their cream co-operatively are realizing from five to eight cents more per pound for butterfat than is being secured by independent sellers.

CO-OPERATIVE GRAIN ELEVATORS

The co-operative grain elevator movement had its beginning at Rockwell, Iowa, in 1889, when a brave little band of farmers determined to take a stand against the exorbitant demands of the great line elevator companies. This first little company had a rocky road to travel, for it was attacked by big interests from every conceivable angle. But it stood its ground and set an example which was soon followed by other farmers on a wholesale scale.

There are today in the grain belt over 3,000 farmers' co-operative elevators. North Dakota and Iowa lead in number of companies, and five other states have over 230 companies each. These are Illinois, Minnesota, Nebraska, South Dakota, and Kansas. The first state association of such companies was formed in Illinois in 1903, and today nine states have state associations, viz: Illinois, Iowa, Kansas, Minnesota, North and South Dakota, Nebraska, Indiana, and Ohio. Two other states—Montana and Missouri—are expected to form state associations shortly.

In addition to this the nine state associations have recently perfected a national organization called the National Council of Farmers' Co-operative Companies, which handles the national questions of the grain belt and has been very successful in securing legislation. H. W. Danforth, of Washington, Illinois, is president of the National Council. The movement in this country is unquestionably in a most flourishing condition.

In Canada, however, the grain elevator movement had made even more rapid progress. In that country there are now four huge co-operative companies which after nine years have over 50,000 farmer members and have handled over $150,000,000 worth of grain.

CO-OPERATIVE FRUIT MARKETING

But this country's truly spectacular co-operative movement has been the fruit marketing movement. The creamery and elevator movements have been rather unostentatious—but the fruit marketing movement, through its national advertising campaigns, has in recent years been crying from the housetops. It is this branch of co-operative marketing which has attracted the attention of farmers far and wide and has caused the farm press and various farmers' organizations to begin taking a more active interest in the subject.

Less than three years after Denmark's first creamery was formed, and probably without any knowledge of the existence of such a movement in Denmark, the California citrus fruit growers organized the Orange Growers' Protective Union. This first attempt at co-operation was unsuccessful, but it was renewed in 1893, when speculators had so abused the citrus fruit market that instances were on record where fine oranges were sold by the growers at ten cents a box. A mass meeting of growers at Los Angeles resulted in the pledging of 90 per cent of the citrus fruit crop to the new association, and the first local associations of growers were immediately formed.

The organization was partially disappointing at first, but it had within it the germ of success. In the first years it handled about 25 per cent of the state crop. By 1905 it was handling 47 per cent and the crop had increased enormously. Today the annual citrus crop of California is over ten times the size of the crop of 1893, and the California Fruit Growers' Exchange markets 67 per cent of this crop by means of a marketing machinery and system which is considered the most remarkable ever developed for handling an agricultural crop and which operates at a cost of less than 3 per cent on gross sales. In this great association of about 8,000 farmers there are 150 local associations grouped into nineteen district exchanges.

This was not only the first fruit association but it was also the first to use advertising. In 1907 the brand name, "Sunkist," was adopted, and an experimental newspaper campaign was tried in Iowa. This was eminently successful in increasing consumption of the fruits, and led to national advertising. This year nearly half a million dollars is being expended for advertising Sunkist oranges and lemons. The stimulating effect of the advertising on sales has been easily traceable, and it is known that without advertising no market could have been found at profitable prices for the great increase in production of the past few years.

OTHERS FOLLOW LEAD

The educational influence of the Sunkist enterprise has been stupendous. Practically every big fruit, nut and vegetable industry in California has endeavored, with more or less success, to follow the lead of the citrus fruit growers. Where these efforts were properly managed they have been highly successful. In the state today are two successful deciduous fruit organizations, two dried fruit organizations, two highly successful nut associations, the Associated Raisin Company, an epochal success, now handling practically the entire $10,000,000 crop, the Peach Growers Inc., a new prune and apricot organization, and several others.

Outside of California there is the Florida Citrus Exchange, handling one-fourth of the Florida orange and grapefruit crop, the great apple and deciduous fruit organizations of the Northwest, notably the Northwestern Fruit Exchange and the North Pacific Fruit Distributors, and other such organizations throughout the country too numerous to mention. There is not a state in the Union in which truck growers, potato growers, honey producers, or fruit growers, have not formed successful organizations for marketing. The United States Government estimates there are no less than 10,000 farmers' marketing associations actually in operation, though the majority of these are of course merely small community organizations. The Michigan Farmer states there are over five hundred marketing associations in Michigan alone.

The Farmers' Union, with its over 3,000,000 members—not all farmers—is a marketing organization in the limited sense that it gathers crop statistics and makes minimum price recommendations to cotton growers. It has also built over 1,600 cotton warehouses to help growers hold their cotton for favorable prices. It thus appears to be working towards the more complex systems of the fruit associations, by slow stages.

CO-OPERATION PAYS

Practically all of the organizations

(Continued on Next Page)

ONE of the most interesting features of the Leavenworth County Farm Bureau picnic was the distribution of 101 high grade Holstein heifers to farmers of the county. These heifers had been bought from Kansas dairymen by the Wulfekuhler State Bank with the help and advice of Gus M. Aaron, president of the farm bureau, and I. N. Chapman, county agricultural agent. The heifers were numbered and corresponding numbers were placed in an envelope and those who had contracted for the cattle drew numbers for them. These heifers are all bred to herd sires having good production records back of them. Model feed and milk trucks, buckets, strainers, stanchions, dairy scales, and other articles of value to dairy farmers, were on exhibition.

The farm bureau and the federated canning clubs of the county joined in this picnic and fully 3,000 persons were in attendance. It was an old-fashioned basket dinner picnic. The amusements and the ice water were the contribution of the Leavenworth Chamber of Commerce.

In the cut on this page Mr. Aaron stands at the left, and next in order are Otto Wulfekuhler, I. N. Chapman, county agent, and F. S. Turner, assistant county agent.

PROPER HOUSING OF POULTRY

A Warm, Well Constructed House is Essential to Winter Egg Production

By ROSS M. SHERWOOD, K. S. A. C.

IT WILL pay well to spend a little money for a good poultry house this fall. The health and productiveness of the fowls depend upon the care they receive. A suitable house is essential to winter egg production, and there is no questioning the profitableness of having a high egg return the coming season. The poultry house for the fowls to occupy this winter should be built at once so they will be fully accustomed to the new quarters before the cold weather comes.

The first thing that must be taken into consideration in planning a house is its location. The logical location for the poultry houses is nearer to the residence than to the live stock barns, since as a general rule the women of the household will have considerable to do with the caring for the fowls.

Adequate drainage, however, should be given precedence to convenience of location. No matter how conveniently located a poultry house may be, if the drainage of the site is poor, the health of the fowls suffers and the possibility of failure is greatly increased.

The ground should have a gentle slope, preferably to the south. The soil should be loose and porous, but if the site is not naturally dry it should be made so by the laying of tile drains.

The location of the sheds and pens having been decided, it is necessary to determine the size and type of house required. It is not an easy matter to design a perfect poultry house that will fulfill all conditions with absolute satisfaction. It has been demonstrated clearly that the old-fashioned closed house is lacking in many respects. The open front type of house in a more or less modified form is being adopted rapidly in all parts of the country.

The open front house should face the south, and be tightly inclosed on all sides except the front. In most cases the front is left entirely open to the outside air. Free ventilation without drafts is most desirable, but it is essential that cold damp winds should be excluded from the inside of the house, by covering the openings with cheesecloth or muslin. This will break the force of the wind, yet admit the air freely, so that the circulation is not stopped.

There also should be a glass window in the front of the house, preferably a single sash. This may be hinged on one side to swing inward. Too much glass, however, means a warm house in the daytime and a cold house at night, and experience has shown that fowls will not lay under these conditions.

The floor space within the building is dependent upon the breed of birds housed. From two to five square feet of floor space for each bird is considered ample room for most varieties.

A well proportioned poultry house measures 16 x 20 feet, the side walls being eight feet at the high point toward the south, and about five feet at the lowest point. The most satisfactory roof for this style of house is the common shed type, with the slope to the north. This reduces the amount of surplus air space directly above the roosts in the rear of the building.

Any durable lumber can be used for the construction of the house. The outer boxing should be well seasoned to prevent excessive shrinkage and cracking. Shiplap is satisfactory for the side walls as it can be laid quickly and makes a tight, strong surface. For studding, 2 x 4's may be used in most cases, but 2 x 6's are at times necessary for roof rafters in larger buildings.

Bad air is harmful to all birds and consequently it has been found necessary to provide a ventilating system that will furnish an adequate supply of fresh air at all times. Ventilation can be secured by means of a few openings under the roof at the rear of the house. These openings should be filled with straw to prevent any drafts.

The roof is a most important part of the house, as it must be absolutely watertight. Where there is sufficient pitch, shingle roofs are the most satisfactory, as they are cooler in summer and warmer in winter than those constructed of metal or composition roofing. Where the latter form of roof covering is used, the sheathing should be closely laid. For small houses the shed type of roof is the best. Houses more than sixteen feet and up to twenty-four feet wide generally require a specially constructed roof, in order to allow the sunlight to reach the rear of the building.



TOLMAN OPEN-FRONT HOUSE, TWENTY FEET SQUARE.—PERCHES HIGHER THAN FRONT EAVES.—VENTILATOR IN BACK SIDE

The floor may be of concrete, common boards or dirt. A concrete floor is the best, as it is easily cleaned and kept dry, is ratproof and exceedingly durable, and although the first cost is greater, it is more economical in the end. It is often advisable to lay the concrete floor on a foundation of from six to eight inches of coarse rock as an extra precaution against dampness. A board floor is dry, but must be made tight or it will be cold. A board floor has no special advantages to recommend its use. A dirt floor is unsanitary and affords a safe harbor for rats. The fowls will scratch holes in the floor and thus necessitate frequent filling in with fresh earth. The entire building should be protected in some manner at its base so that the framing will not rot.

The interior fixtures of the house should be portable to insure thorough disinfection. The perches should be placed twelve to fourteen inches apart. The nests may be built in sections of four or six and are usually supported by cleats on the walls. The nests should be roomy and preferably dark and secluded, as most varieties of birds will lay to much better advantage under these conditions. The dimensions of the nests will depend upon the breeds, but a space approximately twelve inches wide, fourteen inches high and fourteen inches deep should be sufficient. The entire floor should be covered with straw to permit easy cleaning.

Poultry keeping may be made a profitable pleasure both in the country and in the city. It may be carried on as an exclusive business or as a side line, but whatever the object may be, the poultry raiser must adopt a systematic method in caring for his fowls.

Cool nights are coming. Watch your young flock that they do not crowd in the sleeping quarters. Give them plenty of room in which to roost.

Poultry Outlook

H. H. Johnson, of Clay Center, Nebraska, writes as follows concerning the outlook for poultry the coming year:

"There is considerable fiction in some of the papers about poultry, poultry raising and the profits. Having been in the business for many years, I do not feel that anyone is justified in putting out an article that says a poultry raiser will make a fortune, but I think we should get down to a business basis and tell the people that they will make profit. The capital required is very little, the experience and training none at all.

"They can stay by the standard varieties such as the Plymouth Rocks, the Wyandottes, the Leghorns, Rhode Island Reds and Buff Orpingtons. No one can get in wrong on these varieties. The farmer is the great poultry raiser of this country.

"It is natural for the big poultry ventures to get notoriety through the papers, no matter if they don't live until the story of their big boom is published. It has a thrill to it. These things are, however, damaging. The safe, sane and sensible method of raising poultry and figuring profits is, after all, the best.

"In one of the farm journals of national circulation is an article telling about the success of a party who borrowed all the incubators in the neighborhood and kept them hatching late in the summer. That was a good idea but further on it mentioned that the woman had added to these machines which it said held 3,000 eggs, a machine of 2,500 eggs. She kept her own hens, 600 of them, and bought all the eggs for hatching in the surrounding country. Now a flock of 600 hens ought to produce at times about 400 eggs a day. The argument falls down, for it shows that the hens are not laying what they ought to lay.

"Another thing that is going to keep us busy is the high price of feed. Still when we think about it, the first three months of a chick's life do not mean a whole lot of feed. Little chicks, a lot of them, thrive on a couple of handfuls of feed a day. The first three months they don't require much feed. They come in the warm weather season and when running about the yard can get a lot of their own feed. Early hatches grow to maturity without running the owner into much money for feed, and in the fall the farmer can save himself a lot of money by culling out the surplus roosters and old fat hens and keeping only the pullets that are thrifty. These always have a high percentage of good layers. The feed question is a question it seems to me can be handled. It's an argument demonstrating the poultry raising and in some localities it seems to be the habit to sell off poultry in order to save feed. The average farm of 160 acres can develop a poultry income of $300 to $500 a year, and also the average farm can keep about 200 hens that live on the waste feed. Poultry in a sense is a by-product. The price of feed is likely to go somewhat lower.

"Another thing that should be learned is that chicken feed is not necessarily the No. 2 Red Turkey wheat and other grain of high price. Chicken feed can be screenings, unmarketable stuff, the clean-up from around the threshing machine where there is a lot of dirt and chaff."



CURTAIN FRONT HOUSE SIXTEEN FEET WIDE.—VENTILATOR IN REAR WALL FOR SUMMER USE

Moving Picture on the Farm

SCENE I—A nice motherly hen with her brood of downy fall chicks scratching busily near an old building.

SCENE II—A sleek, fat old rat slips out from under the shed and kidnaps the biggest chick in the bunch. Another sally and another baby disappears.

SCENE III—Biddy cuddles her family under her wings in an old box at night. A midnight forage—the rat has "done his bit" for HIS family, but Biddy trots around next day with one lone chick and all hopes of early frys vanish.

To prevent thrills of this kind, get a good Scotch terrier.

Swat the lice! Swat the mites! Keep everlastingly at it, and don't spare the coal oil or stock dip, whatever solution you find does the work.

CO-OPERATIVE MARKETING

(Continued from Page Four)

which have made any headway at all have found that co-operation pays well. It appears to be the one method of preserving to the farmer himself the speculative profits from his crops. It keeps the control of distribution of crops in the hands of the farmer, and it is always true that whoever controls distribution also controls the division of profits.

The pooling of a state crop places the owners of this crop in the position of any large manufacturer. It results in a huge working capital, enables the association to organize a selling machine, to gather crop information, to deal advantageously with the railroads, and in every way to operate on a big and therefore an economical scale.

Many big interests formerly opposed to co-operation now heartily favor it. The railroads at first opposed the farmers' elevator companies, but they soon learned these companies make for farm prosperity, bigger crops and more business. The California banks learned the same lesson. Whatever increases the prosperity of the farmer increases indirectly our national prosperity as a whole—and President Wilson is surely right in advising farmers to take up this problem of co-operative marketing as rapidly as practicable.



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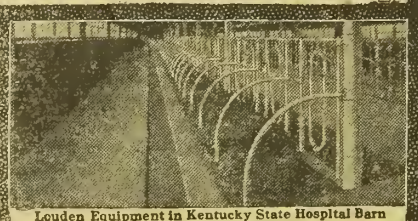
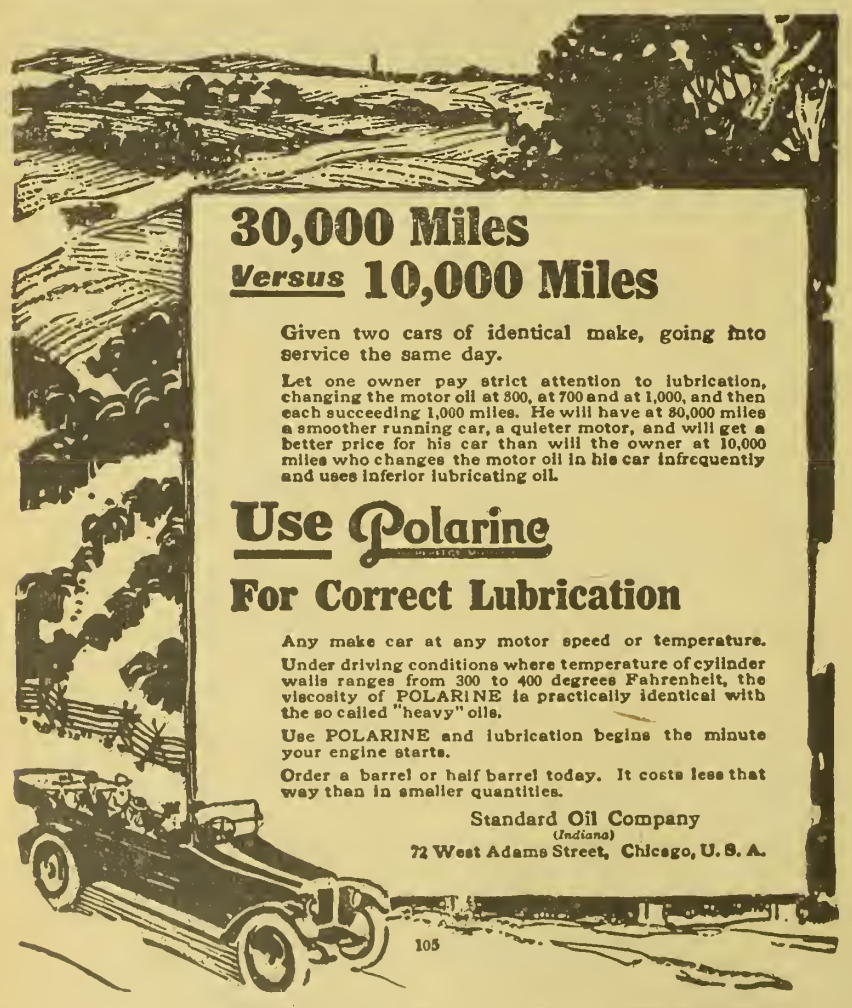

Louden Equipment in Kentucky State Hospital Barn
Lexington, Kentucky



The premium list of the American Royal Live Stock Show, to be held October 1 to 6 at Electric Park, Kansas City, has been issued. It shows classifications for Hereford, Shorthorn and Aberdeen-Angus cattle, in breeding and fat stock classes. A notable fact about the prizes this year is that the Hereford division will have $1,500 more in cash prizes than last year, the money being distributed right down the line through the various awards in each class. The Shorthorn division has for two years been offering large awards, the futurity with its $2,500 in prizes having been a substantial stimulant to breeders. The Hereford cash prizes total $5,000; the Shorthorn, $5,500, and the Aberdeen-Angus above $2,000. The premium list can be obtained by addressing Secretary American Royal Live Stock Show, Kansas City, Missouri.

Kansas Farmer Dairy Club

Prepotency of Pure Breds

A SINGLE carefully selected pure-bred animal may easily become the foundation of a profitable herd of dairy cattle. We have called your attention to this possibility several times in the Dairy Club Department. Careful study of the herd of almost any well established breeder of pure-bred live stock will prove the truth of this statement. A few weeks ago we referred to the Ayrshire herd of the agricultural college as an illustration of how one cow may become the foundation of a herd. In this herd nearly all of the very best producers trace directly to the cow, Bangora, dropped on the agricultural college farm fifteen years ago by a Young Ayrshire cow purchased from the East.

We were impressed with the possibility of getting started in the pure-bred business in a small way while we were watching the showing of Holstein cattle at the Kansas Free Fair last week. We called to mind a visit we made some years ago to the farm of J. W. Chestnut & Sons, where we saw a bull calf whose mother had been recently purchased as a foundation cow. Of course the Chestnuts were disappointed when this heifer dropped a bull instead of a heifer calf. Nearly all dairymen in the beginning are anxious to get heifer calves because they wish to add to the producing herd as rapidly as possible. A prepotent herd sire, however, is a very important part of the pure-bred herd. The Chestnuts gave this calf the best of care and as a result he developed into a splendid representative of the breed. He now stands at the head of this good herd of Holsteins and for the second time was made the grand champion bull of the Kansas Free Fair in competition with three other high-class herds. Those interested in the dairy cattle awards will find them printed in full on another page of this issue.

Some of you have pure-bred cows and these cows, if they prove profitable as producers, are likely to transmit to their offspring their own good qualities. We use the term prepotent in speaking of the power animals have to transmit their own good qualities to their offspring. Some of you have grade cows that are high producers, but they are not so certain of transmitting their own good qualities to their offspring as the pure-bred. In other words, they do not have the prepotency of pure-bred animals. The certainty with which the pure-breds transmit their own good qualities is one of the principal reasons why a pure-bred cow is worth more than a grade, even though the grade may give just as much milk and produce as much butterfat in a year as the pure-breds.

Not all pure-breds, however, are valuable animals. The fact that an animal has a recorded pedigree does not of necessity make it a high producer. Have you ever heard the term "pure-bred scrub" used? Ordinarily we think of a scrub as a very inferior animal of unknown breeding. Of course such animals are worth little on the market and they have no value as improvers of live stock because they are so poor themselves and cannot transmit what they do not have. The pure-bred scrub is a very inferior animal having a pedigree, or it is recorded in one of the herd books because its sire and dam are recorded. Now the pure-bred scrub is the most dangerous kind of a scrub. Some people think having a recorded pedigree makes an animal valuable, and will use such an animal for breeding because it is registered. The pure-bred scrub is dangerous because, due to its purity of breeding, it has the power to transmit its inferior qualities even more surely than the ordinary scrub. Do not make the mistake of thinking that you have a high-class animal because it has a pedigree. Not all registered animals are high producers. You must not only have a pedigree, but the animal must have the quality of high production.

The inferior cow cannot fool Dairy Club members very long, for you are all applying the final test of value — the scales and the Babcock test. These combined with the feed records tell you whether the cow is a profitable animal or not.

Success in dairying depends largely upon the man behind the cow.

One of the things most needed in the dairy business is a determination to succeed.

The amount of the ration is not always of so much importance as the kind. It must be fitted to the needs and demands of the cow for milk production.

Why keep three cows to produce 12,000 pounds of milk in a year when two better ones will do it with the same amount of feed?

Keep the cows full of good feed. Keep them busy working up good feed into a money product. A cow that is bellowing over the fence for something to eat is wasting her time and will probably waste yours in getting her out of the corn field and repairing fences.

Several members of the first Dairy Club have already enrolled for the work of the second year in the advanced class. We hope quite a number of others will continue the work. Remember, all enrollments must be in by October 1. If you do not have an enrollment blank, write us at once.

A striking exhibit by the Beatrice Creamery Company was modeled in butter and inclosed in a refrigerator. Two young boys in soldiers' uniforms were represented, one of them riding a hobby horse and giving an order to the other, who was writing it down. A legend carved in butter on a butter tablet read: "Somewhere in Kansas. General Kiddo on a hobby horse ordering Meadow Gold butter for his armies."

Interest in dairying is evidently on the increase in counties of Western Kansas. The Dodge City Globe notes that the Farmers' Equity Union received another carload of dairy cattle recently, selling them to farmers for from $135 to $160 apiece. The statement is made that these cows began business at their new homes by producing four gallons of milk daily. Dodge City is evidently becoming quite a dairy center. The first dairy farm of any size to be established was that of Doctors Simpson and Pallou, where fifty or sixty cows are handled with the best modern equipment.

Last Call For Club Members

THOSE who wish to enroll in the Kansas Farmer Dairy Club for the coming year and old members who wish to continue the work with the advanced class should remember that the closing date is October 1. All enrollments must be in, all cows purchased, and all records started on or before that date.

If your cow should not be fresh for a few weeks after this date, this will not debar you from the club. You can begin your feed record October 1, and start your milk record as soon as your cow commences giving milk. Beginning with a dry cow will not necessarily handicap you in the contest, as those cows which are giving milk October 1 will probably have a dry period later in the year.

Last year we received letters after the closing date from quite a number who wished to enter the contest. This year the closing date has been placed a month later and we hope no one who wants to enter will be disappointed. Be sure your enrollment coupon and the report of the purchase of your cow and the notice of starting your record are sent in in good time.

Should All Heifers Be Raised?

W. J. FRASER, Illinois University

ARTICLES have appeared advocating the raising of all heifer calves, and it has even been urged upon legislative bodies that laws be passed preventing the killing of any heifer calves in order to increase the supply of dairy and animal products, because, as the advocates say, these products are needed for the support of a healthy population and are certain to be high priced in the future.

It is doubtless true, but we must look farther than this to see if the raising of all heifer calves would be a good, economical, well balanced policy for the individual farmer, for the nation in the production of a large food supply to support not only ourselves but our allies, in these times of stress and want.

No industry can be permanently developed by simply attempting through articles stating the importance and attractiveness of the business to stimulate people to go into it. Every occupation, to endure, must rest upon its own foundation, and if it finally succeeds in a large way it will be because of real merit.

Advising and admonishing dairy farmers in general to raise all their heifers is bound to be an economical waste, for those who follow this advice will lose money and will finally quit the dairy business or fail entirely, as many have done in the past.

What we need is a proper balance between the different lines of agriculture, so that each line is developed to fill its proper place according to the world's needs and its real merit. Because of "the slow process of economic law," upon which all industry in the world must ultimately rest, this is what will finally prevail in spite of the strongest exhortation to the contrary. Anything not based upon a sound economic foundation is doomed to failure.

Now, the dairy industry has a good and sound foundation, and this is the time to get down and build on this and quit building dairy air-castles that can not endure but must of necessity be swept away by the first economic breeze which is certain to come, for the clouds are already far above the horizon in the form of discontented milk producers.

The only thing that will permanently stimulate the dairy industry is to bring to the mind of the public the true food value of dairy products and their wholesomeness and palatibility, when rightly produced, and thus increase the demand for dairy products.

This means a well organized campaign of education among the consumers and also a campaign of education among producers to furnish better and safer dairy products.

In this way, and in this way only, will the dairy industry find its proper place permanently, and it will then be unnecessary to waste time and money in a so-called dairy campaign every few years. If there is sufficient demand for dairy products to cause the price to raise proportionately with other commodities, so that there is a reasonable profit in their production, they will be produced in large quantities, and it will not be necessary to persuade people to go into a losing venture and in the wrong way, only to fail as thousands have done and then damn dairy farming and the dairy cow, neither of which is to blame for the failure.

To show further the folly of raising all heifers and how the production of dairy products and likewise the profit can be increased by keeping efficient cows, and not waste time, energy and money upon those which are inefficient, the following results are given:

HERD NO. 1

Cow No.	Lbs. Milk	Lbs. Fat	Profit	Loss
1	1,204	49	.....	$27.52
2	1,236	50	.....	27.20
3	2,944	88	.....	15.17
4	2,597	91	.....	15.38
5	2,548	98	.....	13.18
6	2,475	99	.....	13.18
7	2,569	105	.....	10.98
8	3,164	117	.....	8.37
9	2,929	123	.....	8.67
10	3,380	149	.....	1.58
11	4,582	158	$1.41	.....
12	4,146	174	3.41	.....
13	4,193	177	5.41	.....
14	4,993	191	8.40	.....
15	4,435	200	10.21	.....
			$28.84	$141.23
				28.84
Avg. .	3,147	124		$7.49

Difference in profit between best and poorest cow, $37.73.

This herd of fifteen cows was kept in the dairy district, and is surprising for the number of cows on the losing side of the account and also for the loss made by many of them. Either one of the two poorest cows lost the owner almost as much money as was made by all of the cows on the profit side of the account. The most amazing figure in the above table is the last one in the last column, showing the total loss of $112, which means that this man received $112 less for the products from his dairy herd than he would have received had he simply sold the feed.

This is a deplorable state of affairs—a man trying to support a family with a herd of cows utterly unable to return a profit. The actual condition of this man's affairs is shown by the last two columns of the table, and is a forceful answer to the question, "Why test cows?" No man would conduct a losing business when fully aware of what he was doing. Yet this is the kind of dairying advocated by those who say all cows should be saved and all heifer calves raised, for this herd was replenished by raising heifers from these poor cows and a worse than worthless sire.

Poor as this herd was, losing $112 annually, the owner, by disposing of the poorest two-thirds of his herd, without buying a single cow, might have prevented his loss of $141 and have changed himself from a cow keeper to a dairyman and saved the farm which he actually lost. His loss was due to his failure to balance output with income, or, in other words, failure to see the value of testing his cows to determine their production and likewise their profit or loss. This herd is not an unknown quantity in the state, as seven herds out of a total of 104 in four cow test associations in different parts of the state had an average production less than this.

HERD NO. 2

Cow No.	Lbs. Milk	Lbs. Fat	Profit	Loss
1	5,986	252	$22.68	.....
2	7,920	254	23.84	.....
3	7,600	260	25.75	.....
4	7,169	293	32.20	.....
5	8,300	295	35.00	.....
6	9,010	322	39.87	.....
7	9,045	333	42.07	.....
8	9,043	337	44.27	.....
9	8,877	344	44.27	.....
10	9,999	348	53.53	.....
11	11,293	376	63.99	.....
12	7,632	403	56.69	.....
13	10,289	422	69.70	.....
			$553.84	
Ave. .	8,628	326	$42.60	

Difference in profit between best and poorest cow, $47.04.

This grade herd has a high average production. Its poorest cow returned a profit of over $22, which is more than twice that of the best cow in Herd No. 1. The "star boarders" were long ago eliminated as a result of several years' work keeping individual production records of the cows and replenishing the herd by using a good pure-bred sire and raising the heifers from the best cows. The owner of this herd received not only pay for his manual labor, but the neat little sum of $554 a year as a clear profit on his dairy herd, to compensate for his head work. The farm on which this herd is kept has been largely paid for from the profits of this herd, and it has made a good living for the dairyman and his family besides.

The difference in the average profit between the cows in these two herds was $50, and the difference in profit between the best cow in the good herd and the poorest cow in the losing herd was nearly $100 annually.

How determine from which cows the heifer calves are to be saved? Simply weigh and test the milk of each cow, an operation which can be done so easily at so little expense of time, money and labor. The cost, including everything, does not exceed one dollar per cow per year; then, replenishing the herd by raising heifer calves from the best cows and using a pure-bred sire, the production record of whose dam is known to be large. In this way only can the dairyman determine which are the heifer calves he can afford to save and increase the dairy products of the nation.

It is never profitable to feed corn or any of its substitutes to hogs without a nitrogenous supplement. When the prices of corn and of nitrogenous by-product feeds such as bran, peanut meal, soybean meal, linseed oil meal, tankage, etc., are relatively close, a larger amount of these concentrates high in protein feeding value can be fed and partially substituted for corn. This will naturally increase the percentage of protein in the ration.

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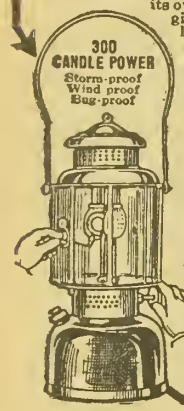

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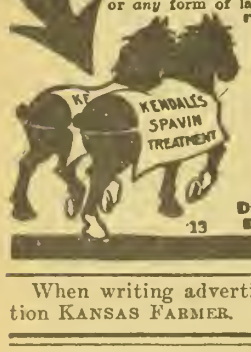

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A good many farmers in Kansas have been insisting that the Government should fix a price of from $2.50 to $3 a bushel for wheat, claiming that it cannot be produced profitably for $2 a bushel. In view of the many claims made, the following statement from a Western Kansas man is of considerable interest. He says: "I was raised on a farm. Have been raising wheat for the last twenty years; two dollars a bushel for number two hard wheat at country elevators is a fair price to producer and consumer. Present cry for higher price is instigated and fostered by food speculators who bought large stores at higher prices, expecting to extort enormous profits. As usual, farmers are playing into their hands. A big crop will be sowed on a two-dollar basis."



Loans on Grazing Land

LACK of capital prevents a good many Western Kansas farmers from taking up live stock farming, even though they know it is the most dependable type of farming for that section. If unable to secure on reasonable terms the funds needed to become permanently established in live stock, the only thing they can do is to lead the hand-to-mouth existence of the farmer who must depend on the vagaries of the seasons in attempting to grow paying grain crops. The Federal Farm Loan Act was passed with the idea that it would furnish actual farmers with the needed capital on reasonable terms. In many sections of the country it is doing this. We have just had called to our attention, however, the rejection of some loans by the Federal Land Bank for this district on the grounds that they were based on grazing land instead of cultivated land. One of the big assets of Kansas is its grazing land. We do not fully appreciate what the grass of the state means to our wealth and prosperity. Grass is essential to any big development in meat production, and it would seem that cheap capital for using this grazing land to the best advantage is just as important as cheap capital to handle cultivated land, some of which might have been worth a great deal more for actual production purposes if it had never been plowed at all.

W. P. Harrington, proprietor of Indian Springs Stock Farm, Gove County, is secretary of a farm loan association organized in that county and one of the first associations organized in this state. It is in connection with the loans asked for by this association that the applications to which we refer above have been turned down. We believe bona fide stock farmers in that section of the state will bear out the claim made by Mr. Harrington that this ruling should be reversed and the cases given another hearing. The facts in the case are admirably set forth in a letter written to the loan bank by Mr. Harrington. He says:

"In passing upon the applications of our local association you rejected three because, as you said, 'The land given as security in these applications is not being cultivated. We cannot make loans upon straight grazing land. In this connection we wish to say that the land must be cultivated on a scale commensurate with the size of the tract, opportunities and like conditions. We would of course be glad to consider new applications of such applicants when some of their land is in cultivation, but we cannot consider these applications at this time.'

"I think you have taken a wrong view of this matter and perhaps have a misapprehension of the facts. It may be that we have not presented the matter to you in a proper light. These three applicants are not speculators holding the land out of use, but are putting the land to good and profitable use. They have simply elected to use it for pasture for their cattle instead of plowing it up. At the same time they are cultivating other land and are each one of them engaged in wheat growing and general agriculture on as large a scale as their means warrant, in addition to keeping up their stock interests. I am as strongly opposed as anyone to speculation in land. I hope the bank will never make loans to speculators or aid them in any way. But these men do not fall into that class. They are all good hard-working farmers who believe what the agricultural authorities have always been preaching to us, that the live stock industry is as much a necessary part of farming as is cultivation of the soil and that in this part of the country it is more dependable, one year with another. There is some land here which, owing to attendant conditions, such as the lay of the land, nearness to water or to range lands, etc., is worth more as grass lands than as plow land and should never be touched with a plow. I think we can prove to your satisfaction that each of these tracts comes in that class. You surely must have had the live stock interest brought to your attention before, or if not you surely will have in the near future. In a land district composed of the states of Kansas, Colorado, New Mexico and Oklahoma, the farmers' bank should be prepared to take care of the stockmen as well as the grain farmers. We ask you to reconsider your decision or at least give us a rehearing before barring these men out.

"The father of one of the rejected applicants is trying to retire from the farm and turn his interests over to his four sons, dividing the land and stock between them. There is a debt on this land held by a mortgage company, and the four sons assume this debt and are endeavoring to get it transferred from the mortgage company to the Federal Land Bank. In passing on their respective applications, you allowed one the full amount applied for, made a slight reduction on the second, cut the third 25 per cent, and rejected the fourth entirely. These young men plan and work together, and they wish to continue this method of operating their land. The father fears that they may have to drop all four applications unless the one which was rejected can secure his loan from the Land Bank with the rest of the boys. Now if the father himself were still on the land and should make application for a loan covering the whole tract, you would probably grant it without question. It seems to us that the mere fact of a division of the land among the four boys should not result in one of them losing out in his loan application. If the land alloted to two of them has more pasture than that of the other two brothers, it is merely because these are helping the others to cultivate their land and are leaving their own in grass so that the stock owned by all four can run on it. This is not an uncommon arrangement, and we consider it a very proper and sensible plan under which to operate.

"Out here in a wheat and stock country where we are trying to develop the farming interest symmetrically, we simply cannot grasp the idea that the stockman is not entitled to a loan as well as the man who puts his whole dependence on cultivation. Everybody from Secretary Houston down, all the bulletins, all the farm papers, keep dinning it into us: 'Keep up the live stock interest, there is a meat shortage and it is getting worse; one good crop may remedy a wheat or corn shortage, but if the farmers sell off their stock or go out of the business it takes years to get back.' Your decision to make no loans on grazing lands seems to me to be directly at variance with all the advice we get from all other sources and all the other decisions bearing on the question. The U. S. Land Office has long since ruled that in proving up on a homestead cultivation is not necessary but that the homesteader can prove his good faith by using the land for grazing, just the same as if he plowed it.

"We believe that when it appears that land is being held out of use and for speculation and not used for a farm or ranch home, no loans should be made by the Federal Land Bank. On the other hand when it appears that the land is occupied by an actual farmer who makes his home there and puts the land to a productive use, no distinction should be made between cultivation and grazing. Of course we are not asking that as large a loan be made if the value of the grazing land should be less than that of the cultivated land, but we feel that there should be no discrimination between stockmen and wheat farmers. Let all the discrimination be between farmers and speculators."

We would like to be able to publish the opinions of live stock farmers in the western end of the state of this controversy as to the loaning of money under the Federal Land Act on land held for grazing purposes. We feel that there should absolutely be no handicap placed on the man who is endeavoring to develop a system of live stock farming and we do not believe the Federal Land Bank will be a party to such discrimination if the facts are clearly laid before them.

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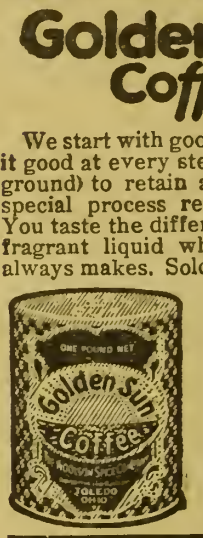

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Good Crops in Stevens

Emergency Agent R. F. Hagans writes from Stevens County that crop conditions are very favorable. He says:

"Broom corn and sorghum yields will be above the average. There will be more rough feed than the country needs so all stock cattle can be wintered in good shape and only finished beef need be marketed. Southwestern Kansas is coming to the front and it would do an eastern man good to visit this section. The farmers are among the most progressive in the state and have shown much interest in the emergency agent work."



Fall Care of Sheep

IN HANDLING a farm flock of sheep the important things to be attended to in the fall are the selection of the ram, the culling of the ewes, and getting them in lamb. The culling of the ewes is very important. Ewes that fail to get in lamb in a fair season, old ewes, and ewes that are poor producers should be disposed of, thus leaving room for the more productive individuals. Ewes with spoiled udders should be sold to the butchers. It is well to mark the ewes that are poor producers. A great many times the best producers will be very thin, when the lambs are weaned, and if the shepherd is not observing he may cull out the thin ones (whose lack of flesh is due to their good milking qualities), and with only the condition of the ewes as a guide, the best breeders are liable to be put among the culls.

Ewes should not be bred until they are past one year old. In cases where the lambs are large and growthy, they may be bred before they are one year old; however, this should be more the exception than the rule. Young ewes should be bred to old tried rams that have proven sure breeders and good sires. If ewes fail to produce good lambs under this treatment they should be discarded.

The time at which to breed the ewes would depend on local conditions. Where good buildings are provided, with plenty of feed, the ewes should be bred early so the lambs may be sold in July before the western lambs come on the market. Where opposite conditions prevail the ewes should not have lambs until the weather has warmed up in the spring. Where feed is scarce, it is well to have the ewes drop the lambs late enough to take advantage of the grass. Ewes carry the lambs from 145 to 150 days.

A ram that is over one year old can breed fifty ewes. To do this the ram should be taken away from the ewes in the daytime and fed a little grain with plenty of good hay and grass. If more than one ram is used it is a good practice to divide the flock, put one ram with each bunch of ewes.

If the ewes are in good condition they will need no other feed than the grass. However, if the ewes are thin, it is a good plan to feed a little grain. This will tend to build up their system, thus causing them to come in heat quicker and the flock can be bred so as to have all the lambs dropped about the same time. In this way a shorter lambing season is maintained and the lambs are of a more uniform size.

The main object to keep in mind in the care of the ram at breeding time is not to let him get in a run-down condition by overwork and underfeeding. Care should also be taken not to get the ram too fat, as this condition is just as much to be avoided as that of having him too thin. The ram should be in fair condition, should be given plenty of exercise, comfortable quarters when not with the ewes, and enough good, clean, nutritious feed to keep him thriving.—A. M. Paterson, Kansas Agricultural College.

Cattle in France

Stockmen of this country are vitally concerned in what is taking place as regards the live stock of European countries involved in the war. Figures from the French Government have just been received which show how war has decreased the live stock of that country.

On December 31, 1916, according to the official French figures, the cattle had decreased to a total of 12,341,900, as compared with 14,807,000 in 1913, or 16.6 per cent; sheep decreased from 16,213,000 in 1913 to 10,845,000 December 31 last, or 33 per cent; swine decreased from 7,048,000 in 1913 to 4,361,900 at the close of last year, or 38 per cent.

The per capita consumption per annum of meat in France at the present time is estimated by the French Government at 69.61 pounds of beef, 11.16 pounds of mutton, and 21.48 pounds of pork.

The French figures emphasize the recent statement of the United States Food Administration that the nations of Europe are now rapidly depleting their supply of live stock, and must therefore depend largely upon the United States for their meat and dairy products after the war.

"Hogging Down" Corn

"Hogging down" corn is one of the most efficient ways of feeding the hog, in that it saves the labor of harvesting, provides exercise for the hog, and allows him to balance his own ration. Shoats weighing 100 to 150 pounds each are turned into the corn as soon as it is well dented. If alfalfa pasture is not available, tankage may be fed in the self-feeder. When the corn is nearly cleaned up the hogs may be removed and finished in dry lot. Brood sows may then be used to finish cleaning up the corn.

No Time for Hog Cholera

Burning sixteen-dollar hogs that have died of cholera is no pleasant duty. During the year ending March 31 last, hog cholera caused losses in this country of more than thirty-two million dollars.

Every hog raiser can aid in preventing so great a loss from cholera recurring this year. Keep the hogs healthy. Clean pens, clean water and right feeding increase the hog's resistance to disease.

Effective control of hog cholera requires more than individual effort. It requires neighborhood co-operation. When cholera appears in a vicinity all hogs on neighboring farms should be promptly treated with serum or serum and virus.

Quarantine of the premises where there is cholera or where herds have been double-treated should be enforced for a reasonable time. Hogs dying from cholera should also be quickly burned or buried, and a thorough disinfection made of the yards and pens before the quarantine is removed.

Checking Cholera Outbreak

A man in Leavenworth County recently lost a thousand dollars' worth of hogs as a result of faulty vaccination. The government veterinarian who immediately started an investigation in the neighborhood where the disease originated, found that five herds had been infected as a result of this faulty vaccination. This county is one of the counties definitely organized for hog cholera control work, and reliable serum and virus can be obtained at the supply station of the control district in Leavenworth.

In view of this fact it would seem strange that an outbreak could originate in the way announced in the press reports. In spite of all the publicity given to this control work through public meetings and the local papers, a farmer told Otto Wulfekuhler, of the Wulfekuhler State Bank, that he lost two valuable animals because he did not know serum could be obtained at this supply station at a minimum cost. This farmer lived only a few miles from Leavenworth, and the hogs died while he was in Kansas City trying to purchase serum.

As long as the county farm bureau has been at work in Leavenworth County it would seem that every farmer in the county should know by this time that there is an agency at hand for furnishing just the sort of assistance needed in such an emergency as has just occurred. The Leavenworth County Hog Control District is organized under the co-operative management of the Federal Bureau of Animal Industry, the State Live Stock Sanitary Commission, and the County Farm Bureau. A systematic effort is being made to organize as many counties as possible in this manner. There is no reason why hog cholera cannot be almost entirely eliminated or at least checked in the very start of an outbreak by the means now being employed in this organized control work. The weakest link in the efficiency of the work is the fact that there are too many men who, like the Leavenworth County farmer referred to, simply fail to keep informed on the opportunities at their very doors. Every farmer raising hogs is vitally interested in hog cholera control and however remote his danger may seem, he should line up with the control organization and be ready to get quick action when the emergency arises.

Oats after crushing have three-fifths the feeding value of corn. They can be substituted profitably for corn, therefore, when a pound of crushed oats costs two-fifths less than a pound of corn. In a fattening ration, oats should not compose more than two-thirds of the ration during the early part of the feeding period and should gradually be reduced until, during the last four or five weeks, they are entirely omitted from the ration. Oats are excellent for adding bulk to a ration and are especially good for brood sows.



Courier of Soldier and Civilian

Our troops are now on the firing line in France. While at home every instrumentality of our government and private industry is being urged at top speed to insure victory. The telephone is in universal demand as courier, bringing to the front men and the materials of war.

From the farms the telephone courier brings foodstuffs; from the mines the telephone courier calls forth metals; from the factories this courier gathers manufactured products. The telephone courier leads troop and supply trains to the front; summons fighting flotillas and transports; and, in fact, leads practically every contributing unit of supply to the firing line.

At such a time, when the government is straining at its task and every industry is loyally contributing its energy, this national courier is constantly being used to call up the reserves. It is at the base of every contributing activity.

The right of way must be given to the military for the direction of troops and to the government for the marshaling of endless supplies. To do this, and also to make the telephone serve all other needs, both patriotic and private, all must economize.

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Harvest the Crops! Save the Yields!

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While doing this they must be fed and every ounce of muscle that can be requisitioned must go into use to save this year's crop. A short harvest period requires the combined forces of the two countries in team work, such as the soldier boys in France and Flanders are demonstrating.

THE COMBINED FIGHTERS IN FRANCE AND FLANDERS
AND THE COMBINED HARVESTERS IN AMERICA
WILL BRING THE ALLIED VICTORY NEARER

A reciprocal arrangement for the use of farm workers has been perfected between the Department of the Interior of Canada and the Departments of Labor and Agriculture of the United States, under which it is proposed to permit the harvesters that are now engaged in the wheat fields of Oklahoma, Kansas, Iowa, North Dakota, South Dakota, Nebraska, Minnesota, and Wisconsin to move over into Canada, with the privilege of later returning to the United States, when the crops in the United States have been conserved, and help to save the enormous crops in Canada which by that time will be ready for harvesting.

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One cent a mile railway fare from the International Boundary line to destination and the same rate returning to the International Boundary. High wages, good board, comfortable lodgings.

An Identification Card issued at the boundary by a Canadian Immigration Officer will guarantee no trouble in returning to the United States.

AS SOON AS YOUR OWN HARVEST IS SAVED, move northward and assist your Canadian neighbor in harvesting his; in this way do your bit in helping win the War."

For particulars as to routes, identification cards and place where employment may be had, apply to Superintendent of Immigration, Ottawa, Canada, or to

GEO. A. COOK Canadian Government Agent, 2012 Main St., Kansas City, Mo.

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Aged Stallions—1, Branson, Hector; 2, Gossard, Marmot; 3, Cook, Kasbath; 4, Loomis, Alfonso; 5, McAllister.

Three-year-old Stallions — 1, Cook, Potucair; 2, Bickelhaupt, Stuart; 3, Dustin, Banker; 4, Pence, Gladiator.

Two-year-old Stallions—1, Cook, Pluto; 2, Cook, Kasabel; 3, Peck, Oldortell; 4, Peck, Don Longfield.

Yearling Stallions—1 and 3, Dustin, Clarmart and Obert; 2, Wilson, Kantarol 2d; 4, Peck, Nogent Longfield.

Stallion Foals—1, McAllister, Daylo; 2, Loomis, Defiance; 3, Loomis, Dareeo; 4, Dustin, Hobart; 5, McAllister, Lynn.

Senior and Grand Champion Stallion—Hector.

Junior Champion Stallion—Pluto.

Aged Mares—1 and 2, Gossard, Keota Fair Maid and Satinette; 3, Loomis, Jugale; 4, Loomis, Dove.

Three-year-old Mares—1, Gossard, Gazelda; 2, Branson, Pansy.

Two-year-old Mares—1, Loomis, Franeine; 2, Gossard, Koccotte; 3, Dustin, Alma; 4, Wilson, Trixy Gerbon.

Yearling Mares—1, Loomis, Aline; 2, Dustin, Brilliant Turk; 3, Peneo, Victrola; 4, McAllister, Maxine; 5, Soward, Madela; 6, Soward, Alpha.

Filly Foals—1, Branson, Rosetta; 2, McAllister, Boulah; 3, Dustin, Shawnee Pink.

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Aged Bulls—1, Herkelman, Cumberland Standard; 2, Kitchin, White Valentine; 3, Holmes, Clifford Brawlth.

Two-year-old Bulls—1, Reese, Violet's Dale; 2, Rapp Bros., Thaxton Master.

Senior Yearling Bulls—1, Holmes, Viscount Stamp; 2, Parsons, Wayward Marshall.

Junior Yearling Bulls—1, Rees, Ruberta Goods Model; 2 and 3, Rapp Bros., Omega Secret and Raided Renown; 4, Herkelman, Cumberland Goods; 5, Harris, Commandor; 6, Dawe, Superior Rosedale.

Senior Bull Calves (twelve shown)—1 and 4, Pritchard, Dale's Reliance and Dale Gardner; 2, Holmes, Count Valentine; 3, Rees, Brawith Goods; 5, Regier, Edelstein; 6, Parsons, Perfection Prince; 7, Rapp, Omega's Honor; 8, Herkelman, True Goods.

Junior Bull Calves—1, Pritchard, Dale's Viscount; 2, Holmes, Red Gauntlet; 3, Herkelman, Prince Cumberland; 4, Dawe, New Year's Emblem.

Senior and Grand Champion Bull—Violet's Dale.

Junior Champion Bull—Dale's Reliance.

Aged Cows—1, Rees on Soncie Goods; 2, Herkelman, Collynie Rosewood; 3 and 5, Harris, Crystal Maid and Roseleaf; 4, Holmes, Honor Maid; 6, Dawe, Clara Belle.

Two-year-old Heifers—1, Rees, Lady Violet; 2, Herkelman, Village Venice; 3, Parsons, Homewood Duchess; 4, Holmes, Fancy 20th; 5, Harris, Sunflower Lady; 6, Dawe, Autumn Queen Star.

Senior Yearling Heifer—1 and 3, Herkelman, Gypsy Maid and Lady Sultan; 2, Parsons, Nonpareil Dona; 4, Rees, Rosaline Goods; 5, Holmes, Riverside Princess 16th; 6, Pritchard, Dale's Rosebud.

Junior Yearling Heifer (ten shown)—1 and 2, Rapp Bros., Barmpton Flower and Butterfly Lady; 3, Pritchard, Victoria 73d; 4, Harris, Ashwood Keepsake; 5, Herkelman, Lady Cumberland; 6, Parsons, Homewood Emma; 7, Holmes, Hallwood Gold Drop 5th; 8, Rees, Cedar Lawn Lady.

Senior Heifer Calves—1, Rapp Bros., Village Violet; 2, Pritchard, Mysie 3d; 3, Rees, Good Maise; 4, Rees, Lady Ruberta; 5, Parsons, Snowflake; 6 and 8, Regier on Calla 8th and Dale's Victoria.

Junior Heifer Calves—1 and 3, Rapp, Village Secret 2d and Barmpton Flower 2d; 2 and 5, Pritchard, Dale's Bangle and Victoria 74th; 4, Herkelman, Lady Mildred; 6, Holmes, Honor Maid 2d; 7, Parsons, Marietta Homewood 2d; 8, Harris, Rose Leaf 2d.

Senior and Grand Champion Female—Lady Violet 8th.

Junior Champion Female—Gypsy Maid.

Aged Herd—1, Rees; 2, Herkelman; 3, Holmes.

Young Herd—1, Rapp; 2, Pritchard; 3, Rees; 4, Herkelman.

Calf Herd—1, Pritchard; 2, Rees; 3, Rapp; 4, Regior.

Get of Sire—1, Rapp Bros., get of Village Pride; 2, Rees, get of Ruberta's Goods; 3, Pritchard, get of Dale Clarion; 4, Horkelman, get of True Cumberland; 5, Holmes, get of Prince Valentine 4th.

Produce of Cow—1, Pritchard, produce of Rosebud; 2, Rapp, produce of Barmpton Lady 3d; 3, Herkelman, produce of Lady Violet 5th; 4, Harris, produce or Rose Leaf.

POLLED DURHAMS.

Exhibitors—Albert Hultine, Saronville, Neb.; Achonbach Bros., Washington, Kan.

Judge—James G. Tomson, Carbondale, Kan.

Aged Bulls—None shown.

Two-year-old Bulls — 1, Hultine, Rose Marshall without competition.

Senior Yearling Bull—1 and 3, Achenbach on Sunny Sultan and Intonsified Sultan; 2, Hultine, Royal Goods.

Junior Yearling Bull—1, Hultine, Double Goods without competition.

Senior Bull Calf—1 and 2, Hultine on Christmas Goods and Orange Bud 4th.

Junior Bull Calf—1, Hultine, Gloster Goods without competition.

Senior and Grand Champion Bull — Rose Lawn Marshall.

Junior Champion Bull—Sunny Sultan.

Aged Cows—1 and 3, Achenbach, Sultana and Minute 3d; 2, Hultine, Winsome.

Two-year-old Cow—1, Achenbach, Sultana Frances; 2, Hultine, Cyrene 2d.

Senior Yearling Heifer—1 and 2, Achenbach, Fatima and Sultana Felico; 3, Hultine, Gloster Princess 21st.

Junior Yearling Heifer—1, Hultine, Select Fern; 2, 3 and 4, Achenbach, Sultana Carmine, Sultana Thankful and Sultana Martha.

Senior Heifer Calf—1 and 2, Hultine, Gloster Countess 2d and Barmpton Suliana; 3, Achenbach, Minuto 5th.

Junior Heifer Calf—1, Achenbach, New Year's Gift without competition.

Senior and Grand Champion Female—Sultana.

Junior Champion Female—Gloster Countess 2d.

Aged Herd and Calf Herd—1, Hultine without competition.

Young Herd—1, Achenbach; 2, Hultine.

Get of Sire—1 and 2, Achenbach; 3 and 4, Hultine.

Produce of Cow—First, Achenbach; 2, Hultine.

HEREFORDS.

Exhibitors—Jesse Engle & Sons, Sheridan, Mo.; Carl Miller, Belvue, Kan.; W. I. Bowman & Co., Ness City, Kan.; Vernet Stock Farm, Jackson, Miss.; Klaus Bros., Bendena, Kan.; N. D. Pike, Weatherford, Okla.; Goernandt Bros., Aurora, Kan.; V. O. Johnson, Aulne, Kan.

Judge—Robert Mousel, Cambridge, Neb.

Aged Bulls—1, Bowman, Sampson; 2, Goernandt, Polled Harmon; 3, Bowman, Lawrence Fairfax; 4, Klaus, Beau Onward 19th.

Two-year-old Bulls—1, Vernet, Vernet Prince 36th; 2, Vernet, Vernet Prince 31st; 3, Miller, Larry; 4, Bowman, Lord Generous; 5, Pike, Bristol Fairfax; 6, Goernandt, Gladiator; 7, Miller, Laredo Boy 5th.

Senior Yearling Bulls—1, Engle, Beau Blanchard 25th; 2, Vernet, Vernet Prince 43d; 3, Klaus, Beau Onward 52d.

Junior Yearling Bulls—1, Engle, Beau Blanchard 33d; 2 and 4, Miller, Mischief Mixer 7th and Echo Lad 16th; 3, Pike, Trade Mark; 5, Bowman, Sir Wilton 2d; 6, Klaus, Beau Onward 66th.

Senior Bull Calves—1 and 2, Engle, Beau Blanchard 53d and Beau Blanchard 52d; 3, Pike, Vernet Fairfax; 4, Vernet, King Vernet 2d; 5, Miller, Laredo Lad; 6, Klaus, Beau Onward 64th; 7, Johnson, Balto Fashion.

Junior Bull Calves—1, Vernet, Vernet Prince 57th; 2, Bowman, Generous Garfield; 3 and 5, Miller, Echo Lad 80th and Echo Lad 99th; 4, Klaus, Beau Onward 68th; 6, Pike, Don Hewer.

Senior Champion Bull—Vernet Prince 36th.

Junior and Grand Champion Bull—Beau Blanchard 53d.

Aged Cows—1, Vernet, Maple's Lass 38th; 2, Piko, Della; 3, Klaus, Miss Onward 23d; 4, Bowman, Charlotte.

Two-year-old Heifers—1, Pike, Lady Hewer; 2, Vernet, Vernet Princess 36th; 3, Klaus, Miss Onward 33d; 4, Miller, Simple Ten; 5 and 6, Bowman, Miss Charming and Miss Pearl; 7, Miller, Eva 2d.

Senior Yearling Heifers—1 and 4, Vernet, Vernet Princess 38th and Vernet Princess 41st; 2, Klaus, Miss Onward 34th; 3 and 6, Pike, Carl G's Lass and Miss Fern; 5, Miller, Laredo Lad.

Junior Yearling Heifers—1, 2 and 5, Engle, Beau Blanchard 26th, Beau Blanchard 31st and Beau Blanchard 32d; 3, Pike, Baby Britton; 4 and 6, Miller, Echo Lass 121h and Echo Lass 11th; 7, Bowman, Genorous Clara.

Senior Heifer Calf—1, 2 and 3, Engle, Belle Blanchard 44th, Belle Blanchard 43d and Belle Blanchard 61st; 4 and 5, Miller, Echo Lass 128th and Echo Lass 127th; 6, Pike, Prosperity 2d; 7, Klaus, Miss Onward.

Junior Heifer Calf—1, Engle, Belle Blanchard 49th; 2 and 6, Vernet, Princess Comfort 2d and Vernet Belle 9th; 3 and 4, Miller, Echo Lass 129th and Echo Lass 81st; 5, Bowman, Pansy Flower; 7, Klaus, Miss Onward 53d.

Senior and Grand Champion Female—Maple's Lass 38th.

Junior Champion Female—Belle Blanchard 49th.

Aged Herd—1, ernet; 2, Pike; 3, Klaus; 4, Bowman.

Young Herd—1, Engle; 2, Vernet; 3, Miller; 4, Pike.

Calf Herd—1 and 2, Engle; 3, Vernet; 4 and 5, Miller.

Get of Sire—1 and 3, Engle, get of Beau Blanchard; 2, Vernet, got of Point Comfort 14th; 4, Miller, get of Laredo Boy; 5, Klaus, get of Beau Onward; 6, Pike, get of High Line.

Produce of Cow—1, 2 and 4, Engle, produce of Petrolla 12th, Pretty Lady 45th and Silver Tip; 3, Pike, produce of Lady Britton; 5, Klaus, get of Miss Donald 29th.

ABERDEEN-ANGUS.

Exhibitors—D. K. Robertson & Son, Madison, Neb.; Sutton & Porteous, Lawrence, Kan.; William Ljungdahl, Manhattan, Kan.; L. R. Korshaw, Muskogee, Okla.; G. F. Cowden & Son, Midland, Texas.

Judge—Prof. W. L. Blizzard, Oklahoma A. & M. College, Stillwater, Okla.

Aged Bulls—1, Kershaw, Blackcapper of Leasides; 2, Sutton & Porteous, Elate of Fernsales.

Two-year-old Bulls—1, Kershaw, Inverne of Rosemere, 2, Cowden, Prizemore; 3, Robertson, King of Twin Burn 4th; 4, Sutton & Porteous, Quo Vadis.

Senior Yearling Bulls—1, Robertson, Barbarian of Twin Burn; 2, Kershaw, Philemon Pride.

Junior Yearling Bulls—1, Cowden, Bendew; 2, Robertson, Esthonian; 3, Kershaw, Ben Hur; 4 and 6, Sutton & Porteous, Blackbird 2d and Gay Lad C 2d; 5, Ljungdahl, Black Quinto L; 7, Robertson, King of Twin Burn 6th.

Senior Bull Calves—1 and 5, Cowden, Elondo and Blackcap Bueno; 2, Sutton & Porteous, Symboller Heatherson; 3, Robertson, Black Knight of Twin Burn; 4, Kershaw, Engineer 2d.

Junior Bull Calves—1 and 2, Kershaw, Ben Hur 2d of Lone Dell and Muskogee 29th; 3d, Sutton & Porteous, Black Alestair; 4, Robertson, King of Twin Burn 8th; 5, Cowden, Blackcap Bouden.

Senior Champion Bull—Inverne of Rosemere.

Junior and Grand Champion Bull—Barbarian of Twin Burn.

Aged Cow—1, Kershaw, Twin Burn Pride 5th; 2, Robertson, Gay Rose R; 3, Cowden, Blackbird of Cloverdale 37th.

Two-year-old Heifers—1 and 5, Cowden, Blackcap McHenry 131st and Blackbird Julia 7th; 2 and 3, Robertson, Key of Twin Burn and Twin Burn Blackbird 4th.

Senior Yearling Heifers—1, Cowden, Myra of Topeka; 2, Kershaw, Muskogee Rose 3d; 3, Robertson, Twin Burn Blackbird 6th;

Junior Yearling Heifers—1, Robertson, Key of Twin Burn 2d; 2, Kershaw, Muskogee Dove 3d.

Senior Heifer Calves—1, Kershaw, Muskogee Eline; 2 and 4, Cowden, Myra C 3d and Recena; 3, Sutton & Porteous, Heatherson Pride; 5, Robertson, Twin Burn Blackbird 9th.

Junior Heifer Calves—1, Sutton & Porteous, Miss Heatherson; 2, Kershaw, Muskogee Dona 4th; 3, Cowden, Bonita C; 4, Robertson, Twin Burn Queen 8th.

Senior Champion Female—Twin Burn Pride.

Junior and Grand Champion Female—Myra of Topeka.

Aged Herd—1, Cowden; 2, Kershaw; 3, Robertson.

Young Herd—1, Kershaw; 2, Robertson.

Calf Herd—1, Kershaw; 2, Sutton & Porteous; 3, Cowden.

Get of Sire—1, Robertson, get of Vala's Knight; 2, Kershaw, get of Black Emerson; 3, Sutton & Porteous, get of Wakarusa Heatherson 6th.

Produce of Cow—1, Robertson, produce of Key's Vala; 2, Cowden, produce of Myra of Rosemere; 3, Kershaw, produce of Gwynn Donna.

H. & G. Croft, Bluff City, Kan., only exhibitors of Galloways.

HOLSTEIN-FRIESIANS.

Exhibitors—Albechar Holstein Farm, Independence, Kan.; David Coleman & Son, Denison, Kan.; J. W. Chestnut & Sons, Denison, Kan.; Galloway-Messer Farm, Waterloo, Iowa; Galbraith & Harris, Pauline, Kan.

Judge—Victor Stuewe, Alma, Kan.

Aged Bull—1, Chestnut, Johanna Bonheur Champion II; 2, Galloway, King Segis Johanna Ormsby; 3, Albechar, Sir Julia Grace De Kol; 4, Coleman, Buffalo Aguinaldo.

Two-year-old Bull—Galloway, King Segis Pontiac Combination X.

Senior Yearling Bull—1, Galloway, Korndyke P. Ormsby; 2, Galbraith & Harris.

Junior Yearling Bull — 1, Galloway, King Segis Ormsby Nudine.

Senior Bull Calf—1, Galloway, King Rowana Ormsby; 2, Galloway, Segis Lad Pontiac Korndyke; 3, Chestnut; 4, Albechar; 5, Coleman, King's Star Sir Aaggie.

Junior Bull Calf—1, Galloway, Prince Bangor; 2, Galloway, Prince Korndyke Segis Ormsby; 3, Chestnut, Charity's Butterboy; 4, Coleman, Kansas Star Wyntje; 5, Chestnut.

Senior and Grand Champion Bull—Chestnut, Johanna Bonheur Champion II.

Junior Champion Bull—Galloway, Prince Bangor.

Aged Cow—1, Chestnut, Beatitude Wayne De Kol; 2, Chestnut, Merdu Clothilda Artis II; 3, Galloway, Jewell Walker; 4, Albechar, Princess Alta Gerben; 5, Coleman, Flush Emma De Kol II De Kol.

Two-year-old Heifer — 1, Galloway, Nellie Segis Pontiac; 2, Galloway, Eudora Pontiac Colantha; 3, Chestnut, Buffalo Ella II; 4, Albechar, Martia McKinley; 5, Albechar, Martia McKinley Hengerveld.

Senior Yearling Heifer—1 and 2 Galloway, Jewell Walker Segis Pontiac, Delphias Segis Meedden; 3, Albechar, Agnew Korndyke Pontiac; 4 Chestnut, Wayne Bonheur Colantha; 5, Coleman, Kansas Star Mara.

Junior Yearling Heifer—1, Galloway, Eudora M Pontiac Ormsby; 2, Chestnut, Lena McKinley; 3, Galloway, Ormsby B M II; 4, Albechar, Helen Ophelia De Kol Pontiac.

Senior Heifer Calf (ten shown)—1, Albechar, Albechar Johanna Lilly; 2 and 3, Galloway; 4, Albechar; 5, Coleman.

Junior Heifer Calf (eight shown)—1 and 2, Galloway; 3, Coleman; 4 and 5, Albechar.

Senior and Grand Champion Cow—Galloway, Nellie Segis Pontiac.

Junior Champion Female—Albechar Johanna Lilly.

Aged Herd—1, Galloway; 2, Chestnut, 3, Gallo-

way; 4, Albechar; 5, Coleman.
Young Herd—1 and 2, Galloway; 3, Albechar; 4, Chestnut.

JERSEYS.

Exhibitors—Fred G. Laptad, Lawrence, Kan.; G. T. Braden, Tulsa, Okla.; C. B. Palmer, Marion, Kan.
Judge—James W. Linn, Manhattan.
Aged Bull—1, Braden, Noble's Handsome Prince.
Bull Two Years and Under Three—1, Laptad, Bluebell's Noble Stockwell; 2, Palmer, Monaloo's E.
Junior Yearling Bull—1, Braden, Majesty's You'll Do; 2, Laptad.
Senior Bull Calf—1, Braden, Twice You'll Do.
Junior Bull Calf—1, Braden, Phillipia's Noble; 2, Laptad.
Aged Cow—1, Braden, Iovieta; 2, Braden, Noble's Cocotte; 3, Braden, Ozouf Farm Princess; 4, Laptad, Tucker's Lass; 5, Laptad, White Sox Queen.
Two-year-old Heifer—1, Braden, Dame Togo of Windsor Place; 2, Laptad.
Senior Yearling Heifer—1, Braden, Lady of Windsor Place; 2, Laptad.
Junior Yearling Heifer—1, 2 and 3, Braden, Distinction's Princess, Noble Golden Cocotte and You'll Do Champion Queen; 4, Laptad.
Senior Heifer Calf—1, 2 and 3, Braden, You'll Do, Perulla, Rosebud's Fairy, and You'll Do Gamboge Dorina.
Junior Heifer Calf—1 and 2, Braden, Georgia's Pride and Virginia's Pet; 3 and 4, Laptad.
Senior and Grand Champion Bull—Braden, Noble's Handsome Prince.
Junior Champion Bull—Majesty's You'll Do.
Senior Champion Cow—Braden, Invicta.
Junior and Grand Champion Female—Braden, Distinction's Princess.
Aged Herd—1, Braden; 2, Laptad.
Young Herd—1, Braden; 2, Laptad.
Calf Herd (one shown)—Braden.
Get of Sire—1 and 2, Braden, on get of Twice You'll Do and Majesty's You'll Do; 3, Laptad.
Produce of Cow—1 and 2, Braden, produce of Ozouf Farm Princess and Togo Princess; 2, Laptad, produce of Tucker's Lass II.

William Galloway, Waterloo, Iowa, was the only exhibitor of Ayrshire cattle, showing sixteen animals.

Guernseys shown by V. O. Johnson, Aulne, Kan., and Kansas Agricultural College, one animal each.

HOG AWARDS.

DUROC JERSEYS.

Exhibitors—F. L. Crowe, Hutchinson, Kan.; Searle & Cottie, Berryton, Kan.; Howell Bros., Herkimer, Kan.; Perfection Stock Farm, Union City, Okla.; R. L. Hurst, Hackokow, Mo.; G. M. Shepherd, Lyons, Kan.; Kansas Agricultural College, Manhattan, Kan.; W. J. Harrison, Axtell, Kan.
Judge—W. A. Williams, Marlowe, Okla.
Aged Boars—1, Crowe, Crocsus Superba; 2, Crowe, Crocsus Joy 2d; 3, Howell, Elk's Col.
Senior Yearling Boars—1, Crowe, Potentate; 2, Hurst, Undena Wonder.
Junior Yearling Boars—1, Howell, Elk's Col. II; 2, Shepherd, King's Col. I Am; 3, Crowe, Pathfinder Special; 4, Crowe, Crowe's Futurity II.
Senior Boar Pig (eleven shown)—1, Searle, Apperson's Jackrabbit; 2, Shepherd, Crimson's Gano; 3, Crowe; 4, Howell Bros.
Junior Boar Pig (fifteen shown)—1, Crowe; 2, Shepherd; 3, Hurst; 4, Crowe.
Aged Sows—1, Crowe, Catherine Girl; 2, Hurst, Keep On Lady; 3, Perfection Farm, Queen of Graduates; 4, Crowe, Wonder Bell.
Senior Yearling Sow (eight shown)—1, Crowe, Crowe's Futurity Lady VII; 2, Hurst, Colonel's Dream; 3, Crowe, Bell's Last; 4, Hurst, Bell of Colonels.



GRAND CHAMPION DUROC-JERSEY BOAR, POTENTATE, SHOWN BY F. L. CROW & SON

Junior Yearling Sow (ten shown)—1, Crowe, Crowe's Orion Rosa; 2, Shepherd, Crimson Lady 1; 3, Crowe, Orion Model Rosa; 4, Howell, Gay Dora.
Senior Sow Pig (eleven shown—1, Searle, Miss Packard; 2 and 3, Searle; 4, Hurst.
Junior Sow Pig (fourteen shown)—1 and 2, Shepherd; 3 and 4, Crowe.
Senior and Grand Champion Boar—Crowe, Potentate.
Junior Champion Boar — Searle, Apperson Jackrabbit.
Senior and Grand Champion Sow—Crowe, Orion's Rosa.
Junior Champion Sow—Searle, Miss Packard.
Aged Herd—1 and 2, Crowe; 3, Howell; 4, Hurst.
Young Herd—1, Searle; 2, Crowe; 3, Shepherd; 4, Hurst.
Aged Herd Bred by Exhibitor—1, Crowe; 2, Howell; 3, Crowe.
Young Herd Bred by Exhibitor — 1, Searle; 2, Crowe; 3, Shepherd; 4, Hurst.
Get of Sire—1, Searle, get of A Critic; 2, Howell, get of Elk's Colonel; 3, Crowe; 4, Shepherd.
Produce of Sow—1, Searle; 2, Howell; 3, Shepherd; 4, Hurst.

DUROC FUTURITY.

Boars—1, Crowe, Crowe's Futurity Boy; 2, Shepherd, Crimson Illustrator; 3, Crowe, Crowe's Futurity Model; 4, Kansas Agricultural College, Model Critic; 5, Kansas Agricultural College, College Critic; 6 and 7, Crowe, Futurity Boy II and Futurity Model II; 8, Kansas Agricultural College, Aggie Critic.
Sows—1, Shepherd, Illustrator Bell 1; 2, Shepherd, Illustrator Bell II; 3 and 4, Crowe, Crowe's Futurity Girl and Crowe's Futurity Bell; 5, Searle, Critic's Ideal; 6, Crowe, Crowe's Futurity Girl II; 7, Searle, Peaches; 8, Crowe, Futurity Bell 1.
Litter of Four—1, Shepherd; 2 and 3, Crowe; 4, Searle; 5, Kansas Agricultural College; 6 and 7, Crowe; 8, Kansas Agricultural College.

CHESTER WHITES.

Exhibitors—Coleman & Crum, Danville, Kan.; E. F. Smiley, Perth, Kan.; F. C. Gookin, Russell, Kan.; Arthur Mosse, Leavenworth, Kan.; W. W. Waltmire & Son, Peculiar, Mo.; Henry Murr, Tonganoxie, Kan.
Judge—W. A. Williams, Marlowe, Okla.
Aged Boars—1, Coleman, Veto; 2, Murr, Don Ben II; 3, Coleman, Prince Of All; 4, Gookin, Dude III.
Senior Yearling Boar—1, Waltmire, Uneeda W; 2, Gookin, Western Sam.
Junior Yearling Boar—1, Mosse, Don Wonder; 2, Coleman, Milo; 3, Waltmire, Win A Son; 4, Mosse, Wildwood.
Senior Boar Pig—1, Waltmire, School Boy; 2, Coleman, Smiley Kind; 3, Mosse, Don Halligan; 4, Gookin, Western Don.
Junior Boar Pig—1, Mosse, Don Royal; 2, Waltmire; 3, Coleman; 4, Mosse.
Aged Sow — 1, Coleman, Tip Top; 2, Coleman, Beauty S; 3, Mosse, Calamity Ann O. K.; 4, Waltmire, Pearl W.
Senior Yearling Sow—1, Gookin, Western Emma.
Junior Yearling Sow—Waltmire, Primrose; 2, Smiley, Ethel; 3, Gookin, Tutsy.
Senior Sow Pig—1, Mosse, Dona Pretty Baby; 2, Smiley; 3 and 4, Waltmire.
Junior Sow Pig—1, Mosse, Dona Pretty Baby II; 2, 3 and 4, Coleman.
Senior and Grand Champion Boar—Coleman, Veto.
Junior Champion Boar—Waltmire, Schoolboy.
Senior and Grand Champion Sow—Coleman, Tip Top.
Junior Champion Sow—Mosse, Dona Pretty Baby.
Aged Herd—1, Coleman; 2, Waltmire; 3, Gookin.
Young Herd—1, Waltmire; 2, Coleman; 3, Gookin.
Aged Herd Bred by Exhibitor—1, Waltmire; 2, Gookin.
Young Herd (bred by exhibitor)—1, Waltmire; 2, Coleman; 3, Gookin.
Get of Sire—1, Waltmire; 2, Mosse; 3, Coleman; 4, Waltmire.
Produce of Sow—1, Waltmire; 2, Mosse; 3, Coleman; 4, Waltmire.

POLAND CHINAS.

Exhibitors—A. J. Erhart & Sons, Ness City, Kan.; Olivier & Son, Danville, Kan.; H. B. Walter & Son, Effingham, Kan.; Herman Gronniger & Son, Bendena, Kan.; George Delfelder & Son, Effingham, Kan.; C. B. Palmer, Marion, Kan.; S. P. Childs, Jefferson, Kan.; Bert E. Hodson, Ashland, Kan.; Fred B. Caldwell, Howard, Kan.; V. O. Johnson, Aulne, Kan.; Deming Ranch, Oswego, Kan.; Phil Dawson, Endicott, Neb.; W. E. Epley, Diller, Neb.; S. Y. Burk, Bolivar, Mo.; Hill & King, Topeka, Kan.; William Brun, Muscotah, Kan.
Judge—J. C. Meese, Ord, Neb.
Aged Boar—Hodson, McGath's Big Orphan.
Senior Yearling Boar (three shown)—1, Dawson, Nebraska Bob; 2, Johnson, Fashionable Price; 3, Palmer, King Dudley.
Junior Yearling Boar (eight shown)—1, Walter, Big Wonder; 2, Dawson, Jumbo Chief; 3, Deming, Big Bob Jumbo; 4, Deming, King What's Wanted.
Senior Boar Pig (eighteen shown)—1, Olivier, Kansas King; 2, Gronniger, Long Hob; 3, Dawson, Overland Columbus; 4, Walter, Long Wonder.
Junior Boar Pig (twenty-nine shown)—1, Walter, Bob's Quality; 2, Walter, Bob's Quality 2d; 3, Caldwell, Black Big Bob; 4, Gronniger, Big Hadley.
Aged Sow (eight shown)—1, Caldwell, Belle Wonder; 2, Caldwell, Jumbo Lady 2d; 3, Dawson, Mouw's Lady Uhlan; 4, Dawson, Uhlan's Mouw's Lady.
Senior Yearling Sow (six shown) — 1, Dawson, Robina 4th; 2, Walter, Miss Jumbo Wonder; 3, Epley, O. K. Lady; 4, Deming, Quality Wonder.
Junior Yearling Sow (fifteen shown)—1, Walter, Bob's Climax; 2, Caldwell, Wonder On; 3, Deming, Big Bob's Orange; 4, Deming, A Wonder Maid.
Senior Sow Pig (twenty-eight shown)—1, Walter, Walter's Beauty; 2, Dawson, Bessy Wonder 2d; 3, Caldwell, Bonnie Belle; 4, Gronniger, Futurity Maid.
Junior Sow Pig (twenty-five shown)—1, Erhart, Big Jumbo Lady 2d; 2, Hurks, May Buster; 3, Caldwell, Rosaline; 4, Olivier, Wonderful Lady.
Aged Herd (five shown)—1, Dawson; 2, Walter; 3, Deming; 4, Epley.
Aged Herd (bred by exhibitor; three shown)—1, Deming; 2, Deming; 3, Palmer.
Young Herd (eight shown)—1, Walter; 2, Olivier; 3, Dawson; 4, Gronniger.
Young Herd (bred by exhibitor; seven shown)—1, Walter; 2, Olivier; 3, Gronniger; 4, Deming.
Get of Sire (seven shown)—1, Walter; 2, Deming; 3, Gronniger; 4, Caldwell.
Produce of Sow (eight shown)—1 and 2, Walter; 3, Caldwell; 4, Gronniger.
Futurity: Fall Boars (fifteen shown)—1, Olivier; 2, Gronniger; 3, Walter; 4, Deming; 5, Hill & King; 6, Erhart.
Futurity: Spring Boars (twenty-seven shown)—1 and 2, Walter; 3, Caldwell; 4, Gronniger; 5, Erhart; 6, Demind; 7, Childs; 8, Delfelder.
Futurity: Fall Sows (twenty-one shown)—1, Walter; 2, Gronniger; 3, Deming; 4, Johnson; 5, Erhart; 6, Olivier.
Futurity: Spring Sows (twenty-two shown)—1, Erhart; 2, Caldwell; 3, Olivior; 4, Childs; 5 and 7, Delfelder; 6, Walter; 8, Deming.
Spring Litters (eleven shown)—1, Walter; 2, Erhart; 3, Delfelder; 4, Caldwell; 5, Deming; 6, Childs; 7, Gronniger; 8, Olivier.
Senior and Grand Champion Boar—Hodson, McGath's Big Orphan.
Junior Champion Boar—Walter on Bob's Quality.
Senior and Grand Champion Sow—Dawson on Robina 4th.
Junior Champion Sow—Walter on Wonder's Beauty.

BERKSHIRES.

Exhibitors—R. C. Obrecht, Topeka, Kan.; Sutton & Porteous, Lawrence, Kan.; S. Y. Burk, Bolivar, Mo.; Kansas Agricultural College, Manhattan, Kan.
Judge—W. A. Williams, Marlow, Okla.
Aged Boar—1, Obrecht, Improver's Bacon; 2, Burk, Broadway Duke.
Junior Yearling Boar—1, Sutton, Robinhood Lee; 2, Kansas Agricultural College, Ames Rival.
Senior Boar Pig—1, Obrecht; 2, Burk; 3, Obrecht; 4, Sutton.
Junior Boar Pig—1, Sutton; 2, Kansas Agricultural College; 3, Burk; 4, Obrecht.
Aged Sow—1, Sutton, Classy Stumpy; 2, Burk, Duke's Maid; 3, Obrecht.
Senior Yearling Sow—1, Burk.
Junior Yearling Sow—1, Burk, Girlish Maid; 2, Sutton; 3 and 4, Obrecht.
Senior Sow Pig—1, Obrecht; 2, Sutton.
Junior Sow Pig—1, Sutton; 2, Kansas Agricultural College; 3, Obrecht; 4, Burk.
Senior and Grand Champion Boar—Obrecht, Pathfinder 3d.
Junior Champion Boar—Sutton, Robinhood Classy.
Senior and Grand Champion Sow—Burk, Duke's Maid.
Junior Champion Sow—Obrecht.
Aged Herd—1, Obrecht; 2, Burk; 3, Sutton.
Aged Herd (bred by exhibitor)—Same as above.
Young Herd—1, Sutton; 2, Obrecht; 3, Burk.
Young Herd (bred by exhibitor)—Same as above.
Get of Sire—1, Sutton, Judge Robinhood; 2, Obrecht, Pathfinder; 3, Burk, Baron Duke 180th.
Produce of Sow—1, Sutton, Peaceful Lee; 2, Obrecht, Crusader's Duchess B; 3, Burk.

HAMPSHIRES.

Exhibitors—Scudder Bros., Doniphan, Neb.; George W. Ela, Valley Falls, Kan.; F. B. Wempe, Frankfort, Kan.; R. T. Wright, Grantville, Kan.; Roy Crawford, Topeka, Kan.
Judge—W. A. Williams, Marlow, Okla.
Aged Boar—1, Scudder, Kaw Valley Chief; 2, Wempe, General Jones; 3, Crawford, Topeka Boy.
Senior Yearling Boar—1, Scudder, America; 2, Wempe.
Junior Yearling Boar—1, Ela, Cody; 2, Scudder, Prime Boy; 3, Ela, Halcyon King.
Senior Boar Pig—1, Scudder; 2, Wright; 3, Crawford; 4, Scudder.
Junior Boar Pig—1 and 2, Wempe; 3, Scudder; 4, Wempe.
Aged Sows—1, Scudder; 2, Wempe; 3, Scudder; 4, Wright.
Senior Yearling Sow—1, 2 and 3, Scudder.
Junior Yearling Sow — 1, 2 and 3, Scudder; 4, Wempe.
Senior Sow Pig—1, 2, 3, Scudder; 4, Wempe.
Junior Sow Pig—1, 2, 3, 4, Scudder.
Senior and Grand Champion Boar—Scudder, on America.
Junior Champion Boar—Scudder.
Senior and Grand Champion Sow—Scudder, Allen 2nd.
Junior Champion Sow—Scudder.
Aged Herd—1, 2, 3, Scudder; 4, Wempe.
Aged Herd (bred by exhibitor)—1, 2, Scudder; 3, Wempe.
Young Herd—1, 3, Scudder; 2, Wempe.
Young Herd (bred by exhibitor)—1, 3, Scudder; 2, Wempe.
Get of Sire—1, 2, 4, Scudder; 3, Kirby.
Produce of Sow—1, Scudder; 2, Kirby; 3, Wright; 4, Ela.

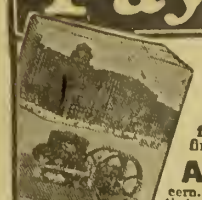
NOTES OF THE FAIR

Last year during the Free Fair, Kansas Poland China breeders formed a state organization. It is evident breeders of this well known breed of hogs are awake to the possibilities of united action. This is the second year in which the futurity show has been held at Topeka, and it has practically established itself as a feature of the Poland China hog show at this fair. At the annual meeting of the Poland China Breeders' Association held last Tuesday evening, the following officers were elected: President, Fred B. Caldwell, Howard, Kansas; vice president, A. J. Erhart, Ness City, Kansas; secretary-treasurer, J. C. Haldeman; board of directors—A. J. Erhart, Ness City; W. G. Van Horn, Topeka; Paul Olivier, Danville, Kansas; W. A. Prewitt, Asherville; C. B. Palmer, Marion; and H. B. Walter, Effingham. With this live organization of breeders working in the interests of their chosen breed, we look for next year's futurity at the Kansas Free Fair to be one of the big futurity shows of the country.

Hampshire hog breeders attending the Free Fair were full of enthusiasm. In addition to making a good showing of hogs of this breed, they pulled off more stunts than any other group of breeders present. They began with a box party at the Grand Theater on Tuesday evening given through the courtesy of Roy Crawford, who breeds Hampshire hogs in addition to his job of conducting theaters. Wednesday night Scudder Brothers, of Nebraska, gave a watermelon feed, and Thursday night H. L. Peppmyer gave a dinner at the Elks Club, after which George W. Ela, of Valley Falls, organized a line theater party. During these various festivities plans were made for getting behind a big Kansas Hampshire show next year for Topeka. These breeders have a live state organization, of which Mr. Ela is secretary, and the probabilities are that people who visit the Free Fair next year will see more hogs of this breed than have ever been shown before in Kansas.

A feature of the sheep show at Topeka this year was the distribution of the booklet entitled "Money in Sheep Raising." This little pamphlet was written by A. M. Paterson, of the Agricultural College, and has been published by the Kansas City Stock Yards Company. Its purpose is to furnish absolutely reliable practical instructions on the handling of sheep. The stock yards representative, F. R. Hedrick, who has been assigned the task of doing all he can to interest the people of Kansas in sheep, was in the sheep barn most of the week, passing out the pamphlet and talking sheep to all who were sufficiently interested to ask questions. Every farmer in Kansas should have a copy of this little pamphlet. Mr. Paterson is one of the most practical sheepmen ever connected with the Agricultural College, and instructions found in the pamphlet will help the beginner to avoid many mistakes. If you did not get your copy at the fair, write to the Kansas City Stock Yards Company at Kansas City, Missouri, requesting them to send you one.

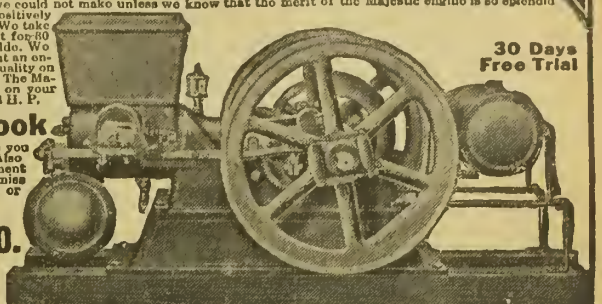
Pay Nothing for 60 Days



Prove without risking a penny—without one cent in advance, that the famous Majestic is the strongest, most economical, easiest to operate, and most powerful engine for its rated H. P. Uses either gasoline or kerosene. Try it 30 days free. No money in advance, no deposit, no C. O. D. Then return it if it isn't the most satisfactory engine you ever used. If you keep the engine we send you, make first small payment in 60 days. Balance in equal payments 60 days apart.

A Full Year to Pay Yes—spread your payments over a year. That is the offer made and backed by a $12,000,000 concern. An offer we could not make unless we know that the merit of the Majestic engine is so splendid that you will positively want to keep it. We take all the risk. Try it for 60 days before you decide. We could not send any but an engine of the highest quality on such an offer as this. The Majestic must prove itself on your own farm. Made in 2, 3, 6, 7, 9 and 14 H. P.

30 Days Free Trial



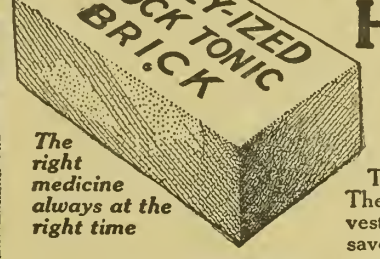
Send for Free Book

Tells all about gas engines. Shows you how to buy on money saving basis. Also explains our 30 days free trial, no payment for 60 days, year to pay offer. Don't miss this. The book is free. Send postal or letter today.

The Hartman Co.
4025 LaSalle Street
Dept. 973 Chicago



You Can Have Hogs Like These



The right medicine always at the right time

Your hogs are in constant danger from worms, cholera, pneumonia, digestive troubles; germs in the air, in the dust, in the grass; danger in new corn, change of seasons, contact with other hogs, etc.
Take no chances with your hogs this year. They're too valuable. A few cents per hog invested in Carey-ized Stock Tonic Brick may save you hundreds of dollars.

CAREY-IZED STOCK TONIC BRICK

Is composed of powdered gentian root, sulphate of iron, bi-carbonate of soda, sulphur, carbonized peet, charcoal, quassia and pure dairy salt—all properly proportioned to insure a complete health prescription. Solid brick form makes it easy and economical—preserves its full medicinal strength to the last ounce.
Keep it before your hogs all the time. Let them doctor themselves. Watch them thrive and finish for market better and in less time at less feed cost.
Equally good for hogs, cattle, sheep and horses. Supplies needed medicine, and salts animals at the same time.

Positively Guaranteed to Satisfy You

We know Carey-ized Stock Tonic Brick to be and do all we claim for it, and take all the chances of a 30-day trial by you in your own feed lot. We guarantee you will be satisfied with the result or *refund all your money.*
Order a dozen bricks from your dealer. If he does not handle it, write us his name and we will see that you are supplied.
Don't delay. Fill out and mail us the coupon today for valuable booklet on "Making Live Stock Pay" and full information on Carey-ized Stock Tonic Brick.

CAREY SALT COMPANY
Dept. 256, Hutchinson, Kansas

Carey Salt Co.
Dept. 256 Hutchinson, Kansas
Please send me full information on Carey-ized Stock Tonic Brick; also Free Book "Making Live Stock Pay."
My dealer's name.....
P. O.....*State*.....
My Name.....
P. O.....*State*.....

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks, for bona fide seekers of employment on farms.**

AGENTS WANTED.

MAN TO WEAR FINE SUIT, ACT AS agent; big pay, easy work. Banner Tailoring Co., Dept. 738, Chicago.

HELP WANTED.

WANTED — MARRIED MAN WITH A small family to work on farm by month. Steady work year round. J. M. Miller, Rte. 1, Elmdale, Kansas.

WANTED—MEN-WOMEN, 18 OR OVER. Government jobs, $100 month. Big opportunity for farmers. War necessitates hundreds appointments. Write for list positions. Franklin Institute, Dept. G-82, Rochester, N. Y.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FOR SALE — DOUBLE STANDARD Polled Durham bulls. Write for description and price. C. M. Albright, Route 2, Overbrook, Kansas.

NINE HEAD HIGH GRADE HOLSTEIN cows due to calve in October. They are bred to a registered bull whose nearest two dams average over 900 pounds butter. R. E. Stuewe, Alma, Kansas.

WE OFFER FOR SALE CHOICE OF TEN from our herd of twenty high grade Guernsey cows. All our own raising and desirable ages and due to freshen fall and early winter. G. D. Glidden & Sons, Homewood, Kan.

FOR SALE — VERY CHOICE HIGH-grade Holstein calves, either sex, three to six weeks old, at $20 per head, crated for shipment. Or if you want dairy cattle of any age, I will buy them at a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

HIGHLY BRED HOLSTEIN CALVES; either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked. $23, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

DOGS.

TRAINED BEAGLES, RABBIT HOUNDS, foxhounds, coon, opossum, skunk dogs, setters, pointers, house, farm dogs. Ferrets. Catalog 10c. Brown's Kennels, York, Pa.

TRAINED RABBIT HOUNDS, FOX hounds, coon, opossum, skunk dogs, setters, pointers, ferrets. List free. Violet Hill Kennels, Hanover, Pa.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

FOR SALE — HIGH CLASS FOX AND coon hounds. The kind that can deliver the goods. Bred right and broken right. If you want a good one, write me. Price reasonable. A. F. Sampey, 317 E. Mt. Vernon St., Springfield, Missouri.

HOGS.

CHESTER WHITES — MAY PIGS AT farmers' prices. Gust Claussen, Bunker Hill, Kansas.

FOR SALE — HAMPSHIRE PIGS FROM sire and dam, first and fourth prizes, Topeka Fair. Roy Crawford, Topeka, Kansas.

TREES, SEEDS AND PLANTS.

PURE-BRED HIGH-YIELDING TURKEY red hard seed wheat, cleaned and graded, at $3.00 a bushel. Ferdinand Hubka, Vliets, Kansas.

FULCASTER AND SEEDLING SEED wheat for sale, $2.70 per bushel f. o. b. cars Vinita. Sacks free. $2.50 per bushel in carloads, not sacked. J. C. Starr, Vinita, Okla.

TIMOTHY SEED, $4.00 PER BUSHEL. High purity and germination, first class in every way. Timothy-alsike mixture, $4.50 per bushel. Satisfaction or your money back. Henry Field, Shenandoah, Iowa.

TREE PLANT THIS FALL. NEVER A better time. Save money and get our terms. Write today for fruit book and information about growing fruits. Buy direct—it pays. Headquarters for well selected seeds. Box No. R, Wichita Nurseries & Seed House, Wichita, Kansas.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431.28 W. Jackson Boulevard, Chicago.

MISCELLANEOUS.

WHITE RATS, 50c PAIR; ALSO GUINEA pigs. Write Earl Scott, Belvidere, Kansas.

1,024 YEARS AMERICAN HISTORY, 50c postpaid. Elias Pelton, Hudson, Kansas.

POULTRY.

WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

PURE BOURBON RED TURKEYS, FOUR months old, $3. Lily Robb, Neal, Kansas.

CHOICE MARCH-APRIL HATCHED White Rock cockerels, $1.50 and $2. Mrs. Rudolph Johnson, Bendena, Kansas.

SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

S. C. RHODE ISLAND REDS — HENS, pullets and cockerels for sale cheap. H. A. Grove, Greeley, Kansas.

SINGLE COMB BROWN LEGHORN cockerels, 75c and $1 each. C. H. Robinson, Urich, Missouri.

POULTRY WANTED.

POULTRY AND EGG MARKET HIGHER. Coops free. For prices, "The Copes," Topeka.

STRAWBERRY PLANTS.

100 STRAWBERRY PLANTS, POSTPAID, 95c; 100 rhubarb or 150 asparagus plants, $1.10. Alva Cathcart, Bristol, Indiana.

EVERBEARING, $2 PER HUNDRED; common varieties, $1 per hundred. Choice thrifty stock. State inspected. Pedigreed. J. A. Dowden, North Bend, Neb.

REAL ESTATE.

NORTH CENTRAL KANSAS, OSBORNE County seed, grain and stock farms, $20. Best wheat and corn land, $35 to $50. "Here is the place." J. F. Baum, Natoma, Kansas.

FARMS AND FARM LANDS FOR SALE—All kinds of soils, rain belt, dry farming or irrigible. Lands within five miles of railroad. H. M. Madison, General Farm and Immigration Agent, San Antonio, Texas.

THE STRAY LIST.

TAKEN UP — ON THE 5TH DAY OF September, 1917, by Mike Paul, of Marienthal, Kansas, one gray mare, weight 1,100 pounds; wire cut on both front feet. Dean Trueblood, County Clerk.

TAKEN UP — BY W. A. PATCH, OF Olpe, Center Township, Lyon County, Kansas, on August 15, 1917, one cow, color red with white on flank, dehorned. No marks or brands. Appraised at $45. G. L. Miller, County Clerk.

TAKEN UP—BY EDWARD WARE, OF Eureka Township, Greenwood County, Kansas, one red three-year-old steer branded with letter "W" on left side, 3-4 on left hip. Right ear cropped, appraised at $40. Ethel Eastwood, County Clerk.

TAKEN UP—ON THE 23D DAY OF August, 1917, by Alex Shepard, residing nine miles southwest of Leotl, Wichita County, Kansas, one bay pony mare, weight 750 pounds, wire mark across right shoulder; no brands. Deon Trueblood, County Clerk.

Real Estate For Sale

10,000 ACRES of good grazing land, well watered, for $3 to $5. All crops good. No drouth, no hot winds. Grass for cattle and corn for hogs. Best country in the world to live and make money.
W. W. TRACEY - ANDERSON, MISSOURI

950-ACRE BOTTOM FARM
Four hundred acres in cultivation, 160 acres meadow, balance pasture. Splendid alfalfa, wheat or corn land. Splendid oil possibilities. A fine bargain for some one. Only $75 per acre. Might take a small farm in on the deal. Write
M. T. SPONG - FREDONIA, KANSAS

FOR SALE

Or Exchange for Kansas Property

220 acres of rice and timber lands six miles south of Stuttgart, Ark. Address owner,
JOHN W. HARBESON, Tonganoxie, Kansas

180 A. Meadow, 7 miles R. R. town, this county. Level, no rocks; no overflow; every acre tillable; made 200 tons No. 1 baled hay this season; hay $15 per ton here now. $28 per a. Terms.
SOUTHERN REALTY CO., McAlester, Okla.

The Kansas Hampshire Swine Breeders' Association, organized in March, 1917, is proving to be one of the progressive live stock organizations in this state. Although the organization was perfected only a few months ago, it is doing a few things that will arouse an interest in pure-bred Hampshire swine. The association, through its secretary, George Ela, is responsible for the organization of the Boys' Halcyon Pig Club with a good number of members and every member having a good Hampshire pig. The association is also responsible for the big meeting and picnic held by the pure-bred live stock breeders at Valley Falls, Kansas, a few weeks ago. Now the association has announced a combination Hampshire swine sale to be held at Valley Falls on October 12. Sixty head of choice boars, sows and gilts from the best Hampshire herds in the state will be consigned to this sale. They will represent the best blood lines of the breed. The boys of the Halcyon Pig Club will also sell a choice lot of spring gilts in this sale that promises to be one of the big sale events of the season.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Every mason in the quarry, every builder on the shore,
Every chopper in the palm grove, every raftsman at the oar—
Hewing wood and drawing water, splitting stones and cleaving sod—
All the dusty ranks of labor, in the regiments of God
March together toward His triumph, do the task His hands prepare;
Honest toil is holy service; faithful work is praise and prayer.
—Henry Van Dyke.

Club Department Exhibits

The results of the first exhibit of the work of the boys' and girls' clubs of the state at the Kansas Free Fair held in Topeka last week, were gratifying to the management. Although not as many entries were made in some lines as had been hoped for, the quality of the work was uniformly good, and in some classes the number of entries exceeded expectations. The exhibits of the mother-daughter canning clubs and of the sewing clubs were especially large and attractive.

Mother-daughter canning club exhibits were made by the St. Marys, Maple Hill, Bonner Springs, and Leavendotte clubs. The last name is a compound of Leavenworth and Wyandotte, this club having members in both counties. Each exhibit contained from seventy-five to one hundred fifty jars of canned fruits and vegetables. There were few duplicates in each exhibit, most of the jars containing different canned products. A few jars of dried fruits were included.

In addition to the club exhibits, individual entries were made by eight mother-daughter teams, each of these exhibits consisting of a dozen jars and comprising at least five varieties of fruits and five of vegetables. Forty jars of canned products placed in the center of the wing of the agricultural building alloted to the club work attracted considerable attention. These had been sold by the clubs of Leavenworth County to the United States Department of Agriculture and will be shipped to Washington and made a part of the Government exhibit of canned products.

Beside the more commonly canned fruits and vegetables, the exhibit contained jars of pressed chicken, corned beef, vegetable greens, cauliflower, carrots, beet relish, soup mixtures, cabbage, turnips, asparagus, squash, corn salad, shelled green beans, beans and corn canned together, corn and tomatoes, dried wax beans, dried beet tops, and the 4-H brand breakfast food made from field corn by grating it off the cob, seasoning with salt, butter, and sugar, cooking until thick, and canning. This forms a solid mass and when removed whole from the jar or pack resembles a cake of white or yellow butter, the color depending on the kind of corn used. Slices are cut from the cake and fried, baked, or buttered and toasted. This dish was worked out by O. H. Benson, specialist in charge of boys' and girls' club work in the U. S. Department of Agriculture, and takes its name from the four things for which the club work stands—head, hand, heart and health.

The special prize of fifty dollars offered for the best display made by a mother-daughter club was won by the Bonner Springs club. In awarding this prize, quality of the products, the number of teams represented, and the size of the exhibit were the points taken into consideration.

The twenty-six loaves of white and graham bread exhibited by members of cooking clubs seemed to us to compare very favorably with the display of bread baked by the women of the state.

In the garden contest, Maple Hill entered the largest and most varied exhibit, including tomatoes, potatoes, carrots, beets, squashes, corn, onions, cabbage, cucumbers, and beans.

The sewing club work was divided into two classes. Class A included girls between fifteen and eighteen years, inclusive, and Class B those from ten to fourteen, inclusive. The exhibit by each of the girls in Class A consisted of a bib apron, half-sleeves, a cap, a night gown of longcloth, muslin, nainsook, or cotton crepe with round neck and short sleeves trimmed with lace edging, and a cotton school dress. A commercial pattern is used in making the school dress, but patterns for the other garments are drafted by the contestants. The work of Class B is the same as that of Class A excepting that darning and patching are required instead of the school dress. Quite a number of entries were made after the opening of the fair, so that in all nearly two hundred members of sewing clubs made exhibits in one or the other of these classes. Many of the night gowns were finished with a dainty crocheted or tatted edge, and much neat, careful work was shown.

Otis E. Hall, superintendent of the department, was assisted during the fair by Mr. L. C. Williams and Miss Lottie Milam, assistant state club leaders; Miss Ava Lucile Sells, local club leader for Wabaunsee County, and Miss Edna Danner, who will take up her work as home demonstration agent in Marshall County October 1. The club awards follow:

CANNING.

Mother-Daughter Products (individual teams)—1, Alice Sells, Maple Hill; 2, Mrs. Hubert L. Popenoe, Emporia; 3, C. E. Minard, Paxico; 4, Mrs. Fred W. McClintock, Wichita; 5, Mrs. N. S. Clothier, St. Marys.

Mother-Daughter Club Honors ($50)—Bonner Springs Club.

SEWING.

Class A—1, Nellie Whitcomb, Cottonwood Falls; 2, Cecile Paine, Admire; 3, Vera Coad, Cawker City; 4, Katherine Esau, Inman; 5, Florence Winkler, Maple Hill.

Class B—1, Louise Glick, Jewell; 2, Catherine Mick, Greeley; 3, Hilma Elledge, Garden City; 4, Vera Alcorn, Mankato; 5, Marjorie Shultic, North Topeka.

Sewing Club Honors ($25)—Fredonia Sewing Club.

BREAD.

White—1, Phyllis Brown, Emporia; 2, Elnora Carlson, Maple Hill; 3, Dorothy Nicklin, Emporia; 4, Edith Scarborough, Bucklin; 5, Rachel Blair, Maple Hill.

Brown—1, Phyllis Brown, Emporia; 2, Lena Lickteig, Greeley; 3, Edith Carlson, Maple Hill.

GARDEN.

Square Rod Garden—1, Eva Mae Hyde, Welda; 2, Crae Crawshaw, Maple Hill; 3, Madeline Ledbetter, Parsons; 4, Blanche Fauerbauch, Maple Hill; 5, Mary Beroud, Wabaunsee.

Potato—1, Clarence Duffin, Leavenworth; 2, James D. Carsten, Jennings; 3, Lloyd Filnner, Jarbalo; 4, Walter Smith, Harveyville; 5, Donley Johnson, Alma.

Tomato—1, W. Bruce Smith, Colony; 2, Leo Sculley, Colony; 3, John Voorhees, Americus.

CORN.

Single Ear—1, James McClelland, Maple Hill; 2, Durward Hawkins, Jarbalo; 3, Rupert Pickett, Hymer.

Ten Ears—1, Durward Hawkins, Jarbalo; 2, Rupert Pickett, Hymer; 3, Harvey Peterson, Maple Hill; 4, James McClelland, Maple Hill; 5, Francis Cotton, Maple Hill.

Woman's Work at Fair

The culinary, textile, and art exhibits at the Kansas Free Fair were housed in one of the best buildings on the grounds, a brick and cement structure affording ample space for showing 400 exhibits.

The exhibits in the culinary department, of which Mrs. Harry T. Forbes is superintendent, were much better and more numerous than last year. Not quite so much bread was shown as a year ago, and perhaps a little less canned fruit, but in every other line the number of entries was larger. The canned goods were exhibited in pint jars this year, and occupied somewhat less space than last year when quart jars were used, but there were more entries in a class. There was a noticeable increase in the entries of canned vegetables. This would indicate that women have made a little greater effort than usual along the line of storing vegetable food products for winter use.

In the textile department the exhibits were at least as large in number as in any previous year, and Mrs. J. F. McCormick, superintendent, considered the quality of the entries, except in one or two instances, better than ever before, more meritorious work being shown. This exhibit occupied half the art building and included a large display of tatting, embroidery, crocheting, knitting, bead work, hand sewing, quilts, and sofa pillows. Among the entries in knitting was a sweater which is soon to be worn to France.

A feature of special interest was the showing of work done by the different departments of the Boys' Industrial

School at Topeka. This work consisted of printing, basketry, manual training, sewing, tailoring, baking, canning, shoemaking, and rug weaving. A beautiful library table shown had been made of discarded lumber from the east wing of the State House. Six thousand gallons of canned goods put up in one season were represented by a table filled with gallon cans of tomatoes, the printed labels for which had been made in the institution. The exhibit from the sewing department consisted of neat, well-made blue shirts and khaiki trousers. In tailoring, boys' suits were shown. A full and attractive line of plain and fancy breads was included in the bakery display. The exhibit in shoemaking showed the steps in the construction of a shoe, beginning with the cutting of the leather and finishing with a well-made pair of black and one of tan shoes.

Steamed Dumplings

2 cupfuls flour
1 tablespoonful butter
1 tablespoonful sugar
4 level teaspoonfuls baking powder
½ teaspoonful salt
¾ cupful milk

Sift baking powder with flour so that it is thoroughly mixed. Add salt and sugar. Rub or cut butter into flour as for biscuits, then add milk. Roll out, cut in square or oblong shapes, place in steamer over chicken or other meat and steam thirty minutes. The steamer should be set over the kettle about five minutes before the dumplings are to be placed in it so that it will be hot when they are put in. Serve dumplings on platter, pouring over them gravy or creamed chicken.

Southern Corn Pone

1½ cupfuls white corn meal
2 tablespoonfuls milk
1 cupful boiling water
1 teaspoonful salt

Add the salt to the meal and scald with the boiling water, stirring well. Add enough milk to hold the ingredients together. When cool enough to handle, form into cakes by rolling into balls in the hands and flattening these down to about one-half inch in thickness. Have ready a pan well greased, place over the fire and add the pones, dipping a little of the shortening over the tops. Leave the pan over the fire until the bread is browning slightly and then set in a hot oven and finish baking for from thirty to forty-five minutes on the upper grate.

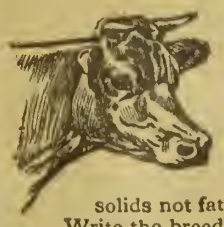
FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.

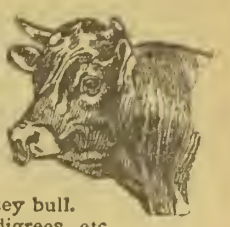


No. 8184—Children's Dress: Cut in sizes 2, 4, 6, 8, and 10 years. Simplicity itself is this little one-piece dress for the small girl. Its chief bid for the approval of busy mothers is in the fact that it may be opened from neck closing to hem and hence is very easily laundered. The sleeves are set in without fullness and may be either long or short. **No. 8200—Ladies' Waist:** Cut in sizes 36 to 42 inches bust measure. The latest fashion notes predict that kimono waists are coming into their own again, so this good-looking one comes at a most opportune time. It is cut with a generous fullness, which is distributed in three tucks over each shoulder. A tiny shield fills the opening of the surplice front. **No. 8202—Girls' Middy Blouse:** Cut in sizes 4 to 12 years. The strikingly different note in this middy is the welcome change in the neck line, which is accomplished by a square tab cut in one with the body of the blouse, but which may be unfastened, this allowing greater freedom in slipping the blouse on over the head. **No. 7961—Misses' Dress:** Cut in sizes 14, 16, 18 and 20 years. A model of charming simplicity, cut in one from the shoulder to the lower edge. The fronts may roll open at the neck if desired. A turn-over collar in contrasting goods and silk ribbon ties have all the trimming honors. The wide belt of material at a lowered waistline and fastening at the side with a button has a pocket place in each half of the front section. **No. 7900—Ladies' Skirt:** Cut in sizes 24 to 32 inches waist measure. With that open-air smartness that bespeaks "style," this skirt is in four gores and has front closing, and may be developed in serge, gabardine or linen. Its merit is altogether in its cut and the side pockets that are ornamented with buttons. A stitched seam down the center front is noticeable. **No. 7870—Ladies' House Dress:** Cut in sizes 36 to 44 inches bust measure. The making of this dress is certainly not a problem of skill, nor of cost. It is in one piece from the shoulder to the lower edge; the style feature is the pocket stitched to each front, below a "piece-belt" which is tacked over fine plaits to confine the fullness at the waist.

Jerseys for Net Profits



You're in the dairy business for profit—the *net* profit that your herd has made you at the end of the year will determine the size of your bank account. Jerseys yield the largest returns from every ounce of feed—proved by tests at two great expositions. Jersey milk averages 5.3% butter fat, 9.1% solids not fat—highest of all breeds. Buy a Jersey bull.



Write the breeders advertised below for prices, pedigrees, etc.

The American Jersey Cattle Club, 375 West 23rd Street, New York City

120 JERSEY COWS AND HEIFERS
Pure-bred and high-grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. Berry & Son
JEWELL CITY - - - - KANSAS

Catalogs Are Ready
For the following Jersey Sales to be held under my management: Lochrie & McCoy, Carl Junction, Mo., Sept. 27; Oklahoma Breeders' Sale, Oklahoma, Okla., Sept. 29; Redmon & Sons, Tipton, Mo., Oct. 1; Geo. W. Hagan, Lee's Summit, Mo., Oct. 31. Write today and ask to be placed on my mailing list. Address
B. C. SETTLES, Sales Mgr., Palmyra, Mo.

Idylwild Stock Farm
FOR SALE—Bull calf dropped February 26, 1917; dam Idylwild Gladiola 354414, sire Jacoba's Prize Premier 137930.
C. F. Blake, Glasco, Kan.

REGISTERED JERSEY BULLS
BUTTER-BRED. FROM HIGH-PRODUCING COWS. Photo furnished.
Maxwell's Jersey Dairy
ROUTE 2 TOPEKA, KANSAS

LONGVIEW JERSEYS
(Register of Merit Herd)
Bull calves sired by champion bulls out of Register of Merit dams, for sale at all times.
Longview Farm
LEE'S SUMMIT - - - MISSOURI

LOMAX JERSEYS
A Herd of Producers. Backed by Records. Popular blood lines. Choice individuals. We invite inspection of our herd at all times.
Write us your wants.
Dr. J. H. Lomax
STATION B - - ST. JOSEPH, MO.

Registered Jerseys
Cows, Heifers and Calves. Good breeding, good individuals. Must reduce herd. Price reasonable.
C. F. Pfeutze, Rte. 4, Manhattan, Kan.

J. B. PORTER & SON
MAYETTA, KANSAS
BREEDERS OF HIGH-CLASS JERSEYS. STOCK FOR SALE AT ALL TIMES.
WRITE US YOUR WANTS.

30 -- MILK COWS, HEIFERS AND BULLS -- 30
Will Be Sold at Auction, Saturday, September 29, 1 p. m., on Fritts Farm Adjoining Paola on the South.

Must sell France's entire herd, as he is a renter and must vacate. Fritts is selling his grades and will hereafter keep only registered Jerseys. All cows tuberculin tested and healthy. Herd consists of two registered Jersey cows, seventeen high grade Jersey cows, eight mixed bred cows, four registered Jersey bull calves, three grade Jersey bull calves and four grade Jersey heifer calves. A number of these cows have made $35 a month for the past several months. Ask for catalog.

Col. L. S. Ruggles, Auctioneer. FRANCES & FRITTS, PAOLA, KANSAS

SCHOOLS AND COLLEGES

GOVERNMENT SCHOOL
The Kansas Wesleyan Business College holds an appointment by the United States Government to teach Morse and Radio Telegraphy. This honor is a fitting recognition of the efficient work of this school.

The War Department furnishes us all needed additional equipment to handle the great classes of young men and women now enrolling.

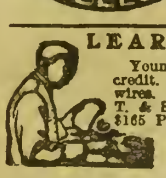
Graduates are guaranteed immediate appointment with the Signal Service or, if preferred, with the railroads.

Write at once for catalog.

The Kansas Wesleyan Business College, Salina, Kansas

Strickler's Topeka Business College
Banks And Railroads Demand Our Graduates
Graduates guaranteed positions and furnished employment to defray expenses while attending.
119 East Eighth St., Topeka

BETHANY COLLEGE LINDSBORG, KS
814 Students from 16 States. College, Academy, Domestic Science, Business, Music, Piano Tuning, Art and Expression. For catalog write Pres. E. E. Pihlblad. Mention course.

LEARN TELEGRAPHY

Young men and women attend on credit. A practical school with railroad wires. Owned and operated by the A. T. & S. F. Ry. EARN FROM $55 TO $165 PER MONTH. Write for catalog.
SANTA FE TELEGRAPH SCHOOL
Desk F Topeka, Kansas

Learn Auctioneering at World's Original and Greatest School and become independent with no capital invested. Every branch of the business taught in five weeks. Write today for free catalog.
JONES NAT'L SCHOOL OF AUCTIONEERING
34 N. Sacramento Blvd. Chicago, Illinois
Carey M. Jones, President.

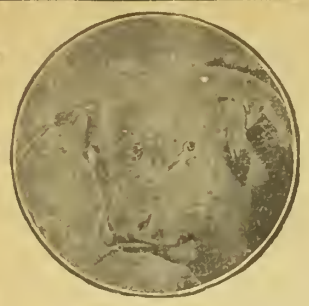
OTTAWA Business College
OTTAWA, KANS. CATALOG FREE

"YOUR OWN NAME"
RIGHT SIZE


3¼ INCH
ON THIS EXTRA FINE KNIFE
Two best quality steel blades. German silver tips, brass lined. Transparent handle showing your own name.
We will send this beautiful knife with your own name on it for one yearly subscription to Kansas Farmer at $1.50 or a three years' subscription at $2.25. Address
KANSAS FARMER - TOPEKA, KANSAS

Almost every family is supplied with glass jars, but in the average home there are jars which are never used because they are not the right size. One housewife left behind 600 two-quart jars when she moved to town, because she needed no containers so large. Another family was using quart containers, although the number in the family required the opening of two quarts of fruit at a time. If persons having unsuitable jars would list them, an exchange of containers might be effected.

"As surgeons keep their instruments and knives at hand for sudden calls upon their skill, keep you your principle ever ready to test things divine and human."



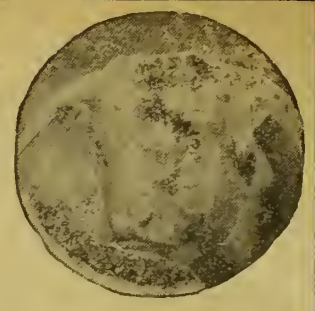
Southard's Monarch Herefords

SELL AT

Comiskey, Kan., Saturday, October 6

(The Day Following the American Royal at Kansas City)

125-------- HEAD -------- 125



One hundred cows and heifers, fifty with calves at side and fifty bred heifers. Twenty-five very choice young bulls all of breeding age that will exert a beneficent influence in the herds to which they are taken.

The calves are sired by and the heifers bred to such bulls as the mighty MONARCH, KING FARMER, LOUIS FAIRFAX, BRIGHT DOMINO, NERO FAIRFAX, AND OTHER NOTED SIRES.

In this sale you will have a chance to buy cattle with pedigrees as good as can be written and individuality as good as you can find.

A great chance to buy real foundation stock tracing to and representing the most noted American and English Herefords.

For catalog, please mention Kansas Farmer and address **J. O. Southard, Comiskey, Kansas**

KANSAS HAMPSHIRE SWINE BREEDERS' ASSOCIATION SALE

VALLEY FALLS, KANSAS, FRIDAY, OCTOBER 12, 1917

Sale Under Cover at Fair Grounds.

SIXTY HEAD OF BOARS, SOWS AND GILTS

including

Prize-Winning Pig of Halcyon Hampshire Pig Club

The boys of the Halcyon Pig Club will sell a choice lot of spring gilts in this sale.

AUCTIONEERS

Col. Thos. E. Deem, Cameron, Mo. Col. F. B. Wempe, Frankfort
Col. John R. Triggs, Valley Falls Col. Frank Blake, Valley Falls
Chas. T. Gephart, Clerk, Valley Falls, Kansas

MAIL BIDS will be given careful attention if sent to either of the auctioneers, or E. C. Stone, in care of Secretary Ela.

GEO. ELA, SALES MANAGER, VALLEY FALLS, KANSAS

Sutton & Porteous Angus Sale

Thursday, October 4, At Farm



Lawrence, Ks.

78 HEAD

Angus Cattle



Sixteen Bulls of serviceable age
Twenty-six Bred Heifers
Thirty-six Cows with calves at foot or heavy in calf

All the best families represented—the Blackbirds, Ericas and Prides. Our whole show herd goes in the sale. Twenty-seven championships won by our herd last year. Send for catalog today, mentioning Kansas Farmer.

SUTTON & PORTEOUS - - LAWRENCE, KANSAS

Auctioneers—Cooper and Brady

POLLED DURHAM CATTLE.

FOR SALE—A few choice young bulls, sired by Chief, a son of True Sultan. Priced to sell.
D. C. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 miles S. E. of Topeka.)

POLLED DURHAM CATTLE

Seventeen head of well bred Polled Durham and Shorthorn Cattle to be sold at public sale, October 12, 1917. Write for catalog.
MRS. EMMA HUNDLEY
Route 2 Bogard, Missouri

Breeders' Directory

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
ANGUS CATTLE.
D. J. White, Clements, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

HORSES AND MULES.

PERCHERONS—BELGIANS—SHIRES



2, 3, 4 and 5-yr. stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
FRED CHANDLER, R. 7, Charlton, Ia. Above Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes.
Illinois Horse Co., Good Blk., Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

LESTER R. HAMILTON
Live Stock Auctioneer
Write for terms and date. Clarksdale, Mo.

Live Stock and Real Estate Auctioneer. Fifteen years experience. Write for terms.
Thos. Darcey, Hutchinson, Kansas.

CHESTER WHITE HOGS



FOR SALE
Spring Pigs in Pairs and Trios Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

Clinton County Chesters

Booking orders for spring pigs of National Swine Show blood lines. Fall and spring pigs at bargain prices.
J. H. McANAW - CAMERON, MISSOURI

SHORTHORN CATTLE.

ABBOTSFORD SHORTHORNS

Eighteen young bulls for sale. A few of them about ready for service. Priced to sell. The kind that always please.
D. BALLANTYNE & SON, Herington, Kan.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

SHADY LAWN SHORTHORNS

At head of herd, Kansas Archer 440809 by Mistletoe Archer. For sale, fifteen choice young bulls from spring calves to yearlings. Come and see our herd.
F. H. HULL & SONS - EUREKA, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS

Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Pearl Herd Shorthorns

Valiant 346162 and Marengo's Pearl 391962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

Can ship on Rock Island, Union Pacific or Santa Fe Railway.
C. W. TAYLOR - ABILENE, KANSAS

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

GUERNSEY CATTLE.

GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

Francis & Fritts, of Paola, Kansas, have announced a sale of registered and high grade Jersey cows, the sale to be held September 29.



PERCHERON STALLIONS

FOR SALE THIS FALL AT REDUCED PRICES

Two yearling colts; two 2-year-old colts; two 3-year-old colts; two 4-year-old colts, and one herd stallion. All sound and registered in Percheron Society of America. Blacks and bays. If sold this fall I will cut the prices. Also five registered Shorthorn bulls, reds and roans. Come and see me.
J. C. PARKS - - - - - HAMILTON, KANSAS

MODERN HEREFORDS

HAZFORD PLACE

Home of the Grand Champion BOCALDO 6TH, assisted by CALDO 2D, PUBLICAN 4TH AND BEAU BALTIMORE.

All our show cattle our own breeding. Inspection of farm and breeding herd invited. A few choice young bulls reserved to head high-class pure-bred herds now ready for inspection and sale.
William Condell, Herdsman. ROBT. H. HAZLETT, EL DORADO, KANSAS

SHEEP.

A LIFETIME EXPERIENCE proves the Rambouillet the best sheep for Kansas. Stock for sale. E. D. KING, Burlington, Kansas.

DOYLE PARK SHROPSHIRES

Sixty Registered Shropshires—Thirty ewes and ewe lambs, thirty rams and ram lambs. Lambs sired by our undefeated ram, Ohio and Michigan, 1916.
HOMAN & SONS - PEABODY, KANSAS



200 — RAMS — 200
REGISTERED SHROPSHIRES
Our flock was awarded 20 prizes at 1917 Iowa State Fair. Weight and wool always win. Rams and ewes for sale. C. W. & Frank Chandler, Kellerton, Ia.

FOR SALE—Registered Shropshire ram lambs and yearlings.
W. T. HAMMOND, PORTIS, KANSAS

OXFORD DOWN RAMS AND EWES
Bred from my $300 imported ram
WM. EMPIE - AMSTERDAM, NEW YORK

First Class Shropshire Rams For Sale

Will exhibit them at Hutchinson, Kansas, State Fair. Don't buy a ram before you see it. I sell and ship on approval.
JOHN COLDWATER, BREEDER,
Chase - - - - - - - - Kansas

DUROC JERSEYS.

15 Duroc Spring Boars

Sired by Illustrator O'Rion 3d and Fancy Victor and out of my best herd sows. They are real herd prospects, selected from 91 pigs raised. Write today if you want a good spring boar.

John W. Petford

Route 1 Saffordville, Kansas

IMMUNED DUROCS

With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

McBRIDE'S DUROCS

Six-months-old boars for sale, cherry red and good ones. Priced right.
W. T. McBRIDE - PARKER, KANSAS

The date of the public sale of Polled Durham cattle announced by Mrs Emma S. Hundley, of Bogard, Missouri, for October 13, has been changed to October 12. A choice lot of cattle has been catalogued for this sale.

H. A. Mattox, of Burlington, Kansas, reports his herd of old original big-boned Spotted Polands doing well. A feature of the herd is the extra fine lot of March and April pigs.

DR. J. H. LOMAX

Poland China Sale

Leona, Kansas, Oct. 4, 1917

55 Choice High Quality Big Type Polands **55**

Our offering consists of nine fall boars, sixteen spring boars, sixteen fall gilts and fourteen spring gilts. They are sired by such boars as Big Bob King 78296, Master Orphan 76818, and Dean's Big Timm 82230. They are out of B Wonder, Big Hadley's Likeness, Big Ben, Chief Jumbo, Model Big Bob, A Wonder Price, Expansion's Son, and Goliath dams. It will be one of the best offerings sold this season. They have the size, quality and breeding. Send for catalog at once. Address

Dr. J. H. LOMAX

STATION B. ST. JOSEPH, MISSOURI

O. W. Devine Representing Kansas Farmer.

---

80 Head HOLSTEINS 80 Head

At Waterloo, Iowa, Oct. 4

The entries to this sale will be closely related to world's record animals and to the greatest show winners of the breed. You can attend the DAIRY CATTLE CONGRESS at the same time.

There will be daughters and granddaughters of such noted sires as SIR ORMSBY SKYLARK, the sire of DUCHESS SKYLARK ORMSBY, JOHANNA McKINLEY SEGIS, SIR SADIE CORNUCOPIA, LAKESIDE MODEL ALBAN, KING KORNDYKE SADIE VALE, TRIUMPH CONCORDIA DE KOL and others.

Females bred to OAK DE KOL OLLIE HOMESTEAD and KING SEGIS JOHANNA ORMSBY, two of the breed's greatest show bulls. Others to sons of KING KORNDYKE SADIE VALE, etc.

THIRTY-POUND BULLS and others from high yearly record dams. For your catalog, address

F. C. Barney, Secy. Iowa Holstein Breeders' Association, or Holstein Sales Company, Elgin, Illinois.

POLAND CHINAS

POLAND CHINAS.



Faulkner's Famous Spotted Polands

The world's greatest pork hog are raised exclusively on

HIGHVIEW BREEDING FARMS

The largest registered herd of old, original, big-boned, spotted Polands on EARTH.

Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.

H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

Spotted Poland Chinas

Thirty spring boars, thirty spring gilts. Sired by Billie Sunday, Cainville Giant and Perfect Judge. Sows by Brandywine, Budweiser, Old Clipper and Spotted Giant. Priced to sell.

J. O. RILEY & SON - CAINSVILLE, MO.

DEMING RANCH QUALITY

BIG-TYPE POLAND CHINA HOGS.

See our show herd at Topeka Free Fair, Kansas State Fair at Hutchinson, and Oklahoma City. Fifty spring boars for sale. Six hundred head in herd to select from.

H. O. Sheldon, Herd Manager

OSWEGO, KANSAS.

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

CEDAR ROW STOCK FARM

A. S. Alexander, Prop. Burlington, Kansas

FAIRVIEW POLAND CHINAS.

Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.

P. L. WARE & SON - PAOLA, KANSAS

OLD ORIGINAL SPOTTED POLANDS

March and April pigs for quick sale.

H. A. or Paul H. Mattox, Burlington, Kansas

Langford's Spotted Polands.—Last call for early spring boars. Yours for good hogs—

T. T. Langford & Sons, Jamesport, Missouri.

POLAND CHINA HOGS 150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.

V. O. JOHNSON - AULNE, KANSAS

POLAND CHINAS

For Sale—Ten fall yearling gilts, bred for September farrow to Dalebanks Hadley and King Jumbo; twenty-five spring boars ready for service; twenty-five spring gilts open. One hundred and fifty head registered hogs in my herd. Write today what you want.

E. L. BARRIER - EUREKA, KANSAS

Henry's Big Type Polands

March and April pigs, sired by Big Wonder, first in class at Topeka; Mammoth Orange and King Price Wonder. Immune.

JOHN D. HENRY, LECOMPTON, KANSAS

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising
O. W. Devine, Field Representative

Address All Communications to Kansas Farmer, and Not to Individuals

Personal mail may have to be held for several days, or be delayed in forwarding, and Kansas Farmer cannot assume any responsibility for mistakes occurring thereby

CLAIM SALE DATES.

Holsteins.

Oct. 4—Iowa Holstein Breeders' Sale, Waterloo, Iowa. Address F. C. Burney, Secretary Holstein Association, Chapin, Iowa.
Oct. 16—The Nebraska Holstein Breeders' Consignment Sales Co., Omaha, Neb.; Dwight Williams, 103 Bee Bldg., Omaha.
Oct. 22—W. H. Mott, Herington, Kansas.
Oct. 23—D. H. Stiles, Garnett, Kansas.

Polled Angus Cattle

Oct. 4—Sutton & Porteous, Lawrence, Kan.

Polled Durhams.

Oct. 12—Mrs. Emma Hundley, Bogard, Mo.
Dec. 12—Joseph Baxter, Clay Center, Kan.

Jersey Cattle.

Sept. 27—Lochrie & McCoy, Carl Junction, Mo. B. C. Settles, Palmyra, Mo., sales manager.
Sept. 29—Oklahoma Breeders' Sale, Oklahoma City, Okla. B. S. Settles, Palmyra, Mo., sales manager.
Oct. 31—Geo. W. Hagan, Lee's Summit, Mo. B. C. Settles, Palmyra, Mo., sales manager.
Nov. 2—W. L. Hunter & Sons, Lincoln, Neb. B. C. Settles, sales manager, Palmyra, Mo.

Herefords.

Oct. 6—J. O. Southard, Comiskey, Kansas.
Oct. 23—W. H. Rhodes, Manhattan, Kansas.

Shorthorn Cattle.

Nov. 20—W. W. Waltmire & Son, Peculiar, Missouri.

Poland Chinas.

Oct. 4—Dr. J. H. Lomax, St. Joseph, Mo. Sale at farm near Leona, Kansas.
Oct. 13—Arthur Anderson, Clyde, Kansas.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Oct. 17—Walter B. Brown, Perry, Kansas.
Oct. 23—Herman Gronniger & Sons, Bendena, Kansas.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.
Nov. 6—Ross & Vincent, Sterling, Kansas.
Nov. 6—U. S Byrne, Saxton, Missouri.
Nov. 7—H. E. Myers, Gardner, Kansas.
Feb. 18—Deming Ranch, Oswego, Kansas.
Feb. 19—Fred B. Caldwell, Howard, Kansas.
Feb. 20—Bert E. Hodson, Ashland, Kansas. Sale at Wichita.
Feb. 20—B. E. Hodson, Ashland, Kansas; sale at Wichita.
Feb. 21—E. J. Erhart & Son, Ness City, Kansas; sale at Hutchinson.
Feb. 22—F. Ollvier & Son, Danville, Kansas.
Feb. 23—V. O. Johnson, Aulne, Kansas.

Spotted Polands.

Oct. 19—Fred Rhodus, Excelsior Springs, Missouri.

Hampshire Hogs.

Oct. 12—Kansas Hampshire Swine Breeders' Association and Halcyon Hampshire Pig Club sale at Valley Falls, Kansas. George W. Ela, secretary and manager.

Duroes.

Oct. 20—O. W. Long, Maitland, Missouri.
Oct. 24—Fred G. Laptad, Lawrence, Kansas.

Chester White Hogs.

Nov. 20—W. W. Waltmire & Son, Peculiar, Missouri.

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm — F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM

Is offering anything you might desire in pure-bred and high-grade Holsteins of exceptional merit. They are the RIGHT KIND and at the RIGHT PRICE.

For further particulars wire, phone or write.

T. R. MAURER & COMPANY - - - - - - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER

Way Side Stock Farm - Whitewater, Wis.

FOR SALE

Registered Holstein Heifer Calves, 3 to 5 months old. Bull Calves, 1 to 2 years old. A. R. O. backing. Also milk cows.

BOCK'S DAIRY, Route 9, Wichita, Kansas.

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

Braeburn Holsteins Always A. R. O. Bull Calves, better than the common run. Just now a few females to make the herd fit the stables.

H. B. COWLES

608 Kansas Avenue Topeka, Kansas

Dr. J. H. Lomax, of St. Joseph, Missouri, the well known breeder of big-type Polands, announces October 4 as the date of his annual fall sale. The sale will be held at his farm near Leona, Kansas. Fifty-five head of big-type Polands with size, quality and breeding will be catalogued for this sale. The offering will consist of nine fall boars, sixteen fall gilts and fourteen spring gilts, by such boars as Big Bob King, Master Orphan, and Dean's Big Timm, and out of dams by B Wonder, Big Hadley's Likeness, Big Ben, Chief Jumbo, Model Big Bob, A Wonder Price, Expansion's Son, and Goliath.

Inquiries for catalogs indicate unusual interest in the Iowa Holstein breeders' sale to be held in Waterloo, Iowa, October 4. They have catalogued eighty head selected from Iowa's best herds and the offering will be made up of sons and daughters of the best Holstein sires now in service.

Herman Gronniger & Son have announced October 23 for their annual boar sale. Fifty head of choice March and April boar pigs will be catalogued, sired by the noted Poland China boars, Big Bob 2d, Futurity Rexall and Big Wonder. Gronniger & Sons exhibited a small herd at the Kansas Free Fair at Topeka last week and was among the winners in most all the classes shown. Mr. Gronniger is probably the oldest active breeder of Poland Chinas in the state, having lived on the same farm thirty-eight years and bred registered Poland China hogs. They now have over 200 head of registered hogs on the farm.

F. J. Searle, of Oskaloosa, Kansas, owner of the famous Sunflower herd of Holsteins, reports his herd doing fine. His herd now consists of forty head of record-bred Holsteins and the herd is headed by a four-year-old son of King Segis Pontiac. His dam was a 21-pound cow as a junior two-year-old. He is the same breeding as King Segis Pontiac Konnigen, the $35,000 bull owned by F. F. Field. The cows and heifers in the herd at this time were sired by a 31-pound bull and many of them are bred to a 32-pound sire. Twenty head of them will be fresh within the next few weeks.

AYRSHIRE CATTLE.



"Just COWS" won't do NOW

Producing herds are essential for the Dairyman or Farmer who MUST have a profit. Under these conditions—

THE AYRSHIRE

is fast becoming the popular breed where men think in terms of Production and Profit instead of mere cows. For information and list of breeders, address

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SOUTH FARM AYRSHIRES

300 HEAD.

75 Animals Imported from Scotland.

143 cows have qualified for advanced registry.

Males and females for sale.

SOUTH FARM

WILLOUGHBY - - - - OHIO

Some New-Day Wants
In Motor Cars, Which the Latest Mitchells Meet

Today the men who know cars best don't want too light a car. On country roads such cars cannot endure. And thousands have now learned that.

Now the demand is for superlative endurance. The fine-car buyer wants a lifetime car. He buys a car to keep.

Three years ago Mitchell engineers started to meet this want. They adopted the standard of 100 per cent over-strength, which is twice the usual margin of safety. Now the Mitchells, in all important parts, comply with that new standard.

All safety parts are vastly oversize. Castings are almost eliminated. Over 440 parts are made of toughened steel. And we use a wealth of costly Chrome-Vanadium.

Average repair cost has been reduced some 75 per cent. Car life has been multiplied, we think. Two Mitchells that we know of have already run over 200,000 miles each. That is 40 years of ordinary service. And since this standard was adopted, not one rear spring has broken. Yet owners say it is the easiest riding car on the market. To most car buyers, this over-strength is the chief attraction in the Mitchell cars.

Nothing to Buy

In former times, nearly every car buyer bought some extra features. He found things missing which he wanted on a car.

We have examined thousands of new cars to learn what those extras are. One by one we have added them to Mitchells. The latest Mitchells have 31 features which are rarely included in cars.

A power tire pump, for instance, reversible headlights, shock-absorbing springs, a dashboard engine primer, a locked compartment, a light in the tonneau, etc. So the Mitchells combine in a single car nearly every known attraction.

Lasting Beauty

The demand today is for beauty that endures. We have spent vast sums to meet that. Now the finish coats on Mitchells are fixed by heat, so the luster lasts. We use extra-grade leather to get durable upholstery. In the past year alone we have added 25 per cent to the luxury cost of the Mitchell, so the cars will long look new.

No Extra Cost to You

These things are expensive. Yet note that Mitchell, in both sizes, undersells its rivals.

That fact is due to John W. Bate, the famous efficiency expert. He has spent years of time and millions of dollars to create here a model plant. It now covers 45 acres. And from end to end it is built and equipped to produce this one type economically.

We build the whole car—chassis and body—under these efficiency methods. We build the parts which most car makers buy. And we build them at the lowest factory cost.

That saving amounts to millions of dollars. And that is what pays for these extras.

The Mitchell comes in two sizes, at two prices. But the types are identical. Both embody the same extreme standards. Both are built to render lifetime service.

These cars have scores of distinctions. Go see them and see what they mean to you. If you don't know the nearest Mitchell dealer, ask us for his name.

Mitchell SIXES

TWO SIZES

Mitchell—a roomy 7-passenger Six, with 127-inch wheelbase and a highly-developed 48-horsepower motor.

$1525

Three-Passenger Roadster, $1490. Club Roadster, $1560. Sedan, $2275. Cabriolet, $1960. Coupe, $2135. Club Sedan, $2185.
Also Town Car and Limousine.

Mitchell Junior—a 2 or 5-passenger Six on similar lines, with 120-inch wheelbase and a 40-horsepower motor, ¼-inch smaller bore.

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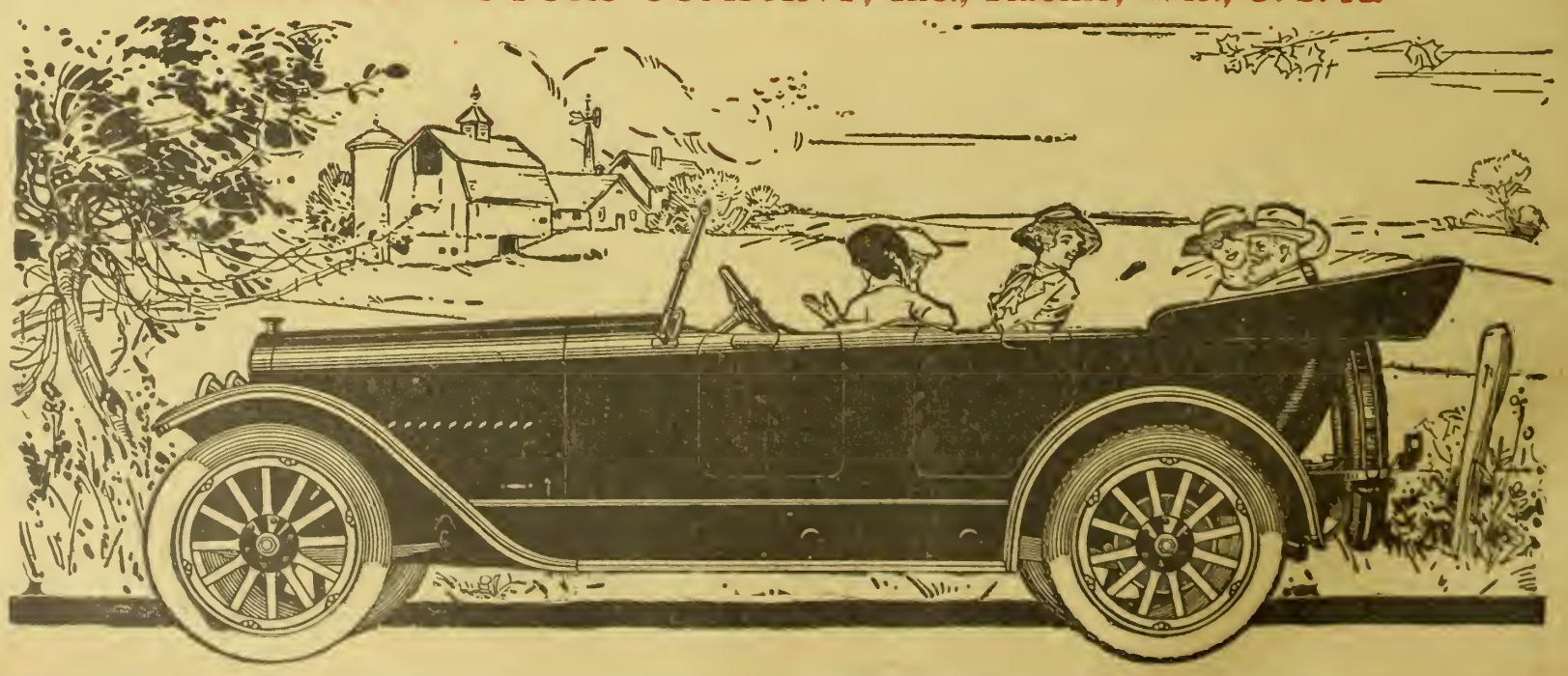
Club Roadster, $1280. Sedan, $1950. Coupe, $1850.
All Prices f. o. b. Racine

MITCHELL MOTORS COMPANY, Inc., Racine, Wis., U. S. A.



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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 39. TOPEKA, KANSAS, SEPTEMBER 29, 1917. Established 1863. $1 a Year

HUTCHINSON HAS GOOD WEEK

Show of Cattle and Hogs Best Ever Made at Fair

THE Kansas State Fair drew a week of ideal weather. There is nothing a fair management dreads more than bad weather during fair time. The grounds of the big Hutchinson fair were never more attractive in appearance. As a result of the abundant rains of August the grass was as green as in the spring and all the flowers and shrubs of various kinds were in fine condition and added much to the landscape features. The grounds are well laid out to facilitate the staging of a big fair. The arrangement of the various buildings and improvements makes it possible for visitors to study the different sections in regular logical order and there is seldom any serious congestion at any one point.

* * *

The new agricultural building is the one big improvement of the past year. It is a large brick and tile structure, floored with cement and exceptionally well lighted. It occupies a prominent place near the main entrance, and is the first building to attract attention as one approaches the grounds. At the time of this year's fair the military camp of a battalion of the Second Kansas Infantry occupied several acres just to the north of this building. Leading from the agricultural building east to the grandstand is a cement walk some forty or fifty feet wide. This forms the main thoroughfare, and on the big day—Thursday—was taxed to the limit by people passing from the agricultural building to other parts of the grounds. The eating places and many of the amusement concessions are located along the side of this broad walk.

* * *

The visitor naturally stops at this first prominent building on entering the grounds. While its primary purpose is to house agricultural exhibits of all kinds, it was used this year for several educational exhibits. The building was comfortably filled, and one was impressed with the appropriateness of the arrangement. The school exhibit of Reno County has for several years been an interesting feature of the state fair and this exhibit occupied a large space in the agricultural building. For the first time nearly every school in the county furnished an exhibit. Although fully twice as much space as usual was furnished to S. P. Rowland, superintendent of this department, he could not place all the material sent in. A study of the exhibit revealed the practical character of the school work done in this county.

* * *

The Arkansas Valley is noted for its fine orchards. No better apples are grown anywhere in the country than in this locality. One big Reno County exhibitor of fancy Jonathans in boxes had prominently displayed the statement that he had produced 150,000 bushels of quality apples this year. The Arkansas Valley growers were not without competition in the showing of apples and other fruit. In the apple section we noted that T. P. Van Orsdal, of Shawnee County, drew a number of blue ribbons on plate exhibits.

* * *

In the farm crops section of the agricultural building there was a large display of agricultural products, although nowhere near as much as would have been shown if weather conditions had been more favorable during the early part of the season. Quite naturally wheat was especially prominent in this section. There were twenty-five samples in the half-bushel class, all but two being hard winter wheat. A twenty-five-dollar prize was up for the best bushel of winter wheat and this brought out ten high-quality entries. The man winning first in this class had never shown before, and prepared and entered this exhibit only at the earnest solicitation of some of his friends. He did not realize the quality of the wheat he had grown, and it almost took his breath away when he learned he had won the grand prize for the best bushel of hard winter wheat shown.

* * *

Ordinarily there are a good many collective county exhibits at this fair, but this year only four were shown. The space alotted to these exhibits was of such a character as to enable the exhibitors to put them up in an even more attractive manner than at the Kansas Free Fair, where the four exhibits entered had been shown the week previous. The men in charge of the Jewell County exhibit had apparently profited by their Topeka experience and put their exhibit up in such fine shape that they were able to win out over the Leavenworth County exhibit, which took first place the week before. Franklin County was awarded third place, and Jefferson fourth.

* * *

There were very few exhibits of corn. Corn is unusually late this year, and this probably accounts in some measure for the small showing. Liberal prizes are offered for the various sorghums, both grain and forage. The southwest part of the state is exceptionally well adapted to growing these crops, and we were disappointed that large exhibits of kafir, milo, and feterita were not shown. There were some very creditable samples of the sorghums on exhibition, but in view of their importance such exhibits should have been the outstanding feature of the agricultural section.

* * *

Fully one-fourth of the agricultural building was occupied by an educational display made by the Federal Department of Agriculture. This covered practically every activity of this department of our Government. There were models of different kinds of roads, models of farm buildings of various kinds, forestry products, and many educational charts of special importanee at the present time because of the necessity for conserving our food resources to the fullest extent possible. This exhibit represented an immense amount of planning and labor and visitors lingered long as they passed up and down the aisles.

* * *

The live stock department of this fair was better filled than at any previous exhibition. The cattle show was probably the best ever made at Hutchinson. In fact in some ways the Hereford show was stronger than any exhibition of this breed ever made anywhere in Kansas. It was not especially in numbers that it excelled other Kansas shows. There were 114 animals of the Hereford breed in the competition. The entries were so uniform in quality and fitting that in some of the classes where the numbers ranged from eight to fifteen it was difficult for the bystanders to tell which was the tail end of the class after the judge had arranged them in the order of their merit. The Texas and Mississippi exhibitors carried off a large portion of the first place awards. Four of the championships went to Merkel, of Texas, and the other two to the Mississippi herd. There were also strong herds shown from Kansas, Missouri and Oklahoma. A tent was provided for showing cattle, but in the Hereford classes it was several times necessary to get the animals out in the clear in order to have enough room.

* * *

Eight herds of Shorthorn cattle were shown, being practically the same show as at Topeka the week before. Kansas, Iowa, and Nebraska furnished the competing herds in this breed. As in the Herefords, there was an absence of any tail-end exhibits. The first and second places were fairly well distributed among the different herds, which is an indication of the uniform quality of the show. Achenbach Brothers, of Kansas, and Albert Hultine made the Polled Durham show. These herds are well matched and have met in the show ring many times. These hornless Shorthorns are increasing in popularity, and in all probability it will not be many years until they will rank with the Shorthorns in the number of exhibitors showing at our big fairs. The herds of H. & G. Croft, of Bluff City, Kansas, and Swiggart & Son, of Salisbury, Missouri, battled for the honors in the Galloway section. These two exhibitors have long been recognized as close to the front in the breeding and showing of these shaggy, black, beefy cattle so well adapted to range conditions. In these herds this year were found some as well fitted animals of the breed as have ever been shown.

* * *

Four well-balanced herds represented the Angus breed, one each from the states of Kansas, Nebraska, Oklahoma, and Texas. It was not so many years ago that it was necessary to go to some of the states farther east in order to see a show of really high-class Angus cattle. Times have changed, however, as was evidenced by the character of the animals shown at this fair. There were some changes in the judgments of the Kansas Free Fair where the same herds had competed the week before. The Texas entry which won the junior and grand championship at Topeka had to be content with the junior championship at Hutchinson, the grand championship being awarded to the aged cow, Twinburn Pride 5th. The Cowden herd, of Texas, however, carried off seven first prizes and three championships.

* * *

Two very good hog barns have been built at Hutchinson since last year, and a much larger hog show could have been comfortably handled. There were in all about 540 hogs on exhibition. The strongest showing was made by the Duroc-Jersey breed. We noticed several new names among the exhibitors winning blue ribbons, among these being B. R. Anderson, of McPherson, and W. W. Trumbo, of Peabody. Mr. Trumbo succeeded in getting first on his boar, Constructor Junior, and also reserve junior championship. The names of the exhibitors and the awards of the live stock show are given in full on another page of this issue.

The poultry department, which will have a choice location in one of the ornate buildings of Electric Park, Kansas City, during American Royal week, already has sufficient entries to fill the capacity, and probably the number of entries from any one exhibitor will be limited. Uniform coops are provided.



NELLIE SEGIS PONTIAC, GRAND CHAMPION HOLSTEIN COW AT TOPEKA AND HUTCHINSON.—SHOWN BY THE GALLOWAY-MESSER FARM, WATERLOO, IOWA



Conserve Your Produce!

THE simplest and easiest manner for storing perishable products such as potatoes and other root crops, fruits, etc., is to build a concrete storage cellar. This year more than ever before it is imperative from the standpoint not only of the grower but of the country at large, that every farmer provide suitable storage facilities on the farm for fruits and vegetables.

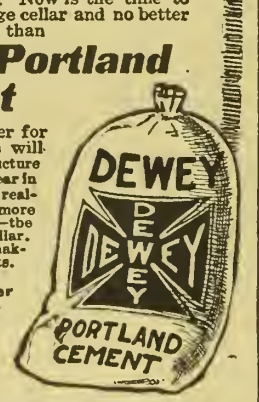
$700,000,000 Wasted Annually

That's the enormous amount in actual money that is wasted in the United States—foodstuffs, farm produce, etc. It is a conservative estimate. Thousands of dollars of waste in the potato crop alone can be saved by providing suitable storage. The tremendous annual loss in vegetables and fruits cannot continue now that the country is aroused to the importance of food conservation.

Concrete Storage Cellar

The advantage of a concrete storage cellar to the farmer is that the crop can be marketed when prices are right. To the nation it means the conservation of food that heretofore has been thrown on a glutted market at harvest time. Keep enough produce for home use and have a large quantity to market later or when prices are higher and the country needs it. When stored in a concrete cellar apples and potatoes can be kept in good condition from one season's end to the beginning of the next. Now is the time to build a concrete storage cellar and no better material can be found than

Dewey Portland Cement

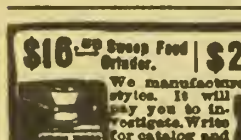


Go to the Dewey Dealer for Dewey Cement. This will insure a permanent structure that will pay dividends year in and year out. The saving realized the first year will more than pay the initial cost—the only cost of a concrete cellar. Use Dewey Cement in making all farm improvements.

See the Dewey Dealer and ask him for the bulletin on "Vegetable and Fruit Storage."

If he hasn't it he will get it for you.

$16.50 Sweep Feed Grinder. | **$21.00** Galvanized Steel Wind Mill.



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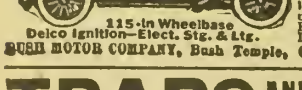

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

IN 1915 and 1916 tractor plowing demonstrations were conducted during the month of July at Hutchinson, Kansas. At these demonstrations hundreds of acres of wheat land were plowed earlier and deeper than usual. A number of men who furnished land for the demonstrations wished to have it written into the agreement that it should be plowed to a specified depth in excess of the depth they ordinarily plowed their land.

It is of considerable interest to learn how this land responded to this work in such a season as 1916 and 1917. In August, A. L. Sponsler, secretary of the Kansas State Fair, was asked about the condition of the wheat on this land. He replied by stating that he had observed the wheat growing on the land in the demonstration fields and noted that it had produced a better growth on this deep early plowing than average wheat in the county. It had come on in good shape in spite of the dry fall and winter, stood all the punishment to which wheat is subjected, and made a fine yield. While Mr. Sponsler did not have detailed threshing reports, his estimate was that the wheat on this land had yielded at the rate of about thirty bushels to the acre. Following this statement from Mr. Sponsler, a more careful canvass was made of the wheat fields within a radius of ten miles of Hutchinson and this revealed the fact that the wheat on the land used for the plowing demonstration last year had produced five bushels more to the acre than wheat had averaged in this area. This is strong evidence in favor of deep, early plowing for wheat. Year in and year out, wheat on such plowing will produce larger yields than on land less carefully prepared.

American Tractors in France

In the tremendous European struggle that has just ended its third year, it is interesting to know that agriculture has come to occupy its "place in the sun," as the old saying goes. Americans have been under the impression that all the people of Europe were engaged chiefly in manufacturing guns, making munitions and such materials as destroy human lives and cause devastation.

But such is not the case, for France as well as the other countries during this time have also devoted their time to tilling every available spot of land for the production of more foodstuffs, and they have not adopted the methods which are gradually disappearing, namely, the horse and horse-drawn plow, but they have adopted the tractor, and the American tractor at that.

This interesting picture illustrated herewith shows the American-made tractor in the French fields with German prisoners at work. The same machine is popular in the United States, where is it well known in practically every farm community.

With cheerful philosophy and sober industriousness the German prisoners in France are settling down to making the best of things. From the standpoint of the government and those who direct the nation's energies in wealth production, the important thing about prisoners is the work they can do. In France, a careful system has been evolved to sort out every kind of artisan, craftsman and laborer and assign him where his abilities are most in demand. The farm laborer has been sent to the farming districts, the stone mason and the carpenter to the towns and villages in need of reconstruction. France has been singularly fortunate in that most of her prisoners are Germans, who are among the best all-round workers in the world. A large number of German prisoners have had a technical training or possess special skill in addition to the patient, plodding, persevering temperament born of centuries of Teuton domination over the people.

Keep Wheels Aligned

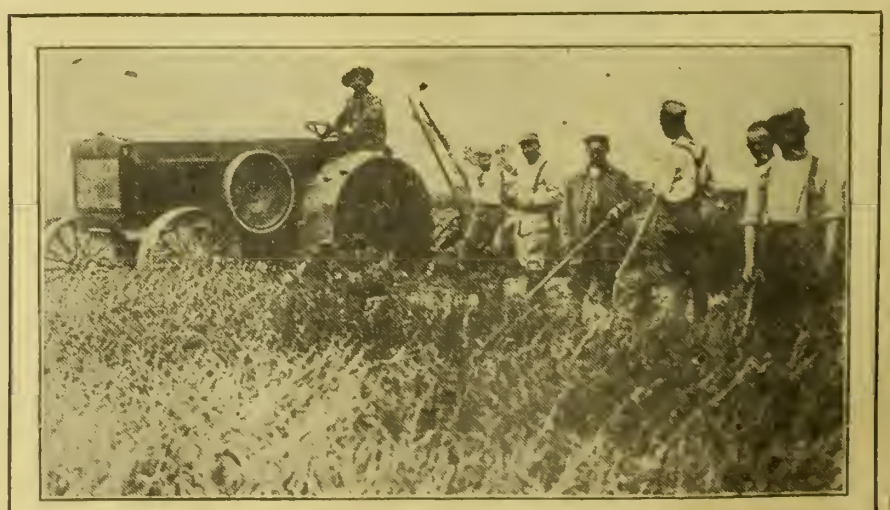
Unquestionably, there is not a motorist in the land who is not desirous of obtaining the greatest possible service out of his tires, and especially is this true of the "average" car owner, writes Albert Marple in the current issue of American Motorist. Yet it is conservatively estimated that at least half of the cars on the roads these days have wheels that are more or less out of alignment—a condition which tends to shorten tire life.

In the majority of the cases where the wheels are out of alignment it is probable that the car owners are not aware of the fact; in others the owners may believe that the wheels are slightly out of line, but they do not wish to go to the expense and trouble of having them straightened, while there are some instances where the owners do not "give a rip," as the saying goes, whether the wheels are "in" or "out," so long as their cars run and the guaranteed mileage is secured out of the tires.

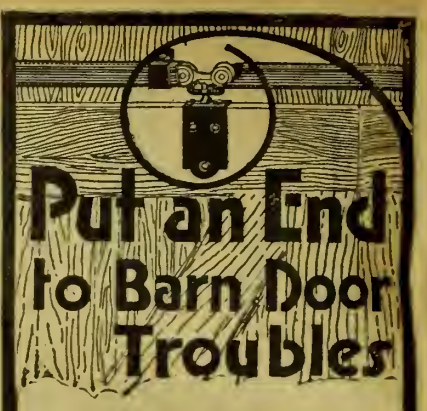
There is probably no abuse to which the casing can be subjected that will prove so injurious to it as will the very act of running it on a wheel that is out of alignment. The experienced motorist knows that when the tire that is "out" is run a certain grinding action is set up between the casing and the road surface which in time produces excessive wear and tear.

V. M. Emmert, agricultural agent of McPherson County, tells of finding a man using a dust collector on the air intake of his tractor. In three hours' work he collected a handful of dust. Think what it means to the efficiency of an engine and the time that it will last, to keep all of this dust out of the carbureter and cylinders.

In using a pit silo, the most important question to consider is how to get the silage out of the pit. A cheap derrick may be constructed to take care of this if but one silo is to be filled. A pulley attached to this derrick pulls up a large iron bucket. The derrick is so constructed that it will deposit the bucket in a wagon or a trough outside of the silo. If several silos are grouped together an overhead track similar to that used for hay may be built.



ECONOMIZING HAND LABOR IN FRANCE BY USE OF AMERICAN-MADE TRACTOR



Put an End to Barn Door Troubles

Barn doors which balk, stick and jump the track are an everlasting nuisance. What is more, they are *unnecessary*. Yours will *never* balk, *never* stick, *never* jump the track and will *always* run smoothly and easily if equipped with the

McKinney-Pittsburgh Door Hanger

There is a vertical adjustment which takes up all the sag, leaving plenty of clearance between door and floor. There is a lateral adjustment by which you can increase or decrease the space between door and wall. There are double, roller-bearing wheels which make it run smoothly; and deep-grooved runways, enclosed on top and sides, from which the wheels positively cannot jump.

The McKinney-Pittsburgh Door Hanger and Track are made substantially, of tested iron and steel. The outfit is weather-proof and bird-proof; and can be used on doors varying in thickness from one and one-half to two and one-half inches. Sold under a binding guarantee.

If your dealer does not handle McKinney Hangers, send us his name. Also send us the width of your door opening, the height of your door, and whether double or single, and we will tell you what it will cost to equip it. We will also send literature describing the hanger in full.

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Makers of Hardware for the Farm
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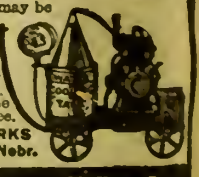
Light Weight Cushman Engines

Built light, built right—for farmers who want an engine to do many jobs in many places, instead of one job in one place. Easy to move around. Very steady and quiet—no jumping, no loud or violent explosions, but smooth running. Throttle Governed. Schebler Carburetor. Friction clutch pulley. Runs at any speed.

4 H. P. Weighs Only 190 lbs.

Mounted on light truck, it may be pulled around by hand. Besides doing all regular farm work, it is original and successful engine for Binder. 8 H. P. only 320 lbs. May be mounted on hay baler. Not cheap but cheap in the long run. Engine Book free.



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Wonderful invention! Only machine that handles manure and straw perfectly. Spreads 21 ft. at a time! 20 acres a day!!! It's a double duty spreader. Costs only half what you pay for a manure spreader—does three times the work—with ease!

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Spread a mulch of straw. Protect your $2.00 wheat seed! Spread straw and manure for fertilizer. Insure big crops at high prices. This amazing "double duty" spreader fits any wagon! Easily attached. Has double drive! Lasts a lifetime! Send a postal today. Find out about my 30 day Free Trial—my "One Dollar Installing terms"—my amazing long time credit—my low price. Write today.



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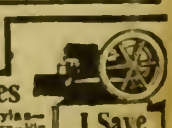

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Member Associated Farm Papers

NON-PARTISAN LEAGUE

"Farming the farmers" has been a popular pastime for a good many years. There is now being exploited in Kansas a movement known as the Non-Partisan League. The promoters of this new project are learning, however, that Kansas farmers are blessed with a good bump of caution and do a little thinking and investigating for themselves before falling for the clever scheme of these organizers from other states. Our advice to Kansas farmers is to steer clear of this movement which can only result in weakening the influence of the two splendid farmers' organizations now so effectually representing farm activities in the state.

The man at the head of the Non-Partisan League is accused by the leading papers of the Northwest of being an I. W. W. and even worse. It is stated that he attended an I. W. W. convention in Kansas City in July. He has succeeded in getting about two million dollars of money from farmers of the Northwest, and it is claimed that this is deposited in his own name and subject to his draft only. One of the smooth-tongued organizers for this movement called on Maurice McAuliffe, president of the Farmers' Union, lately. We should have enjoyed being present at this interview. The Farmers' Union of Nebraska, through its executive committee, has gone on record against the Non-Partisan League, and following the visit of this organizer, Mr. McAuliffe wrote a most forceful editorial warning Farmers' Union members of the state against the movement. He takes the stand that the league is in reality a movement to destroy the really effective farmers' organizations now in existence and refers at some length to the Farmers' Alliance, which was destroyed through the attempt to turn it into a political organization. Mr. McAuliffe said in part:

"If the founders and promoters of the Non-Partisan League have no purpose in view but to get the farmers organized politically to control the legislature, why didn't they go to work in South Dakota or Minnesota? The farmers of either of the above states are as much or more in need of legislative reforms than are the farmers of Kansas. And by the way, Kansas farmers have been doing fairly well along legislative lines.

"The founders of the Non-Partisan League are not working for the welfare of the farmers—the very opposite is true. They are working for the destruction of the farmers' organizations that are now endangering the well being and safety of the commercial autocrats who are waxing fat by bleeding both consumers and producers.

"It looks to me very much as though the fellows who came to Kansas from Minnesota or Dakota or any of the other states to promote a farmers' political organization here in Kansas have an immense amount of gall and nerve.

"If the farmers of Kansas want to form a political organization they have sense enough and ability here at home to do it without the assistance of a lot of important promoters who are working for the money they can get out of it.

"This Minnesota gentleman who called on me told me that the Non-Partisan League was going to put 100 organizers to work in Kansas right away, and I suppose they are all smooth guys that have no interest in the Kansas farmers other than to get $16 initiation fee and $2.50 subscription to a paper out of each one of them they can get to join the league."

We feel that Kansas farmers are justified in making the most careful investigation before going into this political organization and paying the $16 initiation fee demanded. Far better rally to the support of the existing organizations.

* * *

LICENSING PACKING HOUSES

The Food Administration has announced the following conference with the live stock representatives September 5 and 6 that plans will be made for supervising the packing industry through a system of licensing until the close of the war. Such control cannot increase the amount of live stock in the country, but the Government should be able to learn whether there have been unnecessary expenses in distributing meat products. We hope something definite will develop as to the real causes of the violent fluctuations in live stock prices on our central markets.

With the Government in charge, packing house operators most assuredly cannot undertake to influence the prices paid for live stock without being found out. Live stock men have for years felt certain that a few concerns were in a position to control prices, and have complained bitterly of this condition. It has been stated that there will be no attempt made to regulate live stock prices, but federal control of the packing industry will certainly have some influence on the price situation. It ought to result in greater uniformity of prices. A real supervision will either convict or exonerate the packers of the charges that have been made and may result in some real reforms in the future methods of handling the business of slaughtering and distributing meat animals.

* * *

COST OF WHEAT PRODUCTION

What does it actually cost to grow wheat? The cost of producing any crop is variable due to uncertainties of the season, so the results based on a single year's figures are often misleading. Prof. L. E. Call, of the Agricultural College, has done some figuring on the cost of growing wheat, and we submit his results, bring them up to date by increasing the cost of seed up to $2.50 a bushel, which was the prevailing price this season. The items are as follows: Plowing, $1.38 an acre; harrowing, 33 cents; double disking, 73 cents; drilling, 37 cents; seed, $2.50; twine, 25 cents; harvesting, 54 cents; shocking, 24 cents; stacking, 84 cents; threshing, 78 cents; hauling crop to market, 42 cents; interest on investment, $2.40; taxes, 25 cents—a total of $11.04. The total return from a fourteen-bushel crop under the Government guarantee of two dollars a bushel would be $28. This leaves a net return of $16.96 an acre.

Can we not have some figures from farmers who have kept accurate accounts of the cost of growing and marketing wheat?

* * *

Some people are saying that wheat is being withheld from market because farmers are dissatisfied with the Government price. Whatever the cause, very few mills are being able to secure enough wheat to operate on full time. Undoubtedly there are farmers who cannot break even in selling their wheat at the price fixed by the commission. The cost of producing the most expensive bushel, however, cannot be taken as a measure in fixing a price on the whole production. It is a most novel experience to know exactly what wheat will bring for a considerable period ahead and this knowledge undoubtedly accounts in a considerable measure for the slowness with which wheat is moving to market. Knowing that it will bring just as much in a week or a month as at the present time, it is but natural to delay marketing until the most convenient time. A big acreage of wheat is being sown and due to shortage of labor it is calling for the most strenuous effort to get the work done properly and at the right season. The thing most to be feared is a freight congestion later in the year. The railroads have greatly increased the freight movement through co-operative efforts in routing cars and getting maximum loading, but notwithstanding their most strenuous efforts, we are likely to have a serious freight tie-up this winter. We are mobilizing great armies in our many and widely distributed training camps, and enormous quantities of military supplies must be kept moving. Cold weather always reduces the efficiency of motive power. We may face a most serious condition in a few months and be unable to market products and get needed supplies because of lack of cars and transportation facilities. Due to these facts, it would seem the part of wisdom to figure as far ahead as possible on the handling of either products sold or purchased which require railroad transportation.

* * *

Prof. George E. Bray, industrial engineer in the extension division of the Agricultural College, died September 1 in a Minnesota hospital, after a brief illness. He had been connected with the college for a number of years. In his work in the home study correspondence courses Professor Bray became well known throughout the country as the first man in the United States to introduce correspondence shop courses of study in the state and federal prisons. The home-made drier for fruit and vegetables, plans of which were given in KANSAS FARMER of June 23, was the product of Mr. Bray's energy and ingenuity. This simple but effective drier was designed and thoroughly tested by Mr. Bray and given to the public just before his fatal illness. When the news of Professor Bray's death came, one of his fellow workers, who for years had been closely associated with him, said this:

"Those of us who knew Professor Bray intimately feel that his splendid personality and sterling qualities influenced for good hundreds of men and women with whom he came into contact. His written work will continue to be of high value, but after all perhaps his greatest service was a result of his direct contact with men and women."

* * *

Next week the American Royal Stock Show will be held in Kansas City, Missouri, at Electric Park. This show will be an exhibition of the four breeds of beef cattle only: Shorthorns, Herefords, Angus and Galloway. Horse shows will be given evenings, and there will be a poultry show. The superintendent of the poultry department has already engaged three judges of national reputation. It is hard to become reconciled to an American Royal away from the stock yards. We hope some definite arrangement can be made for housing this great exhibition of live stock so that it can truly represent these interests in the great Southwest.

* * *

Beginning with the present college year, Dr. J. D. Walters, of the Kansas Agricultural College, becomes professor emeritus and retires from active class work after a continuous service of forty-one years. Doctor Walters enjoys the unique distinction of knowing personally every member of forty-odd classes that have graduated from the institution during his long period of service. He came to the Agricultural College during the trying times of its early career and has always acted as a constructive, stabilizing force in its remarkable growth and development during these years. Faculty, graduates, former students, and all who have ever been connected with the institution and who learned to know and appreciate Doctor Walters, will rejoice in this honor conferred upon him by the Board of Administration. We do not expect him to go into seclusion now that he has been relieved from active service. He will undoubtedly give occasional lectures in the department of architecture, and he can be depended upon as ever to sympathetically meet and advise undergraduates or greet the returning alumnus.

* * *

DAIRY CATTLE AT HUTCHINSON

There were eighty-five cattle in the barn devoted to the showing of dairy animals at the Kansas State Fair. This is probably the strongest dairy cattle show ever made at Hutchinson. Here also there were some changes made from the Topeka placings. The Chestnut bull which won his first great victory by being made the grand champion at the 1915 show in Topeka, which was the biggest show of dairy cattle ever made in Kansas, was compelled to take third place in class at the Kansas State Fair. He had won the championship in Topeka against the same entries, but at Hutchinson he showed very lame and probably for that reason did not impress the judge as he would if he had been in perfect condition. The Jerseys shown by the White City Jersey Farm, of Tulsa, Oklahoma, aroused the admiration of every lover of dairy cattle. Henry Stebbins, the manager of this farm, deserves a great deal of credit for his constructive work in building up this herd to its present high standard of excellence. After the awards had all been made, the judge remarked that this farm had shown only one weak entry. Of the three aged cows shown, each one had a blue ribbon to its credit as a result of this year's showing, each time the award being made by a dairy cattle judge of high standing. The same uniformity appeared in some of the heifer classes where several entries were made. The other Jersey cattle shown were from working herds. Some of them showed good Jersey type, but they could hardly compete with animals so carefully selected and polished up for the show as were the entries of the White City Jersey Farm. Judge Graves, who placed the awards, has been himself a breeder of Jersey cattle for a great many years, and he took pains to explain to some of these beginners in the breed the points they should look for in selecting their animals, and even went to the extent of telling exactly what kind of a herd sire should be used on females of such type as they were showing. Beginners in a new breed of stock should be very appreciative of such consideration on the part of a judge. The only Ayrshires shown were those entered by William Galloway. The feature of the Ayrshire show was the presence of J. G. Watson, the field representative of the Ayrshire Record Association. Mr. Watson is a great booster for this breed. He assisted in showing the cattle and was on hand for most of the week, talking up his chosen breed at every opportunity.

* * *

The usual carnival company occupied a prominent place on the Hutchinson grounds. The Governor made a short speech to the people in the grandstand following his review of the troops, but the noise in the motordrome nearby was so great that many people had difficulty in hearing him. While the prominence given such amusements might be criticised, the management of the Kansas State Fair deserves great credit for the amusement and entertainment features given in front of the grandstand in the afternoon and evening. During the races a skilled aerobatic company furnished entertainment between heats. There was something going on all the time. Each afternoon the National Guard battalion gave an exhibition drill, and on Tuesday they were formally reviewed by the Governor and his staff. Some very fine aeroplane flights were given during the afternoons of each day. The evening performance consisted of one of the most spectacular pyrotechnic displays ever given in Kansas. This consisted of a representation in fire of the destruction of a village in France, all sorts of modern warfare imitations being demonstrated. There were aeroplanes shooting bombs of fire, and as a grand finale the United States was brought into the game and the Allies won out in the mimic warfare which was so vividly portrayed. The day attendance at the fair was rather disappointing to the management, but there could be no such complaint of the grandstand attendance for the evening performance. The seats were crowded to their fullest capacity and people seemed to feel that they had received the worth of their money.

SUCCESSFUL BEE CLUB

Aim of Club is to Make Better Beekeepers of its Members

By J. H. MERRILL, K. S. A. C.

DURING the winter of 1916-17 the Lyon County Boys' and Girls' Bee Club was organized by Charles A. Boyle, district club leader, and Hubert L. Popenoe, agricultural agent for this Kansas county.

Mr. Boyle's purpose in organizing the club was not to increase the number of beekeepers but to make better beekeepers out of those already possessing bees. Instead of having one or two neglected and almost forgotten boxes of bees bidden away somewhere under a tree, it was planned to give these bees a new home, decent treatment, and make them pay their own way, thus justifying their existence.

Modern equipment was one of the first things to be secured and the members soon found that move favorable prices were offered them when buying a number of articles than if purchased by individuals. Nearly all hive parts can be purchased much cheaper when secured as "in the flat" rather than when nailed together. Furthermore, there is a considerable saving in freight.

When it came to purchasing equipment it was found that this would be divided into two classes—one to include large articles to be used in common, and the other individual equipment which each club member should own.

In the first class were included text and reference books on beekeeping, as well as the leading magazines. The tools which were necessary for assembling hive parts were also included in this class. Some of the members were to raise extracted honey, and since an extractor was rather expensive for an individual club member to own, the club purchased the extractor and all equipment necessary for extracting.

Each club member was urged to subscribe to one bee journal and, if possible, secure a text book. Gloves, veils, smokers, hive tools, hives and hive parts—including supers, frames, sections, foundation, bee escape boards, and queen excluders—were secured by each member for his individual needs.

Since the object was to make better beekeepers rather than more beekeepers, it was planned to have each member make his start with a colony of bees, secured, if possible, from his parents. By so doing it was intended to make a practical demonstration, not only to his parents but to others, of just what could be accomplished by using modern methods and intelligent care in handling the bees.

The club opened in the spring of 1917 with twelve members. Four of these were obliged to discontinue but the other eight remained enthusiastic members throughout the season.

After organizing and registering, the policy which the club was to pursue was adopted. The amount of supplies which were to be used was estimated and the order placed.

In order that an exact rating should be given to each member, the hive with which he had started was examined and a value placed upon it. In making this examination the condition and strength of each colony, the race, age, and prolificness of the queen, and the condition of the hive and hive parts were all taken into consideration. If a colony was in an old box hive, which would later have to be changed to a better hive, it received a lower valuation than it would have had it been already in a modern hive.

After each colony had been appraised and its value recorded, the club was ready to begin work. Mr. Boyle and Mr. Popenoe demonstrated how the hive parts should be put together, how many nails to use and where they should be used, and how to paint them so as to have all a uniform color.

Those who were going to raise extracted honey learned how to make extracting frames and how to fasten in the wax foundation which was used to secure straight comb. Those who were interested in producing comb honey learned how to make the sections and how to fasten in the little sheets of wax or "starters."

Those who had colonies in old boxes were shown how to transfer them to modern hives with movable frames. After the bees are housed in their new homes they could be examined at any time because the frames in these hives could be removed at will.



PART OF APIARY EXHIBIT AT KANSAS STATE FAIR, HUTCHINSON

As the work progressed new problems constantly presented themselves and Mr. Boyle and Mr. Popenoe were kept busy throughout the summer answering questions and solving problems.

After the honey season is over there is to be another valuation to determine the standing of each club member. Each contestant must submit an itemized account of all his expenses and receipts. Then his colonies will be examined along the following line: (1) The number of colonies; (2) the strength of each colony; (3) the number of bees in each colony; (4) amount of stores; (5) improvement in the race of the bees; and (6) possibilities of wintering.

The standing of each contestant is determined by adding the total receipts to the value of the colonies, minus the total expenses.

The interest and enthusiasm which the work has aroused can be shown in no better way than by quoting part of a letter from Mr. Boyle:

"Of the eight members who are continuing the work, three are living in towns and the other five on farms. Two of these living in towns depend entirely upon the flight of the bees from the home yard for the gathering of the crop while one has moved to the new swarm, cast off this spring, to the country for better bee pasture. The three living in towns have all worked for comb (section) honey, each having, at this date, July 24, one super of sections filled and the bees working on another.

"Two of the members living in the country have worked mostly for comb (section) honey and are meeting with fair success. One has put on a super of extracting frames with full sheets of foundation to give a trial.

"Farm work has prevented these boys from giving the bees the needed amount of care; however, as the bees gather and store the honey and the members see these stores increasing, their interest has been greatly quickened.

"Those mentioned have had hives with movable frames and they have been able to make examinations when necessary. This has been a distinct advantage in many ways.

"The other three members have had hives, some with and some without frames, but in all these hives the combs have been built according to the fancy of the bees, which has resulted in crooked combs, making it impossible to examine the contents of the hive or know the condition of the queen or of the brood rearing except from external indications.

"Hives of ten frames with full sheets of foundation were put above those eight frame hives and the bees invited and expected to go up and occupy them for brood-rearing so that a queen excluder might have been placed between these bodies and the transfer made without much trouble.

"The bees thought differently and in each case they filled the hive body with fine new honey and have begun on other supers set above or under these full bodies. Some other plan must be adopted this fall or next spring for transferring these swarms.

"One of the boys has caught three stray swarms besides the smaller natural increase. The last one of the caught swarms was a very large one and came to him one Friday evening and was put into a hive body made of two supers nailed together and frames with full sheets of foundation given. In just eight days the swarm had the combs well drawn out and more than half filled with honey.

"In another place, one of the first swarms caught was put into a new hive body which the bees soon filled to overflowing; a new super was given them and they filled that, when another super was given and that is pretty well filled with nice white honey from sweet clover and alfalfa. Another swarm, much later, was put into an eight-frame body, without frames or foundation, as no other hive was ready and before any help came the swarm had nearly filled the body with comb and honey, so a second eight-frame hive body, with full sheets of foundation, was given, and this is nearly filled at this time. We expect them to gather more from the alfalfa, as this crop is doing well in this locality.

"The crop already gathered, and the prospect of more this season, has so stimulated the boys that one has said he expects to increase to fifteen colonies next year and make that the maximum for his place.

"Another expects to sow more sweet clover for pasture, and his father says they will encourage him in making beekeeping a profitable part of the farm business.

"Another has the support of his parents in undertaking to develop this as a profitable side line to the general farm operations they have engaged in.

"It is the intention of many of these members to requeen most of the hives with pure Italian queens (untested) this fall. These will be secured from one of our best and most reliable breeders of the state. We feel that more can be accomplished by securing good stock in beekeeping just as in other lines of farm work. Another year many will try raising their own queens in some one of the various ways used by good beekeepers.

"With all these farm boys and girls there is a growing interest and a desire to do better beekeeping than has been done in their locality heretofore and see that the ability of the bee is used to aid them in securing more of nature's sweets for home use and then have some to sell.

"A fall farm products show is being planned for the early part of November, at which time we hope to be able to give additional evidence of the profitableness of this particular activity for the farm boy and girl."

EDITOR'S NOTE.—Two members of this pioneer boys' and girls' bee club made exhibits at the Kansas Free Fair. The apiary department was in charge of J. W. Priddy, and he had arranged and shelved his exhibit of comb and strained honey and the different strains of bees in a tasteful manner. This is a department of the fair that could well be greatly enlarged. The extending of the club work among the boys and girls will serve to increase interest in bees and should result in the production of a great deal of this valuable food.

In the showing at Topeka, Tom Stratton, a member of the Lyon County Club, won the second prize of three dollars in cash on white comb honey. This prize was won in open competition with men from all parts of the state, the first place being given to O. A. Keene, secretary of the State Beekeepers' Association. Edward Palmer, the other Lyon County Club member, won second place on white strained honey.

Spencer A. Lloyd, an Iola boy, presented an interesting exhibit in the apiary department, showing the different stages in the filling of the comb with honey, beginning with the empty comb and finishing with the comb filled and capped.

The display of food products in which honey had been used instead of sugar for sweetening, interested many housewives, particularly at this time, in view of the high cost of sugar. Raisin pie, cookies, cake, jelly, conserve, preserves, and pineapple, peaches, and plums canned in honey, and honey tomato butter were among these foods.

The splendid results obtained by this Lyon County club should serve to interest other boys and girls in bee work. Those who become interested in bee work find it most fascinating as well as profitable. In order to be ready for next year's harvest of honey, the bees and the necessary equipment should be obtained this fall. We hope to hear of other bee clubs being organized over the state. Prof. J. H. Merrill, of the entomological department of the agricultural college at Manhattan, is in charge of the apiary instruction and will gladly furnish the necessary help to those who wish to take up bee work.



BEE CLUB MEMBERS MAKING FIRST SPRING EXAMINATION OF HIVES

COMMON-SENSE ROAD MAKING

Type of Roads For Different Sections Depend on Kind And Amount of Traffic



EXHIBIT OF KANSAS GOOD ROADS ASSOCIATION AT KANSAS FREE FAIR, TOPEKA, AND KANSAS STATE FAIR, HUTCHINSON

IN THE people's pavilion at the Kansas Free Fair one day was devoted to the subject of roads. On several evenings of the week there were also given motion picture films on roads. Kansas now has a state highway department and plans are being made to bring about a more systematic handling of the road-building work of the state.

Among the numerous good talks made on Good Roads Day in the pavilion, was one by W. S. Gearhart, state highway engineer.

"The type or types of road best adapted to Kansas conditions," said Mr. Gearhart, "is receiving serious consideration in many sections of the state, and the county officials and the big public-spirited road enthusiasts are attacking this problem in earnest.

"When a comprehensive system of one hundred to two hundred miles of main roads are to he improved in a county at one time, the types can be selected on a scientific economical basis after a traffic census has been taken on the different roads and the population and the property valuation along each road are known.

"The cost of road service is the first cost, plus the maintenance cost, plus the interest on the money invested, divided by the number of users; therefore, if the type is properly adapted to the traffic, the cost of service will be approximately the same on all types.

Every type of road has a value, or ability to render service, and a corresponding cost. For instance, if the average annual cost of au earth road, including first cost, the maintenance cost and interest on the money invested is $250 per year and it carries an average traffic of one hundred vehicles per day, then the cost to the county per user is $2.50 per year.

"Assuming that the average annual cost of a gravel road, including first cost, the maintenance cost and interest on the money invested. is $750, and it carries an average traffic of three hundred vehicles per day, the cost to the county per user is $2.50 per year.

"Assuming that the average annual cost of a concrete or brick road, including first cost, the maintenance cost and interest on the money invested, is $1,500, and it carries an average traffic of 600 vehicles per day, then the cost to the county per user is again $2.50 per year.

"When each road in a system has been properly designed, one type is as good as another; that is, an earth road or gravel road in the right place is as good as a concrete or brick road where a concrete or brick road is required, and on account of the difference in cost, a great deal better than a concrete or brick road where only an earth or gravel road is needed.

"The type of road used in each case should be selected as we would plan a sewer or tile drain system; that is, by using the size of tile or type of road surface required in each place to perform the function demanded of it. No one would consider using all four-inch or all sixteen-inch tile in a drainage or sewer system, and for the same reason no one type of road should be selected for a whole system of roads, unless each road in the system will probably carry approximately an equal amount of traffic.

"Many economies can be effected by building a comprehensive system of roads at one time and there is the further advantage of getting the roads sooner and enjoying them longer, but unfortunately there has been little consideration of this method of road improvement in Kansas. The adoption of such a system would mean the improvement of about ten per cent of the roads in a county within a period of about five years.

"When the piecemeal, one-road-at-a-time method is adopted for the improvement of a few main roads, we have an entirely different problem and it is now evident that this system will be used to build the main through roads connecting the principal cities and market centers in Kansas, and as soon as these roads are completed they will be required to carry an enormous automobile and motor truck traffic and the county that overlooks this fact and builds a type of road not suited to this heavy traffic is sure to have a sad expensive experience.

"When the average daily traffic does not exceed one hundred to two hundred vehicles per day, no type of road can he more economically constructed and maintained than an earth road and no other type of road responds to iutelligent directiou more quickly or more satisfactorily.

"In order to economically maintain any type of road it is necessary to cut down the hills, fill up the low places, provide adequate drainage, protect the side ditches and build the bridges and culverts of concrete or stone.

"Regardless of the type of road to be constructed, the road should be huilt to permanent grade and the permauent drainage structures built large enough to carry the water and wide enough to safely carry the traffic. These improvements are of the most permanent character and should be made whether the road is to he surfaced at this time or not, for they will give the best possible earth road for the money invested and such an earth road ean be more economically maintained by continuous dragging than any other.

"A well-built gravel road is probably the best cheap surfaced road that can be constructed in Kansas at this time and with reasonable maintenanee will economically carry an average daily traffic of from two hundred to three hundred vehicles per day.

"Praetically every county in the state has deposits of gravel suitable for road purposes if properly used, but unfortunately this type of construction has received little or no consideration except in five or six counties. Most of the gravel obtained from the rivers and much of the pit gravel does not contain a suffieient amount of hinder to hold particles together when placed in a road. To such gravel from 15 to 25 per cent of good binder clay should be added.

"When the average daily traffic on a road exceeds three hundred to four hundred vehicles, or when there is reasonable grounds to believe that in a short time after the road is completed, like on a cross-state highway, it will carry a traffie exceeding this amount, asphaltic concrete, Portland cement conerete, or brick roads generally will be most economical when the first cost, interest on the investment, maintenance cost and the charaeter of the service rendered are considered.

"Fortunately, Kansas has a large number of eement and brick plants, an ahundance of good sand and chats, and a reasonable amount of gravel and limestone suitable for these types of construetion.

"Nature has provided the materials and the legislature has enacted the necessary laws and now it is up to the people to finance the roads if they want to pull Kansas out of the mud."

While only one day was devoted to this important subject in the people's pavilion, there was an exhibit in the agricultural building which proclaimed the gospel of good roads in a most effective manner throughout the week. This exhibit occupied twenty-five or thirty feet of wall space and was in charge of J. Frank Smith, secretary of the Kansas Good Roads Association. This strong organization has a large membership and good financial backing. It has undertaken a comprehensive campaign of education on the roads question and through this exhihit was able to present in the most striking manner the fundamental facts of road building and the relation of good roads to general agricultural prosperity. In staging this exhihit Mr. Smith had the co-operation of the State Highway Department, the Topeka Chamber of Commerce, the Topeka Automohile Club, and the engineering department of the Agricultural College. A series of models showing different types of roads were shown as well as types of bridge construction. There were also numerous photographs, maps, and charts, and some striking lessous were pointed out by cartoons which occupied a prominent place on the wall space. Educational literature on roads was distributed to thousands of people each day. It was simply impossihle for visitors to pass this exhibit without pausing to study it in detail. Mr. Smith and his assistants were kept busy from morning till night answering questions and discussing the many phases of this subject which touehes most closely all the people of the state.

The cut on this page shows a portion of this exhihit. The Kansas Good Roads Association has offices in Topeka, and Mr. Smith will gladly answer all questions bearing on roads and especially the administration of the new road legislation. A copy of the pamphlet entitled The Road Builder will be sent free to anyone making request.

The exhibit is being shown at the Kansas State Fair in Hutchinson.

Silo-Filling Hints

It will soon be time to fill the silo. Some are filling already. This is one of the hurry-up jobs of the year. Everything should be made ready for a continuous run when cutting starts.

The cutter should be put iu first class shape, special attention being given to the knives and knife heads. An extra set of knives should be on hand. The blower, fan and knives should run at the rated speed. Poor joints and a leaky blower mean more power and clogging. The cutter bar should be in good condition and the knives and bar properly adjusted to each other. If any extras are likely to be needed for the corn binder, they should be on hand.

Authorities agree that the nearer ripe the corn is, if it contains enough water to make good silage, the sweeter the silage will be and consequently the more palatable; also the greater the amount of digestible nutrient it will contain. Roughly speaking, a majority of the ears should be dented. When large quantities are to be cut it is necessary to begin before the corn is at its best, otherwise the last cut will be too ripe.

Short-cut silage means greater silo capacity, less air space, and if the corn is a little dry, less likelihood of spoiling. Short cutting also means reduced capacity of the machine and more power. If the stalks are coarse and woody the waste is greater than in long-cut silage. In fine-stalked corn that is very green there is less difference between the long and short cut.

When corn is very dry from being over-ripe or frozen, it is often necessary to apply water to the silage in order to make it keep. Enough water should be applied to moisten thoroughly the whole mass. There is little danger of applying too much water.

Roughly speaking it takes one and a half to two horsepower gas for every ton per hour of green corn cut one-half inch in length and blown thirty feet high. From this it will be seen that to cut ten tons an hour one-half inch long and hlow into a silo thirty feet high will require approximately a fifteen or twenty horsepower gas engine. If the same amount per hour is cut one-fourth of an inch long it will require considerably more power.

Ford County farmers are willing to increase the wheat aereage of the county if seed and labor for harvesting next year's crop are assured. Enough seed was grown in the eastern part of the county to seed that section, but five or six earloads of this wheat were shipped out of the county early. John V. Hepler, emergency demonstration agent of Ford County, is working with the bankers and elevator men in an effort to supply seed where it is needed.



No More Trouble With Stubborn Shade Rollers —If you use Hartshorn's

Think of the many times that you have stood at the window pulling the shade up or down—trying to make it stop where you wanted it to stop and always missing the spot by three or four inches—Think of the times when the shade jerked out of your hand and snapped clear to the top of the window—And then the thousand and one times when it refused altogether to budge.

You would never have had such trouble if you had used

Hartshorn Shade Rollers

They are made with a wonderful spring of the most finely tempered steel. It is this spring that makes them wear for years, —that makes them roll the shade up smoothly and let it down evenly.

Your shades will last much longer with Hartshorn Rollers than with the ordinary kind. They protect the shade from tearing, cracking and ravelling. Ask for this famous shade roller by name—and get it—not some cheap imitation.

Send to-day for "Shade Craft and Harmonious Decoration" which tells you how to make every room in your home more attractive.

STEWART HARTSHORN COMPANY
250 Fifth Avenue New York City
Address "Dept. 88."

"Your Flag and My Flag"

"Fling out, fling out, with cheer and shout,
To all the winds, Our Country's Banner;
Be every bar and every star
Displayed in full and glorious manner."
—Cole.



"Long may it wave
O'er the land of the free
and the home of the
brave"

The big demand, the scarcity of good dyes and the high price of cotton have made it hard to secure flags. We have been fortunate enough to secure a few high-grade printed flags 3 feet by 5 feet with canvas heading and brass grommets, colors fast.

You May Have One of These Flags If You Act Promptly
HERE IS OUR OFFER

For only $1.50 we will enter your subscription or extend your subscription for one year and send you this beautiful flag, postpaid. Price a flag of this size and quality. You will then appreciate our splendid offer.

Don't Delay—Send Your Order NOW, Before It Is Too Late
FLAG OFFER BLANK

Name..... R. F. D.....
Postoffice..... State .....
DESK D, KANSAS FARMER, TOPEKA

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

Kansas Farmer Dairy Club

How to Keep Records

AS MANY of the Dairy Club members are just beginning their year's records, we are using a sample milk record on this page to show how these should be made out. The record for each calendar month should be kept on a separate blank, and the number of pounds given each day recorded in the space at the right of the proper date. Spaces are provided for both morning and evening milkings. The record shown began with the evening of April 11 and so the number of pounds given at the first milking was entered in the lower half of the space numbered eleven. Business men usually balance their accounts and close all records on the last day of each month, and this is a good practice for us all.

The total amount of milk for the month is found by adding the numbers set down each day. For the percentage of butter fat the test of the sample sent to Manhattan the fifteenth of the month is used. If a record begins after the fifteenth, the test for the next month is used. A test of 3 per cent would mean that each hundred pounds of your cow's milk contained three pounds of butter fat, or that 3 per cent of each pound of milk was butter fat. The word "per cent" really means hundredths, so we may say 3 hundredths just as well as 3 per cent. It is convenient to write this .03. The amount of butter fat in the milk your cow gives for the month is found by multiplying the total amount of milk by the test expressed in hundredths, pointing off in the result obtained as many decimal places as you have in both the numbers you are multiplying. For instance, if the total amount of milk for the month was 477 pounds and the test 3.8 per cent, the total butter fat would be .038 times 477 pounds or 18.126 pounds.

The record here shown is one of last year's and the weights are given in pounds and fourths or eighths of pounds. This year all members use a scale graduated to tenths of a pound so that the fractions may be written decimally, making the addition easier.

The sample bottle sent in will be returned to you from Manhattan, but all the tests are mailed to us and sent out from this office, reaching members about the last of each month.

All records must begin October 1. If your cow is not giving milk at that time, start the feed record then and the milk record as soon as you begin saving her milk after she freshens. The feed record is kept in the same way as the milk record, each day's ration being recorded under the proper headings on the right of the date. If some of the record blanks sent you are of heavy paper and others of lighter weight paper, tack a heavy one up in the barn each month to use in jotting down weights of milk. The milk should always be weighed and the weights recorded immediately after milking. Use the light weight record blanks for mailing. This will save postage and the lighter weight blanks are more convenient to mail, as they can be folded.

Be careful to write your figures plainly and not so lightly that they will become indistinct before the end of the month. Make careful copies of your milk and feed records at the end of each month and mail one copy of each to the Kansas Farmer Dairy Club, care of KANSAS FARMER, Topeka, Kansas, and one to your banker. These copies for mailing should be made out in ink, as in folding and handling the records pencil marks become blurred and hard to read. The records for each month should be sent to us and to your banker not later than the tenth of the following month. If there is anything you do not understand, write us at once and get it straightened out. Let's be business men and women.

Why not plan to have the cows of the dairy herd freshen in the fall? The breeding of cows during September, October, and the first half of November is not good practice, because cows bred at that time freshen in June, July, or the first part of August. At this time poor pasture, heat and flies cause rapid falling off of milk flow. The best time to have cows calve is in October and November, as they will then give the largest flow when prices for milk products are highest and they are nearly dry when hot weather comes. To calve at this time, cows must be bred between December 20 and February 20.

A good prepotent bull always builds up the production capacity of a dairy herd. Bulls have been known to sire heifers that produced from 100 to 150 pounds more butter fat in a year than their dams. A pure-bred sire with good production records back of him is always cheapest in the end.

Kansas Farmer Dairy Club

Name of Contestant John Mann Name of Cow Ruby
Postoffice Dover Ks R. F. D. 2
For Month Ending April 30, 1916

Milk Record

DAY	TIME		DAY	Brought Forward	DAY	Brought Forward	DAY	Brought Forward	DAY	Brought Forward
						77¼		249½		425⅞
1	A M		8		15	12	22	13¼	29	13¼
	P M.					12		13¼		13¼
2	A M		9		16	12	23	13¼	30	14
	P M.					12		12¾		11
3	A M.		10		17	11¾	24	13¾	31	
	P M					13½		13¼		
4	A M		11		18	12¾	25	13½		
	P M			10		13¼		11		
5	A M		12	10	19	12½	26	12¾		
	P M			11¼		13¼		12¾		
6	A M		13	11¼	20	12	27	11		
	P M			11¼		13		11		
7	A M		14	11¾	21	10¼	28	13¾		
	P M			11¾		12		11¼		
Total Carried Forward. . .				77¼		249½		425⅞	Total Milk	477 3/8
									Per Cent Butter Fat	3.8
									Total Butter Fat	18.14

SAMPLE MILK SHEET SHOWING HOW TO KEEP RECORD

EDISON'S VERY LATEST AMBEROLA!



NOT A PENNY DOWN!

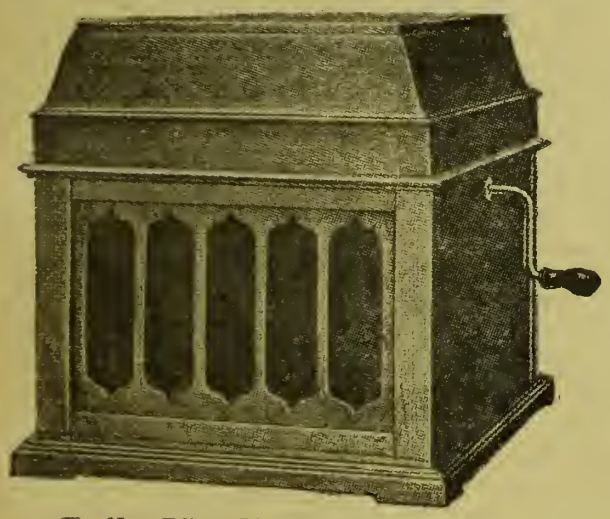
The Wonderful New Phonograph with the Permanent Diamond Point

This is the famous Diamond Amberola, which, in numerous competitive comparisons, has won unanimous verdicts of superiority over well-known talking machines that sell at three and four times the price of the Amberola. These verdicts were rendered by thousands of phonograph experts and were absolutely unprejudiced. The instruments were played behind a curtain and the curtain was not raised until after ballots had been taken. No one knew the names of the instruments. The only voted as to which tone was better, No. 1 or No. 2.

Your Home Needs Good Music

There cannot be too much good music in your home. Every home should have music, and the best music. You would not be without an Edison Diamond Amberola after you heard its wonderful reproduction of the beautiful heart songs, stirring band pieces, war songs, seductive orchestra selections, lively Broadway hits, comic recitations, grand opera arias, and majestic hymns—music which responds to every musical desire. With the Amberola you can make your evenings at home a delight, keep your children contented, entertain your friends and be right up to the minute in musical knowledge. You want the best phonograph you can get for the least amount of money, don't you? Then read our offer below.

SPECIAL FREE TRIAL!



The New Edison Diamond Amberola
MODEL 50

NOT A PENNY DOWN

We are so sure that you will want to keep this wonderful Diamond Amberola in your home after you have heard it, that we have made special arrangements with a certain number of dealers whereby any one of them will send to any reputable person, on an absolutely free trial, one of these wonderful Edison Diamond Amberola instruments.

These merchants have set aside a number of Edison Diamond Amberolas selling at $30, $50 and $75. These instruments will be sent out on free trials. With them will be sent a program of beautiful music, such music as you have never heard before on any phonograph. Don't wait until this free trial offer has expired.

HOW TO GET THE FREE TRIAL

Look over the list of dealers below and send the coupon to the dealer who is located closest to you. **If there is no Dealer near you, send the coupon to us and we will endeavor to arrange a free trial for you.**

Enjoy this wonderful music for three days. Then if you decide to keep the Diamond Amberola you can arrange with the dealer to pay for it on convenient terms, if you do not care to pay cash. That is all. No strings, no cost to you!

SEND FOR OUR BEAUTIFUL AMBEROLA BOOK---IT'S ABSOLUTELY FREE!

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STOCKTON—Drake Drug Co.
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TOPEKA—Crosby Bros. Co.
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CLAREMORE—Nowlin & Feezel Furniture Co., 508 W. Third St.
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DEPEW—P. & H. Hardware Co.
FAIRVIEW—J. A. Crossman
FARGO—E. E. Whitehead
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HOMINY—Westbrook Drug Co.
KAW—Peerless Drug Co.
LAVERNE—Stafford & North
MIAMI—Hadley Drug Co.
NOWATA—Nowata Hardware & Supply Co.
PAWNEE—Peter Drug Co.
PAWHUSKA—Ryder Music Co.
PONCA CITY—O. A. Panton
RIPLEY—J. Ballard
SAPULPA—Uden's Book Store
SHAMROCK—P. & H. Hardware Co.
SHATTUCK—Davis Drug Co.
SPIRO—B. M. Bryant
TALOGA—Deal Pharmacy
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TULSA—Darrow Music Co.

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Send me the Amberola Book, particulars of your free trial offer and the name of the nearest Edison dealer.

Name .....

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Muskingum River Concrete Road, 2½ Miles West of Marietta, Ohio. Built by McGarry & Stowe, Akron, O., A. F. Cole, County Engineer.

Clearing Country Roads for Action

WAR has suddenly forced the farm to take rank with the packing house, the munitions plant, the steel mill and other industries, as a factor of supreme importance in the service of this country.

No manufacturer in these modern days, when time counts for so much, would think of establishing a factory out in the country without first determining the length of the haul and then reducing hauling time and cost of hauling power to the lowest point possible by removing the obstacles of bad roads. Supplies from the farm to millions of consumers at home and to our troops abroad must first travel over the country road.

Clearing the roads for action doesn't mean some other road; it means YOUR road, if your community is going to do its bit not only in war but in preparing for the greater activities of peace which are to come.

CONCRETE ROADS
Their Advantages

No Mud—No Dust
No Ruts—No Holes
No Slipping
No Skidding
Easy Hauling
Smooth Riding
Long Life—Safety
Always ready for use
Low Maintenance
Moderate Cost

By building hard and durable smooth concrete roads, time wasted in dust, ruts and mudholes may be used on the farm for crop production.

Be sure you know what a concrete road is. Concrete is made of portland cement, sand and pebbles or crushed stone. It is hard and durable, rigid and unyielding. Concrete is used in dams, factories, bridges, and big engineering works like the Panama Canal, requiring great solidity and strength.

Write for a free copy of Bulletin 136.

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CONCRETE FOR PERMANENCE

FARM AND HERD.

W. R. Huston, of Americus, Kansas, who owns one of the great herds of Durocs in Kansas, reports his herd doing well. He has succeeded in building up a herd of choice individuals and the blood lines of his herd are the best of the breed. He has a choice lot of sows sired by Country Gentleman, one of the great boars of the breed and a son of the second prize aged boar at the Interstate Fair, Sioux City, Iowa; also a number by the great Crimson Wonder bred boar, Gold Medal. A feature of his herd at this time is the choice lot of young stock sired by Taylor's Model Chief, a winner at a number of the big fairs.

G. M. Shepherd, of Lyons, Kansas, was one of the successful showmen of high-class Duroc swine at the big fairs this year. Mr. Shepherd's herd boar, G. M.'s Crimson Wonder, sired the champion junior yearling boar at the Kansas State Fair, and Illustrator 2d was the sire of the champion futurity litter. Mr. Shepherd is the owner of one of the good herds of Kansas and a feature of the herd at this time is the splendid lot of spring boars that are ready for service that will make real herd headers.

L. W. Terwilliger, of Fernwood Farm, Wauwatosa, Wisconsin, reports their Holsteins doing well. Fernwood Farm is one of the noted dairy cattle farms in Wisconsin and foundation stock for many good herds in the Southwest are from this farm.

W. R. Huston, Americus, Kansas, is developing a splendid herd of Duroc swine. They are the Golden Model, Model Chief and Great Wonder families. This year Mr. Huston has raised fifty-six spring pigs that are outstanding, and a feature of the herd at this time is the choice boar pigs that will make real herd headers.

Arthur Anderson, of Clyde, Kansas, has announced a sale of pure-bred big-type Polands to be held October 13. A choice offering of big-type Polands will be catalogued for this sale. The offering will be in good breeding condition and will represent the best blood lines of the breed.

Henry Koch, of Edina, Missouri, owner of the famous White Oak Park herd of big-type Polands, reports his herd doing well. Mr. Koch has been breeding Polands for a number of years. His herd was started with the best big-type breeding and individuals that he could buy and all of his foundation stock was selected from famous big-type herds, regardless of price. By scientific breeding he has succeeded in building up a herd of big-type Polands that are famous for size and quality. The boars at the head of this herd are two of the great sires now in service. Missouri Jumbo weighs 1,100 pounds, has lots of quality and is a great breeder. Long Big Joe weighs 1,000 pounds, has a twelve-inch bone, and is very high quality and a great sire. The sows of the herd are a choice lot, sired by noted boars of the breed, and a great feature of the herds at this time is the outstanding lot of fall and spring boars.

The greatest mistake we make, next to feeding "scrub" cows, is the "scrub" feeding of good cows.

SAVES WOMEN'S STRENGTH

No stooping—no reaching over milk can with the Dairy Queen. Sold direct to you. And the price is *right*. Enclosed All-Gear Drive, No Chains; Close Skimming Sanitary Bowl, Easily Cleaned; Splash-Oiling System, Light Running; Low-Down Tank—Simple, Durable, Sanitary. MONTHLY PAYMENTS. $5 down—$5 per month. Made in 350, 500, 650 and 900 lb. capacities. Write for free catalog. Makers of separators for 16 years



Dairy Cream Separator Co.
1501 Washington St., Lebanon, Ind.

THE NEW 1918 MODEL DAIRY QUEEN $39 AND UP

GOING TO COLLEGE?

Our young readers who contemplate attending business college this fall or winter will find it to their advantage to write KANSAS FARMER for information that will be valuable to them.

It will cost you nothing but a postal card or a two-cent stamp to find out what our proposition is. Address

DESK D, KANSAS FARMER
Topeka, Kansas



Sheep At Kansas Fairs

THERE have been much larger exhibits of sheep in Kansas than were made this year at the Kansas Free Fair and the Kansas State Fair at Hutchinson. In 1915 there were over 500 sheep shown at Topeka. In quality of exhibits, however, the sheep shown this year were well worthy of high commendation. The Agricultural College showed thirty-four head representing the four breeds, Hampshire, Shropshire, Southdown, and Horned Dorset. These animals were the cream of the college flocks and were well fitted for exhibition. The college entries won twenty-three first prizes and nine championships. This heavy winning by the college entries is no disparagement of the exhibits made by individual breeders. It is generally recognized that A. M. Paterson, of the Agricultural College, is the best sheep man ever connected with the institution. In developing this new live stock industry we would not feel satisfied if our Agricultural College did not have the best representatives of these different breeds it is possible to obtain.

Kansas is in the beginners' class in breeding and showing sheep, and it is fortunate that so capable a judge as W. L. Blizzard placed the awards at the Kansas Free Fair. The judging ring is a splendid place to learn when the work is done by a man who so thoroughly understands what constitutes true merit. The exhibitors all recognized Mr. Blizzard as a man understanding thoroughly the task he had to perform.

At the Kansas State Fair the following week there were 143 sheep shown, several flocks from that part of the state being entered in addition to the flocks shown at Topeka the week previous. This is the largest exhibition of sheep ever made at this fair and it attracted considerable attention. The Shropshires were judged by O. A. Homan, of Peabody, and the remaining classes by C. L. Buskirk, of Newton, and Mr. Homan, jointly. The awards at these two fairs are given below:

KANSAS FREE FAIR

Exhibitors—Kansas Agricultural College, Manhattan, Kan.; Clarence Lacey, Meriden, Kan.; C. E. Woods, Topeka, Kan.; W. W. Waltmire, Peculiar, Mo.

SHROPSHIRES.

Aged Rams—1, Kansas Agricultural College, without competition.
Yearling Roms—1, Kansas Agricultural College; 2, Lacey.
Ram Lambs—1, 3 and 4, Lacey; 2, Agricultural College.
Champion Ram—Agricultural College.
Aged Ewe—1, Agricultural College; 2 and 3, Lacey.
Yearling Ewe—1, Lacey; 2 and 3, Agricultural College.
Ewe Lamb—1, Lacey; 2 and 3, Agricultural College.
Champion Ewe—Agricultural College.
Get of Sire—1, Agricultural College; 2, Lacey.
Flock—1, Agricultural College; 2 and 3, Lacey.
Lamb Flock—1, Agricultural College; 2, Lacey.

HAMPSHIRES.

Aged Ram—1, Agricultural College, without competition.
Yearling Ram—1 and 2, Waltmire, without competition.
Ram Lamb—1, Agricultural College; 2 and 3, Waltmire.
Champion Ram—Agricultural College.
Aged Ewe—1 and 2, Waltmire, without competition.
Yearling Ewe—1 and 2, Agricultural College; 3 and 4, Waltmire.
Ewe Lamb—1, Agricultural College; 2 and 3, Waltmire.
Champion Ewe—Agricultural College.
Get of sire, aged flock and lamb flock all were awarded to Waltmire without competition.

DORSETS.

All entries lo classes for this breed were awarded to the Kansas Agricultural College without competition.

SOUTHDOWNS.

Exhibitors—Kansas Agricultural College and W. W. Waltmire.
Aged Rams—1 and 2, Agricultural College; 3, Waltmire.
Ram Lamb—1, Agricultural College; 2, Waltmire.
Champion Ram—Agricultural College.
Aged Ewe—1, Waltmire, without competition.
Yearling Ewe—1 and 3, Agricultural College; 2, Waltmire.
Ewe Lamb—1 and 2, Agricultural College; 3, Waltmire.
Champion Ewe—Agricultural College.
Get of Sire—Waltmire, without competition.
Flock—1, Agricultural College; 2, Waltmire.

COTSWOLDS.

All prizes for this breed were awarded to C. E. Woods, without competition.

KANSAS STATE FAIR

Exhibitors—John Coldwater, Chase, Kan.; Clarence Lacey, Meriden, Kan.; Kansas Agricultural College, Manhattan, Kan.; Dr. F. B. Cornell, Nickerson, Kan.; C. E. Woods, Topeka, Kan.; W. W. Waltmire, Peculiar, Mo.; J. L. Kyle, La Cygne, Kan.

SHROPSHIRES.

Aged Ram—Agricultural College, without competition.
Yearling Ram—1, Agricultural College; 2, Lacey; 3, Coldwater.
Ram Lamb—1, Lacey; 2, Cornell; 3, Agricultural College.
Aged Ewe—1, Coldwater; 2, Agricultural College; 3, Lacey.
Yearling Ewe—1 and 3, Lacey; 2, Agricultural College.
Ewe Lamb—1, Lacey; 2 and 3, Agricultural College.
Flock—1, Lacey; 2, Agricultural College.
Pen of Three Lambs—1, Agricultural College; 2 and 3, Lacey.
Champion Ram—Lacey.
Champion Ewe—Coldwater.

COTSWOLDS.

All awards in this section were made to C. E. Woods, without competition.

DELAINE MERINOS.

All awards to Waltmire, without competition.

HAMPSHIRES.

Aged Ram—1, Agricultural College; 2, Waltmire.
Yearling Ram—Waltmire, without competition.
Ram Lamb—1, Agricultural College; 2, Cornell, 3, Waltmire.
Aged Ewe—1 and 2, Waltmire; 3, Cornell.
Yearling Ewe—1 and 2, Agricultural College; 3, Waltmire; 4, Cornell.
Ewe Lamb—1, Cornell; 2, Agricultural College; 3, Waltmire.
Pens of Three Lambs—1 and 2, Cornell; 3, Waltmire.
Champion Ram—1, Agricultural College.
Champion Ewe—Agricultural College.
Association Special—Flock, Cornell, without competitioo.

OXFORDS.

Aged Ram—1, Kyle; 2 and 3, Waltmire.
Yearling Ram—Waltmire, without competition.
Aged Ewe—1 and 3, Waltmire; 2, Kyle.
Ewe Lamb—1, Kyle; 2, Coldwater; 3, Waltmire.
Flock—1, Kyle; 2, Waltmire.
Pen (three lambe)—Waltmire, without competition.
Champion Ram—Kyle.
Champloo Ewe—Waltmire.
Yearling Ewe, Association Special—Kyle, without competition.

SOUTHDOWNS.

Aged Ram—1 and 2, Agricultural College; 3, Waltmire.
Yearling Ram—Agricultural College, without competition.
Ram Lamb—1, Agricultural College; 2, Waltmire.
Aged Ewe—Agricultural College, without competition.
Yearling Ewe—1 and 2, Agricultural College; 3, Waltmire.
Flock—Waltmire, without competition.
Pen of Three Lambs, Champion Ram and Champion Ewe—Agricultural College, without competition.

DORSETS.

All awards to Agricultural College, without competition.

FAT WETHERS AND LAMBS.

All awards to Agricultural College, without competition.

Wheat and Live Stock

Kansas is now planning to put out ten million acres of wheat. At the present time the conditions seem exceptionally favorable for a big crop next year. There has been plenty of rain to soak up the soil and when wheat land goes into the winter with a reserve of moisture the chances are strongly in favor of its making a big yield.

The wheat-production mark set for Kansas by the National Council of Defense calls for a record-breaking crop. It means the planting of ten millions of acres of wheat, which is more than one-fifth of the total acreage the Council has allotted to the winter wheat states. A twenty-bushel yield, which is not by any means impossible, and a two-dollar price, would mean $400,000,000 to Kansas for the wheat crop alone.

Let us not forget, however, the dairy cow and the live stock industry in talking and thinking of breaking all wheat-production records. Maximum live-stock production means even more to the state in establishing the permanent prosperity of our farmers than does a big wheat crop. We notice ex-Governor Hoard, of Wisconsin, has been doing some figuring along this line in which he compares what he gets from his alfalfa and dairy cows with the profits of wheat growing. He says that on his farm his seventy acres of alfalfa this year has yielded in two crops three and a half tons to the acre. He sold some of the first crop, which produced 2.2 tons to the acre, for $16 a ton, or a total of $35.20 an acre. The second crop yielded at the rate of one and a quarter tons to the acre, of which some was sold for $17 a ton, making this return $21.25 an acre, or a total for the two crops of $56.45. Even with a twenty-bushel yield of wheat and a price of $2.50 a bushel, the wheat crop would return but $50 an acre, and there is still another crop of alfalfa to be harvested. Mr. Hoard maintains that with dairy products at their present prices they will return a good profit from feeding alfalfa hay at $17 a ton.

We do not fully appreciate the fact that live stock converts into cash large quantities of feed and forage that cannot be used directly as human food. The dairy cow and all kinds of live stock help to build up the soil, which means increasing its capacity for producing crops. The important thing to consider is to have the best types of live stock for performing this work of converting feed into money. The experience through which we are now passing will probably result in bringing about a great improvement in the class of live stock fed.

It has been estimated that there are about twenty-two million dairy cows in the United States and the annual value of their products reaches the enormous sum of nearly one billion dollars. Only the corn crop exceeds the dairy products as a source of income to the farmers of the nation.

No man knows all there is to learn about farming. Let us learn all we can from each other.



Learn to Use Milking Machine

IF WE are to keep up our dairy production we must in some way overcome the serious shortage of labor which exists. Dairymen everywhere are complaining that it is almost impossible to get good dairy help. The situation will be even more serious in the course of a few months than it is now. No other class of farm labor is harder to get than skilled dairy labor. Unless the men milking cows can get along with less help than in the past, many of them will have to cut down their dairy herds. There is a limit to what one man can do.

The milking machine is offering what is apparently the only possible solution of this problem of labor shortage. The mechanical milker does not do away with all the hand labor of milking and handling cows, but it does make it possible for one man to milk from a third to a half more cows in the same time. While milking machines may have objectionable features, we believe that the mechanical milker is here to stay. We might just as well make up our minds first as last to accept the milking machine and take up seriously the task of learning how to successfully operate it.

Success with any new piece of machinery is largely a matter of learning how to use it. We had to learn how to use reaping machines, twine binders, and other improved farm machinery. The strongest kind of prejudice existed against the reaper when it first came out, and it was slow to take its place as a piece of necessary farm equipment. When the twine binder first began to be used, farm machinery companies had to keep a lot of experts in the field to furnish first aid to those who are learning how to use the binders. Now nearly every farmer understands thoroughly the mechanism of his improved farm machinery and can correct anything that goes wrong without sending to the factory for an expert. It will be the same with the milking machine. The success of the dairyman with this labor-saving device will depend in large measure upon his determination to master the details of this machine and learn to make it do its work just as he has learned how to operate other machinery.

Since it is certain that labor conditions will be worse instead of better next spring and summer, those who hope to keep up their dairy production will undoubtedly find it necessary to begin early to look into the possibility of cutting down the hand labor connected with handling a bunch of dairy cows. It will take some little time to become acquainted with the machine and it would be far better to begin when other work is not pressing as hard as it does during the season of field work.

Three-Day Butter Fat Contest

Premiums to the amount of $150 were offered by the Kansas Free Fair in the three-day dairy production contest conducted during fair week. Last year thirteen cows were entered in this contest, all of them registered. This year only eight cows were entered. The contest is open to grade cows and it is not necessary that the animals competing in this classification be entered in the regular dairy cattle competition. Not an animal was brought in from any of the many good dairy herds around Topeka. Of course the shortage of labor is the main reason for dairymen not entering this contest. It is also recognized that a cow cannot be expected to make as good a record at a fair as at the home barn, but putting on such a contest should be accepted as an opportunity to do something for the cause of promoting the dairy industry. It features the importance of dairying and helps to lead the public to a fuller realization of the place the dairy business occupies in the production of human food.

The exhibitors of registered herds were the only contestants. Three mature cows were entered, representing respectively the Holstein, Jersey and Ayrshire breeds. Three Holstein heifers under three years of age were in the competition and there were single entries only in the Ayrshire and Jersey heifer classes. The best record was made by the two-year-old heifer, Eudora Pontiac Colantha, belonging to the Galloway-Messer herd of Waterloo, Iowa. This heifer won the KANSAS FARMER silver trophy cup which was won by the United States Indian School of Genoa, Nebraska, last year, the cow winning the cup at that time producing in the three days 111.6 pounds of milk and 5.29 pounds of butter fat. This herd was not shown at the Kansas Free Fair this year.

The trophy will be properly engraved and held for one year by the Galloway-Messer farm. It can only be permanently held by a contestant winning it three years in succession. We hope some Kansas dairyman will come to the front and win this cup next year. The records of the cows in this three-day butter-fat test are given in the table on this page.

What Makes Yellow Butter?

Everybody likes yellow milk and butter but sometimes the color is absent. This absence is especially noticeable in butter. Chemists investigated the cause of this variation in color as long ago as 1830 but it remained for the dairy department of the Missouri College of Agriculture to determine the real source and nature of the natural color of dairy products. Three years of investigation not only showed the cause of the natural color but made clear the nature and source of the yellow color that is found in the body fat of cattle. The color in the tallow is exactly the same as that found in butter. Cows that give yellow butter have yellow body fat, while those which give a whiter butter have whiter body fat.

The coloring matter in both cases is carotin, so called since it was first found in carrots. The yellow color in milk and butter is not made by the animal, but comes from the feed. This coloring substance is found in all green leaves, which accounts for the yellow butter in summer. By continued feeding of feeds free from coloring matter it was possible, in the experiments conducted, to obtain white butter from a Jersey cow. As a result of the work a list of feeds that will give yellow butter and those that will not is available.

We notice that Nebraska farmers are planning to take advantage of the opportunity to buy high-grade calves at comparatively low prices in Wisconsin. Very good calves are being sold there at reasonable prices because of the high price of milk and other dairy products. The extension division of the Agricultural College of Nebraska reports that nineteen men have recently purchased 116 calves, being aided in their purchases by men of this division. They are still receiving inquiries and orders. The dairy division of the Kansas Agricultural College has been of the greatest service to dairymen of Kansas along similar lines. In view of the fact that some dairymen were reported to be under the necessity of selling good cows, the dairy department of the Kansas Agricultural College offered to act as a clearing house between buyer and seller, the idea being that there were plenty of places in Kansas where these cows could be placed and there was no necessity for sending them to market or slaughter.

PRODUCTION RECORDS OF COWS IN THREE-DAY TEST

	Pounds Milk	Pounds Butter Fat
COWS THREE YEARS OLD OR OVER—		
Flush Emma De Kol II De Kol—Holstein Coleman & Son, Denison, Kansas.	90.2	2.672
White Sox Queen—Jersey Fred T. Laptad, Lawrence, Kansas.	49.9	2.41
Old Sarah of Scotland Farm—Ayrshire William Galloway, Waterloo, Iowa.	29.4	1.079
COWS UNDER THREE YEARS OLD—		
Eudora Pontiac Colantha—Holstein Galloway-Messer Farm, Waterloo, Iowa.	92.7	3.57
Nellie Segis Pontiac—Holstein Galloway-Messer Farm, Waterloo, Iowa.	61	2.35
Buffalo Ella II—Holstein Coleman & Son, Denison, Kansas.	38.7	1.92
Idyl's Menlo—Jersey Fred T. Laptad, Lawrence, Kansas.	61.7	2.477
Nora Spencer—Ayrshire William Galloway, Waterloo, Iowa.	64.1	2.488



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While doing this they must be fed and every ounce of muscle that can be requisitioned must go into use to save this year's crop. A short harvest period requires the combined forces of the two countries in team work, such as the soldier boys in France and Flanders are demonstrating.

THE COMBINED FIGHTERS IN FRANCE AND FLANDERS AND THE COMBINED HARVESTERS IN AMERICA WILL BRING THE ALLIED VICTORY NEARER

A reciprocal arrangement for the use of farm workers has been perfected between the Department of the Interior of Canada and the Departments of Labor and Agriculture of the United States, under which it is proposed to permit the harvesters that are now engaged in the wheat fields of Oklahoma, Kansas, Iowa, North Dakota, South Dakota, Nebraska, Minnesota, and Wisconsin to move over into Canada, with the privilege of later returning to the United States, when the crops in the United States have been conserved, and help to save the enormous crops in Canada which by that time will be ready for harvesting.

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For particulars as to routes, identification cards and place where employment may be had, apply to Superintendent of Immigration, Ottawa, Canada, or to

GEO. A. COOK, Canadian Government Agent, 2012 Main St., Kansas City, Mo.

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Exhibitors—Edward Cooks & Sons, Freeport, Kan.; Gossard Breeding Estate, Preston, Kan.; J. A. Cowdrey, Lyons, Kan.; Cantwell Bros., Sterling, Kan.; A. P. Loomis, Diamond Springs, Kan.; A. A. Cuthbertson, Sterling, Kan.

Judge—Georgo B. Ross, Sterling, Kan.

Aged Stallions—1, Gossard, Marmot; 2, Cowdrey, Tainter; 3, Loomis, Alphonse.

Three-year-old Stallions—1, Cooko, Poincalre; 2 and 3, Cantwell Bros., Woodrow and Billy D.

Two-year-old Stallions—1 and 2, Cooke, Pluto and Cassabel.

Stallion Foals—1 and 2, Loomis, Darco and Defiance; 3, Cantwell, Barney.

Champion Stallion—Marmot.

Aged Mares—1 and 3, Gossard, Keota Fair Maid and Satinette; 2 and 4, Loomis, Jugalo and Dove.

Three-year-old Marcs—1, Gossard, Gazelda, without competition.

Two-year-old Marcs—1, Gossard, Kareottie; 2, Loomis, Franeine.

Yearling Mares—1, Loomis, Auline, without competitiou.

Filly Foals—1, Cuthbertson, Baroness 2d, without competition.

Champion Mare—Keota Fair Maid.

PERCHERON SOCIETY OF AMERICA SPECIALS.

Stallion Three Years Old and Over (bred and owned by exhibitor)—1, Cantwell, Woodrow; 2, Cooke, Poincalre.

Stallions Under Three Years (bred and owned by oxhibitor)—1, Cooke, Kasabel; 2 and 3, Loomis, Darco and Deflance.

Champion Stallion (bred and owned by exhibitor)—Cantwell, Woodrow.

Reserve Champion—Cooko, Kasabel.

Mare Under Threo Years Old (bred and owned by exhibitor)—1 and 2, Loomis, Franeine and Aline; 3, Cuthbertson, Baroness 2d.

Produce of Mare—1, Cooke, produco of Zelia; 2, Loomis, produce of Jugalo.

Best Three Mares (owned by exhibitor)—1, Gossard; 2, Loomis.

BELGIANS.

All prizes in Belgian classes were awarded to David Cooper & Sons, of Freeport, Kan., without competition.

JACKS AND JENNETS.

Exhibitors—Cantwell Bros., Sterling, Kan.; W. D. Shore, Simpson, Kan.; E. E. Cowdrey, Hutchinson, Kan.

Judge—George B. Ross, Sterling, Kan.

Aged Jack—1, Cantwell Bros., Clover Leaf King; 2, Cowdrey.

Two-year-old Jacks—1, Shore, Ben Buster; 2, Cantwell Bros., King George.

Yearling Jack—1, Cantwell Bros., Billy Sunday, without competition.

Aged Jennets—1 and 2, Cantwell, Kansas Squaw and Clover Leaf Maid.

Two-year-old Jennets — 1, Cantwell, Clover Leaf Blossom.

Yearling Jennet—1 and 2, Cantwell Bros., Clover Leaf Kate and Sister May.

Champion Jack—Ben Buster.

Champion Jennet—Clover Leaf Blossom.

CATTLE AWARDS.

ABERDEEN ANGUS.

Exhibitors—L. R. Kershaw, Muskogee, Okla.; Sutton & Porteous, Lawrence, Kan.; D. K. Robertson & Son, Madison, Neb.; William Ljungdahl, Manhattan, Kan.; G. F. Cowden & Sons, Midland, Texas.

Judge—L. McWhorter, Aledo, Illinois.

Aged Bulls—1, L. R. Kershaw, Black Capper of Loaside; 2, Sutton & Porteous, Elato of Five Gates.

Two-year-old Bulls—1, Cowden, Prizemere; 2, Kershaw, Inverne of Rosemere; 3, Sutton & Porteous, Quo Vadis IV; 4, Robertson & Son, King of Twinburn 4th.

Senior Yearling Bull—1, Robertson & Son, Barbarian of Twinburn; 2, Kershaw, Philemon Pride.

Junior Yearling Bull — 1, Cowden, Bendew; 2, Ljungdahl, Black Quinto L; 3, Sutton & Porteous, Blackbird Heatherson; 4, Robertson & Son, Esthonian; 5, Kershaw, Ben Hur E; 6, Sutton & Porteous, Gay Lad C 2d; 7, Robertson & Son, King of Twinburn 6th.

Senior Bull Calf—1 and 3, Cowden & Son, Elondo and Blackcap Bueno; 2, Sutton & Porteous, Cymbaleer Heatherson; 4, Robertson, Black Knight of Twinburn; 5, Kershaw, Engineer 2d.

Junior Bull Calf—1, Cowden & Son, Blackcap Bowden C; 2 and 4, Kershaw, Muskogee 29th and Ben Hur 2d of Lone Dell; 3, Robertson & Son, King of Twinburn 8th; 5, Sutton & Porteous, Black Alister.

Senior Champion and Grand Champion Bull—Prizemere.

Junior Champion Bull—Barbarian of Twinburn.

Aged Cows—1, Kershaw, Twinburn Pride 5th; 2 and 4, Robertson & Son, Gay Rose R and Blackbird 101; 3, Cowden & Son, Blackbird of Quietdale.

Two-year-old Heifers—1 and 3, Cowden & Son, Blackbird Junior 7th and Blackcap McHenry 131st; 2 and 5, Robertson & Son, Key of Twinburn and Twinburn Blackbird 4th; 4, Kershaw, Blackbird 185.

Senior Yearling Heifer—1, Cowden & Son, Myra of Topeka; 2, Kershaw, Muskogee Rose 2d; 3, Robertson & Son, Twinburn Blackbird 6th.

Junior Yearling Heifer — 1, Kershaw, Muskogee Donna 3d; 3, Robertson & Son, Key of Twinburn 2d.

Senior Yearling Heifer Calf—1 and 2, Cowden & Son, Myra C 3d and Kacena; 3, Kershaw, Muskogee Eline; 4, Sutton & Porteous, Heatherson Pride; 5, Robertson & Son, Twinburn Blackbird 10th.

Junior Heifer Calf—1, Sutton & Porteous, Miss Heatherson; 2, Kershaw, Muskogee Donna 4th; 4, Robertson & Son, Twinburn Queen 7th; 4, Cowden & Son, Bonita C.

Senior and Grand Champion Female — Twiuburn Pride 5th.

Junior Champion Female—Myra of Topeka.

Aged Herds—1, Cowden & Son; 2, Kershaw; 3, Robertson & Son.

Young Herd—1, Robertson & Son; 2, Kershaw.

Calf Herd—1, Cowden & Son; 2, Sutton & Porteous; 3, Kershaw; 4, Robertson & Son.

Get of Sire—1, Robertson on get of Valla's Knight; 2, Kershaw, on get of Black Emerson; 3, get of Wakarusa Heatherson 6th.

Produce of Cow—1 and 4, Cowden & Son; 2, Robertson & Son; 3 and 5, Kershaw.

SHORTHORNS.

Exhibitors — William Herkelmann, Elwood, Iowa; Howell Rees & Son, Pilger, Neb.; John Regier, Whitewater, Kan.; H. Pritchard, Walnut, Iowa; A. L. Harris, Osage City, Kan.; H. H. Holmes, Topeka, Kan.; Rapp Bros., St. Edwards, Neb.; H. Homan & Sons, Peabody, Kan.

Judge—Ed Patterson, Buneeton, Mo.

Aged Bulls—1, Herkelman, Cumberland Standard; 2, Holmes, Clipper Brawith.

Two-year-old Bulls—1, Rees & Sons, Violet's Dale; 2, Rapp Bros., Thaxton Master.

Senior Yearling Bulls—1, Holmes, Viscount Stamp, without competition.

Junior Yearling Bulls—1, Herkelman, Cumberland Goods; 2 and 4, Rapp Bros., Omega Secret and Pride's Renown; 3, Rees & Son, Ruberta Goods Model; 5, Harris, Commander.

Senior Bull Calf (thirteen shown)—1, Pritchard, Dale's Reliance; 2, Holmes, Count Valentine; 3, Rees, Brawith Goods; 4, Pritchard, Dale's Guardeer; 5, Rapp Bros., Omega's Honor; 6, Herkelman, True Goods; 7, Regier, Eldelstein.

Junior Bull Calf—1, Pritchard, Dale's Viscount; 2, Holmes, Red Gauntlet; 3, Herkelman, Prince Cumberland; 4, Harris, Prince Valentino 5th.

Senior and Grand Champion Bull—Violet's Dale.

Junior Champion Bull—Dale's Reliance.

Aged Cows—1, Rees, Soncie Goods; 2, Herkelman, Collynie Rosewood; 3 and 6, Holmes, Honor Maid and Empress; 4 and 5, Harris, Crystal Maid and Roseleaf.

Two-year-old Heifers—1, Rees, Lady Violet 8th; 2, Herkelman, Village Venice; 3, Holmes, Fancy Twentieth; 4, Harris, Sunflower Lady.

Senior Yearling Heifer—1 and 2, Herkelman, Gypsy Maid and Lady Sultan; 3, Reese, Rosaline Goods 2d; 4, Pritchard, Dalo Rosebud; 5, Holmes, Riverside Princess.

Junior Yearling Heifers—1 and 3, Rapp Bros., Barmpton Flower and Butterfly Lady; 2, Pritchard, Victoria 73d; 4 and 7, Holmes, Hallwood Gold Drop 5th and Ashwood Keepsake; 5, Reese, Gay Lady; 6, Herkelman, Lady Cumberland.

Senior Heifer Calf—1, Rapp Bros., Village Violet; 2 and 4, Rees, Good Masie and Lady Ruberta; 3, Pritchard, Mysie 3d; 5, Regier, Call Eighth; 6, Rogier, Dale Victoria.

Junior Heifer Calf—1 and 3, Pritchard, Victoria 74th and Dale Bangle; 2 and 4, Rapp Bros., Barmpton Flower 2d and Village Secret; 5, Herkelman, Lady Mildred; 6, Holmes, Honor Maid 2d; 7, Harris, Roseleaf 2d.

Senior and Grand Champion Cow—Rees & Son, Lady Violet 8th.

Junior Champion Cow—Rapp Bros. on Barmpton Flower.

Get of Sire—1, Rapp Bros., get of Village Pride; 2, Rees Bros., get of Ruberta's Goods; 3, Pritchard, get of Dale Clarion; 4, Herkelman, get of True Cumberland 3d; 5, Holmes, get of Prince Val 4th; 6, Regier, get of Dale's Emblem.

Produce of Cow—1, Herkelman, produce of Lady Violet 5th; 2, Pritchard, produce of Rosehud; 3, Rapp Bros., produce of Barmpton Lady 3d; 4, Harris, produce of Roseleaf.

Aged Herd—1, Rees; 2, Herkelman; 3, Holmes.

Young Herd—1, Rapp; 2, Pritchard; 3, Herkelman; 4, Rees, 5, Holmes.

Calf Herd—1, Pritchard; 2, Rapp; 3, Holmes; 4, Rees; 5, Herkelman; 6, Regier.

POLLED DURHAMS.

Exhibitors — Achenbach Bros., Washington, Kan.; Albert Hultine, Sarouville, Neb.; Joseph Baxter, Clay Center, Kan.

Judge—Ed Patterson, Bunceton, Mo.

Aged Bull—1, Baxtor, Select Goods, without competition.

Two-year-old Bulls — 1, Hultine, Roselawn Marshall, without competition.

Senior Yearling Bull—1 and 3, Achenbach Bros., Sunny Sultan and Intensified Sultan; 2, Hultine, Royal Gooda.

Junior Yearling Bull—1, Hultine, Double Goods, without competition.

Senior Bull Calf—1 and 2, Hultine, Christmas Goods and Orange Bud.

Junior Bull Calf—1, Hultine, Royal Goods, without competition.

Senior and Grand Champion Bull—Roselawn Marshall.

Junior Champion Bull—Sunny Sultan.

Aged Cows—1 and 3, Achenbach Bros., Sultana and Minute 3d; 2, Hultine, Winsome; 4, Baxter, Scottish Betty.

Two-year-old Heifers—1, Achenbach Bros., Sultana Frances; 2, Hultine, Cyrene 2d.

Senior Yearling Heifer—1 and 3, Achenbach Bros., Fatima and Felice; 2, Hultine, Gloster Princess; 4 and 5, Baxter, Scottish Sultana and Sissy Calf.

Junior Yearling Heifer—1, Hultine, Select Fern; 2, 3 and 4, Achenbach Bros., Sultana Carmine, Sultana Thankful and Sultana Martha.

Senior Heifer Calf — 1 and 2, Hultine, Gloster Countess 2d and Sultana 3d; 3, Achenbach Bros., Minute 5th.

Junior Heifer Calf—1, Achenbach, New Year's Gift; 2, Baxter, Little Betty.

Senior and Grand Champion Female—Sultana.

Junior Champion Female—Fatima.

Aged Herd—Hultine, without competition.

Young Herd—1, Achenbach; 2, Hultine.

Calf Herd—Hultine, without competition.

Get of Sire—1 and 3, Achenbach Bros., get of Meadow Sultan and Intense Sultan; 2 and 4, Hultine, get of Roselawn Marshall and Select Goods.

Produce of Dam—1, Achenbach Bros., produce of Thankful 3d; 2, Hultine, produce of Fern Goods; 3, Baxter, produce of Jesse Kingsley 2d.

HOLSTEIN-FRIESIANS.

Exhibitors—Galloway-Messer Farms, Waterloo, Iowa; Albechar Holstein Farm, Independence, Kan.; J. M. Chestnut & Sons, Denison, Kan.

Judge—C. T. Graves, Maitland, Mo.

Aged Bulls—1, Galloway, King Segis Ormsby; 2, Albechar, Sir Juliana Grace De Kol; 3, Chestnut, Johanna of Bonheur Champion 2d.

Senior Yearling Bulls—Galloway, Korndyke Ormsby.

Senior Bull Calves—1, Chestnut; 2, Albechar, Albechar Juliana Dorindo De Kol; 3 and 4, Galloway, Segis Lad Pontiac Korndyke and King Itamona Blanche Ormsby.

Junior Bull Calves—1 and 2, Galloway, Prince Korndyko Segis Ormsby and Prince Bangor; 3 and 4, Chestnut.

Senior Champion Bull—King Segis Johanna Ormsby.

Junior and Grand Champion Bull—Prince Korndyke Segis Ormsby.

Aged Cows—1, Galloway, Jewel Walker Gerben of Cedar Side; 2 and 4, Albechar, Princess Alta Gerster De Kol and Johanna Lilly; 3, Chestnut, Beatitude Wayne De Kol.

Two-year-old Heifers—1 and 2, Galloway, Nellie Segis Pontiac and Eudora Pontiac Colautha; 3, Chestnut, Buffalo Ella 11; 4, Albechar, Martia McKinley Hengerveld.

Senior Yearling Heifers—1, Albechar, Hengerveld Gerstar Beauty De Kol; 2, Galloway, Delphia Segis Mercedes; 3, Galloway, Jewell Walker Segis Pontiac; 4, Albechar, Agnes Pontiac Clothilde.

Junior Yearling Heifers—1 and 3, Galloway, Eudora Maid Pontiac Ormsby and Ormsby Buffalo Mercedes 11; 2, Chestnut, Lena McKinley Segis; 4, Albechar, Helena Ophelia Pontiac De Kol.

Senior Heifer Calves—1 and 2, Galloway; 3, Albechar; 4, Chestnut.

Junior Heifer Calves—1 and 2, Galloway; 3, Albechar; 4, Chestnut.

Senior and Graud Champion Cow — Nellis Segis Pontiac.

Junior Champiou Female — Eudora Maid Pontiac Ormsby.

Aged Herd—1 and 2, Galloway; 3, Albechar; 4, Chestnut.

Young Herd—1, Galloway; 2, Chestnut; 3, Albechar.

Calf Herd—1, Galloway; 2, Chestnut; 3, Albechar.

Get of Sire—1, 2 and 3, Galloway, King Segis Pontiac Combination, King Segis Johanna Ormsby and Hengerveld King.

Produce of Cow—1 and 3, Galloway, Eudora Maid of Pontiac II and Daisy Mercedes Johanna Ormsby; 2, Albechar, Hengervold Gerster De Kol.

JERSEYS.

Exhibitors—G. F. Braden, White City Jersey Farm, Tulsa, Okla.; C. B. Palmer, Marion, Kan.; W. O. Matthews, Hutchinson, Kan.

Judge—C. T. Graves, Maitland, Mo.

Aged Bull—1, White City Farm, Noble's Handsome Prince, without competition.

Two-year-old Bull—1, Palmer, Monalu's Eminent, no competition.

Senior Yearling Bull—1, White City Farm, Majesty's You'll Do; 2, Matthews.

Senior Bull Calf—1, White City Farm, Twice You'll Do.

Junior Bull Calf—1, White City Farm, Phillipia's Noble.

Senior and Grand Champion Bull—Noble's Handsome Prince.

Junior Champion Bull—Majesty's You'll Do.

Aged Cow—1, 2 and 3, White City Farm, Ozouf Farm Princess, Noble's Cocotte and Iovicta; 4 Matthews, Lucelle Danna.

Two-year-old Heifers—1, White City Farm, Dame Togo of Windsor Place, without competition.

Senior Yearling Heifers—1, White City Farm, Lady of Windsor Place, without competition.

Junior Yearling Heifers—1, 2 and 3, White City Farm on Distinction's Princess, You'll Do Champion Queen and Golden Noble's Cocotte; 4, Matthews, Jersey Belle.

Senior Heifer Calves—1, 2 and 3, White City Farm You'll Do Gamboge Dorine, Rosebud's Fairy and You'll Do Prelilla.

Junior Heifer Calves—1 and 2, White City Farm, Virginia Rosebud and Georgia You'll Do.

Senior and Grand Champion Cow—Ozouf Farm Princess.

Junior Champion Cow—Distinction's Princess.

Get of Sire—White City Farm, get of You'll Do Champion.

Produce of Cow—White City Farm, produce of Ozouf Farm Princess.

Aged Herd, Young Herd and Calf Herd—White City Farm, without competition.

GALLOWAYS.

Exhibitors—H. G. Croft, Bluff City, Kan.; O. H. Swiggart & Son, Salisbury, Mo.



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Aged Bull—1, Croft, A Carnot, without competition.
Senior Yearling Bull—1, Croft, Rex of Green Bush; 2, Swiggart, Stanley's Baron.
Junior Yearling Bull—1 and 2, Swiggart, Evora 1st and Evora 2d of Salisbury.
Senior Bull Calf—1, Croft, Frolic of Green Bush; 2, Swiggart, Lord Stanley.
Junior Bull Calf—1, Croft, Elrod; 2, Swiggart, Lord Second.
Aged Cow—1, Croft, Carlotta of S. F.; 2, Swiggart, Little May.
Two-year-old Cow—Croft, Meadow Queen.
Senior Yearling Heifer—1, Croft, Evaline of Green Bush.
Junior Yearling Heifer—1, Croft, Gwendolyn Third of Green Bush.
Senior Heifer Calf—1, Swiggart, Pride 17th; 2 and 3, Croft, Vina 2d of Green Bush and Vina of Wonder.
Junior Heifer Calf—1, Croft, Sylvia; 2, Swiggart, Rose 2d of Avondale.
Senior and Grand Champion Bull—A Carnot.
Junior Champion Bull—Evora 2d of Salisbury.
Senior and Grand Champion Cow—Carlotta of L. F.
Junior Champion Cow—Gwendolyn 3d of Green Bush.
Aged Herd and Young Herd—Croft.
Calf Herd—1, Croft; 2, Swiggart.
Get of Sire—1 and 3, Croft, get of Choice Master; 2, Swiggart, get of Lord Othello 2d.
Produce of Cow—1, 3 and 4, Croft, produce of Gwendolyn, Lady Love of Maples, Nello of Bluff City; 2, Swiggart, produce of Lady Stanley 5th.

HEREFORDS.

Exhibitors—Henry M. Halff, Midland, Texas; C. M. Largent, Merkel, Texas; La Vernet Stock Farm, Jackson, Miss.; Klaus Bros., Bendena, Kan.; M. D. Pike, Weatherford, Okla.; Goernandt Bros., Aurora, Kan.; Jesse Eugle & Sons, Sheridan, Mo.; Carl Miller, Belvue, Kan.; W. I. Bowman & Co., Ness City, Kan.
Judge—W. J. Brown, Fall River, Kan.
Aged Bulls—1, Halff, Beau Homer; 2, Bowman, Sampson; 3, Goernandt, Polled Homer; 4, Bowman, Lawrence Fairfax; 5, Klaus, Beau Onward.
Two-year-old Bulls—1 and 4, Davis, Vernett Prince 36th, Vernett 31st; 2, Largent, Shadeland Lad 2d; 3, Halff, Beau Homage; 5, Miller, Larry; 6, Pike, Brittol Fairfax; 7, Bowman, Lord Generous.
Senior Yearling Bulls—1 and 2, Largent, Rhome Lad and Gay Lad Jr.; 3, Engle, Beau Blanchard 25th; 4, Davis, Vernett Prince 43d; 5, Halff, Winner H 2d; 6, Klaus, Beau Onward 52d.
Junior Yearling Bull—1, 4, 6 and 7, Largent, Prince Fairfax, Burnett Fairfax, Dale Fairfax, Beau Fairfax; 2, Miller, Mischief Mixer 7th; 3, Halff, Beau H 625th; 5, Engle, Beau Blanchard 33d.
Senior Calf—1 and 2, Engle, Boau Blanchard 53d and Beau Blanchard 52d; 3, Davis, King Vernet 2d; 4, Pike, Vernet Fairfax; 5, Klaus, Beau Onward 64th; 6, Halff, Sagamore 657th; 7, Largent, Rhome Lad 2d.
Junior Bull Calf—1, Largent, Kleburg Lad; 2 and 4, Halff, Hero H 702 and Homer H 707; 3, Vernet, Vernet Prince 57th; 5, Bowman, Generous Garfield; 6, Miller, Echo Lad 79th; 7, Klaus, Beau Onward 68th.
Senior and Grand Champion Bull—Vernet Prince 36th.
Junior Champion—Prince Fairfax.
Aged Cows—1, Largent, Rosy Britisher; 2, Vernet, Maples' Lass 38th; 3 and 5, Halff, Emma Bell and Dove; 4, Pike, Deillah; 6, Klaus, Miss Onward 23d; 7, Bowman, Charlotte.
Two-year-old Heifer—1 and 5, Largent, New Year Joy and Beauty Fairfax; 2, Vernet, Vernet Princess 36th; 3, Halff, Silver Bell; 4, Klaus, Miss Onward 33d; 6, Pike, Lady Hewer; 7, Miller, Simple Ten.
Senior Yearling Heifer—1, Largent, Shadeland's Jewel 2d; 2 and 3, Davis, Vernet Princess 38th and Vernet Princess 41st; 4, Pike, Carl G's Lass; 5, Klaus, Miss Onward 34th; 6, Halff, Miss Dover; 7, Pike, Miss Fern.
Junior Yearling Heifer—1 and 6, Halff, Belle H 625 and Heroine H 608; 2, Largent, Dollie Fairfax; 3 and 7, Engle, Belle Blanchard 32d and 31st; 4, Pike, Baby Briton; 5, Miller, Echo Lass 12th.
Senior Heifer Calf—1, 2 and 3, Engle, Belle Blanchard 43d, 44th and 61st; 4, Largent, Margaret Fairfax; 5 and 6, Halff, Heroine H 608 and Hero's Dove; 7, Pike, Prosperity.
Junior Heifer Calf—1 and 6, Davis, Princess Comfort 12th and La Vernet 9th; 2, Engle, Belle Blanchard 49th; 3, Halff, Belle H 705th; 4, Miller, Echo Lass 120th; 5, Halff, Heroine H 704th; 7, Largent, Rosa Fairfax.
Senior Champion Female—Rosa Britisher.
Junior and Grand Champion Female—Shadeland's Jewel 2d.
Aged Herd—1, Largent; 2, Davis; 3, Halff; 4, Pike; 5, Klaus.
Junior Herd—1, Largent; 2, Engle; 3, Halff; 4, Davis; 5, Miller; 6, Pike.
Calf Herd—1 and 2, Engle; 3, Halff; 4, Largent; 5, Davis; 6, Miller.
Get of Sire—1 and 4, Largent, get of Gay Lad 16th and Baby Doll Fairfax; 2, Davis, get of Point Comfort 14th; 3, Engle, get of Beau Blanchard; 5, Halff, get of Beau Donald 110th.
Produce of Cow—1, Largent, produce of Dove; 2 and 4, Engle, produce of Petrolia 12th and Silver Tip; 3, Pike, produce of Lady Briton; 5, Halff, produce of Jewel Spencer 8th.

SWINE AWARDS.

DUROC-JERSEYS.

Exhibitors—Howell Bros., Herkimer, Kan.; W. R. Crow & Sons, Hutchinson, Kan.; W. W. Otey, Winfield, Kan.; G. M. Shepherd, Lyons, Kan.; Perfection Stock Farm, Union, Okla.; W. W. Jones, Clay Center, Kan.; W. W. Zink, Turin, Kan.; R. L. Hurst, Bolckow, Mo.; B. R. Anderson, McPherson, Kan.; W. W. Trumbo, Peabody, Kan.
Judge—E. Z. Russell, Omaha, Neb.
Aged Boars—1, Howell Bros., Elk Colonel; 2 and 3, Crow; 4, Otey.
Senior Yearling Boar—1, Crow, Potentate; 2, Zink; 3, Crow.
Junior Yearling (six shown)—1, Anderson, Royal Grand Wonder; 2, Howell; 3, Shepherd; 4, Perfection Stock Farm.
Junior Boar Pig (eight shown)—1, Shepherd, Crimson Gano; 2, Howell; 3, Crow; 4, Jones.
Senior Boar Pig (four shown)—1, Trumbo, Constructor Jr.; 2, Shepherd; 3 and 4, Crow.
Senior Champion Boar—Potentato.
Junior Champion Boar—Crimson Gano; reserve, Constructor Junior.
Grand Champion Boar—Potentato.
Aged Sows (six shown)—1, Perfection Stock Farm, Graduate Queen; 2, Crow; 3 and 4, Hurst.
Senior Yearling Sow—1, Perfection Stock Farm, Defender Queen; 2, 3 and 4, Crow.
Junior Yearling Sow (twelve shown)—1, Hurst, Colonel's Dream; 2, Crow; 3 and 4, Shepherd.
Senior Sow Pig (ten shown)—1, Zink; 2, Shepherd; 3, Anderson; 4, Hurst.
Junior Sow Pig (eighteen shown)—1, Crow, Futurity Girl; 2, Zink; 3, Crow; 4, Shepherd.
Senior and Grand Champion Sow—Perfection Stock Farm, Graduate Queen.
Junior Champion Sow—Zink.
Aged Herds—1, Crow; 2, Perfection Stock Farm; 3, Crow; 4, Hurst.
Young Herds—1, Shepherd; 2, Crow; 3, Howell; 4, Zink.
Get of Sire (eleven entries)—1, Shepherd, G. M.'s Crimson Wonder; 2, Perfection Stock Farm; 3, Crow; 4, Howell.
Produce of Sow (ten entries)—1, Shepherd, produce of Golden Girl Again; 2, Howell; 3, Shepherd; 4, Crow.

POLAND CHINAS.

Exhibitors—B. E. Hodson, Ashland, Kan.; Phil Dawson, Endicott, Neb.; A. J. Erhart & Sons, Ness City, Kan.; E. R. Meyers, Hutchinson, Kan.; W. E. Epley, Diller, Neb.; V. O. Johnson, Aulne, Kan.; Ollvier & Sons, Danville, Kan.; C. B. Palmer, Marion, Kan.; Deming Ranch, Oswego, Kan.; Wichita Live Stock Remedy Co., Wichita, Kan.
Judge—J. P. Bennett, Lee's Summit, Mo.
Aged Boars—1, Hodson, McGath's Big Orphan; 2, Wichita Live Stock Remedy Co., A Big Wonder.
Senior Yearling—1, Dawson, Nebraska Bob; 2, Palmer, King Dudley; 3, Johnson, Fashionable Price.
Junior Yearling (eight shown)—1, Hodson, What's Wanted; 2, Dawson, Jumbo Chief; 3, Erhart, Erhart's Big Chief; 4, Meyers, Jumbo Bob.
Senior Boar Pig—1 and 2, Deming Ranch; 3, Erhart; 4, Dawson.
Aged Sows (five shown)—1 and 3, Deming Ranch, Big Maid and Expansion Beauty; 2, Dawson, Uhlan Mouw's Lady; 4, Erhart, Major's Mayflower.
Senior Yearling Sow—1, Dawson, Robina 4th; 2, Palmer, Loly Wonder; 3 and 4, Deming Ranch.
Junior Yearling Sow (nine shown)—1 and 4, Deming Ranch; 2, Erhart, Big Beauty; 3, Epley, Nebraska Belle.
Senior Sow Pig (fourteen shown)—1, Dawson; 2, Olivier; 3, Erhart; 4, Deming Ranch.
Junior Sow Pig (fourteen shown)—1, Olivier; 2, Erhart; 3 and 4, Deming Ranch.
Senior and Grand Champion Boar—McGath's Big Orphan.
Junior Champion Boar—Long Bob.
Senior and Grand Champion Sow—Robina 4th.
Junior Champion Sow—Uhlan Columbia.
Aged Herds—1, Dawson; 2 and 3, Deming Ranch; 4, Palmer.
Young Herd (bred by exhibitor)—1, Olivier; 2, Deming Ranch; 3, Epley; 4, Erhart.
Get of Sire—1, Deming Ranch, Long What's Wanted; 2, Erhart, Big Hadley Jr.; 3, Olivier, A Wonderful King; 4, Epley, Expansion Long.
Produce of Sow—1, Erhart, Lady Jumbo Equal; 2, Deming Ranch, Receiver's Maid; 3, Olivier, Logan's Price; 4, Epley, Mammoth Lady.

CHESTER WHITES.

Exhibitors—Coleman & Crum, Danville, Kan.; Arthur S. Mosse, Leavenworth, Kan.; F. C. Gookin, Russell, Kan.; W. W. Waltmire & Sons, Peculiar, Mo.; E. J. Smiley, Perth, Kan.
Judge—E. Z. Russell, Omaha, Neb.
Aged Boars (three shown)—1, Coleman & Crum, Pride of Aall; 2, Mosse; 3, Gookin.
Senior Yearling Boars (four shown)—1, Coleman & Crum, Veto; 2, Waltmire; 3, Gookin; 4, Mosse.
Junior Yearling Boars (three shown)—1, Mosse, Don Wonder; 2, Coleman & Crum; 3, Waltmire.
Senior Boar Pigs (four shown)—1, Coleman & Crum, Smiley's Kind; 2, Waltmire; 3, Mosse; 4, Gookin.
Junior Boar Pigs (ten shown)—1, Mosse, Don Royal; 2, Smiley; 3, Mosse; 4, Waltmire.
Senior and Grand Champion Boar—Veto.
Junior Champion Boar—Smiley's Kind.
Aged Sows (six shown)—1, Coleman & Crum, Tip Top; 2, Coleman & Crum; 3, Waltmire; 4, Mosse.
Senior Yearling Sows (two shown)—1 and 2, Gookin.
Junior Yearling Sows (three shown)—1, Smiley, Echo's Fancy; 2 and 3, Waltmire & Sons.
Senior Sow Pigs (five shown)—1, Waltmire, Ruby Wonder; 2, Smiley; 3, Mosse; 4, Waltmire.
Junior Sow Pigs (seven shown)—1, Coleman & Crum; 2, Mosse; 3, Waltmire; 4, Coleman & Crum.
Senior and Grand Champion Sow—Tip Top.
Junior Champion Sow—Ruby Wonder.
Aged Herds—1, Mosse; 2, Waltmire.
Young Herds—1 and 3, Waltmire; 2, Coleman & Crum.
Get of Sire—1, Waltmire; 2, Mosse; 3, Waltmire; 4, Coleman & Crum.

BERKSHIRES.

Exhibitors—Sutton & Porteous, Lawrence, Kan.; R. C. Obrecht, Topeka, Kan.; Kansas Agricultural College, Manhattan, Kan.
Judge—E. Z. Russell, Omaha, Neb.
Aged Boar—1, Obrecht, Pathfinder 3d.
Junior Yearling Boar—1, Sutton; 2, Agricultural College; 3 and 4, Obrecht.
Junior Boar Pigs—1 and 3, Sutton; 2, Agricultural College; 4, Obrecht.
Aged Sows—1, Sutton, Classy Stumpy; 2, Sutton.
Senior Yearling Sow—Sutton.
Junior Yearling Sows—1 and 2, Sutton; 3 and 4, Obrecht.
Senior Sow Pig—1, Sutton; 2, Obrecht.
Junior Sow Pig—1 and 4, Agricultural College; 2 and 3, Sutton.
Senior and Grand Champion Boar—Pathfinder 3d.
Junior Champion Boar—Sutton.
Senior and Grand Champion Sow—Sutton, Classy Stumpy.
Junior Champion Sow—Sutton, Charmer's Duchess.
Aged Herd—1, Sutton; 2, Obrecht.
Young Herd—1 and 3, Sutton; 2, Agricultural College; 4, Obrecht.
Get of Sire—1, Obrecht; 2, Sutton; 3, Agricultural College.
Produce of Sow—1 and 3, Obrecht; 2 and 4, Sutton.

TAMWORTHS.

The Perfection Stock Farm, Union, Okla., exhibited sixteen head of Tamworths, filling every class and taking all awards.

HAMPSHIRES.

Exhibitors—George W. Ela, Valley Falls, Kan.; Scudder Bros., Doniphan, Neb.; W. O. Matthews, Hutchinson, Kan.; Ernest Kirby, Union, Okla.
Judge—E. Z. Russell, Omaha, Neb.
Aged Boars—1, Scudder, General Jones; 2, Matthews, Tom Kirby.
Senior Yearling Boar—1, Scudder, America.
Junior Yearling Boar—1, Ela, Halcyon Cody; 2 and 3, Scudder.
Senior Boar Pigs—1, Scudder, Platte River; 2 and 3, Scudder.
Junior Boar Pigs—1 and 3, Matthews; 2 and 4, Scudder.
Aged Sows—1, 2 and 3, Scudder, Scudder's Ilen 2d, Opal, and Lorene.
Senior Yearling Sows—1, 2 and 3, Scuddor, Alfalfa Queen, Edna Girl, and unnamed.
Junior Yearling Sows—1, 2 and 3, Scudder, Nancy, Allen Lady and Allen Lady 4th.
Senior Sow Pigs—1, Scudder, Smooth Girl; 2 and 3, Scudder.
Junior Sow Pigs—1, 2 and 3, Scudder.
Senior and Grand Champion Boar—General Jones.
Junior Champion Boar—Platte River.
Senior and Grand Champion Sow—Scudder's Allen 2nd.
Junior Champion Sow—Smooth Girl.
Aged Herd—1, 2 and 3, Scudder.
Young Herd (bred by exhibitor)—1 and 2, Scudder.
Get of Sire—1 and 2, Scudder; 3, Matthews.
Produce of Sow—1 and 2, Scudder; 3, Matthews.



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WHITE ROCK EGGS, $4 PER HUNdred. Nora Lamaster, Hallowell, Kansas.

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NORTH CENTRAL KANSAS, OSBORNE County seed, grain and stock farms, $20. Best wheat and corn land, $35 to $50. "Here is the place." J. F. Baum, Natoma, Kansas.

FARMS AND FARM LANDS FOR SALE. All kinds of soils; rain-belt, dry farming or irrigable. Lands five miles or less from railroad. H. M. Madison, General Farm and Immigration Agent, San Antonio & Aransas Pass Ry., San Antonio, Texas.

Real Estate For Sale

10,000 ACRES of good grazing land, well watered, for $3 to $5. All crops good. No drouth, no hot winds. Grass for cattle and corn for hogs. Best country in the world to live and make money.
W. W. TRACEY - ANDERSON, MISSOURI

FOR SALE

Or Exchange for Kansas Property
220 acres of rice and timber lands six miles south of Stuttgart, Ark. Address owner, JOHN W. HARBESON, Tonganoxie, Kansas

180 A. Meadow, 7 miles R. R. town, this county. Level, no rocks; no overflow; every acre tillable; made 200 tons No. 1 baled hay this season; hay $15 per ton here now. $28 per a. Terms.
SOUTHERN REALTY CO., McAlester, Okla.

202 ACRES BOTTOM FARM
Highly improved, 6½ miles of Lyons, Kansas; 175 a. under cultivation, 25 a. alfalfa, 25 a. timothy, 50 a. wheat, 75 a. in corn, balance timber; ¾ mile of school Price to sell at $20,000.00. For particulars write F. M. Buchheim, Real Estate, 521 West St., Topeka, Kansas.

BEAUTIFUL SHAWNEE COUNTY KANSAS FARMS NEAR TOPEKA
160 a. farm, $80; 160 a. farm, $65; 43 a. farm, $3,800. Can fit you out inany size farm desired. E. Z. terms.
J. E. THOMPSON (The Farmer-Land Man) Tecumseh, Kansas

STATEMENT OF THE OWNERSHIP

and management of Kansas Farmer, published weekly, at Topeka, Kan. For October 1, 1917. Required by the Act of August 24, 1912.

State of Kansas } ss.
County of Shawnee }

Before me, a notary public in and for the state and county aforesaid, personally appeared W. J. Cody, who, having been duly sworn according to law, deposes and says that he is the manager of Kansas Farmer and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management of the aforesaid publication for the date shown in the above caption.

President and Editor—T. A. Borman, Topeka, Kan.

Business Manager—W. J. Cody, Topeka, Kan.

Publisher—The Kansas Farmer Company, Topeka, Kan. (A corporation.)

Names and addresses of stockholders holding 1 per cent or more of total amount of stock:

T. A. Borman, Topeka, Kan.
M. A. Low, Topeka, Kan.
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John R. Mulvane, Topeka, Kan.
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Dean R. Low, Bartlesville, Okla.
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A. T. Reid, Topeka, Kan.

Known bondholders, mortgagees, and other security holders, holding 1 per cent or more of total amount of bonds, mortgages, or other securities:

None.

(Signed) W. J. CODY, Business Manager.

Sworn to and subscribed before me, this 21st day of September, 1917.

S. H. PITCHER, Notary Public.
(Seal.)
My commission expires March 17, 1919.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

"It takes a heap o' livin' in a house t' make it home,
A heap o' sun and shadder; an' yer sometimes hev t' roam
Afore ye reely 'preciate the things ye lef' behind
An' hunger for 'em somehow with 'em allus on yer mind.
It don't make any differunce how rich yer git ter be,
How much yer chairs and tables cost, how great yer luxury,
It ain't 'home' to yer, though it be the palace of a king,
Until somehow yer soul is sort of wrapt 'round everything."

Government Denies Rumor

Rumors that the American Government intends to attempt to appropriate the foods which the housewives of this country have canned, dried, and preserved during the summer, have emanated from unauthentic sources.

In a communication received from the United States Department of Agriculture by Edward C. Johnson, dean of the division of extension of the Kansas Agricultural College, the authorities state emphatically that no such course has ever been contemplated by the Government. On the contrary, both the Department of Agriculture and the Food Administration are strongly urging the housewives to can and preserve all surplus fruits and vegetables in order that the households themselves may have a cheap and plentiful supply of food. There is no truth in the widely circulated statement that the Government expects to take food from any family.

State Fair Club Exhibits

A prominent place was given to the boys' and girls' club department at the Kansas State Fair. This showing of club work at the big fairs is a new departure. A splendid beginning has been made, and we will expect this department to become one of the strong features in the years to come. Otis E. Hall, state club leader, of the extension division of the Agricultural College, was superintendent of this section. The idea of canning surplus products for home use has been one of the important features of the club work. Canning exhibits constituted a large part of the showing made. These exhibits were arranged on shelves running up in the form of steps. A number of Mother-Daughter canning clubs were entered at the Hutchinson fair. Twenty-four mother-daughter teams were represented by the Fair Oak Club, of Rice County, which had on exhibition 269 pint jars of the various products. This club was a close second to the exceptional exhibit made by the Bonner Springs Mother-Daughter Club, this club having gone to the expense of shipping its exhibit to the Hutchinson fair after winning the club honors at Topeka the week before. The contest for club honors between these two contestants was so close that the judge finally decided to divide the money, giving $50 to the Bonner Springs club and $25 to Fair Oak. The sewing work of the girls in Class A attracted a great deal of attention. There were twenty-seven school dresses tastefully displayed on the walls in this department. In all there were in the neighborhood of 180 entries in the sewing classes. The conditions governing the entries in the boys' and girls' club department were given in full in describing this exhibit at the Kansas Free Fair, these two fairs each putting on this club work for the first time this year. There was very little duplication of exhibits at these two fairs. The boys and girls that made the fine showing at Hutchinson were from the section of the state naturally tributary to that fair, and the exhibits at Topeka came from the northern and eastern parts of the state. The awards follow:

CANNING CLUBS

Boys and Girls' Products—1, Maude Jacques, Strong City; 2, Marcella Whitcomb, Cottonwood Falls; 3, Margaret McClintock, Wichita; 4, Merle Bell, Lyons; 5, Mabel Lewis, Strong City.

Mother-Daughter Products—1, Mrs. Alice Sells, Maple Hill; 2, Mrs. Clyda Greene, Bonner Springs; 3, Mrs. Hubert L. Popenoe, Emporia; 4, Mrs. Thomas Marks, Emporia; 5, Mrs. Fred McClintock, Wichita.

Mother-Daughter Club Honors—1, Bonner Springs Club, Wyandotte County; 2, Fair Oak Club, Rice County.

CORN-GROWING CONTEST

Eastern Kansas, Ten-ear Exhibit—1, Durward Hawkins, Jarbalo; 2, Harvey Peterson, Maple Hill; 3, Rupert Pickett, Hymer; 4, James McClelland, Maple Hill; 5, Frances Cotton, Maple Hill.

Western Kansas, Ten-ear Exhibit — 1, Francis L. Reed, Lyons; 2, Ivan S. Johnson, Hutchinson; 3, Carl Mauser, Geneseo; 4, Marion H. Adams, Lyons; 5, not claimed.

Single Ear Exhibit—1, Carl Mauser, Geneseo; 2, Durward Hawkins, Jarbalo; 3, Rupert Pickett, Hymer; 4, Marion H. Adams, Lyons; 5, not claimed.

GARDEN CLUBS

Tomatoes—1, Marvin S. Johnson, Hutchinson; 2, Bruce Smith, Colony; 3, John D. Voorhees, Emporia; 4, Katie E. Ehart, Easton; 5, not claimed.

Potatoes—1, Clarence Duffin, Leavenworth; 2, James D. Carsten, Jennings; 3, Floyd Flinner, Jarbalo; 4, Donley Johnson, Alma; 5, James McClelland, Maple Hill.

Mixed Vegetables—1, Madeline Ledbetter, Parsons; 2, Eva Mae Hyde, Maple Hill; 3, Henry Culley, Colony; 4, James McClelland, Maple Hill; 5, not claimed.

Garden Club Honors (special prize $25)—High School Garden Club of Manhattan, Merle Collins in charge.

SEWING CLUBS

Class A—1, Nellie Whitcomb, Cottonwood Falls; 2, Garnett Carpenter, Fredonia; 3, Phyllis Burtis, Fredonia; 4, Elva Prather, Randall; 5, Laura Clayton, Admire.

Class B—1, Avavel Ellis, Lyons; 2, Cleo Veal, Maple Hill; 3, Hilma Elledge, Garden City; 4, Orppa Railing, Ford County; 5, Julia Martin, Admire.

Sewing Club Honors (special prize $25)—Ionia Sewing Club of Jewell County.

PIG CLUBS

Poland-Chinas—1, Howard Palmer, Marion; 2, Marmion McWilson, Rice.

Crisp Cornmeal Cake

1 cupful milk
½ cupful white cornmeal
½ teaspoonful salt

Mix ingredients and heat slowly until the boiling point is reached. It is not necessary to stir. Spread on a shallow buttered pan to a depth of about one-fourth of an inch. Bake in a moderate oven until crisp.

Zuni Indian Bread

1 cupful white cornmeal
1 cupful yellow corn meal
1 cupful water
1 teaspoonful salt
⅛ teaspoonful cayenne
1 cupful chopped suet

Mix all well together, form into rolls about five inches long, roll in greased paper, and bake in a moderate oven one hour. Serve hot. The habit among the Indians was to roll these cakes in the husks of corn, a method which is sometimes followed by campers.

Poor Man's Biscuit

1 pint cold water
½ teaspoonful soda
1 teaspoonful sale
1 tablespoonful sugar
1 tablespoonful lard
2 cupfuls flour
1 rounding teaspoonful baking powder

Roll out or drop from spoon.—MRS. C. B. MARTIN, Route 2, Pittsburg, Kansas.

"I would rather be able to appreciate things I cannot have, than to have things I am not able to appreciate."

Wonderful Egg Producer

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit maker, write E. J. Reefer, poultry expert, 4636 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1 (prepaid). So confident is Mr. Reefer of the results that a million dollar bank guarantees if you are not absolutely satisfied your dollar will be returned on request and the "More Eggs" costs you nothing. Send a dollar today or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—(Adv.)

36 POUND NEW FEATHER BED AND PAIR 6LB. PILLOWS $9.50
All New, Live, Clean, Sanitary Feathers. Best grade feather proof ticking. Satisfaction guaranteed. Write for catalog.
CAROLINA BEDDING CO., Dept 130 Greensboro, N. C.



Treatment of Cholera

THE past few weeks have brought a number of inquiries in regard to fowl cholera and the methods of control. This is one of the diseases that is decidedly rare. It appears only in cases of extreme filth or where carried by some diseased bird or animal. It is one of the most dangerous of all poultry diseases and when well established in a flock a cure is well nigh impossible. Especially is this true where the birds have free range. It is very contagious and may be carried from flock to flock by birds, dogs, cats, or on the feet of the poultryman. Blood spilled from an infected bird or the flesh of a dead bird eaten by other fowls will cause the disease to spread so that it is necessary to carefully gather all such and burn them. All litter in the houses where diseased birds have been should be gathered and burned, then all houses and runs should be thoroughly disinfected and the disinfection repeated every time a sick bird is discovered.

The usual symptoms of this disease are a droopy, listless attitude of the fowl. It will stand around all bunched up, wings drooped, head down, eyes nearly if not quite closed. Comb and face will be very pale. There will be an unquenchable thirst. The sick fowl will often drink until the water will run from the mouth when the head is lowered. The crop will be distended and the bird becomes very thin and weak. Often in the last stages of the disease the bird will fall when endeavoring to walk. There is always diarrhea accompanying the trouble. The voidings are frequent and watery, often appearing frothy. There is often a spasm at the last in which it is not uncommon for the fowl to cry out as if in great pain.

No definite cure can be given for the trouble. Unless the affected bird is of great value, thump it on the neck with some blunt instrument, thus breaking its neck without spilling any of the blood, and burn the carcass. When the disease is discovered in the first stages, give a few drops of creolin in the drinking water—just enough to color the water slightly. One-tenth of a grain of corrosive sublimate to a quart of water is also beneficial. Thoroughly disinfect all quarters and runs.

Unfortunately anything that causes bowel trouble and death is called by many cholera, and any simple remedy that caused a cure is thereafter called a cholera cure. Many irregularities will cause bowel trouble, such as smutty grain, filthy places in which to gather feed, semi-decayed meat—in fact, anything that tends to disturb digestion. Lice when present in large enough numbers will by their irritating presence cause the mucous membranes to become unhealthy and give off a watery discharge. As these conditions if neglected cause death, the verdict is cholera.

In cases of common diarrhea a few drops of camphor on a spoonful of sugar dissolved in the drinking water will usually affect a cure. A dose of epsom salts dissolved in the drinking water or given in a wet mash will usually remove the offending matter from the digestive tract and give relief. In all such cases a thorough search should be made to discover the cause.—N. L. Harris.

Green Feed for Poultry

When chickens have access to growing green stuff, they eat a great deal less grain, stay in better physical condition, lay more and better eggs, and work longer and live longer.

In order to get these benefits outside of the summer or growing season, we would especially recommend this year that the poultry runs or a patch of ground near the poultry house be seeded somewhere between the first and fifteenth of September with winter rye or possibly wheat.

With favorable conditions sown thus early there should be a heavy mat of green food a month later or about the time other green stuff is killed by frost.

Between October 15 and April 15 there is nothing green that grows that chickens like better than growing rye or wheat. It is a better and safer food than sprouted oats and infinitely less trouble.

Sowing later than September 15, except perhaps along the southern tier of counties, is useless as it will not make enough growth to stand chickens pasturing on it. Also, if its other beneficial quality is to be of value, namely purifying the soil, then there should be a chance for a rank growth.

The baby chick business is growing in this state. Mr. Flueheart, of the Flueheart Hatchery, made us a call last week. He reports a good business the past year. In most cases where those making a business of selling day-old chicks have advertised, they have been unable to meet the demand. Shipping eggs for hatching purposes is a very unsatisfactory business. The express companies and parcels post carriers are so careless in handling the eggs that many good eggs are spoiled if not broken. This dissatisfaction is not experienced where day-old chicks are sold. When you buy a chick there is no three weeks' wait to see what you have. It is also more satisfactory to the seller, as he has no settings to replace because of poor hatches from one cause or another. The day of the community hatchery is not far off. One man giving his entire time to the care of a large incubator can do better work as well as hatching chicks more economically than where every person tries to hatch just a few. In every neighborhood some man or woman will be glad to take the eggs from an entire community and incubate them. A small charge per egg will be made, all unhatched eggs being returned to the owner. At present prices it costs from four to six cents to hatch chicks with the small incubators. This does not count the hatches that are ruined by the person who is so busy that the machine is forgotten. The man who is in the business can hatch for less money and make a good profit.

Cull Stock and Save Feed

In traveling over the state of Indiana during the summer, a member of the poultry division of Purdue University came to the conclusion that the average poultry flock of the state could be culled with profit. He found in many flocks quite a number of superannuated old hens that ate expensive feed and did not lay enough eggs to pay the feed bill. These old hens are in the same class with the boarder cow. In feeding the flocks it seems the common practice to cut down on the feed. The better and more profitable plan would be to cull out the undesirable flock and feed well the productive fowls.

The pullet year is the most profitable part of the fowl's life. Only the exceptional hens can be kept through a second winter at a profit unless they have additional value as breeders. Hens on the farm now over two years old should be consumed at home or sold. If the farmer doubts his ability to distinguish a hen's age, he can put one hog ring on the right leg of each bird as she ends her pullet year. This is inexpensive and easy of identification.

If feed is scarce as well as expensive, then it will pay to sell all the young roosters that won't make money and all the stunted, undersized and slow-growing pullets. Anything that will not lay or grow profitably should be sold, leaving their feed for poultry that is more profitable.

The females that have just finished their first year should be sold as soon as they quit laying, unless for some reason or other a few must be kept as next year's breeders. The Purdue Experiment Station has found that if October 1 be the date for culling, 95 per cent of the birds that had been poor layers would be pretty well moulted and show the yellow color in beak and shanks. The good layer would either not have started moulting or would be ragged, but in good vigorous condition with all her beak, shank and skin color "laid out" and absent. The early moulter was the poor layer and will seldom get back into laying before the late moulter and then not until near Christmas time.

COMBINATION FINE STOCK SALE

Wichita, Kans, Oct. 9 to 12

At the Divers Barn on West Douglas Avenue During the Second Week of the

INTERNATIONAL WHEAT SHOW

Tuesday, October 9th

We Will Sell at Auction

125 Head Shorthorn Cattle

Including Ten Pure Scotch Bulls, Twenty Scotch Tops, Five Double Standard Bulls, Fifty Scotch and Scotch-Topped Cows and Calves. One cow by Imp. Cup Bearer, the greatest prize winning Shorthorn bull. Forty-five yearling and two-year-old heifers.

This Offering Includes Special Bull Attractions.

WEDNESDAY, OCTOBER 10

S. T. Tuttle & Son, of Caldwell, Kansas, make a dispersal sale of their entire herd.

165 — SHETLAND PONIES — 165

Thirty-five Stallions from yearlings to aged horses. 130 Mares and Colts.

FRIDAY, OCTOBER 12

Fifty Second Hand Autos—All Makes and All Sizes.

A. A. STRATFORD, CLERK.

Lafe Berger, Boyd Newcomer, H. S. Burgis, Auctioneers.

F. S. KIRK, Manager

500 East Douglas Avenue Wichita, Kansas

Jersey Cattle Sale

OCTOBER 9, 1917, AT HOLTON, KANSAS

On account of insufficient equipment and feed, I have decided to sell my entire herd of Registered Jersey Cattle. About eighteen head of milkers or heavy springers; eight heifers from babies to yeralings; also the proven breeding bull, Castor's Victor Lad, a great grandson of Golden Fern's Lad. Many noted bulls represented in this sale. We have quality and production combined. On account of shortness of time for preparation, opportunity surely lies with the purchaser. Stock will be only in good working condition, not highly fitted. Will meet you at depot with car to farm and return. Write for catalog at once or send bids to

THEODORE HAAG, OWNER, - HOLTON, KANSAS

H. F. ERDLEY, SALE MANAGER

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GOVERNMENT SCHOOL

The Kansas Wesleyan Business College holds an appointment by the United States Government to teach Morse and Radio Telegraphy. This honor is a fitting recognition of the efficient work of this school.

The War Department furnishes us all needed additional equipment to handle the great classes of young men and women now enrolling.

Graduates are guaranteed immediate appointment with the Signal Service or, if preferred, with the railroads.

Write at once for catalog.

The Kansas Wesleyan Business College, Salina, Kansas

Strickler's Topeka Business College

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Graduates guaranteed positions and furnished employment to defray expenses while attending.

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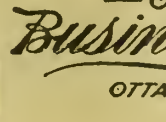

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HOLSTEIN CATTLE.

SUNNYSIDE HOLSTEINS

"Echo Segis Fayne," our great herd sire, for sale to avoid inbreeding. He is a grand individual, only 3 years old, and by King Fayne Segis Clothilde, brother to Segis Fayne Johanna, the world's 50 pounds butter in seven days cow. Price $700. Also yearlings and bull calves sired by Echo Segis Fayne, for sale. SUNNYSIDE STOCK FARM, John Montle, Prop., U. S. P. O. Derby Line, Vt.



Southard's Monarch Herefords

SELL AT

Comiskey, Kan., Saturday, October 6

(The Day Following the American Royal at Kansas City)

125-------- HEAD -------- 125



One hundred cows and heifers, fifty with calves at side and fifty bred heifers. Twenty-five very choice young bulls all of breeding age that will exert a beneficent influence in the herds to which they are taken.

The calves are sired by and the heifers bred to such bulls as the mighty MONARCH, KING FARMER, LOUIS FAIRFAX, BRIGHT DOMINO, NERO FAIRFAX, AND OTHER NOTED SIRES.

In this sale you will have a chance to buy cattle with pedigrees as good as can be written and individuality as good as you can find.

A great chance to buy real foundation stock tracing to and representing the most noted American and English Herefords.

For catalog, please mention Kansas Farmer and address **J. O. Southard, Comiskey, Kansas**

KANSAS HAMPSHIRE SWINE BREEDERS' ASSOCIATION SALE

VALLEY FALLS, KANSAS, FRIDAY, OCTOBER 12, 1917

Sale Under Cover at Fair Grounds.

SIXTY HEAD OF BOARS, SOWS AND GILTS

including

Prize-Winning Pig of Halcyon Hampshire Pig Club

The boys of the Halcyon Pig Club will sell a choice lot of spring gilts in this sale.

AUCTIONEERS

Col. Thos. E. Deem, Cameron, Mo. — Col. F. B. Wempe, Frankfort
Col. John R. Triggs, Valley Falls — Col. Frank Blake, Valley Falls

Chas. T. Gephart, Clerk, Valley Falls, Kansas

MAIL BIDS will be given careful attention if sent to either of the auctioneers, or E. C. Stone, in care of Secretary Ela.

GEO. ELA, SALES MANAGER, VALLEY FALLS, KANSAS

Sutton & Porteous Angus Sale

Thursday, October 4, At Farm



Lawrence, Ks.

78 HEAD

Angus Cattle



Sixteen Bulls of serviceable age
Twenty-six Bred Heifers
Thirty-six Cows with calves at foot or heavy in calf

All the best families represented—the Blackbirds, Ericas and Prides. Our whole show herd goes in the sale. Twenty-seven championships won by our herd last year. Send for catalog today, mentioning Kansas Farmer.

SUTTON & PORTEOUS - - LAWRENCE, KANSAS

Auctioneers—Cooper and Brady

POLLED DURHAM CATTLE.

FOR SALE—A few choice young bulls, sired by Chief, a son of True Sultan. Priced to sell.
D. C. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 miles S. E. of Topeka.)

POLLED DURHAM CATTLE

Seventeen head of well bred Polled Durham and Shorthorn Cattle to be sold at public sale, October 12, 1917. Write for catalog.
MRS. EMMA HUNDLEY
Route 2 Bogard, Missouri

Breeders' Directory

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
ANGUS CATTLE.
D. J. White, Clements, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

HORSES AND MULES.

PERCHERONS—BELGIANS—SHIRES



2, 3, 4 and 5-yr. stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
FRED CHANDLER, R. 7, Charlton, Ia. Above Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes.
Illinois Horse Co., Good Blk., Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

Live Stock and Real Estate Auctioneer. Fifteen years experience. Write for terms.
Thos. Darcey, Hutchinson, Kansas.

CHESTER WHITE HOGS



FOR SALE
Spring Pigs in Pairs and Trios
Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

Clinton County Chesters

Booking orders for spring pigs of National Swine Show blood lines. Fall and spring pigs at bargain prices.
J. H. McANAW - CAMERON, MISSOURI

John D. Henry, of Lecompton, Kansas, reports his big-type Polands doing fine. A feature of his herd at this time is a number of outstanding boars by Big Wonder, also a lot of good ones by Mammoth Orange and Price Wonder.

SHORTHORN CATTLE.

ABBOTSFORD SHORTHORNS

Eighteen young bulls for sale. A few of them about ready for service. Priced to sell. The kind that always please.
D. BALLANTYNE & SON, Herington, Kan.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

SHADY LAWN SHORTHORNS

At head of herd, Kansas Archer 440809 by Mistletoe Archer. For sale, fifteen choice young bulls from spring calves to yearlings. Come and see our herd.
F. H. HULL & SONS - EUREKA, KANSAS

Doyle Spring Shorthorns

Bulls twelve to fifteen months old, sired by Orange Marshall and Star Goods.
DOYLE SPRING STOCK FARM
Peabody - - - - Kansas

ALYSDALE HERD OF SCOTCH SHORTHORNS

Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Pearl Herd Shorthorns

Valiant 346162 and Marengo's Pearl 391-962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

Can ship on Rock Island, Union Pacific or Santa Fe Railway.
C. W. TAYLOR - ABILENE, KANSAS

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

GUERNSEY CATTLE.

GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

Theodore Haag, of Holton, Kansas, has announced a sale of high-class Jersey cattle to be held at Holton on October 9. Twenty-five head of choice Jerseys of record breeding will be catalogued for this sale and the offering will include representatives of the best families of the Jersey breed.



PERCHERON STALLIONS

FOR SALE THIS FALL AT REDUCED PRICES

Two yearling colts; two 2-year-old colts; two 3-year-old colts; two 4-year-old colts, and one herd stallion. All sound and registered in Percheron Society of America. Blacks and bays. If sold this fall I will cut the prices. Also five registered Shorthorn bulls, reds and roans. Come and see me.
J. C. PARKS - - - - - HAMILTON, KANSAS

MODERN HEREFORDS

HAZFORD PLACE

Home of the Grand Champion BOCALDO 6TH, assisted by CALDO 2D, PUBLICAN 4TH AND BEAU BALTIMORE.

All our show cattle our own breeding. A few choice young bulls reserved to head high-class pure-bred herds now ready for inspection and sale.
William Condell, Herdsman.

Inspection of farm and breeding herd invited.
ROBT. H. HAZLETT, EL DORADO, KANSAS

SHEEP.

A LIFETIME EXPERIENCE proves the Rambouillet the best sheep for Kansas. Stock for sale. E. D. KING, Burlington, Kansas.

DOYLE PARK SHROPSHIRES

Sixty Registered Shropshires—Thirty ewes and ewe lambs, thirty rams and ram lambs. Lambs sired by our undefeated ram, Ohio and Michigan, 1916.
HOMAN & SONS - PEABODY, KANSAS



200 — RAMS — 200
REGISTERED SHROPSHIRES
Our flock was awarded 20 prizes at 1917 Iowa State Fair. Weight and wool always win. Rams and ewes for sale. C. W. & Frank Chandler, Kellerton, Ia.

FOR SALE—Registered Shropshire ram lambs and yearlings.
W. T. HAMMOND, PORTIS, KANSAS

OXFORD DOWN RAMS AND EWES
Bred from my $300 imported ram.
WM. EMPIE - AMSTERDAM, NEW YORK

SAPPHIRE (BLUE) HOGS

SAPPHIRE (BLUE) HOGS
The quickest pork producer known. Breeding stock for sale. L. E. JOHNSON, Waldron, Harper County, Kansas.

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

Francis & Fritts, of Paola, Kansas, have announced a sale of registered and high grade Jersey cows, the sale to be held September 29.

FARM AND HERD.

The Nebraska Holstein Breeders' Sale, to be held at South Omaha, Nebraska, October 16, under the management of Dwight Williams, promises to be one of the big sale events in Holstein circles this fall. Seventy head of high quality Holsteins, backed by production records, will be catalogued, and the consigners are as follows: University of Nebraska, Lincoln; Indian School, Genoa; D. E. C. Brown, Fullerton; Leroy Ball, Albion; W. J. Jenkinson, Monroe; D. M. Hildebrand, Seward; J. F. Bunte, Cortland; B. B. Davis, Omaha; Nelson Bros., Stromsburg; W. M. Condon, Humphrey, Little & Little, Clarks; C. J. Furry, Franklin; Dwight Williams, Omaha; J. B. Branson, Lincoln; Dr. Hubert Work, Pueblo, Colo.

W. J. Harrison, of Mayflower Stock Farm, Axtell, Kansas, reports his Duroc herd doing well. Mr. Harrison is building up one of the best Duroc herds in the state. He has just added the junior champion sow at the Topeka Free Fair to his fine herd of sows. A feature of his herd at this time is the choice lot of spring pigs, including some outstanding boars.

DR. J. H. LOMAX

Poland China Sale

Leona, Kansas, Oct. 4, 1917

55 Choice High Quality Big Type Polands **55**

Our offering consists of nine fall boars, sixteen spring boars, sixteen fall gilts and fourteen spring gilts. They are sired by such boars as Big Bob King 78296, Master Orphan 76818, and Dean's Big Timm 82230. They are out of B Wonder, Big Hadley's Likeness, Big Ben, Chief Jumbo, Model Big Bob, A Wonder Price, Expansion's Son, and Goliath dams. It will be one of the best offerings sold this season. They have the size, quality and breeding. Send for catalog at once. Address

Dr. J. H. LOMAX

STATION B. ST. JOSEPH, MISSOURI

O. W. Devine Representing Kansas Farmer.

HOLSTEIN SALE

Union Stock Yards, South Omaha, Nebraska

October 16, 1917

Fifteen Nebraska breeders will consign

SEVENTY HEAD OF QUALITY HOLSTEINS

FOURTEEN BULLS AND FIFTY-SIX COWS AND HEIFERS
All are guaranteed breeders and free from tuberculosis.

There will be three young bulls from dams with A. R. O. records above 30 pounds, besides several young daughters of 30-pound bulls and forty cows that are bred to 30-pound bulls.

A BIG FEATURE of this sale is a yearling bull whose dam and sire's dam average 35.06 pounds butter in seven days.
Write for catalog.

DWIGHT WILLIAMS, SALES MANAGER
103 Bee Building Omaha, Nebraska

POLAND CHINAS

POLAND CHINAS.



Faulkner's Famous Spotted Polands

The world's greatest pork hog are raised exclusively on

HIGHVIEW BREEDING FARMS

The largest registered herd of old, original, big-boned, spotted Polands on EARTH.
Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.
H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

Spotted Poland Chinas

Thirty spring boars, thirty spring gilts sired by Billie Sunday, Cainville Giant and Perfect Judge. Sows by Brandywine, Budweiser, Old Clipper and Spotted Giant. Priced to sell.
J. O. RILEY & SON - CAINSVILLE, MO.

DEMING RANCH QUALITY

BIG-TYPE POLAND CHINA HOGS.
See our show herd at Topeka Free Fair, Kansas State Fair at Hutchinson, and Oklahoma City. Fifty spring boars for sale. Six hundred head in herd to select from.
H. O. Sheldon, Herd Manager
OSWEGO, KANSAS.

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

FAIRVIEW POLAND CHINAS.
Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.
P. L. WARE & SON - PAOLA, KANSAS

OLD ORIGINAL SPOTTED POLANDS
March and April pigs for quick sale.
H. A. or Paul H. Mattox, Burlington, Kansas

Langford's Spotted Polands.—Last call for early spring boars. Yours for good hogs—
T. T. Langford & Sons, Jamesport, Missouri.

POLAND CHINA HOGS

150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

POLAND CHINAS

For Sale—Ten fall yearling gilts, bred for September farrow to Dalebanks Hadley and King Jumbo; twenty-five spring boars ready for service; twenty-five spring gilts open. One hundred and fifty head registered hogs in my herd. Write today what you want.
E. L. BARRIER - EUREKA, KANSAS

Henry's Big Type Polands

March and April pigs, sired by Big Wonder, first in class at Topeka; Mammoth Orange and King Price Wonder. Immune.
JOHN D. HENRY, LECOMPTON, KANSAS

POLAND CHINA HOG SALE

At Clifton, Kansas
SATURDAY, OCTOBER 13

TWENTY-FIVE HEAD
SPRING BOARS AND GILTS
THE TOPS FROM MY HERD

Twelve Spring Boars
Thirteen Spring Gilts

These pigs are by Special by Blue Ribbon Quality by Taxpayer 2d and out of my best herd sows. They are not fat, but in good condition. Send for catalog and come to my sale. Farmers and breeders can buy useful breeding stock.

ARTHUR ANDERSON
Clyde - - - - Kansas

White Oak Park Polands

Outstanding herd boar prospects by 1,100-pound Missouri Jumbo 210461 and 1,000-pound Long Big Joe 227387, twelve-inch bone. Dams popular big-type breeding. If you want boars that will mature to 1,000 to 1,100-pound hogs, I have them, big high-quality fellows. Fall boars farrowed August and September, spring boars February and March. Will record in buyer's name. All immune.
Henry Koch, Edina, Missouri

Jones Sells On Approval

Large-type spring boars and gilts of fashionable blood lines at reasonable prices. Herd immuned.
W. W. Jones, Clay Center, Kan.

FARM AND HERD.

There will be a combination commission sale at Wichita, Kansas, during the second week of the International Wheat Show. About 125 Shorthorn cattle will be sold on Tuesday, October 9. This sale will include ten straight Scotch bulls, all of them good individuals and very fashionably bred; also twenty Scotch top bulls and five double-standard bulls. The cows and heifers are good individuals, some of them pure Scotch and practically all of them with five or more Scotch tops. The cattle were bred in Iowa, Kansas and Oklahoma. Twenty-eight herds are represented. On Wednesday, October 10, S. T. Tuttle & Son, of Caldwell, Kansas, make a dispersal sale of their entire herd of Shetland ponies, including thirty-five stallions from yearlings to aged horses, and 130 mares and colts. On Friday, October 12, fifty second hand automobiles will be sold.

F. P. Wilson & Son, of Doyle Park Stock Farm, Peabody, Kansas, report their Shorthorn herd doing fine. This firm owns one of the high class herds of Shorthorn cattle in Kansas. They have the popular blood lines and their herd is made up of a choice lot of individuals. A feature of their herd at this time is the choice lot of young stock, including a number of outstanding bulls sired by Orange Marshall and Star Goods.

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM

Is offering anything you might desire in pure-bred and high-grade Holsteins of exceptional merit. They are the RIGHT KIND and at the RIGHT PRICE.
For further particulars wire, phone or write.
T. R. MAURER & COMPANY - - - - - - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.
F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.

FOR SALE

Registered Holstein Heifer Calves, 3 to 5 months old. Bull Calves, 1 to 2 years old. A. R. O. backing. Also milk cows.
BOCK'S DAIRY, Route 9, Wichita, Kansas.

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

HOLSTEIN CALVES
Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

CHOICE HOLSTEIN CALVES

Twelve heifers and two bulls, 15-16ths pure, beautifully marked, five weeks old, from heavy milkers, at $20 each. Safe delivery and satisfaction guaranteed.
FERNWOOD FARM, WAUWATOSA, WIS.

Braeburn Holsteins Always A. R. O. Bull Calves, better than the common run. Just now a few females to make the herd fit the stables.
H. B. COWLES
608 Kansas Avenue Topeka, Kansas

DUROC JERSEYS.

15 Duroc Spring Boars

Sired by Illustrator O'Rion 3d and Fancy Victor and out of my best herd sows. They are real herd prospects, selected from 91 pigs raised. Write today if you want a good spring boar.

John W. Petford
Route 1 Saffordville, Kansas

IMMUNED DUROCS
With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

WOOD'S DUROCS

Boars, sows and gilts. Best lines of breeding.
THE WOOD DUROC FARM
F. F. Wood Wamego, Kansas

DUROC BOARS

Thirty-five spring boars by G. M.'s Crimson Wonder, Crimson Wonder Again Jr., Critic D. and Great Wonder, out of my best herd sows. Priced to sell. Come and see my herd.
G. M. Shepherd, Lyons, Kansas

FORTY DUROC-JERSEY BOARS
Cholera immuned, of rare breeding and excellent individuality. Sired by Gold Medal 176231, R. L.'s Model Chief 105673, Taylor's Model Chief 126455. Order yours now. Our prices are reasonable.
W. R. HUSTON - AMERICUS, KANSAS

HARRISON'S DUROCS
Pure-bred Duroc boars.
W. J. HARRISON - AXTELL, KANSAS

Royal Grand Wonder Durocs

The first prize junior yearling at Kansas State Fair heads my herd. A few choice March boar pigs for sale. Come and see my herd.
B. R. ANDERSON, R. 7, McPherson, Kansas

AYRSHIRE CATTLE.

SOUTH FARM AYRSHIRES

300 HEAD.
75 Animals Imported from Scotland.
143 cows have qualified for advanced registry.
Males and females for sale.
SOUTH FARM
WILLOUGHBY - - - - OHIO

JERSEY CATTLE.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

Registered Jersey Bulls, butter-bred, from high producing cows. Photo furnished. Maxwell's Jersey Dairy, Route 2, Topeka, Kan.

REDHURST JERSEYS

Will Be Sold at Public Auction October 1. We have thirty cows in the Register of Merit, and many others that will qualify. This is the best lot of producers to be sold this year. Don't fail to write B. C. Settles, Sales Manager, Palmyra, Missouri, for large catalog which will be ready about September 20.
Redmon & Son - Tipton, Mo.

REGISTERED JERSEYS.
Cows, Heifers and Calves.
Good breeding. Good individuals. Must reduce herd. Price reasonable.
C. F. PFEUTZE
Route 4 Manhattan, Kansas

Your tractor is only as good as your engine

Correct lubrication will extend the life of the tractor as well as insure the maximum power delivery of your engine.

If unsuitable oil is used, you are inviting premature depreciation of the whole tractor. In other words, the investment of a few dollars a season in a lubricant manufactured especially for tractor service will add to the profits on a season's crop. High priced oils do not necessarily mean they are suitable tractor lubricants.

We Recommend for Cylinder Lubrication of Tractors

STANOLIND
Gas Engine Tractor Oil

WHERE KEROSENE FUEL IS USED

It is an oil of great durability and maintains the correct viscosity under extreme heat conditions. It lubricates thoroughly even the remotest reciprocating surfaces, reducing friction to a minimum.

It is equally efficient for stationery gas engines as well as for lubricating the bearings of all types of harvester machinery and heavy gearings of tractors.

POLARINE HEAVY

WHERE GASOLINE FUEL IS USED

WHERE HIGH SPEED CONDITIONS OBTAIN, REGULAR POLARINE GRADE IS RECOMMENDED

NOTE—Our recommendations are based on extended and exhaustive tests under actual field conditions.

Write to our nearest agency for specific recommendation of correct lubrication of your tractor.

Standard Oil Co. *(Indiana)* **Chicago, U.S.A.**

Manufacturers of Special Lubricating Oils for Leading Engine Builders and Industrial Works of the World.

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630.5
K4F

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 40. TOPEKA, KANSAS, OCTOBER 6, 1917. Established 1863. $1 a Year

WAR DEMANDS ON LIVE STOCK

Better Credit Facilities Needed by Live Stock Producers

A FEW weeks ago the United States Live Stock Industry Committee met with Secretary D. F. Houston and Food Commissioner Herbert Hoover in Washington, to consider certain problems of live stock production vital to the national welfare. Both Secretary Houston and Mr. Hoover requested specific suggestions from the representative live stock men on this committee relative to the growing and marketing of live stock products. Following the conference this group of live stock men prepared and submitted a statement from which we quote as follows:

"We are impressed with the seriousness of the war situation and of the obligation which rests upon all citizens to serve the common good. And for ourselves and for the sincerely patriotic live stock producers whom we represent we hereby pledge to the President of the United States and to his administrative officers our loyal co-operation in carrying out such measures as they may consider necessary to the successful prosecution of this great war for world-wide democracy.

"We approve the efforts which have been made under the leadership of the Department of Agriculture to encourage live stock production, and we believe that in this work the department should have the liberal support of federal and state authorities.

"The live stock business is no different from all other business, in that it is governed by economic laws. Production in a large way increases or decreases as the cost of production and the price of the finished product rise and fall. When the margin of profit is replaced by a positive loss the length of time the live stock producer can continue in business is measured solely by his financial condition.

"If there has been a reduction in live stock in proportion to the needs of the country, the cause must be sought in the unremunerative prices which the live stock produced has received in recent years. A continuation of prices which are below the cost of production will intensify the shortage.

"The live stock producers will loyally acquiesce in whatever measures the Government may find necessary to adopt and will cheerfully and as speedily as possible adjust their business to the conditions brought about by such measures. We suggest to those who must bear the heavy burden of responsibility that while liquidation of live stock can take place very rapidly, as shown by the experience of the past year, the re-establishment of the herds and flocks is a matter of years. If, therefore, it seems desirable to hasten an increase in our live stock production, definite policies looking to that end should be adopted and made known at the earliest possible date. Even with normal conditions the production and feeding of live stock is carried on under uncertainties which do not prevail with other kinds of business. The cost of the raw material is determined largely by the sunshine and the rain and cannot be known in advance. The price of the finished product is subject to the most violent fluctuations, caused not only by rapidly changing business conditions but by a system of marketing in which the seller has no voice as to the prices which shall be paid for his finished product. Under war conditions live stock market uncertainties are intensified and the cost of production is very greatly increased. Therefore, in the absence of reasonable assurance of prices which will cover the cost of production, a decrease in live stock seems inevitable.

"If in the present emergency the paramount consideration is an increase in production, we feel the Government should announce and adhere to the policy that in the huge purchases of meats and other live stock products which are to be made through a common purchasing agency of our nation and its allies, such prices will be paid as shall assure the producer a reasonable margin over the cost of production, and we believe that the Government should take effective measures through the licensing power granted in the Food Bill to see that the large packing concerns do not by their present control of the central markets deprive the producer of a just profit, and that every agency of the Government should be employed to eliminate all manipulative and speculative efforts in the handling of live stock and its products; that all waste in distribution should be ascertained and stopped, to the end that the consumer secures his meat supply at the lowest possible price consistent with sound economic principles. We believe that careful consideration should be given to the establishment of a definite relation between the values of hogs and corn.

"We thoroughly endorse Mr. Hoover's efforts to prevent reprehensible speculation in food products of all kinds.

"The work of the Department of Agriculture, based upon its study of marketing conditions, is most valuable and we urge its continuance, to the end that market abuses may be done away with and that all unnecessary expense between the producer and the consumer be eliminated.

"We feel that it is most necessary that whatever methods are adopted as war measures in connection with the live stock industry should be based on such sound economic principles as to adjust themselves readily after the war to the needs of our steadily growing population, which should be maintained as a meat-eating nation.

"We urge upon the Food Administration and the War Department the need of conserving both the garbage and manure produced at the various cantonments. A wise use of the garbage for hog feeding will result in the production of some millions of pounds of pork from food which would otherwise go to waste. The distribution of the manure upon lands near such cantonments will produce additional food values equivalent to from $2 to $5 per ton for all the manure so distributed.

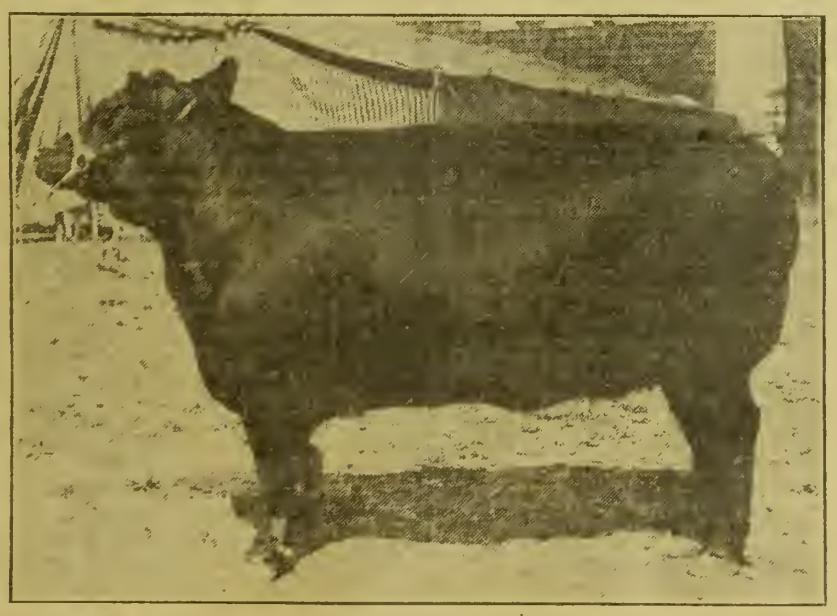
"We recommend that central retail markets under effective government control and regulation be established in the larger cities of the country where meat and meat products may be sold to the consumer at cost from the packing house plus a reasonable percentage of profit.

"We earnestly recommend the saving as far as practicable of heifer calves, ewes and sows suitable for breeding purposes.

"We urge that every possible effort should be made by the Government to stabilize conditions on the range and encourage by liberal regulations increased stock production within the national forests, the Indian reservations and on the unappropriated public lands."

In addition to these general statements, recommendations were made relative to beef cattle, dairying, sheep production, and hog raising.

If the Washington authorities will consult freely with such men as constituted this committee, and listen intelligently to what they have to say, action should follow tending to stabilize this great industry and render the position of the live stock producer less hazardous. The mistake has too frequently been made of assuming that the packing interests and the producing interests are identical and can be approached from the same angle. This committee will have accomplished an important purpose if it succeeds in bringing the Food Administration to a full realization of the position occupied by the live stock producer.



MYRA OF TOPEKA, GRAND CHAMPION ANGUS FEMALE AT TOPEKA AND JUNIOR CHAMPION AT HUTCHINSON.—OWNED BY G. F. COWDEN & SON, MIDLAND, TEXAS

Seed for Next Year

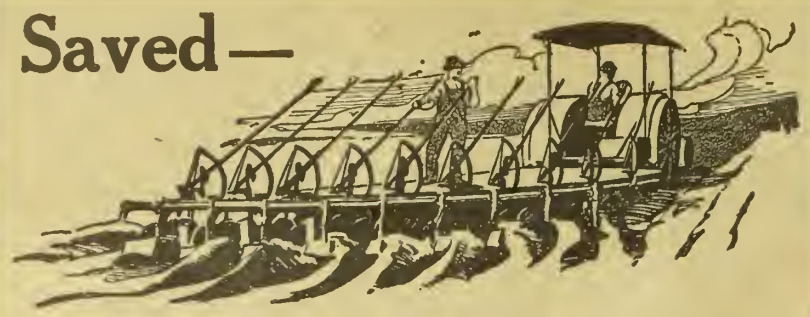
We have just received the following statement from W. A. Boys, district agricultural agent with headquarters at Hays: "Due to the prolonged dry spell this summer, there will be a shortage of seed both of sorghums and corn. The recent rains have greatly improved the condition of these crops but it is yet a question whether seed will be produced or not. I think the majority of farmers in this part of the state now realize the value of acclimated seed. It is very important to gather and save in the best manner possible seed that is produced this year. I do not know of any work on the farm that will pay better returns than hand selection of seed for next year's planting."

Wheat at the Hays Station

The Hays Experiment Station finished its wheat threshing during the first week of September, the total yield being about 3,000 bushels and the average about six and one-half bushels to the acre. The best field averaged 15.6 bushels to the acre. A thousand bushels of this wheat was sold at once at $2.20. The damaged wheat from the tops and bottoms of the stacks was kept separate and this was also sold at once at a considerably lower price. The balance, which tested fifty-seven pounds to the bushel, has been stored in the station elevator.

Many practical wheat growers in that section of the state have in the past refused to take the station seriously, but it is becoming more evident each year that there is something to improved methods of growing wheat under Western Kansas conditions. Within the past week a man who thought he knew remarked to the writer that there was no wheat raised in Ellis County this year. He had made a trip over Ellis County in July and had apparently overlooked the fact that even in this year when so much wheat failed, the station had succeeded in producing a fair crop. Farmers in the west end of the state have a valuable asset in the investigations being conducted at the Hays farm and cannot afford to ignore what is being accomplished. This year the station wheat land was practically all plowed in July and early August. It required some driving work and perhaps there would have been less damaged wheat if the threshing had been done earlier, but this early work in the wheat fields will probably mean enough more wheat next year to make up many times over for the loss due to late threshing this year.

Saved—



7 gallons of fuel and 10 quarts of oil in plowing 16½ acres through scientific tractor lubrication

Two successful farmers of Parshal, N. D., own a 30-60 h. p. tractor of prominent make.

They formerly used oil costing 38c per gallon. Now they find it cheaper to pay about twice as much for Gargoyle Mobiloils. Why?

Because a careful field test of Gargoyle Mobiloil "B" as specified for their tractor showed a saving of 7 gallons of fuel and 10 quarts of oil in plowing 16½ acres.

In condensed form here was their test:

With Gargoyle Mobiloil "B"

Ground plowed, 16.5 acres
Oil consumption, 12 pints
Fuel consumption, 28 gals.

With Competitive Oil

Ground plowed, 16.5 acres
Oil consumption, 32 pints
Fuel consumption, 35 gals.

The engineer reported in part, "The reason we made such a good showing on fuel was on account of efficient lubrication—plus a *more perfect piston-ring seal* while operating on Gargoyle Mobiloil "B".

"This is more easily understood when I state that a cloud of vapor was constantly issuing from the breather holes (in the crank case) while the engine was operating on competitive oil, this being due to gas leaking past the piston rings and consequently being wasted.

"While operating on Gargoyle Mobiloil "B" this vapor was not noticeable..... In addition the tractor handled the load more easily."

You ask:

"Can I too show similar savings if I change to Gargoyle Mobiloils?" A natural question.

Gargoyle Mobiloils used as specified on tractors have never yet failed to show lowered oil and fuel consumption when comparatively tested with other oils.

This year progressive American farmers are striving for increased production and lowered costs. Unless you are using Gargoyle Mobiloils, the chances are that you now waste in part your fuel and oil.

The Chart below is today recognized as the scientific guide to correct Tractor Lubrication.

Gargoyle Mobiloils are put up in 1- and 5-gallon *sealed* cans, in *sealed* 15-30- and 55-gallon steel drums, and in wood half-barrels and barrels.

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. For information kindly address inquiry to our nearest office.

Write for Correct Lubrication booklet containing complete Chart and other valuable data.

GARGOYLE

Mobiloils

A grade for each type of motor

CORRECT TRACTOR LUBRICATION

Explanation:—The four grades of Gargoyle Mobiloils for tractor lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A" **Gargoyle Mobiloil "BB"**
Gargoyle Mobiloil "B" **Gargoyle Mobiloil "Arctic"**

In the Chart below, the letter opposite the tractor indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A," "Arc" means Gargoyle Mobiloil "Arctic," etc.

MODELS OF TRACTORS	1917 Summer	1917 Winter	1916 Summer	1916 Winter	1915 Summer	1915 Winter
Although-Dover (Square Turn)	BB	A	BB	A	...	...
Allis-Chalmers	BB	A	A	A	A	A
All Work	B	A	B	A	A	A
Andrews	B	B	A	A	...	...
Aultman-Taylor	B	A	A	A	A	A
" (18-36)	BB	A	A	A	...	...
Avery	B	A	B	A	B	A
" (5-10 HP)	A	A	A	Arc	...	...
" (Louisville)	BB	A	BB	A	BB	A
Bates Steel Mule	B	A	...	...	...	...
Best	B	A	B	A	B	A
" (8-16)	A	A	A	A	...	...
Big Bull	B	A	B	A	A	A
Big Four	A	A	A	Arc	A	Arc
Bower City	B	A	B	A	...	...
Buckeye (Ohio)	BB	A	B	A	B	A
" (Indiana)	BB	A	BB	A	...	...
" (Giant Baby) (Indiana)	B	A	B	A	...	...
Case	B	A	B	A	B	A
" (9-18)	A	A	...	...	...	...
" (10-20)	A	A	A	A	...	...
" (12-25)	BB	A	B	A	B	A
" (20-40)	BB	A	B	A	B	A
Chase	BB	A	B	A	A	A
Common Sense	BB	A	A	A	A	A
C. O. D.	BB	A	B	Arc	A	Arc
Corn Belt	BB	A	B	A	B	A
Creeping Grip	BB	A	B	A	B	A
Emerson-Brantingham	A	A	A	Arc	A	Arc
Farm Horse	B	A	B	A	...	...
Flour City	B	A	A	Arc	A	Arc
" " (Heavy Duty)	...	...	B	A	B	A
Ford (Minneapolis)	BB	A	B	A	...	...
Gas Pull	B	A	B	A	B	A
Grain Belt	BB	A	...	...	...	...
Gray	BB	A	B	A	A	A
Happy Farmer	...	...	B	A	...	...
" (Model B)	B	A	...	...	...	...
Hart Parr	B	A	B	A	B	A
Heider	BB	A	B	A	A	A
Herbert	BB	A	...	...	...	...
Holt Caterpillar	B	A	B	A	A	A
" (Model 45)	BB	A	BB	A	...	...
" (Model 18)	BB	A	...	...	...	...

MODELS OF TRACTORS	1917 Summer	1917 Winter	1916 Summer	1916 Winter	1915 Summer	1915 Winter
Huber	BB	A	B	A	B	A
Hume	BB	A	B	A	A	A
Imperial Forty	B	A	B	A	B	A
Ingeco	A	A	A	A	...	...
Joliet	...	...	A	A	A	A
K. C. Prairie Dog	BB	A	B	A	A	A
Kinkead	BB	A	B	A	A	A
Lion	BB	A	B	A	A	A
Little Chief	BB	A	BB	A	...	...
Little Giant	BB	A	A	A	A	A
Maytag	BB	A	BB	A	...	...
Minneapolis	B	A	B	A	B	A
Mogul	BB	A	BB	A	...	...
" (5-16)	A	A	A	A	...	...
Moline Universal	BB	A	BB	A	...	...
Nichols & Shepard	BB	A	A	Arc	A	Arc
Nilson	BB	A	B	A	A	A
Oil Pull	B	A	B	A	A	A
Parrett	BB	A	A	A	A	A
Peoria	BB	A	A	A	A	A
Pioneer	B	A	B	A	B	A
Plow Boy	BB	A	BB	A	...	...
Plow Man	BB	A	BB	A	...	...
Pontiac	B	A	...	...	...	...
Reeves "40"	B	A	A	A	A	A
Rumely	B	A	A	A	A	A
" (8-16)	BB	A	BB	A	BB	A
Russell	B	A	A	Arc	B	Arc
" (Little Four)	BB	A	...	...	...	...
Sandusky	BB	A	A	A	A	A
Sexton	BB	A	...	...	...	...
Simplex	B	A	A	Arc	A	Arc
Standard	BB	A	BB	A	...	...
Steel Mule	...	...	B	A	A	A
Strait	BB	A	B	A	A	A
Sweeney Iron Horse	BB	A	A	A	A	A
Titan	BB	A	BB	A	...	...
Tom Thumb (4 cyl)	BB	A	A	A	...	...
Twin City	B	A	B	A	A	A
" " (Model 15)	...	...	A	A	A	A
Wallis (Cub)	B	BB	A	Arc	A	Arc
Waterloo Boy	A	A	B	A	B	A
Wichita	BB	A	...	...	...	...
Wisconsan	BB	A	...	...	...	...
Yuba	BB	A	A	A	A	A

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

THE high price and scarcity of gasoline is causing an increased interest to be taken in the use of heavier fuel for internal combustion engines. E. R. Gross, of the Colorado Agricultural College, thinks it is still an open question as to whether kerosene is a thoroughly successful gas engine fuel. He points out that while many tractors are being operated on kerosene, comparative figures are not generally available as to the relative cost of the different kinds of fuel.

"At the recent tractor demonstration at Fremont, Nebraska, there were a great many machines operating on gasoline. It has been a point of dispute at demonstrations for the past two years whether tractors advertised to operate on kerosene were really burning pure kerosene, or any kerosene at all. This year the fuel was measured out to the various exhibitors by an inspection force and the machines operated in the field with sealed tanks. With such regulations there was no question but that the placard on the machine gave the actual fuel used and also that all machines were using the same grade of fuel."

Conditions are such as to compel the use of lower grade fuel in operating gas engines. The ability of the operator is an important factor in making a tractor work successfully with the cheaper fuel. More and better trained tractor operators will help in many ways to bring about greater efficiency in the use of engine power. Manufacturers are making much progress in devising new improvements, but the manufacturer cannot alone solve the fuel question. The operator must do his part.

Repair Worn Machinery

The great outcry for farm production and the searcity of machinery points to the need of some way to repair a great many implements that are now useless largely because of the neglect with which they have been treated, says the United States Department of Agriculture, which adds that the machinery manufacturers and their local sales agents should help to perform this repair service.

Throughout the country there are thousands of binders, mowers, and other farm machines rusting in the fence corners, and many of these might be made available for further valuable service. The manufacturers of farm machinery are admittedly unable to furnish all the new machines required and are paying for full-page advertisements to influence governmental authorities to insure them necessary raw materials and transportation in competition with the demand for machines of war.

The railroads of the country, according to one of their officials, are being compelled in the present emergency to rescue practically every scrap locomotive from the old-iron graveyards and rebuild them for active service. A similar plan should be adopted, says the department, for the reclamation of this cast-off farm equipment through the agency of central repair shops where the work could be done. Many of the machines might be made available for further service with repairs of comparatively small cost.

Added to the almost sinful carelessness of some farmers there has been the attitude on the part of farm machinery manufacturers in years past to favor the abandonment of worn and disabled machines in order to sell new ones; but now the time has arrived when it is difficult to supply the market with the necessary new machinery. The department suggests that representatives of the manufacturers, on the one hand, and of the farmers—such as farm bureau agents or county agents—on the other hand, should get together to establish the necessary farm machinery repair stations in convenient localities.

Traction Engine Operators

Trained men are required for the most successful operation of gas tractors. During the past season the engineering division of the Agricultural College has made a thorough canvass of the men who have received instruction in the operation of gas engines at that institution. At the present time when there is such great need for getting maximum efficiency from tractors, the list compiled as a result of this canvass should be of considerable value. These men are not listed because they are seeking jobs, for many of them are operating tractors of their own and few have time for outside work. In these times, however, even the man busy with his own work will make a special effort to be of some service to a neighbor needing a little assistance in getting his tractor to do its best work. This list is of value because it furnishes the names of men in each locality who have had a definite course in traction engine operation. In some counties this list is quite large. For example there are now in Clay County, Kansas, twenty-two men who have received such instruction; in McPherson County, twenty-seven; Reno County, eleven; and Montgomery County, ten.

The short courses in traction engines and shop work were first offered during the winter of 1915-1916. There is increasing demand for this sort of instruction. These courses are planned especially for men who have not the time, preparation, or means to pursue a regular college course, but who wish to learn how to successfully operate traction engines or to work in the trades as mechanics. Each year there is an increase in the use of machinery on the farms and this tends to increase the demand for men skilled in the handling of engines and other farm machinery. The war has also reduced the number of skilled mechanics available.

The traction engine short course given this college year will begin January 7, 1918, and continue for eight weeks. A short shop course will begin October 22, ending December 15. Detailed information about these courses can be obtained by addressing President H. J. Waters, Kansas State Agricultural College, Manhattan. The list of trained tractor operators referred to above may be obtained from Dean A. A. Potter of the Engineering Division, Manhattan.

Whether or not the tractor is housed, all gears and other wearing surfaces should be protected from the rain by a covering of heavy grease that will not wash off. Otherwise the tractor is likely to suffer serious damage, and the operator may experience long delays in getting the machine ready for use next season.

Machine Bolts

It is the common practice to use carriage bolts in wooden parts of farm machinery, but when it becomes necessary to do repair work they are certain to make a great deal of trouble. The nuts will be rusted tight and the chances are the bolt will turn the wood when the attempt is made to remove the nut. About the only thing to do then is to crack the nut with hammer and chisel or cut off the bolt with a hack saw.

Those who have had experience of this kind have often wished that the implement factories would cease using the carriage bolt. A machine bolt may not look so neat, but when it becomes necessary to remove a bolt there would be something to get hold of with a wrench to prevent the bolt from turning. When machine bolts are used in wood, two washers instead of one should be placed under the head to keep it from sinking in when the bolt is tightened.

The well-equipped farm repair shop should have a good supply of the bolts most commonly required, and after having the troublesome experience so common when carriage bolts are used it will be found a great advantage to keep in stock only the machine bolts.

The Secretary of Agriculture has just announced the apportionment of $14,550,000 of federal funds to be used in the fiscal year ending June 30, 1919, for road work in the various states. This is the third appropriation under the act. The first was $4,850,000 and the second $9,700,000. In the present distribution Kansas gets $429,131.88.

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DUTY HONESTLY PERFORMED

We wonder if the farmers of Kansas realize how insistently and with what effect President H. J. Waters of our Agricultural College has contended in high places for the agricultural interests of the state. The tender of a place on the wheat price fixing committee came not as an honor or preferment, but as a stern call to duty, the honest performance of which was certain to bring harsh criticism and much fault finding. We happen to know that President Waters stood out with a few others on this committee against the insistent demand of the consuming interests for cheap bread. But for the effectual fight made, the price would probably have been as low as $1.84 a bushel.

On sober second thought no one can deny that the representatives of the producers' interests performed honestly and fearlessly a most disagreeable duty in helping to establish the price to be paid for the 1917 wheat crop.

"Since we are at war, it is necessary for us all to make sacrifices, and the smallest sacrifice anyone can make is the sacrifice of money," said President Waters recently in addressing a farmers and laborers' convention. "Price fixing is a new business to a democracy like ours and it necessarily causes some confusion and some dissatisfaction at first, particularly since it has had to come in a year when the available wheat supply was the lowest in many years and when the demand was perhaps the highest in history.

"The farmer cannot help feeling that his product under unrestricted sale would bring a much higher price than the government dares to fix. It is to be remembered, however, that the fixed price of $2.20 in Chicago is for the entire 1917 crop and continues in effect until July next, when the guaranty of not less than $2, fixed by Congress, becomes operative. Moreover, while the world is short of available wheat, there actually exists a surplus of this crop."

Australia has a reserve of 180,000,000 bushels, which is being offered at $1 a bushel, and there is the prospect of an additional surplus of 100,000,000 bushels at the coming harvest in that country, pointed out President Waters. In India there is in sight a surplus of nearly 100,000,000 bushels, and in Argentina of approximately 70,000,000 bushels. If active fighting should cease and peace negotiations begin, these supplies, added to what is obtainable in Canada and the United States, would be thrown immediately on the market, depressing the price here, as well as elsewhere, to probably $1 a bushel. This does not take into account the vast stores of wheat in Russia which cannot be reached in time to affect the sale of the 1917 crop.

"The government price recently fixed protects the American farmer against any decline in the wheat market," explained President Waters. "While the present guaranty is based on a small crop and will furnish no subsidy to the farmer but will rather call for a sacrifice on his part, we are likely to have under normal crop conditions a billion and a quarter bushels next year. Under the government guaranty this will be sold for at least $2 a bushel."

DOCKAGE OF WHEAT

From reports coming in it appears that in many instances wheat is not bringing locally what it should on the basis of the prices at central markets. In many cases country grain dealers have assessed a discount against all wheat purchased, contending that such assessment was mandatory by reason of the official grain standards of the United States under the Grain Standards Act. This contention is evidently based on the fact that official standards provide for "dockage," and the assessment is made to cover this point. The indications are, however, that instead of being a legitimate dockage based on actual tests it has become an arbitrary assessment in the interests of the buyer, and in no way a carrying out of the purpose of the regulations prescribed in the Grain Standards Act.

The primary purpose in the establishment of the official grain standards of the United States was to provide a basis whereby parties to transactions involving the purchase and sale of grain shipped or delivered for shipment in interstate or foreign commerce might, through being able to obtain a correct applications of such standards, arrive at the actual value and make settlement accordingly. The standards for wheat do not provide for any arbitrary assessment for dockage. They do provide for the determination of the amount of sand, dirt, weed seeds, weed stems and certain other matter, called dockage, which actually may be present in a lot of wheat, the amount of which, if in excess of one-half of one per cent by weight is to be stated in terms of the actual percentage as a part of the grade designation of the wheat. This is called the dockage system of grading and has been in use for many years in the northwestern states prior to the adoption of the official standards.

Ignorance of the details of the Grain Standards Act is probably to some extent responsible for the arbitrary manner in which it has been handled. It has given rise to considerable dissatisfaction among those who have been marketing wheat. The transactions in question have largely been local and have not involved interstate commerce and in a way may not be within the prohibitions of the act. We are glad to learn, however, that the Department of Agriculture is investigating the matter, and will be glad at any time to have facts which may be of value in securing the rights of the seller. If any misrepresentations based on the act are being made, the officials of the department will do everything in their power to bring about a discontinuance of such practices.

ENGINEERS IN PEACE AND WAR

In addressing the student assembly at the Kansas Agricultural College recently, Dean A. A. Potter emphasized the fact that American engineers will of necessity have a large share in the reconstruction of the civilized world following this great war. Never in the history of the world has there been a greater drain on the men trained in working out the technical engineering problems of our great industries.

"After this war is over the field of the engineer will be greater than ever before," said Dean Potter. "The engineer, in times of peace, is concerned with material and human problems in connection with the advancement of commerce, industry and transportation. In war these same forces are used by engineers as aids toward a certain goal which, rightly or wrongly, seems to be, for the present at least, the only method of settling differences between nations in their struggles for supremacy.

"In the present crisis engineers are playing a prominent part in connection with the social, industrial and military preparedness problems. Experience in this war has shown that for every man in the field there must be at least six men on the farms and in the industries to take care of the soldiers' necessities."

A display at the Kansas State Fair deserving far more than passing mention was the apiary exhibit, which occupied a prominent place in the new agricultural building. There were not very many exhibitors in this section, but by the number and decorative effect of their exhibits the possibilities of this industry were demonstrated in the most striking manner. Professors Dean and Merrill, of the Agricultural College, who judged the apiary exhibit, said that there was nothing in the United States that equaled this display. They made a similar statement last year regarding the showing in this department, and it was even better this year. The principal exhibitors were J. A. Ninninger and F. E. Clark, of Nickerson; Charles D. Mize, Mount Hope; Doctor Raffington, Hutchinson, and G. E. Capewell, Cottonwood Falls. This last named exhibitor was the only one from outside of Reno County that showed in this department. Reno County does not possess any pronounced advantages over many other sections of the state for bee culture. If a group of local exhibitors can put on such a display, what would happen if the whole state got into the game? There is food for thought in this suggestion. One of our wasted resources is the honey, which is Nature's free gift.

Kansas stood first in cereals at the International Soil Products Exposition recently held at Peoria, Illinois, in connection with the International Farm Congress. The exhibits were prepared and shown by the agronomy department of our Agricultural College. The prize was a beautiful loving cup, and was won in competition with exhibits from Canada, Wisconsin, Nebraska, and many other of the cereal growing states. The state exhibit as a whole, which was easily the best ever prepared, was awarded the second prize loving cup, although it ranked first in educational value and first in artistic design and arrangement. A very valuable program was carried out in connectiou with the Farm Congress meeting. Eighteen states were represented at the state roll call. There were fully two hundred thousand people at the exposition Sunday, and the attendance for the week days averaged close to ten thousand daily.

A worthy project known as the Overseas Acre Fund is under way, the plan calling for putting aside the product of one acre in crops or cash for helping the suffering farmers of France. American farmers are being asked to pledge themselves to this fund in the manner indicated. The fund is under the management of honest, sincere men who have seen the serious need of the stricken farmers in France. The funds will be handled through the American Red Cross. All the administrative expenses of the fund are provided for by outside contributions so every cent of the proceeds from the acre pledged will go direct to the French farmers. Those interested should write to the Overseas Acre Fund, 219 Market Street, Philadelphia.

CREDIT FOR LIVE STOCK FARMER

The inability to obtain sufficient capital on the right kind of terms is a serious drawback to increased live stock production. The live stock farmer needs money on entirely different terms than the steer feeder or the wheat farmer. We are glad to note that the Food Administration has given the matter of credit for the live stock farmer some attention. A letter was sent to the chairmen of the various state bankers' associations, pointing out the important place of live stock production in our nation's business. The communication closed with an appeal to these banking organizations to exercise the large power and influence they possess in making live stock credits both more abundant and less expensive. In this connection Mr. Harding, governor of the Federal Reserve Bank, has gone on record in a letter to the Food Administration, in which he says: "The Board will through the Federal Reserve Banks call the attention of member banks to the opportunity that is now afforded them to render very effective help in the present food crisis by reducing their interest charges upon cattle paper to as low a rate as possible." It will be reasonable to expect from the above that the re-discount privilege of live stock paper will be accorded the consideration its importance deserves.

Boost for a school fair in your community. Several districts should cooperate. Eighteen such fairs will be held in McPherson County this fall.

DEMANDS ON DAIRYING

Dairy farmers of this country have felt seriously the pinch of high feed prices and there have been numerous reports that herds were being cut down because of this condition. The shortage of dairy labor is also further complicating the problem. In view of the conditions which seem to be making the continuance of dairy work more difficult, the figures showing the extent of our dairy exports are of unusual interest at this time. The volume of these exports since the beginning of the war are such as to make pre-war records seem insignificant. The facts given are based on compilations made by the United States Food Administration.

Exports of condensed milk which for a three-year period before the war averaged 17,792,579 pounds annually have increased to 259,102,213 pounds. This figure is for the fiscal year ending June 30, 1917. The European Allies received 2.27 per cent of the condensed milk exported from this country in the three pre-war years. In 1917 they received 57.2 per cent, or considerably over half of the total.

Cheese exports for the three pre-war years averaged 3,788,065 pounds. For the year ending June 30, 1917, they reached 66,087,213 pounds, a seventeen-fold increase.

Exports of butter which for the three years previous to the war were 4,457,144 pounds, increased in 1917 to 26,835,992, which is more than a six-fold increase.

It is noteworthy that Holland took 84.9 per cent of all the condensed milk shipped by the United States to European neutrals. However, a large proportion of the amount—15,134,084 pounds in all—consigned to neutral countries during the past fiscal year unquestionably reached Germany through indirect channels.

With such an enormous increase in our dairy exports, dairymen in this country might well reflect on some of the conditions affecting our production. Two years are required to raise a dairy cow and five years to bring her to maximum yield. Under normal conditions the country was prepared to go on producing milk in proportion to the demand. The number of dairy cows in proportion to the population has varied but little in the past six years. In 1911 the ratio was 22.3 cows per hundred people; this year the ratio is 22.1.

But the ravages of war now call for a prompt increase of dairy cattle in those countries able to raise them. The world's total number of cattle has already decreased more than 28,000,000. In England, France and Germany, the herds are being deliberately sacrificed to supply the immediate necessity for meat. The embargo is keeping fodder from Holland to a degree that will lead to a considerable decrease in her herds.

Judging from all indications, the sacrifice of dairy animals will be even greater as the war continues. And the responsibility of supplying Europe with dairy supplies will rest with increasing gravity on dairymen of this country.

Sometimes when we ask a reader of KANSAS FARMER to write and tell us of some special success he has made, we get as an answer the statement that he does not know how to fix it up for the paper. Now, we have no rules whatever to which our readers must conform when they write and tell us about something they have done that will be of value to others. If you have a real message on any farm project, it matters not in what form it reaches us. It is part of our job to put into shape for publication the many ideas that come to us in various ways. Do not hesitate to write for fear you will break some rule of punctuation, spelling, or grammar. Write out the facts in your own way, and if you have an idea that is of real value, we will see that it appears in a form that will do you credit.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

A LEAVENWORTH County reader asks for information about harvesting ordinary navy beans. This correspondent has out about twenty acres and would like to know if they have to stay in the field until hit by frost and how long they should be left in the field after being pulled. Also whether they should be put in a building where there is no ventilation, or whether they should be pulled and left in small piles in the field until dry.

There were a good many patches of beans put out last year, and as this is a crop not commonly grown, we are none too familiar with the best methods of handling them. We quote the following instructions from Alvin Keser, of the Colorado Agricultural College:

"Great care must be exercised with navy beans in harvesting, because of their tendency to discolor. Navies should be allowed to get fairly ripe. This can be determined when the seed is plump and hard and the pods will usually be yellow but not yet dry and brittle. At this stage the vines should be cut and piled in small shocks to cure or dry out. Navies are likely to be discolored by rains, light snows or other moisture. Consequently it is the policy, with beans at a high price, to stack navies, making the bottom of the stack of straw, and topping out with straw, stacking always if threshing is not feasible as soon as the beans are cured.

"With pintos the danger of discoloration is much less, but they run the same danger of loss from shattering if allowed to get too ripe. Consequently, pintos should be harvested when the pods are yellow and the beans are plump and hard. This can be determined by breaking open and examining the pods. If the pods are allowed to get hard and dry, a great many beans will be lost by shattering in handling.

"When harvested as directed, the beans will ripen up and cure properly in the shock. When cured they may be threshed or stacked, although in our dry climate many beans are left in the field for some weeks waiting for the thresher so as to thresh out of the shock. The risk with pintos in this practice is not so great as with navies, but there is always some risk when the beans are allowed to stay in the field. With beans at a high price, it is usually profitable to stack, except in those cases when the thresher may be obtained as soon as the beans are mature."

Top-Dressing with Straw

Many Kansas farmers have found that spreading straw on wheat is a most valuable practice. On the wheat farm there is probably no better way to use the surplus straw than to spread it as a top dressing on the wheat. The Missouri Experiment Station has been making a study of the results of top dressing wheat with straw, having had twenty-one plots under observation with various treatments the past year.

In early spring when most wheat looked dead and dried up, those plots which had been top dressed with manure and straw started off vigorously, showing that they were not badly dried out although all the rest had been badly injured. When threshing time came the highest yield—39.4 bushels per acre—was on a plot that had been top dressed with strawy manure and all of the top dressed plots yielded well. Missouri does not often experience so dry a winter as the last one, but spreading straw on wheat in early winter not only protects it from drying out, but also tends to prevent smothering by ice sheets. It keeps the snow from blowing off, and helps materially in returning fertility to the soil.

Any source of fertility is well worth considering at the present high prices of crops and fertilizers. A ton of straw contains 10 pounds of nitrogen, 1½ pounds of phosphorus and 18 pounds of potassium. At the present high cost of nitrogen and potassium in commercial fertilizers the nitrogen in a ton of straw is worth $2.50 and the potassium is worth $5, making the straw worth $7.50 a ton for fertilizer in addition to the small amount of phosphorus it contains. Of course straw has additional value in that it adds vegetable matter to the soil.

Until the last few years straw had to be spread by hand and the task was somewhat laborious, but recently machines have been put on the market for spreading straw rapidly and easily. The practice is gaining in popularity where the spreaders have been introduced.

Plan for Kafir Next Year

Hundreds of thousands of acres in the Southwest—comprising districts in Kansas, Oklahoma, Texas, New Mexico and Colorado—may be used in 1918 to surely produce a huge supply of grain of the kafirs—nutritious, good tasting human food.

The great empire is designed by Nature for kafir growing. Kafir yields heavy crops in lands where Indian corn and wheat are not sure crops. Economically an acre of kafir is worth one-fifth more than an acre of corn.

The following table, compiled from the official records of the state board of agriculture and printed in Borman's "Sorghums: Sure Money Crops," gives the value per acre of the two crops in Kansas for each of the last twelve years, with their totals and averages:

Years	Kafir	Corn
1901 (Very dry year)	$ 10.32	$ 3.23
1902	12.69	11.20
1903	9.30	8.74
1904	9.72	7.81
1905	9.94	10.11
1906	9.18	9.89
1907	11.13	9.25
1908	10.88	11.70
1909	11.23	10.77
1910	12.92	8.89
1911 (Very dry year)	15.72	7.68
1912	13.80	12.12
Totals	$136.83	$111.39
Averages	$11.40	$9.28

Wheat raising in the dry Southwest has been the ruination of thousands of farmers, has kept as many more poor, and has interfered with the development of one of the finest bits of country the sun shines upon. "Grow wheat and get rich quick" has been the cry that could not be resisted.

Kafir growing requires effort and thought, the same as any other crop; it repays effort and attention better than any other crop.

Now is the time to plan for kafir acreage for 1918. Plan to plant corn only on bottom lands. Put every acre of bottom not used for corn into alfalfa. Put grass on washy soils, hillsides, rough places, alkali land. Put kafir on the smooth, tillable uplands. Give us kafir to replace wheat in 1918.

The Non-Partisan League

We are glad to be able to publish an expression of the view of Past Master A. P. Reardon of the Kansas State Grange on the Non-Partisan League which is striving to gain a foothold in Kansas. KANSAS FARMER took a stand on this question last week and quoted from the president of the State Farmer's Union. We have talked with B. Needham, present master of the Kansas State Grange, and know that he also feels that it would be a serious mistake for the Grange to sanction this political movement. Mr. Reardon says: "In my various travels and visits at Grange meetings during the summer I have found parties talking to members of the Grange about the Non-Partisan League which was organized in North Dakota last year. This is a political organization, as I would understand it from its purposes and accomplishments. Now, as an old member of the Grange, having had the experience of many years in Grange work, I venture a few words of advice to our members on their attitude toward this new movement. I firmly believe we have in our organization a common meeting place where we can get together and unite for the building up of our agriculture, where we can learn to know each other better socially, educationally, and financially, where we can command the respect of our fellow man, and where we are all benefited. We are not a political organization with a treasury to supply our needs, and we feel under no obligation whatever to join some political party. There are no slackers in our bunch. We are all patriotic and true to our nation. The Grange brings together practical men and women seeking the greatest good to the greatest number. We as a Grange are not ready to assist in the promotion of a political organization, but wish to push along in the even tenor of our way, being built upon absolute merit. We as an order are not looking so much after the financial welfare of our members. Our aims are directed to higher ends than simply dollars and cents.

"The principal Grange asset at its start was the courage, the devotion and the spirit of its founders. Upon these has been our chief reliance in the successes of the past, and upon these same attributes must our plans for the future always depend. We have organizations enough in Kansas for the welfare of our farmer citizens."



FARM RESIDENCE OF WILLIAM NEWLIN, PRESIDENT OF THE KANSAS STATE DAIRY ASSOCIATION.—ONE OF THE MANY MODERN FARMHOUSES OF RENO COUNTY.—"GRANDPA" NEWLIN IN FOREGROUND

Controlling Corn Ear Worm

This is a fall in which a large amount of fall plowing should be done. Checking insect pests is one of the results of fall plowing not given sufficient consideration. It is about the only practical control measure that can be applied to the corn ear worm.

The corn ear worm does a vast amount of injury each year to valuable garden and field crops. It is practically the only insect which injures the ears of field corn, and it is decidedly the worst insect pest of sweet corn. This worm does considerable damage to tomatoes by boring into the green and ripening fruit and is known to the grower as the tomato fruit worm. It bores into the "bud" or unfolding leaves of tobacco and is known to the planter as the tobacco bud worm; and it is also one of the serious pests of cotton in the South, where it is called the cotton boll worm, from its habit of boring into the cotton bolls.

The full-grown worms are variable in markings and color, but usually they are a dull greenish or brownish color, with indistinct stripes or spots, and are about one and one-half inches long. Winter is passed in the pupa or resting stage in the soil. When the worm becomes full grown it burrows down in the soil about three inches and constructs a tube or gallery nearly to the surface of the ground for the use of the moth which will come out later. The worm retires to the bottom of the gallery and changes to the pupa or resting stage. It is in this stage and under such surroundings that the insect passes the winter.

According to T. J. Talbert of the Missouri College of Agriculture, one of the best means of control is fall plowing and harrowing or disking in order to break up the opening tubes or exit galleries of the soil. This also brings the resting stage (pupa) of the insect nearer the surface where the alternate freezing and thawing during the winter will have a greater effect in destroying it. Fall plowing and cultivation have been found almost 100 per cent effective for the area covered.

How to Gather Seed Corn

Gathering seed corn should be a special task, preceding and not incidental to husking.

At corn-ripening time the forehanded farmer drops all other farm business and selects twice as much seed corn as he thinks he will need. The job is too important to be conducted incidentally while husking, and demands the entire attention of the farmer when the time is ripe—likewise the corn.

Get the very best to be had and preserve it well, because increased yields will return more profit than from any other work that can be done on the farm. The one and only proper way to select seed corn is from the stalks standing where they grow, as soon as ripe and before the first hard freeze.

As soon as the crop ripens the man who fully appreciates the value of such work will go through the field with seed-picking bags, and husk the ears from the stalks that have produced the most corn without having any special advantages such as space, moisture, or fertility. He will pass by the large ears on stalks standing alone with an unusual amount of space around them. Strains that do well in competition for light, and moisture, and soil fertility are likely to repeat under the same conditions. The most important consideration is to select seed from those plants which have the ingrained ability to furnish the largest quantity of dry shelled corn.

Early maturity is a desirable quality, and so are short, thick, wind-firm stalks; top-heavy ones with ears borne too high are likely to mean losses. Breeding experiments have proved that the tendency to produce suckers is hereditary in corn. Other things being equal, take the seed from suckerless stalks.

Feterita—a Dry-Year Friend

Wherever we see late-planted feterita this year, it is showing good results.

While this crop really does well in years of abundant moisture, the seed is so tender that under conditions which usually prevail in April and May it is hard to get a stand of feterita when the seed of kafir and milo may give good results. But when seeding conditions are so extremely unfavorable that all our grain sorghums fail, except those planted after June 1, we often find feterita heading the list of late-planted crops. Some of the best crops of feterita we have seen were planted after July 1. We have not seen any immense yields of feterita, but when it has a chance to make a quick growth in summer, it makes a grain crop which is cheaply produced, and which is dependable.

By many, the feeding value of feterita is thought to be very low, but I have seen it used profitably for fattening hogs.—J. E. PAYNE, Oklahoma.

Raise Calves From Best Cows

W. J. Fraser, Professor of Dairy Farming, Illinois University

ECONOMY, conservation and efficiency have no worse foe than the inefficient farm animal. Animals are expensive producers of human food for the reason that they consume more digestible nutrients in their food than they return in animal products. Even the very best animals return only a small percentage of the food value of the grain consumed in the form of food for man. For this reason, in these times of high grain prices, only the most efficient animals should be raised if we are to maintain the proper balance between different needed food products and prices paid for them.

Some go so far as to say we should eliminate our animals almost entirely to secure the most efficient results. But those who make this statement fail to realize that from the crops raised in the ordinary rotation necessary for the best production of grain, less than one-half of the total digestible nutrients contained in all of these crops is available for the food of man. Therefore, the by-products from our different agricultural crops must be at least partially utilized in the feeding of farm animals if we are to conserve to the best advantage and keep a proper balance of the food supply from our farms. To obtain the best results, then, animals must be considered in our farming methods, or a large amount of the food value of our agricultural crops will be wasted. But, as the demand for human food becomes greater, it is increasingly important to feed these products to such animals as are capable of returning the largest possible percentage of the energy which these foods contain.

Since a certain amount of animal food is essential to the well-being and health of the people; as babies and invalids can not be properly nourished on grain and vegetable food alone, and as the good dairy cow is the most economical producer of human food of any of our domestic animals, she is to be considered in the production of animal products at the present time, and is a vital factor in the country's food supply.

But the efficiency of the cow that is kept is of even greater importance under these conditions than in times past, and if there ever was a time since the world began when the production of every individual cow should be determined and not only the inefficient ones, but their offspring as well, go to the shambles, it is now. To substantiate this statement, let us look at some of the conditions actually existing in the dairy herds.

This department has tested a large number of dairy cows in the dairy herds in different parts of the state. The poorest one-third of these cows produced an average of 3,654 pounds of milk and 134 pounds of butterfat annually, each cow lacking about $7 annually of paying for her keep. Like begets like, so wherein lies the wisdom of saving heifer calves from such cows as these, where a portion of the feed consumed only helps to augment the manure pile?

While grains have increased in price, the price of dairy products has not kept pace with them in the same ratio, and why sell grain at $20 per ton to the dairy cow when the price at the elevator or the feed store is two or three times this amount? This is only a monetary consideration and takes no account of the actual loss of grain consumed. Why should anyone want to expend his time, energy and money in raising heifers from such poor cows, or even continue keeping cows which not only fail to pay for their keep, but lose money for their owner, besides wasting grain so much needed in these trying times? Yet it has been advocated recently that all heifers should be raised.

The essential thing in farming operation is balance. The man who keeps such cows as these and raises the heifer calves from them fails to balance his output with his income. In other words, he fails to compare the cost of grain, labor, time, etc., consumed in keeping an inefficient cow with the income received from her dairy products.

As there are about twenty-two million dairy cows in the United States, the poorest one-third would comprise over seven million of that number. This means that the poorest one-third of the dairy cows is losing about fifty million dollars a year to the dairymen of the nation. The country would actually be better off were these cows all slaughtered. No thinking man is going to raise heifer calves from cows of this sort and spell failure for himself, besides being labeled a waster of needed food.

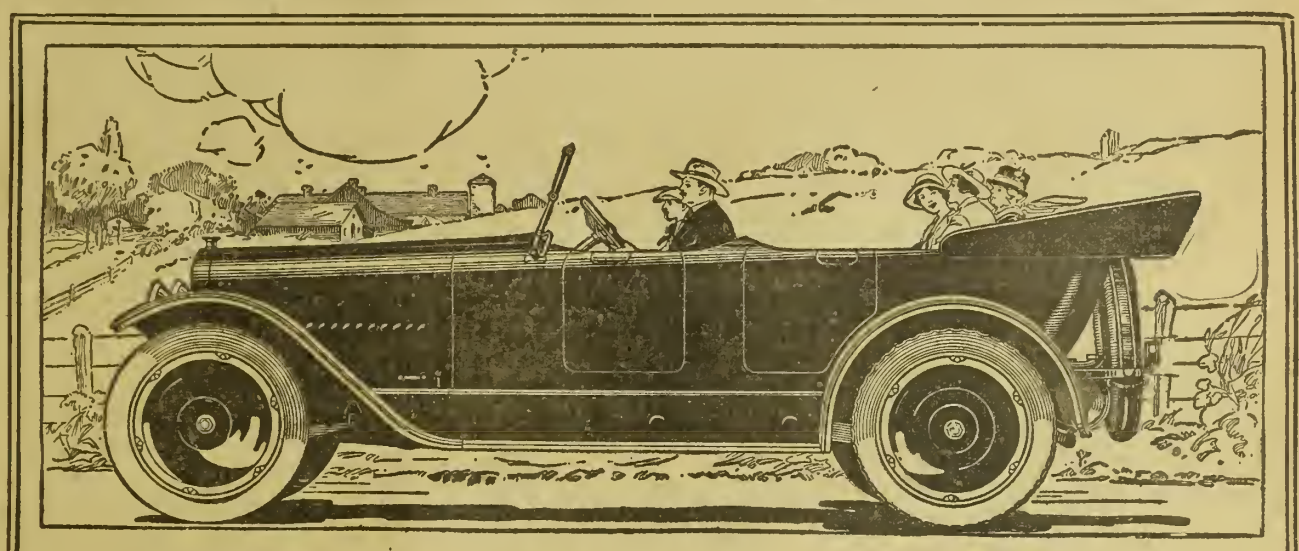
The middle third of cows averaged 5,000 pounds of milk and 198 pounds of fat. It will take practically all of the profit made on this middle third to make up for the loss on the poorest one-third. On the other hand, in contrast with the poorest one-third, the best one-third of the cows averaged 6,765 pounds of milk and 278 pounds of butterfat, each cow making an annual profit of about $27, besides paying market price for her feed and all items included in her keep. The production and profit from the best third of the cows tested shows that we have an enormous number of high-producing, profitable cows from which the dairy herds should be replenished.

Under past conditions there has been a tremendous waste of energy caused by keeping poor cows, and if there was ever a time when this great waste should be stopped it is now. It would be the worst possible economy to raise the heifer calves from poor cows in these times of high grain prices, and the dairymen who did so would simply be intensifying their chances for failure. Under ordinary conditions, it is certainly not wise to save the heifer calves from the losing half of the cows and under present conditions it is criminal to consider raising the heifer calves from anything but cows whose production is on the credit side of the balance sheet and which will pay present market prices for food, housing and labor and leave a profit besides.

Life is not always smooth, easy sailing, and it is for our best development that it is so. Many of our troubles come from attempting to do what should not be done. A good part of our study in agriculture is an attempt to learn how to adapt our efforts to nature. The dairy farmer has one of these lessons strongly pointed out to him at present.

To keep the dairy herds replenished with future cows, it is necessary to save the heifer calves from only the best third of the cows, and these are the ones, if of good parentage on the sire's side, that will play their part in making a living for the milk producer and a better food supply for the world.

One Kansas county agricultural agent has been offered the management of a farm of 3,000 acres on a profit-sharing basis, in the county in which he is now serving. The owner of the land, in speaking of the county agent, said: "Our farm bureau is doing good work and is worth many times its cost to the county."



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Here is the greatest value to be found in the fine-car field. You can see that at a glance. But the years will show you more than you can see.

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Even at present butter prices no cream producer can afford to be without a separator or to continue the use of an inferior or half-worn-out machine another week.

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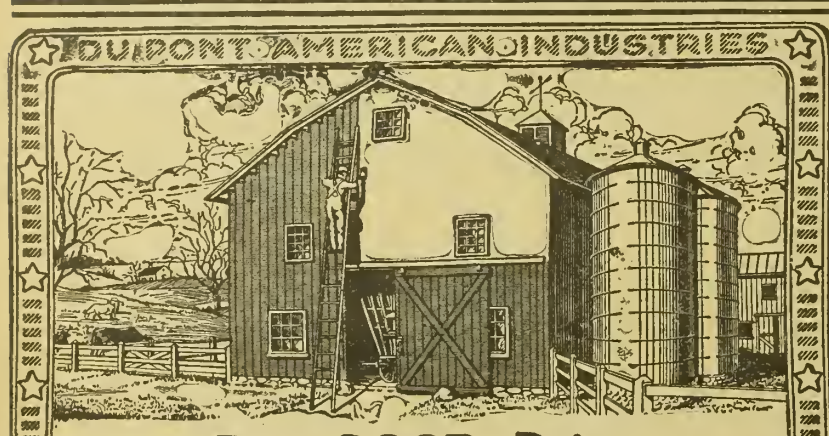

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Kansas Farmer Dairy Club

Keeping Feed Record

BEGINNING with October 1 every member of the Dairy Club should be keeping an accurate account of the feed eaten by his cow. October 1 is the last date for beginning a year's record, and whether your cow is fresh or not, you must begin charging her with feed. As soon as she freshens, start the milk record. Blanks for keeping these records have been furnished to all members.

A sample feed record is given on this page to show you how it should be kept. The grain is to be weighed at each feeding. You have accurate scales for weighing the milk and can use these same scales for the feed. If you are feeding several different kinds of grain and mix it before feeding, you can weigh the mixed ration and then on the record separate it in the different columns. If you settle on some certain mixture as the most common and satisfactory and expect to feed it for some time, it saves trouble in feeding to prepare a quantity and store it in some safe place such as a barrel or box, being careful to cover it as to keep out mice and rats. If you do this you can record the weight of the mixture fed in one of the unheaded columns and make a note of what the mixture is in the blank at the top of the column or at the bottom of the record. For example, you might note something like this: "October 1 to October 10 fed a grain mixture four parts corn chop, two parts bran, and one part cottonseed meal by weight. Remainder of month linseed oil meal in place of cottonseed meal." When you total the grain fed for the month and figure its cost, separate this mixture. For example, if you fed during the first ten days of October one hundred pounds of the mixture mentioned above, four-sevenths, or fifty-seven and one-seventh pounds, of it would be corn chop; two-sevenths, or twenty-eight and four-sevenths pounds of it would be bran, and one-seventh, or fourteen and two-sevenths pounds, cottonseed meal. Keeping the records will furnish you some very practical problems in arithmetic. It will not be necessary to note the prices you pay for feeds, as is done on the sample record, although that is a good place to make this sort of a notation.

In figuring your feed costs for the club records, you are to use the prices furnished on the uniform price slips which all members now have. These prices may not agree with what you have to pay, but it is necessary for all to figure alike so that no one will have any advantage because able to buy feed cheaper than some other member.

You cannot weigh the rough feed your cow eats every day, or at least we are not requiring you to do this. You must learn, however, to estimate the amount as accurately as possible. This does not mean that you are simply to make a guess. If you feed hay to your cow in the barn, you can weigh for a few times the amount she eats. By doing this you will soon learn about how much a certain sized forkful weighs and can estimate the amount in feeding her in the future. It is easier to keep account of silage. If you feed it in a bushel basket, weigh a basketful a few times. Some of the boys and girls last year weighed the silage at every feeding and perhaps a good many can do that in the present club.

Be sure to put down on the record blank everything your cow eats. If she runs out in the yard with other cows and can eat hay and fodder from a rack, make notation of that fact on the blank and try to figure out some way to estimate how much she eats. If the whole herd is fed some sort of fodder in bundles, weigh a few bundles. By counting the total number of bundles fed, you can figure out about how much each cow eats. To be fair to other members in the club, each must do his best to keep his records absolutely right. If you should carelessly neglect to charge your cow with all the feed she eats, it would be most unfair to other members who do keep accurate records. Nothing is gained by keeping a record that is not complete or accurate. We weigh feed and milk because we want to know whether the cow is profitable or not. That is far more important than having the credit of a good record. If you keep records carelessly, you may fool yourself into believing you have a profitable cow when as a matter of fact she is not.

At the end of each month total all feeds and figure the exact cost of each, completing the record as shown in the sample. Then make a copy in ink and send it with your completed milk record to the Kansas Farmer Dairy Club, care of KANSAS FARMER, Topeka, Kansas Perhaps your banker will want a copy of the records. Ask him about it and if he does, make a copy for him also. Remember, the rules require you to report to the bank not later than the tenth of the month, and we also expect copies of your completed records before that date.

Kansas Farmer Dairy Club

Name of Contestant Alice Austin Name of Cow Beauty

Postoffice Goodland Ks R. F. D. 3

For Month Ending June 30, 1916

Feed Record

Date	Corn Chop Lbs.	Kafir Meal Lbs.	Milo Meal Lbs.	Oats Lbs.	Kafirhead Meal Lbs.	Bran Lbs.	Cottonseed Meal Lbs	Linseed Oil Meal Lbs.	Corn and Cob Meal Lbs.	Lbs	Lbs.	Clover Hay Lbs.	Alfalfa Hay Lbs.	Silage Lbs	Lbs.	Lbs
1																
2																
3	9.					5	2.5						15	30		
4	9.5					5	2.5						15	30		
5	10.					5	2.5						15	30		
6	11.5					5	2.5						15	30		
7																
28																
29	10.5					5	2.5						15	30		
30	9.5					5	2.5						15	30		
31																
Total Pounds	224					113	55.						330	660		
Total Value	$ 2.90				$	1.18	$ 1.10					$	1.32	$ 1.16		

Notes: Chop figured @ $1.25
Bran " " 1.05
Cottonseed meal 2.00
Silage 3.50
Alfalfa 8.00

Total grain for month, lbs. 392 Value $5.08
Total roughage for mo., lbs. 990 Value $2.48
Pasture, No. of days ..... Value $.....
Total value of feed $7.56

SAMPLE FEED RECORD

What to Feed

We have the following letter from Claude Carter at Meriden:

"I am very proud to report that my cow has a nice big heifer calf, mostly white. It has a few black spots on its head. I wish you could see it. I will try to send you a picture of my cow and calf. I will need the milk scales. Will you please order them for me? I will begin keeping my record October 1. My cow will get a good start by that time. She is giving from six and a half to seven gallons of milk a day and has been increasing during the past week. Will you send me a good ration? I will begin feeding silage later. I am now feeding alfalfa hay, oats, and some brown shorts. She seems to like this very well."

Claude has the cow Glen Romig milked last year and the calf is sired by a pure-bred bull with exceptionally good production records back of him. Glen wanted to get started in pure-breds and so sold this grade Holstein to Claude, who will milk her in the Dairy Club this year. This cow has large capacity for milk production, and that means she will consume a lot of feed. It takes feed to make milk, and the best milk cows nearly always have big appetites. To feed a cow economically, she should have all the good palatable rough feed she will eat. Alfalfa is especially valuable because cows like it so well and it contains a large amount of digestible protein, and protein is very necessary to milk production. Silage is another valuable feed for milk production. A cow giving seven gallons of milk a day cannot eat enough alfalfa and silage, however, to make that amount of milk, and some more concentrated feed is necessary. Oats contain a little more digestible nutrients than bran and cost little if any more a pound at the present time. Oats and shorts make a good combination for milk production. It will probably pay to feed this cow twelve or fourteen pounds a day of the oats and shorts mixed. Linseed oil meal or cottonseed meal both contain large amounts of digestible protein and nearly always it pays to feed high producing cows a little of one or the other of these rich feeds. Glen found last year that Daisy did not like cottonseed meal or oil meal. He tried getting her to eat a little more, but she simply balked and would not eat her grain without mincing over it. She fell off in milk while he was making this experiment. Cows have their likes and dislikes just like people and we have to humor them a little, especially the big milkers that need a lot of feed to keep up their milk flow.

It is necessary to be a little careful in feeding shorts to cows. The fine shorts gets sticky and gummy in their mouths and is not so good for that reason. To feed shorts successfully it is sometimes necessary to mix enough bran with it to overcome this sticky tendency.

A good rule to follow in feeding grain to a high-producing cow is to first be sure she gets all the hay, silage, and fodder she will eat, and then give her in addition each day about a pound of a good grain mixture for each four pounds of milk she gives. If good dairy cows are underfed you may fail to realize it for a time because they will keep on giving about the same amount of milk. If the underfeeding continues, they will finally begin to run down in flesh and will begin to fall off in milk. It will take good feeding for some little time to get them back again.

Father Helps Buy Cow

The fathers and mothers of the boys and girls of the club are largely responsible for the kind of work that is done. There are so many ways in which they can encourage and direct you with your work. This is especially true of the younger members. In the club work of the past year we have found that the parents took a great deal of interest and helped in many ways. The following letter from the father of Gary Cook, of Easton, Leavenworth County, illustrates the interest parents are taking. Gary is barely old enough to get into the club. Mr. Cook says:

"Gary has today bought his cow and wants to start his record at once. He has the most promising heifer I ever saw and is just ready to begin the record, as the calf is two weeks old. Please send the required record blanks at once and he will fill them out and send them in. I never saw a boy so anxious to get a cow and get into the work. He has asked every day when we were going to get his cow. We certainly had a time finding a good cow for him."

Why Milk Tests Vary

A knowledge of how milk tests vary and why is of value to dairymen. The test refers to the percentage of butter fat found in milk and, as butter fat is the part necessary in the making of butter, it is the most valuable portion of the product. All dairymen like to have high testing cows, but it must never be forgotten that a high test alone does not necessarily make a cow valuable. She must give a large quantity of milk in order to produce a large quantity of butter fat.

If you have never had milk from any of your cows tested regularly, you will learn in your year's work that there are variations in test which are hard to explain. Some weeks ago we explained in the Dairy Club department some of the variations which are likely to occur and what causes them. The Missouri Experiment Station has been investigating for a number of years the causes of variations in the composition of milk. This is a subject of considerable importance not only to the manufacturer of dairy products but to the producer, and has special significance in connection with the use of milk as food for infants.

It is often observed that milk is poorer in fat in summer and becomes richer again in the fall and the farmers have generally assumed this to be due to the watery condition of grass as compared with the dry feed received during the winter. Tests have shown that the cause of this is not grass feeding but the temperature. For some reason there is a tendency for the milk to be richer in fat during cold weather and to become poorer when the weather becomes very warm, regardless of the feed consumed.

A second factor of importance as influencing the richness of milk is the fatness of the cow at time of freshening. A cow high in flesh at calving time gives very much richer milk for some time than would be the case were she thin.

This knowledge is now made use of by every breeder of dairy cattle who desires to make the largest possible record for milk and butter fat production. Another interesting discovery is that when a cow is underfed she temporarily gives richer milk rather than thinner as might be expected. This is of great importance in connection with making tests of cows and a failure to understand this effect has resulted in wrong conclusions from many experiments conducted with cows in the past.

Breed Comparisons

Holstein cows were found to eat less feed for a given amount of milk produced than Jerseys in co-operative dairy work conducted among farmers through the Ohio Agricultural Experiment Station, but in economy of butterfat production the Jerseys led.

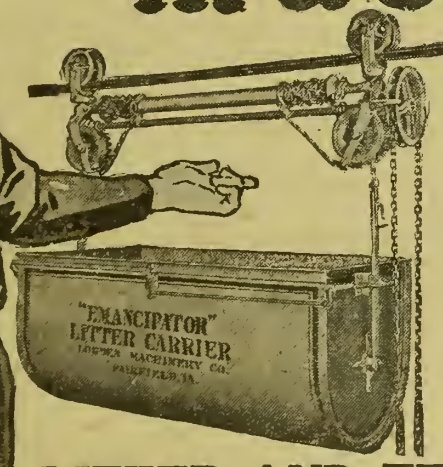
More than 150 cows of each breed owned by farmers who sent records to the experiment station were included in this study. The Jerseys ate 106 pounds of digestible nutrients for each hundred pounds of milk produced, while the Holsteins consumed but 91 pounds. For each pound of butterfat produced the Holsteins consumed 26¼ pounds of digestible nutrients and the Jerseys only 19⅔ pounds.

The Jerseys ate 18⅕ per cent more digestible nutrients and produced 1⅖ per cent more milk and 59¼ per cent more butterfat than the Holsteins on the basis of a thousand pounds live weight for each animal. The Holsteins were assumed to average 1,200 pounds in weight and the Jerseys 850 pounds.

The value of the National Dairy Show from an instructive standpoint can hardly be overestimated, and the future influence which it will exert over this industry is destined to be of the greatest. To see the well groomed dairy cattle, to meet the intelligent breeder, to watch the discriminating judge, to investigate the latest dairy machinery, and to advertise the real worth of dairy products, affords an inspiration with which one can not return home without becoming a more progressive dairyman, a more constructive farmer, and a more valuable citizen in his community. This show will be held in Columbus, Ohio, October 18-27.

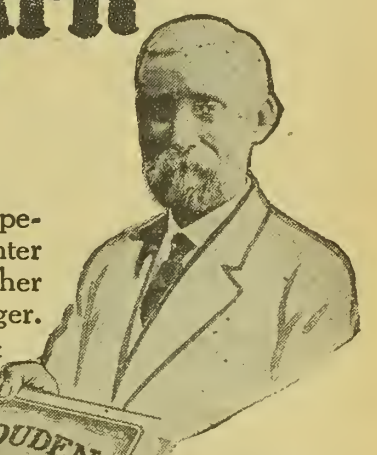
"I can clean the Barn in a Jiffy now"





Barn cleaning and stock feeding is an especially hard and disagreeable job in winter time, when days are short and the weather cold and slushy, and cows are kept up longer.

Relieve yourself of worry about the present great labor shortage; cut the time and labor of barn cleaning and stock feeding in half, and make what's left of the work more agreeable for yourself or the boy.



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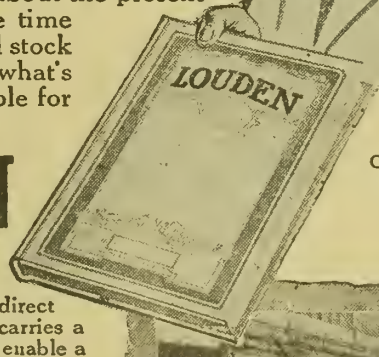




roll along the overhead track from stall to stall—connect your feed alley direct with granary or silo, and your manure alley direct with pit or spreader. Box carries a big load every trip, but powerful hoisting gear and roller bearing trolleys enable a twelve-year-old boy to handle it easily.

Louden Carriers are built in various styles and sizes to suit any kind or size of barn. They are simple, strong, durable. You can install them yourself with very little trouble and make your daily barn work easy instead of a hardship.

Here Are Four Louden Propositions Which You Ought to Consider Now:

1—*Our Big New Illustrated Catalog—sent postpaid—no charge.* It shows exactly the carrier outfit you want for your barn. Also scores of other Louden Labor Saving Barn Equipment—including Stalls and Stanchions, Animal Pens, Horse Barn Equipment, Mangers, Hay Tools, Ventilators, Cupolas, Automatic Watering Bowls, Barn and Garage Door Hangers—"Everything for the Barn."

2—*Are You Going to Build a Barn?* Louden Barn Plans Book will save you money and trouble—112 pages showing 74 practical plans of barns with full descriptions and estimated cost of each. Mailed postpaid on request.

3—*Louden Architectural Service.* Our expert architects will advise and supply you with preliminary plans to suit your particular needs, if you will write us what size or style of barn you have in mind, how many head and what kind of stock you wish to house. No charge for this service. Complete working plans furnished at very low cost.

4—*"Interesting Facts on a Homely Subject"*—a booklet telling about care and value of manure, soil conservation, etc. Much valuable information which you ought to have. Sent postpaid on request—no charge.

Fill out and mail us the coupon today and take advantage of Louden valuable up-to-date service.

The Louden Machinery Company

1520 Court Street (*50 Years in Business*) Fairfield, Iowa

THE LOUDEN MACHINERY CO.
1520 Court St., Fairfield, Iowa.

Please send, postpaid, the books checked below.

[ ] LOUDEN BARN PLANS
[ ] YOUR ILLUSTRATED CATALOG

I expect to build (remodel) a barn about (date)..... for..... cows .....horses.

Name.....

Post Office..... State.....

Straight Answers to Timely Questions

What is Pratts Poultry Regulator?

A positive tonic and conditioner for poultry of all kinds and ages. *A health-builder and health-preserver.* Not a food.

What does it contain?

Roots, herbs, spices, mineral substances, etc. Each ingredient performs a certain duty. The combination spells "health insurance."

What does it do?

Pratts Poultry Regulator makes and keeps poultry healthy, vigorous and productive. It sharpens the appetite, improves digestion and circulation, hastens growth and increases egg-production. *It saves feed* by preventing waste due to poor digestion. *It prevents disease* by keeping the birds in condition to resist the common ailments.

Has it been fully tested?

Yes! In general use for nearly fifty years. The *original* poultry conditioner. Imitated, but unequalled.

Does it give general satisfaction?

Positively! *Satisfaction guaranteed or money refunded.* Test it at our risk. Increased egg-production will prove that "Pratts makes hens lay."

How is it best used?

Daily, in small quantities. For adults, a tablespoonful daily for 10 birds. Younger stock in proportion. Mix with dry or moist mash.

What does it cost?

Nothing, because *it pays big profits.* One cent a month per hen is the *investment* required.

Where can I get it?

From 60,000 Pratt dealers. There is one near you. Direct from the manufacturer, prepaid, if your dealer can't supply you.

How can I learn more about it?

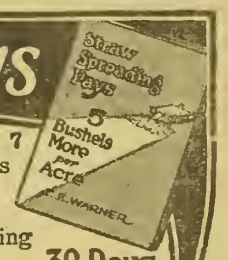
Ask the Pratt Food Co., Philadelphia, for valuable FREE BOOKS on poultry keeping. Write today!

123

PRATT FOOD COMPANY
Philadelphia Chicago Toronto

Pratts

Straw Spreading Pays



You can increase your next crops 5 to 7 bushels per acre. Last year, thousands of farmers did that, in all the corn belt states, and at current prices, made $10 to $12 per acre, extra money. This extra gain is made by spreading straw on fields, the easy and quick way, using

Perfection Straw Spreader

30 Days Trial

Straw spreading pays big. Every ton of straw has over $3.00 worth of fertilizer elements—more than manure. Makes ground hold more water. Absolutely prevents soil blowing. With the Perfection, you spread 20 to 25 acres a day—spread thick or thin, in wind or calm, as you wish.

Satisfaction Guaranteed You can use one of these spreaders 30 days on trial—spread new or old straw, manure or corn stalks—to give the machine a thorough test at my risk.

Free Book My new free book proves the profit in straw spreading, and explains how I ship spreaders on trial and on easy payment terms. Write me today.



C. E. WARNER, Pres., WARNER MFG. CO.
510 Union St., Ottawa, Kansas

30 DAYS' FREE TRIAL



Have Your Own Weights Correct

The sure way to know exactly what your profits will be is to have an American Pitless Scale. No guessing then — no taking another's word. Complies with all State laws. U. S. Standard. Durably built. Long wearing. Smallest number of parts. Bearings carefully protected. Easily moved. Write today for Catalog and 30 Days' Trial Offer

Make Money You can make good money weighing for your neighbors. The American Pitless Scale is easily moved from one farm to another. Pays for itself in a season.

AMERICAN SCALE CO. Department 130 Kansas City, Mo.

Interest in sheep is spreading in Kansas. A county sheep breeders' association has been organized in Marshall County and the county agricultural agent reports that a membership of fifty is expected. Sheep clubs for the boys are being started in Kingman County as a result of the interest in these animals in the county. Several farmers have called on the emergency demonstration agent to discuss the possibilities in sheep, and several inquiries for good grade ewes have been received by him.



Saving Manure Waste

KANSAS farmers lose millions of dollars annually through the improper handling of barnyard manure. This statement was recently made by R. I. Throckmorten, of the Kansas Experiment Station. According to Mr. Throckmorton's figures, barnyard manure is worth $4.76 a ton. A product having such a high value is well worth storing in such a way as to prevent the leaching away of its valuable constituents. This value placed on manure has been determined by experiments conducted on the station farm where alfalfa has been grown continuously since 1910, having an application of five tons of manure each year. The above value has been returned on the basis of the increase in yield of hay last year at only $8 a ton.

Manure is one of the perishable farm products, and under ordinary conditions it is impossible to return all of this material to the land. In fact, the average farmer returns only about half the fertility contained in manure, and many men fall far short of this. The decrease in the value of manure in the farmyard is due to several causes, but the leaching away of the soluble material during rains is one of the most common sources of loss. Experiments carried on at various experiment stations show that where manure is exposed to the weather for a period of five or six months no less than 50 per cent of the fertility is lost. The average farm animal uses only a small portion of the mineral elements consumed in the feed and on the average about 80 per cent of the nitrogen, 70 per cent of the phosphorus and 75 per cent of the potassium is avoided in the manure. These elements, especially the potassium and nitrogen, are in very soluble form and are readily leached away by rain water. The phosphorus is slightly more stable and a smaller percentage of it is lost, however its loss is not so important because it is present in much smaller quantities and its selling price per pound is far below either of the other two elements.

The greatest loss from leaching will occur where animals are fed in open lots. Here a very large percentage of the manure is directly exposed to the rainfall and the loss may be even greater if the lots are located on hillsides where much of the material may be carried away by erosion. This greatly impoverishes the manure and lessens its ability to produce crops. A three years' test at the New Jersey station showed that fresh manure gave 40 per cent greater increase in the yield of crops than did leached manure.

The common practice on many farms is to leave the manure heap exposed to the rain, which washes out very large portions of its most valuable constituents. It has been estimated that the value of manure produced on the farms in Kansas each year from the various classes of live stock is $91,587,370. Professor Throckmorton estimates that fully one-third of this value is lost through improper handling.

The best and most practical means of avoiding this loss is to spread all manure as it is produced. If it is necessary to permit manure to accumulate, a good way to avoid loss is to construct a water-tight concrete bin which will be large enough to hold that produced during the summer season. On some farms sheds are built and as much of the manure as possible is accumulated under these sheds. In view of the great need of our farms for fertilizer, it would be well worth while to plan to cut out as much of this manure waste as possible.

Missouri Corn Crop

Missouri is producing war crops of 280 millions of bushels of corn, 42 millions of oats and 22.7 millions of wheat, to help feed more than a dozen allied nations, as shown by the September crop report of Secretary Jewell Mayes, issued from the office of the State Board of Agriculture, indicating the record-breaking oats crop of fourteen years, the biggest corn crop since 1902, and fall planting of wheat 128 per cent compared to this year's harvesting.

Of this year's corn crop less than 2 per cent is already cut for silage and fodder, and the portion to be cut is 40 per cent. Averaging the hundreds of reports from 114 counties, corn is expected to sell at $1.02 per bushel at gathering time.

The 1917 corn total is 280,000,000 bushels on eight million acres—thirty-five bushels per acre, a big gain over 27.6 the seventeen-year average. The 1902 acre yield was forty bushels. At $1.02 the 1917 acre return on corn will be $35.70.

Shocked Corn Silage

If your silo is not ready when the crop is ready, the corn can be put in the shock and later run into the silo. Nearly every fall there are some who did not get the silos finished in time and find it necessary to handle the crop in this way in order to use it as silage. In this year of high priced feeds many will be interested in refilling silos after they have been emptied. Shocked corn can be used for this second filling and considerable more good be obtained from the fodder than by feeding it in the ordinary way. During the fall and winter of 1913 and 1914 the Missouri Experiment Station filled three small silos with corn fodder at different dates, using varying amounts of water. Visits were also made to ten or twelve farmers who had successfully used silage made of shocked corn and samples were taken from their silos for analysis.

The opinions of the men who had used silage made of shock corn may be summarized as follows: It is a satisfactory feed and animals find it more palatable and appear to do better on it than when fed shock corn. Silage made in this way is not equal to that made by putting corn into the silo at the proper stage. Refilling a silo in the middle of the winter with corn fodder prevents the loss in feeding value which occurs, especially toward spring, when fodder is left in the shock. It is more convenient to feed from the silo than from the shock. Cattle eat more of the stalk when it is in the form of silage, thus conserving a large amount of feed which, as shock corn, would be wasted.

It is doubtful if putting dry corn fodder into the silo will ever become a general practice on account of the large amount of water which is required to put it in proper condition. On most farms it is entirely out of the question to consider putting the dry corn into the silo because of not having an abundant and convenient water supply. The studies made at the Missouri College of Agriculture with different amounts of water show that corn which has stood in the field until it has thoroughly dried requires about a ton of water for each ton of corn fodder. This amount of water gives the silage about the normal composition found when corn is put into the silo at the right stage. If, on account of wet weather, the fodder is damp at the time of filling the silo, the amount of water may be reduced a little, but if this amount is much less than equal parts with the fodder used, more or less mould will develop in the silage. Failure to add enough water was the most common fault found with the silage made from corn fodder in the ten or twelve silos visited.

Country Marketing of Grain

The business of marketing grain and handling a country elevator involves more factors than appear on a cursory examination of the subject. The business is attended by many hazards which should be carefully weighed in advance by those contemplating engaging in it.

This advice is contained in a recent publication of the Federal Department of Agriculture, Bulletin 558, "Marketing Grain at Country Points." The bulletin, which contains much information of interest to producers, shippers, dealers, and consumers of grain and grain products throughout the United States, reports the results of a survey of grain-handling methods in the states of the middle west.

Pointing out a common fallacy of buying, the Government investigators declare that the producer of high-quality

YEAR TO PAY
No Money In Advance



Hartman's great offer brings you the famous "Hercules" Brand of

ROOFING

Not a cent in advance—30 days' free trial and a year to pay.

Most durable, most economical Roofing and easiest to put on. No outside help required. You can put it on yourself. Only a hammer and pair of shears required. We furnish all necessary nails and binding cement and give full directions. Your choice of felt, flint surfaced, mica surfaced, composite. A protection against fire. Every roll backed by the guarantee of a $12,000,000 house.

Get full descriptions and prices of the famous "Hercules" Roofing before you pay out a penny. Free samples sent also.

PAY NOTHING FOR 60 DAYS

If you keep the Roofing make first payment in 60 days. Balance in equal payments every 60 days.

Samples and Catalog

Send today for Free Roofing and Paint Catalog, also for Roofing Samples and Paint Color Cards. Tells all about "Hercules" Roofing and gives the most reasonable prices and easiest terms on all kinds of Roofing and Paints. Send name and address today on Post Card. Remember we ask no money in advance.

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SPREAD STRAW!
PROTECT YOUR WAR CROP WITH A MULCH



Uses Simplex Spreader—Spread a "top dressing" 20 ft. wide! Spread any kind of straw or manure:—bright straw—rotten straw, Pulverizes—mashes—shreds and then spre ds any old straw, manure, clover stems, cornstalks.

SIMPLEX 2 IN 1 DOUBLE DUTY
Straw & Manure Spreader

Only machine that handles both straw and manure perfectly. Fits any wagon. Easily attached. Has double drive! Lasts a lifetime! Send a postal today. Find out about my 30 day Free Trial—my amazing long time credit—my low price. Write today.

Thomas Campbell, Pres.
SIMPLEX SPREADER MFG. CO.
870 Traders Bldg., Kansas City, Mo.

SAVE YOUR WHEAT FROM WINTER KILL!

grain often receives less than it is worth in order that the buyer may pay an equal price to a grower of grain of inferior quality. If grain could be cleaned it not only would demand top prices, but screenings worth $10 to $25 a ton for feed would be saved on the farm. The specialists believe that farmers who deliver grain of inferior quality should not expect to receive a price equal to that paid for high-quality grain.

In some sections of the country many elevators are open only during the harvest season. The Government investigators believe that, prices and other factors being equal, farmers should encourage elevators which remain open and provide a local market throughout the year.

The middleman, the experts say, may serve a double purpose. Under the present methods of distribution he may find the most favorable outlet for the producer and secure for the buyer grain of the quality he desires. But it is also pointed out that in its course from the producer to the consumer grain may be passed through the hands of so many persons who may be called middlemen that their efforts may become a burden and add needlessly to the cost of marketing.

Speaking of the storage of grain on the farm, the specialists have found that to determine whether such practice would be profitable, it is necessary to consider the interest on the investment, interest on the grain in store, natural shrinkage and loss by rodents, convenience of marketing, condition of roads at time of delivery, price at harvest time, and the probable price at some future date. In the past the natural shrinkage in corn has been so great as to show little profit from storage, while if a long-time average is taken into consideration, oats and wheat have been stored at a profit.

Wichita Wheat Show

The Wichita Wheat Show is now on in full swing. While this has come to be known as the wheat show, wheat is not displayed to the exclusion of other farm products. It is an all-round farm products show and all held under cover, a space 300 feet long by 800 feet wide being occupied by the various exhibits. A new feature introduced this year is an exhibit by the Federal Farm Loan Board. This consists of a model farm loan bank, experts from the United States Treasury Department being sent from Washington to conduct it. This is especially interesting because the lecturers are able to explain in detail how borrowers may obtain loans. Demonstrations are being given in domestic science, food preservation, lectures to women on household subjects, in Red Cross and Boy Scout activities, and along many other interesting and instructive lines.

Co-operation Through Agent

One of the advantages of having an agricultural agent in the county is that in going about his work he learns where animals, seeds, or feed can be bought and sold and many times in one such transaction he can save the buying farmer enough expense to pay his farm bureau dues for a number of years, and because of this demand for his products the selling farmer, too, receives a valuable service.

F. J. Robbins, agricultural agent of Franklin County, in one week brought farmers of his county together on two bull calves. The probabilities are that without his help the purchases would have been made outside the county and likewise the animals would have been shipped out of the county at a sacrifice because of their unknown value.

War Duty of Boys

"Should I go back to school this fall? Shouldn't I be doing something for my country in the war?" These questions undoubtedly are in the minds of thousands of American boys. Upon the authority of the President, the Secretary of War, the Secretary of the Navy, the Postmaster General, other government officials, war leaders and college presidents, The American Boy gives the answer in its September issue.

This answer is: "Do both—go back to school; that will be a service to your country—the greatest you can give."

Such counsel, given on such authority, will help to solve a problem that naturally has vexed not only boys but parents.

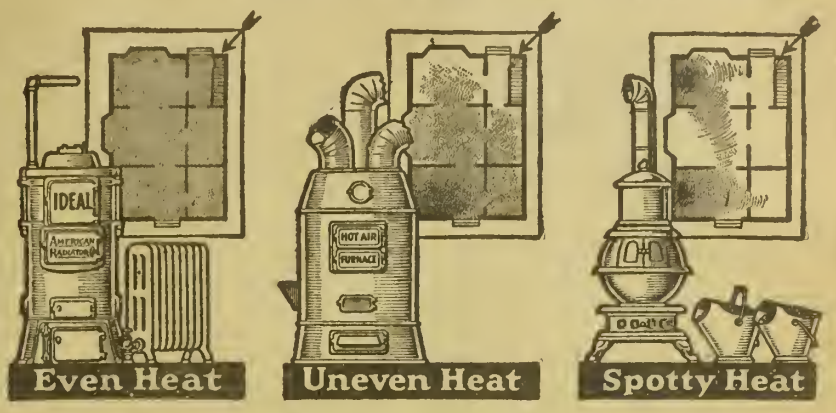
"You want to know reasons; you want to be shown," says the magazine in an article based on the letters of a score of eminent men. "Think of the war first. This isn't a war merely of numbers of soldiers and their sheer brute force. It's a war of trained men—a war that is fought largely by mathematicians, skilled mechanics, electricians, aeronauts, seamen, chemists, sanitation experts, surgeons, business men. Thousands and thousands of these educated leaders in the war have been killed or lost to the service through wounds; other thousands may be destroyed. Who will take their places if the war continues long? Certainly it will not be the boys who have dropped out of school.

"There's another reason—a big one. The work of the world will go on after this war has ended. War or no war there must be skilled mechanics, electricians, aeronauts, seamen, chemists, sanitation experts, surgeons, business men. There will be fewer such after the war. That means there will be an unusually good opportunity for you to gain success and distinction in your chosen line of work. But you can't succeed, you can't gain distinction, if you have been a 'slacker' in school.

"The best reason for your staying in school we haven't given yet. It is not only that you can earn more money, when you are a man, if you stay in school; it is not only that you will have a better chance to succeed, as an educated man, because so many educated men will have been lost. It is that, after this terrible war with its tragic destruction, the world will have to be rebuilt. That will be your job; that is, you must do a part of the job. Which part will it be? Will it be an important part because you are fitted by education to do an important part, or will you just drift along, doing what others tell you to do, a follower, if not a bungler? Going to school now, this year, and sticking through, are the first essentials. Don't drop out. Don't be a slacker. Don't be a quitter. 'Carry on!' Do it for your country's sake."

The call of the young man under 21 is not to the colors but to the colleges. —JOSEPHUS DANIELS.

RADIATOR HEATING
ahead of all others—



The outline plan of the house shows heat distribution when winter wind is blowing, as shown by arrow. Notice that heat is even in all rooms with IDEAL Boiler and AMERICAN Radiators.

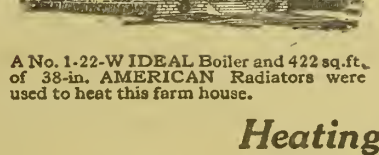
The above diagrams give a clear idea how your home should be heated. The "spotty" heating of stoves is disagreeable, dirty, and uncertain. Furnace heat is somewhat satisfactory, but not always to be depended upon and is wasteful of fuel. Radiator heating is cleanly, sure, safe, and the outfit lasts a lifetime.

AMERICAN RADIATORS & IDEAL BOILERS

The slight difference in first cost of Radiator heating is very soon repaid to you in the great fuel savings over other kinds of heating, the greater comfort of your whole house and the increased satisfaction and better health of yourself and family.

Buy this heat that saves the most

IDEAL Boilers will get the most heat from the fuels of any localities. Scientifically constructed and the most wonderful heat producers known—never need repair or overhauling, not necessary to have water pressure or a basement—place the boiler in side room or leanto. One fire heats the whole house and one charge of fuel will last from eight to twenty hours, depending upon the severity of the weather.



A No. 1-22-W IDEAL Boiler and 422 sq.ft. of 38-in. AMERICAN Radiators were used to heat this farm house.

IDEAL Heating outfits are made in units or sections to fit any size building and are the best investment you can make for the success of your farm. Write us or go to your dealer today and talk with him about it.

Heating book (free)

Write today for copy of our book "Ideal Heating" which is the best one published on the subject. Full of illustrations and valuable information which you should read whether your house is *new* or *old*, or large or small.

Sold by all dealers. No exclusive agents.

AMERICAN RADIATOR COMPANY

Write to Department F-14 Chicago

Feed the Fighters! Win the War!
Harvest the Crops! Save the Yields!

On the battlefields of France and Flanders the United States boys and the Canadian boys are fighting side by side to win for the World the freedom that Prussianism would destroy.

While doing this they must be fed and every ounce of muscle that can be requisitioned must go into use to save this year's crop. A short harvest period requires the combined forces of the two countries in team work, such as the soldier boys in France and Flanders are demonstrating.

THE COMBINED FIGHTERS IN FRANCE AND FLANDERS AND THE COMBINED HARVESTERS IN AMERICA WILL BRING THE ALLIED VICTORY NEARER

A reciprocal arrangement for the use of farm workers has been perfected between the Department of the Interior of Canada and the Departments of Labor and Agriculture of the United States, under which it is proposed to permit the harvesters that are now engaged in the wheat fields of Oklahoma, Kansas, Iowa, North Dakota, South Dakota, Nebraska, Minnesota, and Wisconsin to move over into Canada, with the privilege of later returning to the United States, when the crops in the United States have been conserved, and help to save the enormous crops in Canada which by that time will be ready for harvesting.

HELP YOUR CANADIAN NEIGHBORS WHEN YOUR OWN CROP IS HARVESTED

Canada wants 40,000 Harvest Hands to take care of its
13 Million Acre Wheat Field

One cent a mile railway fare from the International Boundary line to destination and the same rate returning to the International Boundary. High wages, good board, comfortable lodgings.

An Identification Card issued at the boundary by a Canadian Immigration Officer will guarantee no trouble in returning to the United States.

AS SOON AS YOUR OWN HARVEST IS SAVED, move northward and assist your Canadian neighbor in harvesting his; in this way do your bit in helping "Win the War."

For particulars as to routes, identification cards and place where employment may be had, apply to Superintendent of Immigration, Ottawa, Canada, or to

GEO. A. COOK, Canadian Government Agent, 2012 Main St., Kansas City, Mo.



The Evidence

Concrete Roads Reduce Tractive Effort

THIS means that substantial savings in hauling, in wear and tear on vehicles, in gasoline and tire expenditure, are effected on concrete roads.

Here's the Proof

The Good Roads Bureau of the California Automobile Association in co-operation with the Agricultural Engineering Division of the University of California, has just completed an exhaustive series of tests on all kinds of road surfaces.

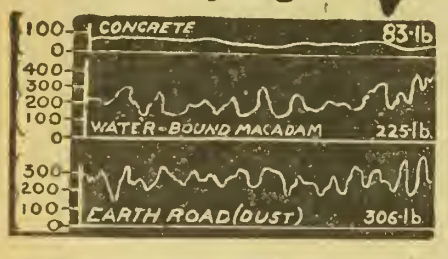
Concrete showed the lowest tractive resistance. The table below shows how concrete compares with two well known road surfaces—water-bound macadam and the ordinary dirt road. Concrete offered about ***one-third*** the resistance of water-bound macadam and the earth road required nearly ***four times*** more hauling effort than concrete.

DEWEY

Portland Cement

for road improvements insures a lasting job. Reasonable in initial cost—the upkeep is remarkably low. Smooth surfaces. No mud. No dust. Good 365 days a year. See the Dewey Dealer and ask him for Bulletin on Concrete Roads.

Look for the Dewey Sign



ABSORBINE ***STOPS LAMENESS***

from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone, or similar trouble and gets horse going sound. It acts mildly but quickly and good results are lasting. **Does not blister or remove the hair** and horse can be worked. Page 17 in pamphlet with each bottle tells how. $2.00 a bottle delivered. **Horse Book 9 M free.**

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; heals Sores. Allays Pain. Will tell you more if you write. $1 and $2 a bottle at dealers or delivered. Liberal trial bottle for 10c stamps. W. F. YOUNG, P.D.F., 211 Temple St., Springfield, Mass.

Only $2 Down

One Year to Pay!

$29 Buys the New Butterfly Jr. No. 2. Light running, easy cleaning, close skimming, durable. **Guaranteed a lifetime.** Skims 95 quarts per hour. Made also in five larger sizes up to No. 5 shown here.

30 Days' Free Trial Earns its own cost and more by what it saves in cream. Postal brings Free catalog, folder and "direct-from-factory" offer. Buy from the manufacturer and save money.

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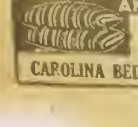
Lights With a Match



The Coleman "Quick-Lite" Lantern makes and burns its own gas from common gasoline. Gives brilliant light of 300 Candle Power. Just use a match to light. No torch required. No wick. No dirt. Storm and wind-proof. **Absolutely Safe.** Can't explode—no danger even if tipped over. **Guaranteed Five Years.** See your dealer or write THE COLEMAN LAMP CO.
Wichita. St. Paul. Toledo. Dallas. Chicago.

36 POUND NEW FEATHER BED AND PAIR 6LB. PILLOWS $9.50



All New, Live, Clean, Sanitary Feathers. Best grade feather proof ticking. Satisfaction guaranteed. Write for catalog.

CAROLINA BEDDING CO., Dept 130 Greensboro, N. C.



Profit in Fattening Hogs

EVEN at present prices of feeds, hogs can be profitably fattened, according to the results obtained in the hog feeding demonstrations carried on at the St. Joseph Stock Yards. These demonstrations in feeding hogs, cattle, and sheep are being conducted under the supervision of the Kansas and Missouri experiment stations and in co-operation with the Buchanan County Farm Bureau. A very complete and finely illustrated report of the second series of demonstrations which closed last spring has recently been published by the Stock Yards Company.

In figuring the actual average cost of producing a hundred pounds of pork, the following prices for feeds were used: Corn, $2 a bushel; tankage, $4.50 a hundred; linseed meal, $3 a hundred, and shorts, $2.50 a hundred. The results of four successive ninety-day feeding periods show that in the lot where the hogs were fed shelled corn and tankage it required 389 pounds of shelled corn and twenty-eight pounds of tankage to the hundred pounds of gain. The cost of this gain was $15.15. In the lots fed shelled corn and linseed meal it required 415 pounds of shelled corn and twenty-seven pounds of linseed meal to make a hundred pounds of gain, the cost being $15.63. Both of these demonstrations are the result of averaging four ninety-day periods. In one period of feeding, shelled corn, tankage, and shorts showed approximately the same cost of gain as the shelled corn and tankage.

It will be noted that even at the present high feed prices the gains on these hogs were made at about three dollars a hundred less than the present market value of pork. This is a very satisfactory margin of profit, and it would seem that corn could be fully as profitably marketed in the form of pork as if sold on the open market. In all probability corn will not be as high as was figured in these feeding demonstrations. It appears to be the unanimous opinion of the best authorities that the present high prices of hogs will continue for some time owing to the great demand for pork and its products. This is of course brought about to some extent by the large use made of pork products in provisioning armies.

Crude Oil for Hogs

Crude oil or residium oil should be used on every farm where hogs are handled. Parasites are a great drain in the business of making pork. The use of the oil is a standard treatment for lice, mange, and other skin troubles, points out John M. Evvard, of the Iowa Experiment Station, in the Iowa Agriculturist. He also mentions the fact that oil applied to dusty quarters settles the dust and thus indirectly prevents a great deal of the coughing caused by dust. Ordinary dips may be used strong enough to kill lice, but they will not destroy the nits, therefore a second dipping is necessary in from eight to fourteen days following the first.

In the winter time the use of oil minimizes the "chill," inasmuch as it does not evaporate. Ordinary dips, composed of 95 per cent or more of water, chill the animals considerably, this being especially true in the "dead of winter," because water evaporating from the skin surface abstracts much heat in so doing.

Crude oil "sticks" to the animal's hair and skin in good shape, ofttimes remaining for a week or two in suitable weather. Too, when the hogs go into their nests with this crude oil covering, they help to disinfect and cleanse their sleeping quarters. With the ordinary dips this benefit is not so noticeable. Of course, it is true that crude oil "rub" marks on nicely painted buildings are not desirable, and that is an objection.

Crude oil can be purchased from practically any of the oil companies, it costing from $5 to $8 a barrel ordinarily. A barrel of crude oil, however, will keep an ordinary herd of swine free from lice for a year or two unless it happens that the infestation is especially bad.

The method of applying this oil is simply to herd the hogs up in one corner by means of hurdles, then when they are closely packed together sprinkle them with crude oil, using an ordinary sprinkling can. A broom may be pressed into service for this purpose, dipping the same in the crude oil and shaking the oil out of it over the pigs. The broom is also useful in supplementing the "can" method in that the crude oil may be rubbed onto the backs and sides and bellies and legs and heads of the hogs.

If the lice get into the ears, take an oil can full of the crude oil and simply squirt a little of the black lice killing stuff around the inner rim of the ear; or take a cob, dip it in the crude oil and give the ears a good "coh" oiling. The lice find the ear cavity a "snug haven of safety" in emergencies, this being especially true when the hogs have access to a mud wallow. The ear is seemingly a most welcome avenue of escape from the deadly lice eradicating mud bath, but the crude oil will get to them.

For blistered pigs crude oil of the milder sorts is of much value. Simply apply the oil to the blistered portions in as gentle a manner as is consistent with a good job. When the pigs get their skins sore from running in wet and dewy forage such as rape and tall alfalfa, we find the crude oil treatment facilitates and encourages healing in that it softens the wounds, prevents the water from adhering and thus indirectly prevents further blisters and discourages the flies.

Crude oil is used quite extensively in automatic hog oilers. This is good practice. Care must be taken, however, to purchase a reliable and satisfactory oiler. Some of the "self oiler" concerns put out a refined oil or grease for use and these are, so far as we know, good and of merit; but the especially prepared oils and greases are ofttimes quite expensive. Most of the hog oiler manufacturers are anxious to put their machines out on trial, thus insuring that the prospective customer he satisfied before he pays his money. The successful hog oilers are worthy of consideration.

The dipping tank may be used to apply crude oil. The usual method is to place an inch or two of crude oil on top of a tank full of water, running the hogs through the same. They take on a layer of oil as they go down and as they come up, this method being practically as effective as if crude oil only is used. In the winter, to prevent undue chilling after dipping, the tank is preferably filled with oil. The disadvantage of this, however, is the expense. With the layer of oil on top of water method, the hogs get practically an all oil covering without any adhering water. The pigs carry very little more oil away with them when the tank is filled solid with oil than where a one or two-inch layer only is present on top of the water, but considerably more oil is necessary to fill the tank completely than where the layer scheme is practiced.

A large dripping platform upon which the hogs may stand from five to fifteen minutes after dipping is a great saver, the surplus drippings being returned to the original dipping tank. The dipping tank is, however, quite a nuisance in some respects, and the swine soon learn to fight shy of it, much to the discomfort of the herdsman, who must laboriously immerse the herd, one by one.

To try a good grade of crude oil is to be convinced of its louse-killing, mange-destroying, coat-smoothing, dust-allaying, odor-climinating and general healing properties.

Starting with Ewe Lambs

Good breeding ewes are selling high. Lower prices are unlikely, as the demand is strong and the available supply is small. With probable high prices for mutton and wool in the future the farmer who understands sheep and will properly care for them from the start has good prospects of success.

For those inexperienced in sheep raising, particularly, there are several important advantages in purchasing ewe lambs instead of mature breeding ewes. In the first place, the ewes of breeding age that are offered for sale are mostly western ewes with a long wool cross while the ewe lambs coming from the West are mostly black-faced lambs, thus

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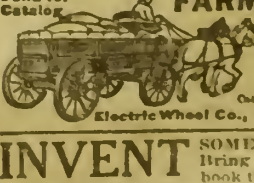

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The amount of brains you put into your work determines the amount of pleasure and profit you will get out of it.

showing a cross of some of the down breeds which is the kind of blood most farmers wish to have in their flocks. By buying such ewe lambs one gets the advantage of starting with the first cross of the type to be used in grading up a flock to the mutton type.

While breeding stock is selling high, the ewe lambs can be bought at about $5 per head less than breeding ewes. This is an important point in starting a flock, although until the lambs came to a breeding age no returns from the flock will be forthcoming except the wool clip. However, for the beginner in sheep husbandry, no better plan of obtaining experience could be adopted than in caring for a flock of ewe lambs for a year. The experience gained in wintering ewe lambs and managing the flock throughout the summer season would be invaluable.

Investment in a flock of ewe lambs will give the advantage of the first cross of blood of the down breeds, lower price, and necessary experience. The wool clip, which will at least offset the first year's keep, and the yearling ewes will be a benefit to weedy pastures next spring if moved frequently and not stocked so heavily as to eat the grass into the ground.

Fat Steers at Hutchinson

In the fat stock show at the Kansas State Fair the judges, W. J. Brown, L. McWhorter, and George Pettit, shook things up and changed awards considerably from the rating at Topeka, although Victor Hessler, the Hereford calf shown by the Agricultural College, was again awarded the place of best steer, any age or breed. In the two-year-old class the college was given first on a two-year-old Hereford, the Herkelmann Shorthorn winning first at Topeka being moved down to fourth place. Kershaw, with his pure-bred Angus steer which was placed fourth at Topeka, was moved up to second. The college got third on an Angus.

In the yearling class the Shorthorn, Barmpton Prince, standing at the top in Topeka, was moved to fourth place, and the college Angus yearling placed first with Kershaw's Angus second and a Hereford steer shown by Halff of Texas, third. In the calf class the college Hereford, Victor Hessler, was first; Cowden, of Texas, second with an Angus, and the college third with the pure-bred Shorthorn; Golden Dale 2d. The steers shown were all animals of special merit and it was not an easy task for the judges to place the awards.

Worm Remedies

If hogs are to make the greatest profit, they must be kept free from worms. Hogs become infested with worms by taking them up with food or drink. Hence, well-drained, clean lots reduce the chances for them to become infested. It is best to keep a good worm preventive before them at all times. Any tested commercial remedy may be used, but the following preparation is very successful: Air-slaked lime, two parts; salt, two parts; charcoal, two parts; and pulverized copperas, one part.

Where the herd is badly infested, use for each hundred pounds of shoat, eight grains santonin and six grains calomel thoroughly mixed with a thin slop. Let the shoats miss a feed in the evening, and give them a treatment in place of the regular feed the following morning. If necessary, repeat in one week.

Advertising Pure-Bred Stock

All of us who have observed closely have noted how few of the men who start in the business of breeding pure-bred live stock stay at it for any great length of time. Anyone who has been familiar with a given territory for twenty-five or more years has seen many go in and out of pure-bred live stock during this period. Too many of the men who fail in pure-bred live stock went in when prices were exceptionally high, for at such times this business always makes its strongest appeal. The beginner sees and hears of the high prices being paid for pure-bred animals and begins to figure immediately on having such animals to sell himself in the course of a short time. It is not the fault of the business, however, that such a considerable number of those who have tried it have failed to make it go.

Perhaps one of the common causes of failure is the inability to appreciate the value of the right kind of advertising. A great many men can become successful breeders of pure-bred stock who cannot sell them at profitable prices unless it is during a time when a special boom is on. It requires considerable ability to market pure-bred stock at a profit under ordinary circumstances. The man who would succeed must persistently keep his business before the public and be able to back it up with animals of real merit. We do not recall many instances where breeders able to produce animals of merit have failed, providing they used judgment in letting the public know that they had such stock for sale. Those who invest in pure-bred stock must learn this lesson in advertising at the start, and consider advertising of some sort as a part of their investment. By this we do not mean that they should be plungers, but it is a part of the business to systematically advertise, and it is only by doing this that the fullest possible success can come from breeding pure-bred stock.

Co-operation in Buying Bulls

Nothing will so quickly and so cheaply improve the cattle of a community as the use of high-class bulls. Too often on the farms where only a small number of cattle are kept the difficulty is in being able to own a high-class sire. Farmers having small herds have long felt the need for better cattle because of the discrimination against their stock at the various markets. The desire for better live stock has received a strong stimulus due to the high prices which have prevailed for feed of various kinds during the past year or two. It certainly does not pay to feed expensive feed to scrub animals.

Farmers in Ripley County, Missouri, have recently made a move toward securing better breeding sires co-operatively. Even after they had decided that live stock improvement was necessary, they did not know what breed was best adapted to their condition or where to obtain the animals after they had decided what breeds to purchase. They were assisted in their co-operative efforts by a banking firm which called together a committee of farmers and offered to lend them money with which to purchase pure-bred bulls. This offer of the bank to co-operate with the farmers was accepted, and a committee of two was selected to represent the purchasers. This committee together with D. C. Welty of the Iron Mountain Railway and S. T. Simpson of the Missouri College of Agriculture made a trip through several states in search of the right kind of bulls. As a result, two carloads of Hereford and Red Polled bulls were purchased. A few registered cows were included, and these will be used to form the foundation stock for future herds of pure-bred cattle.

Through continued co-operation in the purchase and exchange of breeding sires, the men of this community can do much to improve the type of cattle grown.

Loud talking, swearing, and rough handling are not permitted in a well-managed dairy. Dairy cows will increase their milk flow if always quietly and gently handled.

Before Deciding On Your Engine

Look up the question of construction, first cost, quality, power, speed regulation and fuel used. Learn what produces good compression, powerful ignition, easy starting, durability and long life. Read about the advantages of vertical valves, high-tension magnetos, kerosene as a fuel, preheating fuel, etc. These subjects and many others vital to the engine user are fully explained by word and illustration in Ed. H. Witte's new (copyrighted) book, "How to Judge Engines."

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Carey-ized Stock Tonic Brick is made up according to a formula scientifically worked out by chemists of highest standing. It is more than a specific for some particular ills. Its purpose is To Prevent All Disease—to keep the animal system in such vigorous health that it repels all attacks of disease germs of every description.

Carey-ized Stock Tonic Brick is a combination of powdered gentian root, sulphate of iron, bi-carbonate of soda, sulphur, carbonized peet, quassia, charcoal and pure dairy salt. Contains absolutely no harmful substance—animals can't eat too much of it.

These ingredients, properly proportioned, constitute an unfailing worm destroyer and conditioner, keep stomach and bowels in order, aid digestion, promote healthy activity of kidneys and liver, purify and invigorate the blood.

Carey-ized Stock Tonic Brick has stood the severest feeding tests by leading stock raisers, and has the unqualified endorsement of high veterinary authorities. Let us give you the names of enthusiastic stock feeders whose hogs and other animals have been saved from disease and death by this great health medicine.

Solid Brick Form makes it economical to feed—preserves its medicinal value till the last particle is eaten. Animals eat only when they need it and as much as they need—there's no waste. Supplies them regularly with salt, as well as other needed medicines.

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We positively guarantee Carey-ized Stock Tonic Brick to be and do all we claim for it and we want you to verify our guarantee by your own experience and entirely at our risk. Order a dozen or more Carey-ized Stock Tonic Brick from your dealer; let your live stock have free access to it for 30 days. If you are not satisfied with the result, return what you have left and get all your money—no charge for what you have used. We stand behind our dealers with our guarantee.

If your dealer does not handle Carey-ized Stock Tonic Brick write us his name and we will see that you are supplied.

Fill out and mail us the coupon or write us a postal, and we'll send you full information and valuable booklet "Making Live Stock Pay."

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We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Time is infinitely long, and each day is a vessel into which a great deal may be poured—if one will actually fill it up. —GOETHE.

Refinishing Furniture

Miss Nellie M. Killgore, of the Colorado Agricultural College, says that the appearance of worn articles of furniture may be greatly improved by a small amount of labor. Most varnished furniture in the course of time needs serious attention, and most furniture is varnished. Sometimes the varnish can be rubbed down with boiled linseed oil and pumice stone, giving a duller polish, but more often the varnish should be removed. To do this, get a prepared varnish remover. Apply to surface with a brush, let stand about thirty minutes. Apply the second time, let stand fifteen or twenty minutes, scrape off with putty or case knife, or steel scraper. Another application of remover which can be wiped off with a cloth may be necessary. Then sandpaper surface, using medium to fine paper. Then rub down with oil and pumice stone, wiping off all oil and polish, using a woolen cloth. The piece can then be waxed, using a mixture of turpentine and beeswax or floor wax. It is better to rub down with oil several times before applying wax.

This gives a beautiful finish to old mahogany or walnut and brings out the beauty of the wood. Many an old piece could be made a thing of beauty by this treatment.

So much furniture is finished in golden oak and is unpleasantly shiny. Try refinishing a piece and see how it improves the looks. It may need a coating of stain to even up the color where it has been scraped.

Any furniture finished in a wax or fumed surface should be rubbed down with oil a few times a year to preserve the finish. Be sure and wipe off all superfluous oil. Some of the most beautiful old English furniture never had any other finish but frequent treatments of linseed oil.

Canning Inquiry

Mrs. C. B. M., Crawford County, asks: "Has any reader had experience in putting up squash for winter use? We are very fond of the white squash fried in egg batter, and we like the crook-necked ones baked, but we do not like them stewed. Can I fry the white ones and can without water, and can the crook-necked ones be baked before canning? Can anyone tell me whether or not turnip tops and mustard cooked together will keep in the old-fashioned tin cans?"

Having had no experience in the canning of squash fried in egg batter, we submitted this inquiry to Otis E. Hall, state club leader, who probably has had more experience in canning than has any woman in the state. Mr. Hall's reply is as follows:

"We have never tried canning squash in egg batter, but believe that it would not be practical. In fact there is no reason for canning it this way, for the squash can be canned in the shell or in the usual way and then fried in the egg batter when opened. This recipe has been used with success:

"Wash clean while whole, then cut into quarters or eighths—it is not necessary to pare or peel. Scrape out seeds and fibers. Steam until pulp can be scraped from shell with spoon, which will take possibly 90 minutes over false bottom in a hot-water bath outfit, or 30 minutes under five to ten pounds of steam. Remove and let cool or plunge quickly into cold water, but never allow the products to stand or soak in the cold water. With spoon scrape pulp from rind or shell, work out the water thoroughly, mash with potato masher if lumps are present. Place rubber in position on can, then pack squash in jars. Add one level teaspoonful of both salt and sugar, but no water. Place tops in position. Partially seal. Sterilize one hour—provided the squash was steamed—if using hot-water bath outfit, or 35 minutes if steam-pressure outfit under 5 to 10 pounds steam. If squash was not steamed, sterilize 2½ hours in hot-water bath outfit or 60 minutes under 5 to 10 pounds of steam. Do not let cool air strike the jars while hot.

"Baked summer squash can be canned. Cut the squash in thin slices. Bake in a hot oven until almost ready for the table. Then pack into the jar while hot. Do not add any water. Make sure that the jar is filled. Put on rubber and lid and sterilize in hot-water bath one hour. Most people like to sweeten the baked squash, as this seems to give a better flavor to the canned product.

"Turnip tops and mustard should not be canned in tin cans, unless the cans are enamel-lined or lacquered. It is not safe to can greens of any kind in tin, as the acid from the greens will attack the tin, but greens can be canned successfully and safely in glass or enamel-lined cans."

Valuable Bulletin

"Home Storage of Vegetables" is the subject of Farmers' Bulletin 879 of the U. S. Department of Agriculture. This is an especially valuable pamphlet, and we would suggest that those who will have vegetables to store write for a copy at once, addressing Division of Publications, U. S. Department of Agriculture, Washington, D. C.

The storing of late vegetables is an economy for those who grow them in sufficient quantity for the needs of the family.

To care for the surplus vegetables in many cases requires nothing more than the use of existing facilities in or near the home.

Often the late vegetables from a small garden may be stored with no outlay of money.

When considerable quantities of vegetables are grown it is frequently advisable to construct permanent storage facilities in the form of a storage room in the basement of the dwelling or under an outbuilding or to build an outdoor cellar of wood or masonry.

If permanent facilities are not available, late root crops can be kept in outdoor pits or banks, requiring no cash outlay except for labor.

Jelly Making

At this time of the year many of our readers are busy with jelly making, and some of them may have found more or less difficulty in getting some kinds of fruit juice to jell. Two requirements for the process of jelly making are the presence of acid and pectin in the fruit juice. Some fruits naturally have too little acid, but, if they contain pectin, jelly can be made by adding some other acid fruit juice. Fruits for jelly making should be gathered while a little underripe.

Pectin is naturally abundant in some fruits and lacking in others. It is a good plan to test the fruit juice to determine its amount of pectin. This may be done by adding to one tablespoonful of the juice extracted by cooking, one tablespoonful of grain alcohol. Mix in a glass, let it stand a few minutes, and note the amount of jelly-like material which settles at the bottom. By performing this test along with a test of a juice which is known to yield good jelly and comparing the relative amounts of pectin, it is possible to determine the jelly-making quality of any fruit juice. The white inner skin of lemon and orange peel contains considerable pectin which may be extracted and added to fruit juices which the test shows to be deficient in it.

To extract pectin from oranges and lemons, cut or scrape the yellow outer peel from the white inner skin, remove the white portion, and pass it through a food grinder. Soak in sufficient water to cover. Let it stand for two hours or longer, then cook slowly for about two hours and strain through a jelly bag. This may be made in quantities and kept on hand for use with any fruit which lacks pectin. The amount to be used will depend on the kind of fruit, and the alcohol test may be used to determine when enough has been added.

With many fruit flavors the yellow peel blends well, so that it is not necessary to remove this. One housewife we know simplifies this process by cooking the orange or lemon peel with the fruit juice. When the jelly is finished the orange or lemon peel is removed, run through the food grinder, and used as candied orange peel for flavoring cakes or puddings. The peeling of all oranges and lemons used in this home is dried and saved for use in jelly making.



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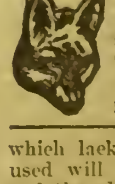

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ROGERS FUR COMPANY
Dept. 1214 St. Louis, Mo.



KEEP POULTRY RECORDS

SAY, does your husband ever growl about the cost of feeding chickens? Does he state in not very mild terms that "Those fool hens eat their heads off; it costs more to keep them than so many hogs," etc.? Well, we'll fix him.

You make a business agreement with him to loan you enough money to buy one year's feed for your chickens and let you have all the profits from the aforesaid fowls. Be sure you have a good laying strain of hens, then get out your little book and keep track. Do you have scrambled eggs for breakfast, roast chicken for dinner, angelfood cake for supper? Mark 'em down at market price. When you trade that big basket of eggs for groceries, mark it down. By the end of the year you can pay him back and have an account to show that will encourage the good man to build you that new chicken house. Here is where you crow.

But you really can't blame him very much for thinking the hens a nuisance. Whenever he goes to feed the hogs and cattle the feed troughs are overflowing with greedy hens. They are everywhere under his feet, and when he leads that skittish little mare into her stall out flies an excited "biddy" from her manger nest, squawking and flapping her wings right under the horse's nose. It is provoking. Perhaps if you fed your flock well morning and night at a considerable distance from the stables they would not be so ravenously hungry, but would "wait patiently in the bread line."

Of course a good rustling hen picks up much of her living in the feed lot, but if she is fed besides she will not be so eager for the pigs' feed. Notice the hog trough at feeding time—hungry chickens fluttering around stealing the grain. Mister Piggy gets mad and bites. Chicken meat tastes good. "Wee-wee," says this little pig, "I want some more," and a chicken-eating hog soon knocks the profit out of the poultry business.—MRS. N. L. HARRIS.

The fall of the year is the time to avoid possible colds and their resulting roup troubles. A very good plan just about now is to visit the roosting quarters at night when the birds are on the roosts and listen to the breathing. If there is any tendency to colds it can be detected in the breathing. Any birds that have a thick or wheezy breathing should be located and removed. It may be that they show no particular signs of cold but it will do no harm to dispose of such birds, as it may save a disastrous outbreak of roup later in the year. In these times of high feed prices it does not pay to run any risks. Cull closely, disposing of all inferior or weak appearing birds, but do not sell the thrifty, well developed pullets. They will more than pay for their keep this winter. In the spring there will be such a shortage of hens for breeding purposes as we have never seen before.

From what I have been able to learn, I believe that from 30 to 50 per cent of the fowls and older stock in this country have been marketed. That accounts for the great amount of poultry in storage and the present low price of poultry meat. It seems to be the opinion of practically all that those who have kept their poultry have done the right thing and will make a greater net profit this coming winter and next spring than ever they have made in any previous year. There will be a scarcity of breeding stock and the man who has stock or hatching eggs is certain to have a great demand at profitable prices. Missouri, Kansas, Iowa, Indiana and the other great grain producing states, are going to profit more than some of the other sections, but there is no state in the Union where eggs cannot be produced at a reasonable profit, and in many cases at a handsome profit.—T. E. QUISENBERRY.

Poultry exhibits at the Free Fair occupied all the available space in the poultry building. A show of this kind means far more to the actual business of poultry production than a fanciers' show. Breeders of poultry have found that it pays to exhibit at a big fair where people from all over the country attend. People of the farms have learned from long experience that poultry is a most profitable side line, and such exhibits of utility stock as were found at the Topeka fair are helping to drive the scrub flocks from the farms of the state. Eggs will probably be worth more this coming season than ever before, and it pays to have well-bred stock. Feed is expensive and there is little profit in maintaining a poor producing flock.

To make profitable returns this winter, hens will require good care and shelter. This means the construction of good buildings or remodeling of many of those now in use. It also means feeding with an eye to egg production. In order to produce the greatest possible number of eggs it is necessary to give highly concentrated feeds in as large quantities as the fowl can digest properly. In our eagerness to make a big showing all the hens are thus treated. Now it is a well known fact that a hen thus fed and worked is in no condition to produce eggs the following spring that contain strong vigorous germs and that will hatch. Or if these eggs do hatch, the chicks will not grow rapidly, if at all.

Poultry buyers everywhere are complaining that the farmers are selling their young pullets. This is a good reason for holding all well developed birds. A good rule to follow is not to follow the crowd. When all the people are selling a commodity is a good time to hold on to that article. A shortage of breeding stock is sure to come next spring. Egg prices will soar this winter and there will be a rush for eggs for setting purposes when the season opens. Will you be in shape to reap your share of the profits?

In many small flocks it is a question of sacrificing either winter eggs or hatchability, and as a rule the hatchability suffers. This in a large degree accounts for the better per cent hatches among farm flocks as against those raised by the fancier or small breeder. From the average farm flock very few eggs are gathered in the winter months. Conditions are not such during the cold snowy days as to induce egg production. Eggs in the spring from hens that have rested part or all winter are those from which to hatch strong vigorous chicks.

You know your flock has plenty of room and chickens and quarters are absolutely free from vermin, you say, but still they die. You will probably find upon investigation that there are worms in the intestines. Burn all dead chickens and feed to the rest a bran mash containing one tablespoonful of Epsom salts to a gallon.

There will be very few cockerels for sale next spring. Better buy what you will need for breeding purposes this fall. The breeder who winters cockerels will have to get a long price for them in the spring in order to pay him for his feed. For this reason he will sell at a reasonable figure this fall.

The price of young spring chicks has taken a slump. This will be a good thing for the egg market next winter. When the price of chickens is high in the fall the temptation is to sell off all that can be spared. This tends to a shortage of layers the coming winter. The present high price for eggs and the correspondingly low prices for hens and springs may tend to keep down the price of eggs this winter.

The hen is an economical transformer of food into a finished product. A hen laying 200 eggs a year is not at all unusual. A four-pound hen laying this number will produce six times her weight in eggs. To do this she will require from seventy to eighty pounds of feed.



Get Your Hens Ready for Strong Winter Laying



DR. HESS POULTRY PAN-A-CE-A

Will Start Your Pullets and Moulted Hens to Laying

The moulting season is on. It's the most trying time of all the year for poultry. You know it takes a good deal of extra strength to grow all those new feathers. Pan-a-ce-a is a great help to your moulting hens because it enriches the blood, gives better appetite, aids the digestion, which gives them the extra strength required to force out the old quills and grow the new feathers.

Then, when the moult is over, you want your hens to start in promptly to laying again. There is a dealer in your town that will supply you with Dr. Hess Poultry Pan-a-ce-a for your flock. It's to help your poultry through the moult—it's to start your pullets and moulted hens to laying, otherwise he will refund your money. Packages, 25c, 60c and $1.25. 25-lb. pail, $2.50; 100-lb. drum, $9.00. Except in the far West and Canada.

DR. HESS & CLARK
Ashland, Ohio

DR. HESS STOCK TONIC
Keeps Hogs Healthy. Drives Out the Worms.

Dr. Hess Instant Louse Killer Kills Lice

SCHOOLS AND COLLEGES

10,000 MEN FOR SIGNAL SERVICE

Stenotypists, Bookkeepers, Stenographers, Morse and Radio Operators needed. The immediate urgency is so great that The Kansas Wesleyan Business College offers

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to all students from out of the state enrolling for any combined course. Prepare yourself now at this Great Government School. Write for catalog.

The Kansas Wesleyan Business College, Salina, Kansas

Strickler's Topeka Business College
Banks And Railroads Demand Our Graduates
Graduates guaranteed positions and furnished employment to defray expenses while attending.
119 East Eighth St., Topeka

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Young men and women attend on credit. A practical school with railroad wires. Owned and operated by the A. T. & S. F. Ry. EARN FROM $55 TO $165 PER MONTH. Write for catalog.
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FINLAY Engineering College, Kansas City, Mo. Specialties: Electricity, Steam, Gas and Auto work. Wiring, Armature Winding, Operation of Steam, Gas, Electric Machinery. 6 weeks, 3 months, 1 and 2-year courses. New term begins now. Write for Catalog "X."

Learn Auctioneering at World's Original and Greatest School and become independent with no capital invested. Every branch of the business taught in five weeks. Write today for free catalog.
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814 Students from 16 States. College, Academy, Domestic Science, Business, Music, Piano Tuning, Art and Expression. For catalog write Pres. E. E. Pihlblad. Mention course.

OTTAWA Business College
OTTAWA, KANS. CATALOG FREE

PLEASE MENTION KANSAS FARMER WHEN WRITING TO ADVERTISERS

E. E. Isaac, emergency agent of Cowley County, reports a growing interest in dairying in that county. The bankers of the county are aroused to the advantages of this industry and are taking hold of the promotion work. Some of the farmers of the county are sowing rye for early pasture and others are sowing wheat for this purpose. Many of the farmers have been given help by Mr. Isaac in locating seed wheat.

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks,** for bona fide seekers of employment on farms.

HELP WANTED.

THOUSANDS U. S. GOVERNMENT JOBS open to farmers—men and women. $65 to $150 month. Vacations. Common education sufficient. Write immediately for list positions open. Franklin Institute, Dept. H-82, Rochester, N. Y.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

NINE HEAD HIGH GRADE HOLSTEIN cows due to calve in October. They are bred to a registered bull whose nearest two dams average over 900 pounds butter. R. E. Stuewe, Alma, Kansas.

FOR SALE — VERY CHOICE HIGH-grade Holstein calves, either sex, three to six weeks old, at $20 per head, crated for shipment. Or if you want dairy cattle of any age, I will buy them at a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked, $23, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

GUERNSEY BULL EIGHT MONTHS OLD, show type and bred for high production. At county fair won sweepstakes as best dairy bull any age or breed in a class of five, two Guernseys, one Jersey and two Holsteins, Mr. Fairchild of the Kansas Agricultural College judging. Dam and both granddams have good production records and he represents blood lines that are now eagerly sought. A registered cow and an imported heifer also for sale. J. W. Marley, Oswego, Kansas.

DOGS.

TRAINED BEAGLES, RABBIT HOUNDS, foxhounds, coon, opossum, skunk dogs, setters, pointers, house, farm dogs. Ferrets. Catalog 10c. Brown's Kennels, York, Pa.

FULL BLOOD RUSSIAN WOLF HOUND pups, six months old. White with lemon markings. $15 each. Irish stag pups, $10 each. Geo. E. Hineman, Dighton, Kansas.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

FOR SALE — HIGH CLASS FOX AND coon hounds. The kind that can deliver the goods. Bred right and broken right. If you want a good one, write me. Price reasonable. A. F. Sampey, 317 E. Mt. Vernon St., Springfield, Missouri.

TREES, SEEDS AND PLANTS.

FULCASTER SEED WHEAT FOR SALE, $2.50 per bushel. Sacks extra. J. C. Starr, Vinita, Oklahoma.

SWEET CLOVER REASONABLE. SOW on wheat and get two crops. J. Lewis, Route 1, Madison, Kansas.

FOR SALE—ONE CAR PURE TURKEY seed wheat, $2.25 per bushel. Alfalfa seed, $8 per bushel, f. o. b. Grantville, Kansas. S. E. Wilson.

TREE PLANT THIS FALL. NEVER A better time. Save money and get our terms. Write today for fruit book and information about growing fruits. Buy direct—it pays. Headquarters for well selected seeds. Box No. R, Wichita Nurseries & Seed House, Wichita, Kansas.

BUSINESS CHANCES

FREE FOR SIX MONTHS—MY SPECIAL offer to introduce my magazine, "Investing for Profit." It is worth $10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how $100 grows to $2,200. Write now and I'll send it six months free. H. L. Barber, 431,28 W. Jackson Boulevard, Chicago.

MISCELLANEOUS.

1,021 YEARS AMERICAN HISTORY, 80c postpaid. Ellas Pelton, Hudson, Kansas.

GOOD PAYING BUSINESS PROPERTY now rented. Want to trade for young mules. Jno. O. Evans, Asherville, Kansas.

ONE NEW ALMO FARM ELECTRIC 60-light plant, cheap. Kern & Mead, Great Bend, Kansas.

HOGS.

CHESTER WHITES — MAY PIGS AT farmers' prices. Gust Claussen, Bunker Hill, Kansas.

FOR SALE — HAMPSHIRE PIGS FROM sire and dam, first and fourth prizes, Topeka Fair. Roy Crawford, Topeka, Kansas.

TANNING.

LET US TAN YOUR HIDE; COW, HORSE or calf skins for coat or robe. Catalog on request. The Crosby Frisian Fur Co., Rochester, N. Y.

POULTRY.

WHITE ROCKS, SIZE AND QUALITY. Prices reasonable. G. M. Kretz, Clifton, Kansas.

SINGLE COMB BROWN LEGHORNS — Pullet mating only. Tiff Moore, Osage City, Kansas.

THE STRAY LIST.

TAKEN UP — ON THE 18TH DAY OF August, 1917, by W. H. Pottorff, in Royal Township, Ford County, Kansas, one yearling bay mare valued at $25. H. N. Kinkead, County Clerk.

TAKEN UP — ON THE 5TH DAY OF September, 1917, by Mike Paul, of Marienthal, Kansas, one gray mare, weight 1,100 pounds; wire cut on both front feet. Dean Trueblood, County Clerk.

POULTRY WANTED.

PROFITABLE EASY MARKETING. Coops and cases loaned free. Daily remittances. Poultry and eggs wanted. The Copes, Topeka.

PET STOCK.

WANTED — CANARIES, ALL KINDS. State kind, price, etc. Halfin's Pet Shop, 3111 Olive, St. Louis, Mo.

STRAWBERRY PLANTS.

EVERBEARING, $2 PER HUNDRED; common varieties, $1 per hundred. Choice thrifty stock. State inspected. Pedigreed. J. A. Dowden, North Bend, Neb.

REAL ESTATE.

WANTED—TO HEAR FROM OWNER OF good farm for sale. State cash price, full particulars. D. F. Bush, Minneapolis, Minn.

WOULD YOU SELL YOUR FARM IF you got your price? Sell direct; no commissions; particulars free. Chas. Renich, G-46, Woodstock, Ill.

OWNER OFFERS STOCK AND DAIRY ranch in prosperous Southwest Kansas. Land of opportunity. Terms. S. W., care Kansas Farmer.

NORTH CENTRAL KANSAS, OSBORNE County seed, grain and stock farms, $20. Best wheat and corn land, $35 to $50. "Here is the place." J. F. Baum, Natoma, Kansas.

FARMS AND FARM LANDS FOR SALE. All kinds of soils; rain-belt, dry farming or irrigable. Lands five miles or less from railroad. H. M. Madison, General Farm and Immigration Agent, San Antonio & Aransas Pass Ry., San Antonio, Texas.

YOUR CHANCE IS IN CANADA.—RICH lands and business opportunities offer you independence. Farm lands, $11 to $30 acre; irrigated lands, $35 to $50; twenty years to pay; $2,000 loan on improvements, or ready made farms. Loan of live stock; taxes average under 20 cents an acre; no taxes on improvements, personal property, or live stock. Good markets, churches, schools, roads, telephones; excellent climate — crops and live stock prove it. Special homeseekers' fare certificates. Write for free booklets. Allan Cameron, General Superintendent Land Branch, Canadian Pacific Ry., 234 Ninth Ave., Calgary, Alberta.

Real Estate For Sale

10,000 ACRES of good grazing land, well watered, for $3 to $5. All crops good. No drouth, no hot winds. Grass for cattle and corn for hogs. Best country in the world to live and make money.

W. W. TRACEY - ANDERSON, MISSOURI

BEAUTIFUL SHAWNEE COUNTY KANSAS FARMS NEAR TOPEKA

160 a. farm, $80; 160 a. farm, $65; 43 a. farm, $3,800. Can fit you out many size farm desired. E. Z. terms.

J. E. THOMPSON (The Farmer-Land Man) Tecumseh, Kansas

BUY PROSPECTIVE OKLAHOMA OIL LAND

SURE INCOME. Rent from Pasture, Farming, Coal, Gas or Oil will pay for land. ONLY CONDITION, Annual Payments. Will buy for you and rent. Information Free. Write immediately.

Joseph Clark, Indian Land Purchasing Agent Tulsa, Oklahoma

202 ACRES BOTTOM FARM

Highly improved, 6½ miles of Lawrence, Kansas; 175 a. under cultivation, 25 a. in alfalfa, 25 a. timothy, 50 a. wheat, 75 a. in corn, balance timber; ¾ mile of school. Priced to sell at $20,000. For particulars write F. M. Buchheim, Real Estate 521 West Street, Topeka, Kansas.

217 ACRES, 3 mi. city, this county, 1,500. 160 a. strictly first class dry black bottom land in cult.; no overflow; bal. pasture; fair improvements. $30 per acre. Terms. **SOUTHERN REALTY CO., McAlester, Okla.**

Crickets and grasshoppers often cause serious trouble by eating the twine used in tying up fodder. This can be prevented by treating the twine as it is used with a mixture of one gallon of kerosene and three cupfuls of creolin or other stock dip.

Brown's Big Bone Type POLAND CHINA HOGS

WILL SELL AT

PERRY, KANSAS
Wednesday, October 17

SALE AT RESIDENCE IN TOWN

This great offering sired by such noted boars as

King Joe
Model Big Bob
Chief Miami
Iowa King
Gerstdale Knight by Gerstdale Jones
Anderson's Big Bone by Long Big Bone

One of the best offerings to be held in Kansas this fall. Breeding and individuality of the best. A variety of breeding seldom equaled in any one sale. An all top offering selected with the utmost care for this sale and presented in just the right breeding condition. Everything immune. O. W. Devine will represent Kansas Farmer at this sale. The only Gerstdale Jones blood to sell in Kansas this fall at public auction.

Auctioneers—Col. Chas. Crews, Col. Jas. Tom McCulloch

Write for catalog and mention Kansas Farmer.

WALTER BROWN, Perry, Kans.

FARM AND HERD.

Charles L. Taylor, of Olean, Missouri, is making a great success with his Duroc Jersey hogs. Mr. Taylor's herd has been a consistent winner of a large portion of the premiums at the Missouri State Fairs for the past five years, and the herd has to its credit more state fair champions than any other herd in Missouri. At the head of the herd is the champion boar, Show Me. This hog was champion of the Missouri State Fair in 1916 and is one of the greatest breeding boars of the breed. A feature of the herd at this time is fifty choice spring boars, mostly sired by Show Me and out of the best herd sows on the farm.

The Deming Ranch showed a well fitted herd of Polands at the Kansas State Fair at Hutchinson, winning the junior championship on Big Bob Jumbo; fourth on senior boar pig, Futurity Wonder; first and second on junior pig, Designer's Wonder and D. S. King; third on junior sow pigs, D.'s Queen; and on aged sow, first, champion and reserve grand champion on Big Maid, a sow that was shown last year and raised a fine spring litter. A notable feature of the Deming show herd is that they have all been bred and raised by Mr. Sheldon on the Deming farms.

G. M. Shepherd, of Lyons, Kansas, showed at the Topeka and Hutchinson fairs one of the strong show herds of Duroes, and won a good share of the premiums in all classes shown. A feature of his herd at this time is thirty-five spring boars sired by G. M.'s Crimson Wonder, Crimson Wonder Again Jr., Illustrator 2d, Critic D and Grent Wonder, and out of some of the best herd sows on the farm.

Bert E. Hodson, of Ashland, Kansas, showed the grand champion Poland boar, McGath's Big Orphan, at both Topekn and Hutchinson fairs. This massive hog, weighing more than eleven hundred pounds in his two-year-old form, is a splendid specimen of the big-type Poland China hog. A feature of the herd at this time is thirty-five spring boars sired by McGath's Big Orphan, that are real herd header prospects.

Howard Palmer, the ten-year-old son of C. B. Palmer, Marion, Kansas, won the $10 prize offered by the state fair management at the Kansas State Fair of 1917 for the best junior pig shown by boys. This pig was well fitted and was a splendid specimen of the Poland China breed.

R. L. Hurst, of Bolckow, Missouri, has announced November 1 for a Duroc sale. Thirty spring boars and ten spring gilts will be included in this sale. The offering is a splendid lot that are sired by Col. Crimson and Uneeda Wonder, the second prize yearling at the Topeka fair.

B. R. Anderson, of McPherson, Kansas, won first prize at the Kansas State Fair on his junior yearling herd boar, Royal Grand Wonder. Mr. Anderson is contemplating holding a bred sow sale and will sell a draft of good sows bred to this great hog.

W. J. Bowman & Co., of Ness City, Kansas, showed one of the well fitted herds of Hereford cattle at both the Kansas fairs this year. This firm has announced November 19 for a public sale of 110 head of Hereford cattle to be held on the state fair grounds at Hutchinson. It is a great source of satisfaction to Bowman & Company to offer only cattle in this sale that have been bred and raised on the Bowman & Company farms in Ness County, which are becoming known as one of the largest breeding establishments of Hereford cattle in the West.

Catalogs are out for Walter B. Brown's Poland China sale to be held at Perry, Kansas, October 17. Fifty head of spring boars and gilts of the best big-type blood lines in existence have been catalogued for this sale. The offering includes grandsons and granddaughters of Gerstdale Jones. It also includes descendants of other noted boars of the breed. A representative of Kansas Farmer visited Mr. Brown's farm recently and found a herd of big-type Polands that is remarkable for choice big-type breeding and also for great size and quality. Inquiries for catalogs indicate unusual interest among Poland China breeders in this sale and the prospects are that it will be one of the Poland China sale events of the season.

Fred G. Laptad, of Lawrence, Kansas, a widely known breeder of high class Poland China and Duroc hogs, has announced a sale of hogs selected from his famous herds. The date if this sale will be October 24. It will be Mr. Laptad's tenth semi-annual sale and fifty head of carefully selected Polands and Durocs of the best blood lines of the respective breeds will be catalogued for this offering.

E. C. Berry, of Harris, Missouri, owner of one of Missouri's great herds of Spotted Polands, reports his herd doing well. This year Mr. Berry saved a choice lot of March and April pigs that have grown out fine. These pigs were sired by Spotted Mike, a great young boar that weighed 600 pounds as a yearling and that is proving a great breeder.

W. T. McBride, of Parker, Kansas, owner of one of the richly bred Duroc herds in Kansas, reports his hogs doing fine. A feature of his herd at this time is a choice lot of Pathfinder and Orion Cherry King boars.

B. A. Shehl, of Westmoreland, Kansas, owner of one of the good herds of Spotted Polands in Kansas, reports his herd doing well. Mr. Shehl has built up a herd of Spotted Polands that have the size and quality that make profitable feeding hogs and this year he has raised a very fine lot of April and May pigs that have grown out well.

GOING TO COLLEGE?

Our young readers who contemplate attending business college this fall or winter will find it to their advantage to write KANSAS FARMER for information that will be valuable to them.

It will cost you nothing but a postal card or a two-cent stamp to find out what our proposition is. Address

DESK D, KANSAS FARMER
Topeka, Kansas

POLAND CHINAS

POLAND CHINAS.

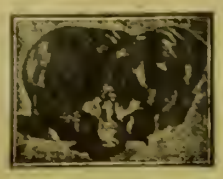
—BANNER HERD— POLAND CHINA SALE

OCTOBER 23, 1917

AT FARM NEAR BENDENA, KANSAS

Fifty head Poland China boars, March and April farrow, sired by Big Bob 2d, Rexall and Big Wonder. This is the place to buy your boars for fall use. Send for catalog and come to the sale.

HERMAN GRONNIGER & SON, BENDENA, KANSAS



Faulkner's Famous Spotted Polands

The world's greatest pork hog are raised exclusively on

HIGHVIEW BREEDING FARMS

The largest registered herd of old, original, big-boned, spotted Polands on EARTH.

Spring Pigs Now Ready to Ship, Pairs and Trios No Kin.

H. L. FAULKNER - BOX D - JAMESPORT, MISSOURI

BERRY'S IMMUNED SPOTTED POLANDS

March pigs, weight 150 to 160 pounds, price $35; pairs, $70; April pigs, $30; May, $25. Sired by Spotted Mike 81038, a 600-pound yearling. Lots of spots, bone, and good backs. Write me your wants. Can furnish pairs, not related.

E. C. BERRY, ROUTE 3, HARRIS, MISSOURI

Spotted Poland Chinas

Thirty spring boars, thirty spring gilts. Sired by Billie Sunday, Cainville Giant and Perfect Judge. Sows by Brandywine, Budweiser, Old Clipper and Spotted Giant. Priced to sell.

J. O. RILEY & SON - CAINSVILLE, MO.

DEMING RANCH QUALITY

Big-Type Poland China Hogs.

Fifty March boars for sale. All immuned. Bred sow sale February 18. Send for catalog.

H. O. Sheldon, Herd Manager

OSWEGO, KANSAS.

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

CEDAR ROW STOCK FARM

A. S. Alexander, Prop. Burlington, Kansas

FAIRVIEW POLAND CHINAS.

Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.

P. L. WARE & SON - PAOLA, KANSAS

SPOTTED POLAND CHINAS

April and May farrow. Either sex. Priced right. Papers furnished.

B. A. SHEHI, WESTMORELAND, KANSAS

POLAND CHINA BOARS

Fifteen spring boars sired by Sir Dudley, Eclipse Model and Exile. Price, $30 to $45. Write at once.

C. B. PALMER

ROUTE 5 MARION, KANSAS

Langford's Spotted Polands.—Last call for early spring boars. Yours for good hogs—

T. T. Langford & Sons, Jamesport, Missouri.

POLAND CHINA HOGS

150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.

V. O. JOHNSON - AULNE, KANSAS

POLAND CHINAS

For Sale—Ten fall yearling gilts, bred for September farrow to Dalebanks Hadley and King Jumbo; twenty-five spring boars ready for service; twenty-five spring gilts open. One hundred and fifty head registered hogs in my herd. Write today what you want.

E. L. BARRIER - EUREKA, KANSAS

Henry's Big Type Polands

March and April pigs, sired by Big Wonder, first in class at Topeka; Mammoth Orange and King Price Wonder. Immune.

JOHN D. HENRY, LECOMPTON, KANSAS

SPOTTED Poland Chinas

Two hundred fall pigs in pairs and trios, not related, sired by two state fair winners. Price, $25 each. Also a few choice spring boars and gilts. All immuned. Write your wants.

E. R. McKEEFER & SON, Ossian, Indiana

POLAND CHINA HOG SALE

At Clifton, Kansas

SATURDAY, OCTOBER 13

TWENTY-FIVE HEAD SPRING BOARS AND GILTS

THE TOPS FROM MY HERD

Twelve Spring Boars
Thirteen Spring Gilts

These pigs are by Special by Blue Ribbon Quality by Taxpayer 2d and out of my best herd sows. They are not fat, but in good condition. Send for catalog and come to my sale. Farmers and breeders can buy useful breeding stock.

ARTHUR ANDERSON

Clyde - - - - Kansas

White Oak Park Polands

Outstanding herd boar prospects by 1,100-pound Missouri Jumbo 210461 and 1,000-pound Long Big Joe 227387, twelve-inch bone. Dams popular big-type breeding. If you want boars that will mature to 1,000 to 1,100-pound hogs, I have them, big high-quality fellows. Fall boars farrowed August and September, spring boars February and March. Will record in buyer's name. All immune.

Henry Koch, Edina, Missouri

Jones Sells On Approval

Large-type spring boars and gilts of fashionable blood lines at reasonable prices. Herd immuned.

W. W. Jones, Clay Center, Kan.

OLD ORIGINAL SPOTTED POLANDS

March and April pigs for quick sale.

H. A. or Paul H. Mattox, Burlington, Kansas

McGATH'S BIG ORPHAN

Grand champion Topeka and Hutchinson fairs, 1917. Thirty-five boar pigs by the grand champion for sale. Write for prices.

Bert E. Hodson, Ashland, Kan.

FARM AND HERD.

E. E. Knoche, of Martin City, Missouri, owner of one of the very best producing herds of Jersey cattle in that state, announces a dispersal sale of his herd to be held November 3 under the management of B. C. Settles, of Palmyra, Missouri. Fifty cows averaging 450 pounds of butter in one year, and their descendants, will go in this sale, and inquiries for catalogs at this early date indicate that this will be one of the big Jersey sale events of the season.

P. E. Sperry, of the Fort Hays Normal School, has just purchased from the Sand Spring Holstein herd of Engle & Son, Abilene, Kansas, one pure-bred cow, Inka Parthanea De Kol 124253, and two high-grade cows, one of which has a ten months record of 10,000 pounds of milk and 500 pounds of butter, and a nice heifer calf that sold for $75 under a year old. The normal school is assembling a fine herd of Holsteins through their students, who find good Holstein cows very profitable.

F. H. Bock, of Bock's Dairy, Wichita, Kansas, reports his big dairy herd doing fine. The Holsteins and Guernseys that make up the Bock dairy herd are a very choice lot. By using care in selecting dairy stock bred for producers, Mr. Bock has succeeded in building up one of the profitable producing dairy herds in Kansas.



PERCHERON STALLIONS

FOR SALE THIS FALL AT REDUCED PRICES

Two yearling colts; two 2-year-old colts; two 3-year-old colts; two 4-year-old colts, and one herd stallion. All sound and registered in Percheron Society of America. Blacks and bays. If sold this fall I will cut the prices. Also five registered Shorthorn bulls, reds and roans. Come and see me.

J. C. PARKS - - - - - HAMILTON, KANSAS

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM

Is offering anything you might desire in pure-bred and high-grade Holsteins of exceptional merit. They are the RIGHT KIND and at the RIGHT PRICE.

For further particulars wire, phone or write.

T. R. MAURER & COMPANY - - - - - - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER

Way Side Stock Farm - Whitewater, Wis.

DUROC JERSEYS.

15 Duroc Spring Boars

Sired by Illustrator O'Rion 3d and Fancy Victor and out of my best herd sows. They are real herd prospects, selected from 91 pigs raised. Write today if you want a good spring boar.

John W. Petford

Route 1 Saffordville, Kansas

TAYLOR'S DUROCS

For Sale—One Missouri State Fair prize winning boar. Seven yearling boars sired by champion boars that are real herd headers. Fifty spring boars that are fine prospects. Write for prices or come and see my herd.

Chas. L. Taylor - Olean, Mo.

IMMUNED DUROCS

With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

WOOD'S DUROCS

Boars, sows and gilts. Best lines of breeding.

THE WOOD DUROC FARM

F. F. Wood Wamego, Kansas

DUROC BOARS

Thirty-five spring boars by G. M.'s Crimson Wonder, Crimson Wonder Again Jr., Critic D. and Great Wonder, out of my best herd sows. Priced to sell. Come and see my herd.

G. M. Shepherd, Lyons, Kansas

McBRIDE'S DUROCS

I have four Pathfinder Duroc boars for sale, all immune. Also one Orion Cherry King, four months old, weight from 125 to 140 pounds, and they are extra nice ones. Priced right. W. T. McBRIDE, Parker, Kan.

FORTY DUROC-JERSEY BOARS

Cholera immuned, of rare breeding and excellent individuality. Sired by Gold Medal 176231, R. L.'s Model Chief 105673, Taylor's Model Chief 126455. Order yours now. Our prices are reasonable.

W. R. HUSTON - AMERICUS, KANSAS

HARRISON'S DUROCS

Pure-bred Duroc boars.

W. J. HARRISON - AXTELL, KANSAS

Royal Grand Wonder Durocs

The first prize junior yearling at Kansas State Fair heads my herd. A few choice March boar pigs for sale. Come and see my herd.

B. R. ANDERSON, R. 7, McPherson, Kansas

Immune Duroc Boars on Approval

Pedigreed Duroc boars with size, length and bone. Immune and guaranteed breeders. Shipped to you before you pay for them.

F. C. CROCKER, BOX K, FILLEY, NEB.

Homan & Sons, of Doyle Park Stock Farm, Peabody, Kansas, and owners of good herds of Percheron horses, Shorthorn cattle, Shropshire sheep and Duroc Jersey hogs, report their herds doing fine. They also report a heavy demand for Shropshire breeding stock this year, and their sales have been heavy. They received an average price of $31.90 per head for fifty head sold in small lots.

Olivier & Sons, of Danville, Kansas, sold to A. D. McCarty, of Modesto, California, the first prize senior yearling Poland China boar pig at the Kansas Free Fair. This pig was sired by their great herd boar, A Wonderful King. The purchase price was $300.

A. J. Erhart & Sons, of Ness City, Kansas, showed one of the strong herds of big-type Poland Chinas at the big Kansas fairs. They won junior and reserve champion on Long Bob; second and fourth on gilt under six months; first on produce of sow, and second on get of sire on pigs sired by Big Hadley Jr. Erhart & Sons have announced February 21 for a bred sow sale to be held on the state fair grounds at Hutchinson. On this date they will offer fifty head of bred sows at public auction.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

SUNNYSIDE HOLSTEINS

"Echo Segis Fayne," our great herd sire, for sale to avoid inbreeding. He is a grand individual, only 3 years old, and by King Fayne Segis Clothilde, brother to Segis Fayne Johanna, the world's 50 pounds butter in seven days cow. Price $700. Also yearlings and bull calves sired by Echo Segis Fayne, for sale. SUNNYSIDE STOCK FARM, John Montle, Prop., U. S. P. O. Derby Line, Vt.

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

Holsteins and Guernseys

FOR SALE—High grade Holstein and Guernsey springer cows and heifers. A choice lot. Cows, $100 to $150; large heifers, $90 to $125; heifer calves, $20, crated. Don't write, but come and see them.

BOCK'S DAIRY

Route 9 Wichita, Kansas

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

CHOICE HOLSTEIN CALVES

Twelve heifers and two bulls, 15-16ths pure, beautifully marked, five weeks old, from heavy milkers, at $20 each. Safe delivery and satisfaction guaranteed.

FERNWOOD FARM, WAUWATOSA, WIS.

Braeburn Holsteins

Always A. R. O. Bull Calves, better than the common run. Just now a few females to make the herd fit the stables.

H. B. COWLES

608 Kansas Avenue Topeka, Kansas

AYRSHIRE CATTLE.

SOUTH FARM AYRSHIRES

300 HEAD.

75 Animals Imported from Scotland.

143 cows have qualified for advanced registry.

Males and females for sale.

SOUTH FARM

WILLOUGHBY - - - - OHIO



AYRSHIRE

The UTILITY Cow

The VALUE of a cow depends on her milk production, percent of butter fat and the saleability of her offspring. AYRSHIRE milk is 3.96 percent grade—tho yield is large; cost of producing is small and calves are in big demand at good prices. The Association will help you sell them if you wish. YOU should investigate this PROFIT-MAKER. She's a beauty to look at, too. Write for information.

AYRSHIRE BREEDERS' ASSOCIATION

C. M. WINSLOW, Sec'y. - 33 Park St., Brandon, Vt.

HEREFORD CATTLE SALE - 110 HEAD - AT HUTCHINSON, KANSAS, MONDAY, NOVEMBER 11, 1917



SEVENTY-FIVE HAND-PICKED COWS AND HEIFERS

Big, roomy, prolific cows of the choicest breeding, including about twenty 2 and 3-year-old daughters of Generous 5th, bred to Lawrence Fairfax and Imported Shucknall Monarch; thirty of same age sired by Gladwyns, College Count and Beau Donald 33d, bred to Generous 5th, the show bull Sampson, Lawrence Fairfax and Shucknall Monarch. Others range four to seven years old and are safely bred to our herd bulls.

We consider this the most valuable lot of young females we ever offered and, being mated to such good bulls, believe they present the best investments to be offered in any sale.

WRITE FOR OUR ILLUSTRATED SALE CATALOG AND MENTION THIS PAPER.

REPPERT & MILLER, AUCTIONEERS O. W. DEVINE, KANSAS FARMER REPRESENTATIVE

THIRTY-FIVE TOP BULLS

Mostly sired by Generous 5th by Old Generous, out of dams of Rich Anxiety breeding. Others by College Count, Gladwyne, Marlon, Beau Donald 33d. Extra heavy-boned well-grown husky fellows. The best bunch we ever raised.

HERD BULLS of great character and substance a plenty, including the show and breeding bull

SAMPSON 437001

Besides the thirty-five head catalogued, we have two carloads of yearlings of like breeding and character for private sale, making this the best opportunity of the fall for bull buyers.

W. I. BOWMAN & CO., NESS CITY, KANSAS

SHEEP.



200 — RAMS — 200
REGISTERED SHROPSHIRES
Our flock was awarded 20 prizes at 1917 Iowa State Fair. Weight and wool always win. Rams and ewes for sale. C. W. & Frank Chandler, Kellerton, Ia.

FOR SALE—Registered Shropshire ram lambs and yearlings.
W. T. HAMMOND, PORTIS, KANSAS

OXFORD DOWN RAMS AND EWES
Bred from my $300 imported ram.
WM. EMPIE - AMSTERDAM, NEW YORK

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

PLEASE MENTION KANSAS FARMER WHEN WRITING TO ADVERTISERS

POLLED DURHAM CATTLE.

FOR SALE—A few choice young bulls, sired by Chief, a son of True Sultan. Priced to sell.
D. C. VANNICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 miles S. E. of Topeka.)

Breeders' Directory

RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.
ANGUS CATTLE.
D. J. White, Clements, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

HORSES AND MULES.

PERCHERONS—BELGIANS—SHIRES



2, 3, 4 and 5-yr. stallions, ton and heavier; also yearlings. 1 can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
FRED CHANDLER, R. 7, Charlton, Ia. Above Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes.
Illinois Horse Co., Good Blk., Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

AUCTIONEERS.

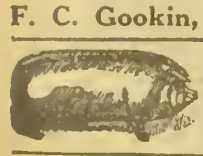
Jas. T. McCulloch — Live Stock Auctioneer. I make sales anywhere. Write for date. CLAY CENTER, KANSAS

Live Stock and Real Estate Auctioneer. Fifteen years experience. Write for terms.
Thos. Darcey, Hutchinson, Kansas.

CHESTER WHITE HOGS

WESTERN HERD CHESTER WHITE HOGS

Thirty spring boars, forty spring gilts, bred or open. Write for prices. Satisfaction guaranteed.
F. C. Gookin, Russell, Kansas



FOR SALE
Spring Pigs in Pairs and Trios
Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

Clinton County Chesters

Booking orders for spring pigs of National Swine Show blood lines. Fall and spring pigs at bargain prices.
J. B. McANAW - CAMERON, MISSOURI

SAPPHIRE (BLUE) HOGS

SAPPHIRE (BLUE) HOGS
The quickest pork producer known. Breeding stock for sale. L. E. JOHNSON, Waldron, Harper County, Kansas.

MULEFOOT HOGS.

KNOX MULEFOOT HOGS

Orders booked for fall pigs. A few choice May pigs, either sex, not related. Write for price and booklet.
S. M. Knox, Humboldt, Kansas

SHORTHORN CATTLE.

ABBOTSFORD SHORTHORNS

Eighteen young bulls for sale. A few of them about ready for service. Priced to sell. The kind that always please.
D. BALLANTYNE & SON, Herington, Kan.

Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.
H. M. HILL - LAFONTAINE, KANSAS

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

SHADY LAWN SHORTHORNS

At head of herd, Kansas Archer 440809 by Mistletoe Archer. For sale, fifteen choice young bulls from spring calves to yearlings. Come and see our herd.
F. H. HULL & SONS - EUREKA, KANSAS

SHORTHORN CATTLE

A few Scotch bulls for sale of breeding age. Red and roans. Write or come and see my herd.
O. A. HOMAN & SON, PEABODY, KANSAS

Doyle Spring Shorthorns

Bulls twelve to fifteen months old, sired by Orange Marshall and Star Goods.
DOYLE SPRING STOCK FARM
Peabody - - - Kansas

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Pearl Herd Shorthorns

Valiant 346162 and Marengo's Pearl 391-962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

Can ship on Rock Island, Union Pacific or Santa Fe Railway.
C. W. TAYLOR - ABILENE, KANSAS

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

GUERNSEY CATTLE.

GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

HEREFORD CATTLE.

Greenwood Hereford Farm

Prince Rupert Herefords

One carload yearling bulls; fifty head bull calves. Will price single lot or carload.
W. J. Brown, Fall River, Kan.

Jerseys for Net Profits





You're in the dairy business for profit—the *net* profit that your herd has made you at the end of the year will determine the size of your bank account. Jerseys yield the largest returns from every ounce of feed—proved by tests at two great expositions. Jersey milk averages 5.3% butter fat, 9.1% solids not fat—highest of all breeds. Buy a Jersey bull. Write the breeders advertised below for prices, pedigrees, etc.

The American Jersey Cattle Club, 375 West 23rd Street, New York City

120 JERSEY COWS AND HEIFERS

Pure-bred and high-grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. Berry & Son
JEWELL CITY - - - - KANSAS

IDYLWILD STOCK FARM

For Sale—Bull calf dropped March 3, 1917; dam, Pet of Clover Hill F'a 2d 227416; sire, Jacoba's Prize Premier 137930. Price, $50.00.
C. F. Blake, Glasco, Kan.

LONGVIEW JERSEYS

(Register of Merit Herd)

Bull calves sired by champion bulls out of Register of Merit dams, for sale at all times.
Longview Farm
LEE'S SUMMIT - - - MISSOURI

Registered Jerseys

Cows, Heifers and Calves. Good breeding, good individuals. Must reduce herd. Price reasonable.
C. F. Pfeutze, Rte. 4, Manhattan, Kan.

Catalogs Are Ready

For the following Jersey Sales to be held under my management:
Lochrie & McCoy, Carl Junction, Mo., Sept. 27; Oklahoma Breeders' Sale, Oklahoma, Okla., Sept. 29; Redmon & Sons, Tipton, Mo., Oct. 1; Geo. W. Hagan, Lee's Summit, Mo., Oct. 31. Write today and ask to be placed on my mailing list. Address
B. C. SETTLES, Sales Mgr., Palmyra, Mo.

REGISTERED JERSEY BULLS

BUTTER-BRED. FROM HIGH-PRODUCING COWS.
Photo furnished.
Maxwell's Jersey Dairy
ROUTE 2 TOPEKA, KANSAS

LOMAX JERSEYS

A Herd of Producers, Backed by Records. Popular blood lines. Choice individuals. We invite inspection of our herd at all times.
Write us your wants.
Dr. J. H. Lomax
STATION B - - ST. JOSEPH, MO.

J. B. PORTER & SON

MAYETTA, KANSAS
BREEDERS OF HIGH-CLASS JERSEYS.
STOCK FOR SALE AT ALL TIMES.
WRITE US YOUR WANTS.

GREAT DISPERSAL SALE

Of 100 Head A. J. C. C. Jerseys, Owned by E. E. Knoche, Martin City, Missouri, November 3, 1917.

Fifty cows averaging 450 pounds butter per year, and their female descendants, will go in this sale. Prof. C. H. Eckles of the Missouri University says: "The best producing herd in the state."

Write at once for catalog to

B. C. SETTLES, SALES MANAGER, PALMYRA, MO.
Col. Perry, Auctioneer

MODERN HEREFORDS

HAZFORD PLACE

Home of the Grand Champion BOCALDO 6TH, assisted by CALDO 2D, PUBLICAN 4TH AND BEAU BALTIMORE.

All our show cattle our own breeding. Inspection of farm and breeding herd invited. A few choice young bulls reserved to head high-class pure-bred herds now ready for inspection and sale.
William Condell, Herdsman. ROBT. H. HAZLETT, EL DORADO, KANSAS

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 41. TOPEKA, KANSAS, OCTOBER 13, 1917. Established 1863. $1 a Year

GIRLS VISIT MODERN HOMES

Study Labor-Saving Equipment Found in Montgomery County Homes

MONTGOMERY County girls for two years have enjoyed farm tours arranged for them by E. J. Macy, county agricultural agent, and the farm bureau of Montgomery County. It is Mr. Macy's belief that such tours are as profitable to girls as they are to men. So far, his is the only county in Kansas in which farm tours for girls have been made. Three tours were planned for this year, one to start from Cherryvale, August 22, one from Coffeyville, August 23, and one from Independence, August 24, the farm girls living near these cities making up the parties on the different days. A heavy rain in the northeastern part of the county prevented the first day's trip, but the other two were carried out according to schedule. Automobiles for making the trips were loaned for the occasion by the fathers of the girls, their neighbors and friends.

Miss Louise Caldwell, of the division of extension of the Kansas Agricultural College, and C. L. Swenson, assistant county agricultural agent, helped County Agent Macy in bringing to the girls' attention those features about the homes visited that were of interest and value to them. Miss Ethel Gillespie, county superintendent of schools, made the trip with the party from Coffeyville.

Fourteen farms were visited in the two days, these being the farms of Oscar Jenson, Mr. Cahill, S. S. Windell, Mr. Ingmire, Mrs. Abe Cline, Mrs. David Cline, Mrs. Helen Blanchard, Mr. Yates, H. K. Baker. H. E. Hanson, Mrs. W. H. Brost, J. W. Miller, Mr. Ditmer, and Mr. Albechar.

REQUIREMENTS OF IDEAL HOME

Miss Caldwell explained to the girls each morning that the object of the trip was to familiarize them with the features in the homes and on the farms visited which contribute to the best general development and usefulness of the individual members of the families living there; that the ideal home must furnish not only shelter and protection for its inmates, but also must provide comfort, beauty, and an opportunity for social development, and that the home in which no provision has been made for sociability with neighbors and friends is not ideal. The relation of location, arrangement, decoration, and equipment of the home, to the welfare of the family, was discussed. After hearing what is meant by a well-drained location, what constitutes a well-ventilated, well-lighted, properly-heated, conveniently-arranged, efficiently-equipped, and pleasingly-decorated house, the girls were on the lookout for specific examples and many were found each day, some of these being old houses that had been remodeled to meet modern needs, and some new houses—both large and small—planned and built to met most exacting tastes.

WALL AND FLOOR TREATMENT

Miss Caldwell explained to the girls why a similar wall and floor treatment for all of the rooms on the lower floor of the house gives an air of spaciousness instead of the chopped-up effect that is the result of the hall being done in red, the sitting room in browns and tans, the library in green, and the dining room in blue. They were glad to learn how high ceilings can be made to look lower and low ones higher, that small, dark rooms will be made less attractive and more gloomy by the use of dark wall papers and tintings in them. This made clear to them why the predominating color in the furnishings of northwest bed rooms is so often yellow, and rightly so, as this shade offsets the effect of the many gray days upon the occupants of such rooms. Many women fail to recognize the important bearing of color effects upon the lives of the members of their households. They fail to recognize that greens, blue, and grays produce calm, cool effects, while reds and yellows used with discretion produce warmth and cheer; that dark shades absorb light, and light ones reflect it; that the treatment given the walls of our houses will in a measure determine the atmosphere of our homes. In the course of the trips such comments as these were heard: "Isn't this a pretty room?" "Wouldn't you just love to stay here longer?" At other times the cross-ventilation provided in a bed room was commented upon, or a closet with a window and light in it, or a screened porch with a good long work table in it and a comfortable chair that seemed to invite the housewife there to do as much of her work as possible, was noted specially by the girls.

KITCHEN CONVENIENCES

The water systems found in the different homes were of much interest to these young women. In some this system was only a pitcher pump and kitchen sink, but in others there were complete compressed air systems supplying hot and cold water for every floor of the house. A septic tank system of sewage disposal was in use on one farm, and this afforded opportunity to explain this most ideal method yet devised for the country house. Those who have been responsible for all or part of the daily housework necessary in the farm home readily recognize running water as the most necessary of all modern conveniences, when health and comfort are considered, and the woman who realizes with what ease and small cash outlay a simple system can be installed, determines to find a way to gratify her desires in this direction.

Particular attention was given kitchens, laundries, and back porches, because it is in these places that the housewife spends the greater part of her time. At one house an outdoor laundry for summer use had been installed under two large maple trees. An old-fashioned copper kettle was hanging over a gas jet, and there was a hydrant right beside it. The wash tubs were on benches at the foot of one of the trees, and the clothes line was near. This housewife has a comfortable, cheerful place to do her work at a minimum use of energy—a remarkably good example of step-saving.

One convenience enjoyed by Southeastern Kansas housewives and which is not possible for many, is natural gas. It is there used quite generally for cooking, heating, and lighting, and occasionally for ironing. One gas iron in use served to show the girls the possibilities of this convenience. They realized that the use of a gas iron makes it possible to place the ironing board in the most comfortable corner of the house and the ironer can sit while doing this work, with the basket of sprinkled clothes on one side and the drying rack on the other. Many steps are saved in this way and the temperature of the iron is more even than when it is necessary to carry it back and forth between the stove and the ironing board.

Well-designed built-in cupboards in both kitchens and dining rooms, linoleum covered floors, sinks with double drain boards, convenient work tables, and screened back porches, were found many times in the two days.

OUTDOOR ACTIVITIES

The dairy, poultry, orchard and garden interests were not overlooked. These outdoor activities were given almost as much consideration as were the indoor ones because every farm housewife has a part in these activities if they are not wholly in her charge. A well-cared-for orchard, pruned by a woman under the supervision of the county agent, was visited. A dairy herd was visited each day and here the production of milk under sanitary conditions was explained. One dairy was equipped with a sterilization plant. The party arrived at this farm just at milking time. The important points in producing A-grade milk were explained by the man in charge, and a thorough explanation of the sterilization of utensils was given. Mr. Swenson and Mr. Macey showed the points of merit in dairy cows as each herd was visited. After a discussion of these points the girls were asked to place a number of cows according to their relative merits as milk producers. Some of the girls showed symptoms of developing good judgment along this line. Emphasis was placed on the practical points in connection with the production and care of milk that may profitably be put into use on the average farm.

Two flocks of chickens were shown to the girls. One owner exhibited her capons and gave the girls the benefit of her experience in caponizing. The other owner told in an interesting way of the profits she had made on her 150 hens since January 1. In addition to the eggs used by the family and those needed for setting on three farms, these hens had produced 1,174 dozen, which had brought $310 on the market. The necessity of feeding and caring for hens properly was emphasized.

A standard schoolhouse was visited each day and the heating, lighting, and ventilating systems were noted.

Each one took lunch enough and to spare in order that none might go hungry. The lunches were spread on the velvety green lawn of a farm home, one day, and the next day the members of the party stopped in a shady spot on the banks of a creek to enjoy their lunches. The noon hour was made the social feature of the trip each day.

The results of these trips will be far-reaching, as each of these young women in her own way interprets the importance of the features brought to her attention and adapts them to home-making in her own sphere.

Twenty-seven girls were in the party starting from Coffeyville, and thirty-eight were in the party made up at Independence on the second day.



GIRLS STUDYING DAIRY COWS ON ABBECHAR DAIRY FARM. THEY PROVED TO BE APT PUPILS

"Oleo" in Domestic Science

In Minuesota, which is one of the leading dairy states, dairy interests are up in arms because the head of the domestic science department of the agricultural college is openly teaching the use of oleo as an economical substitute for butter. At present prices butter is the most expensive fat to use for cooking purposes, and dairymen cannot blame housewives for trying to economize by using cheaper fats. The thing they have a right to object to, however, is the fact that this sort of teaching tends to permit oleo to sneak in as an imitation butter. It will cause the housewife in a way to fool herself into using an imitation product when she could just as well be taught to use the fats from which oleo is made at a saving of one-third to one-half of the cost of the imitation product. In the frying pan oleo is practically equivalent to a pinch of butter, some lard or other neutral animal fat, and possibly some cottonsced oil. The fallacy of the whole argument is in the idea of economizing by using a product that attempts to pass as real butter. No one objects to oleo except as it is so colored as to make it pass for butter and sell on the market in competition with the real article.

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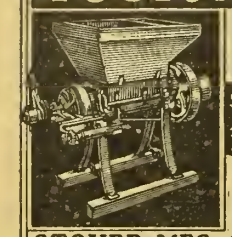

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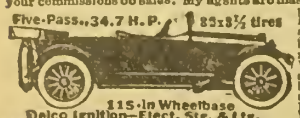

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

THE life and efficiency of an automobile depends largely on the care it is given. The farmer must be his own garage and repair man to a considerable extent.

The experience of A. O. Choate, who writes in Hoard's Dairyman on how he has kept his car in good condition, will be of value to our many readers who own and use automobiles. Mr. Choate says he has owned and used a touring car for two years, and considers it one of the best investments he ever made. It has not only afforded himself and family more pleasure than anything else they have ever had, but has saved much time and labor. By using a trailer he has hauled milk, cream, calves, pigs, vegetables, and other farm products to market. He says:

"I have given the car the best of care and, although it has been used a great deal, it now looks better than many I see which have been in use only a few months. I examine it before each trip to see that all bolts, nuts, and connections are in place and tight. I am careful to use none but the cleanest of water in the radiator and see that the engine has plenty of oil. In filling the gasoline tank I strain the gasoline through chamois to remove water and dirt, thus preventing trouble with the carbureter later on. I always carry a half gallon of lubricating oil and a gallon of gasoline in the tool box for emergency, also a couple of good wrenches, hammer, file, pliers, screw driver, a coil of strong copper wire (both insulated and bare), a tire repair kit, pump jack, a set of extra spark plugs, a couple of extra tubes, and one casing.

"When I bought the car I took my instruction book and gave the machine careful and thorough study, learning what each part was and what it was for, and I have so far not failed in being my own garage man. I start and stop easily, carefully and gradually applying the clutch and brakes. The sudden throwing on of the brakes locks the wheels, causing them to slide and grind the surface of the tires and soon wearing out the tread. In turning corners I slow up, through out the clutch, allowing the car to coast so as to avoid the skidding which ruins tires in a short time. I drive at a moderate speed—ten to twenty-five miles per hour. I consider ten miles at forty miles an hour does more harm to an auto than 100 miles at twenty miles an hour. I keep a good lookout for sharp stones and avoid them as much as possible, going over bad places slowly. I examine the tires every few days for cuts and bruises that let sand and moisture through the rubber tread to the fabric of the tire, which, if permitted, soon rots the tire and causes a blow-out. I have a vulcanizer which cost $1.80, and vulcanize the bad spots on the tires. I also have a tire gauge and test the tires once a week.

"I do my own valve grinding, doing this every forty or fifty days, depending on the amount of running the car does. I coat the edge of the valve head with valve grinding paste, which I buy in tubes, and turn back and forth with a short motion till the edge of the part and the valve show bright all the way around. While doing this I repeatedly shift the valve around so as to grind evenly. I am careful not to get any of the paste in the cylinders, as it would injure them. Only one make of lubricating oil is used on my car, and this is of the best grade. I once changed to a different brand of oil, as I could buy it a little cheaper than the other, but soon found that the motor was not running as well as formerly. The best insurance of freedom from trouble is proper lubrication of the entire machine. Lubrication charts were furnished with my car but I find it is better to learn by actual observation the amount and frequency of lubrication required than to rely entirely upon the chart. Weather and road conditions and the method of driving the machine have as great an influence as does the actual mileage traveled.

"I am particular about keeping the motor clean. I apply kerosene with a scrub brush, which is very effective in removing accumulations of dirt and grease. In washing out the radiator and cylinder jackets I use a mixture of common washing soda and water two or three times a year to loosen up all scale sediment. After this process the cooling system is thoroughly rinsed with clean water. I keep the outside of the radiator clean and see that the air passages at the bottom do not become clogged with mud. With a sponge, a large woolen cloth, and clean water, the body of the car is kept bright and clean. I have an especially built house or garage in which the machine is kept when not in use. The auto is jacked up and the axles allowed to rest on supports which take the weight off the tires.

"It is the little care given regularly that counts and keeps the auto up in trim."

The Machinery Problem

One of the great problems which will confront the nation, if the present war is to continue any great length of time, will be that relating to the manufacture and upkeep of the machinery used in the various phases of our every-day life. The war preparations of the government call for a tremendous increase in the production of the various manufactured articles used in the carrying on of the conflict. In many cases factories which formerly made gas engines, automobiles and various classes of farm machinery have turned all of their efforts to the production of articles of war. Additions have been built to their plants almost over night, and large increases made in the number of their employes, who work night and day shifts, in order that this work may be carried on to meet the demand.

Modern warfare is essentially a conflict between man and man equipped with the most destructive implements that man can manufacture in the shops and factories at his command.

There can be no slackening in this factory production if we are to be victorious. More trained men will be needed for the factories and more for the front, all of which means that there will be fewer producers and more consumers of the necessities of life, food and clothing; hence each must greatly increase his rate of production. Is it not possible that there will be a still greater problem due to the drafting into the conflict of so many of man's old friend, the horse?

All of this means that if production and consumption are to be equal, the rate of production must increase. One of the factors that will play a heavy part in this will be the utilization of machinery. More farming machinery, more tractors, gas engines, etc., to multiply man's power, increase the production rate and lower the cost.

The successful operation of this equipment is going to demand a general increase in the knowledge of the construction, operation and repair of machinery or the results will not be what they should. As the price of machinery increases, the cost of operation is bound to increase accordingly, unless there can be some method devised to counterbalance the cost items of depreciation, repairs, and operation. One excellent way to do this is to "know your machine"; another is to provide proper housing facilities, and another to have a properly equipped repair shop where attention can be given to the parts when needed. Of course, a thorough knowledge of the shop processes and methods is a necessity. This can be obtained by a careful study of books and periodicals relating to the subject, or, what is still better, everyone who can possibly do so should utilize a few weeks and attend some course such as those given at the Kansas Agricultural College, where the principles of this work can be acquired and actual skill developed later.—A. A. POTTER, Dean of Engineering, K. S. A. C.

Production Costs

County agricultural agents were asked by the Government to obtain figures on the cost of wheat production in their counties. John D. Lewis, agricultural agent of Nemaha County, reports that he found that high cost of preparation of the seed bed was followed in every case by low cost of production per bushel. This is a significant statement and, based as it is on actual figures and not a mere guess, should furnish the wheat grower food for thought.

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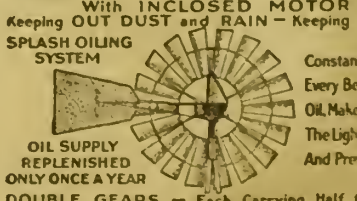

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MINIMUM HOG PRICES

Gifford Pinchot, representing the United States Food Administration, told an audience at the American Royal last week that the hog supply of this country is fully 20 per cent below normal. He also pointed out that pork products are of vital importance in conducting the war. Our allies are depending on us to make up their deficiencies. It will be necessary to increase our production to 15 per cent above normal to meet this demand, a total increase of 35 per cent over our present hog production.

In talking to the live stock man, Mr. Pinchot was very much in earnest. The judging was suspended long enough for him to present the situation and ask for the opinions of those present. In the evening at the Hereford Breeders' Association dinner Mr. Pinchot again brought up this hog subject and discussed it at greater length than he had in the afternoon at the stock show. He had just come from a conference of hog men held at Waterloo, Iowa, where representatives of six different states were present. Resolutions were passed at this time asking that the Food Administration guarantee a minimum price on pork based on the cost of corn.

The only way to increase immediately the amount of pork is to feed hogs to heavier weights than usual. Feeders will not do this unless they have some assurance that the price will be such as to justify them in putting on the extra weight. The Iowa resolution which Mr. Pinchot read asked that the basis for guaranteeing the hog man against loss be the fixing of a price per hundred equal to the cost of fourteen bushels of corn. By feeding a well balanced ration it is possible to produce a hundred pounds of pork with seven or eight bushels of corn and the small amounts of other concentrates necessary to properly balance it, but in any price fixing depending on the cost of corn it would be necessary to allow a considerably wider margin. Professor Evvard of the Iowa State College thinks that a ratio of twelve to twelve and a half bushels of corn to the hundred pounds of pork would be a sufficient inducement for hog men to carry hogs to extra weights.

The Iowa State War Emergency Food Commission which met in Des Moines recently telegraphed the United States Food Administration as follows:

"The War Emergency Food Commission earnestly recommends that the price of hogs be established at the central markets in their relationship to the price of corn. We urge that necessary steps be taken at once to increase early and larger breeding of hogs for spring pigs. We feel that a price sufficient to pay the cost of production is the only way to eliminate a pork famine during the next year. We strongly favor paying a premium for heavy hogs, that thereby more pork may be produced from the limited number of hogs now in the country, and also increased breeding of hogs."

Some weeks ago Mr. Hoover in conference with the live stock interests of the country pledged himself not to take up price fixing on live stock without first submitting every question to the live stock men of the country and securing their approval of any move he might wish to make. The presentation of the hog question at Kansas City by Mr. Pinchot is a fulfillment of that pledge. After reading the resolutions offered at the Waterloo conference, Mr. Pinchot asked for the opinion of those present and got only approval of the plan. He assured his listeners that he would report this expression of their approval to Mr. Hoover and use his own personal influence to the fullest extent possible to see that hog men be guaranteed prices that would insure them against loss if they responded to the appeal and increased pork products by making hogs heavier and by breeding more sows for next year's farrow.

The principal reason we have a shortage of hogs at the present time is that prices have been such that during the past six or eight months there has been a loss from feeding corn to hogs, and no industry can continue to suffer losses. Assurance of a reasonable profit is certain to increase production. It is of vital importance that we have plenty of meat and fat next year, and while this price fixing program is something unprecedented in our history, some such guarantee as suggested is about the only way to insure there being any immediate substantial increase in pork production.

The Food Administration is now making plans to license packing houses. If a guaranteed minimum price is placed on hogs based on the cost of production with a reasonable margin of profit, the hog feeder will feel safe in increasing production. Hog men have suffered too often at the hands of the packers to take any long chances in feeding high-priced corn to hogs with the possibility that the packers will take all their profits when the hogs are ready for the market.

WATERS LEAVES KANSAS

Like a thunderbolt from a clear sky comes the announcement that President H. J. Waters of the Kansas State Agricultural College has resigned and will leave the college about the first of the year to become managing editor of the Kansas City Weekly Star. The new position carries with it a substantial increase in salary and an opportunity to make the Weekly Star one of the leading agricultural papers of the country.

The Agricultural College of Kansas has made tremendous strides under President Waters' administration. He has given it a high standing among institutions of its kind all over the country. In addition to his high attainments along scientific lines, President Waters possesses exceptional executive and administrative ability, as is evidenced by the splendid team work and efficient organization of the able men and women he has gathered around him during his administration of the affairs of our Agricultural College.

It will not be an easy task to find a man who can follow Doctor Waters as president of the Kansas Agricultural College. The Board of Administration plans to scour the whole country in their search for a worthy successor. In the meantime J. T. Willard, dean of science, who has already most efficiently served several times as acting president, will handle the duties of the president's office.

Much as we regret President Waters' leaving the Kansas State Agricultural College and our state, KANSAS FARMER rejoices that he is to have this exceptional opportunity for enlarged usefulness in promoting the cause of agriculture.

BUY NEAR HOME

We have got so in the habit of shipping all surplus products to central markets that it requires some little effort to change our methods and cut out some of this moving about of farm products. Numerous instances have been brought to light where cattle or feed has been shipped to Kansas City or other big markets and the same feed or cattle found in a few days back on a farm in an adjoining county.

Economizing in transportation facilities is of greatest importance in the present crisis. There are many agencies available for helping to cut out some of this needless expense for transportation. Many of our counties have county agents and many railroad companies maintain agricultural departments. One of the big services rendered by the county agent or the agricultural agent of a railway is to bring buyers and sellers nearer together. We note that J. E. Payne, who is in the development department of the Frisco Railway, is urging Oklahoma people to make their feed wants known so as to save some of the transportation expenses and release cars for other uses. Mr. Payne points out that many communities in Southwest Oklahoma will need to buy either grain or hay this year. Eastern and Northeastern Oklahoma and Southeastern Kansas have grain and hay for sale. Following the usual custom, the surplus would go to St. Louis, Memphis, or Kansas City, and the Western Oklahoma farmer would have to buy from these distant markets. Mr. Payne is hoping to help people to find grain and hay before it leaves the station near where it is produced. In this way there will be a saving in the use of cars and both buyer and seller will profit. This is a suggestion that might well be taken by farmers generally. There is certain to be a shortage of transportation facilities and every saving effected in this way will help out on the transportation proposition.

Volunteer in Conservation Army

IN SOME countries the saving of food has been enforced by law. In this country, in keeping with the principles of democracy for which we are contending, the problem is to be solved by the voluntary cooperation of the citizens of the nation. Herbert Hoover, federal food administrator, has selected the week of October 21 to 27 for a nation-wide campaign to complete the enrollment of all the forces of the United States in conservation of the food supplies.

During the week mentioned, throughout Kansas, as well as throughout all other states of the Union, every man, woman and child will be asked to subscribe his name in the lists of those who will form the great volunteer army of food conservers. As a patriotic duty and privilege, these men and women and youth will pledge themselves to adopt, so far as they can, the practical measures that will be suggested. In this way they will become volunteer members of the United States Food Administration, an organization which, when the history of the war is finally written, may be found to have played the decisive part in the great struggle.

The people of Kansas have responded nobly to the call for soldiers, to the appeals for subscriptions to the Red Cross and other essential war-time activities, and to the call for unprecedented production of food with which to feed American soldiers and our allies. In these great activities it has been the pride of the state that Kansas contains no slackers. In this special campaign about to be inaugurated—quite as significant as any that have gone before—let Kansas enroll every citizen in America's army of conservation. What we waste may lose the war. What we save will win it.—DR. H. J. WATERS, Federal Food Administrator for Kansas.

SAVE SEED OF SORGHUMS

Every year we hear of the difficulty of obtaining good seed of the grain sorghums. This is frequently offered as an excuse for not growing sorghums. Probably one of the chief reasons kafir and other sorghums do not fill a larger place in our farming plans is because of this failure to have a supply of good early maturing seed on hand when the time comes to plant.

Important as it is to select seed corn in the fall, it is of much greater importance to select and properly store seed heads of kafir, milo, feterita, and others of the sorghum grains. Select these seed heads early in the fall, is the advice of C. C. Cunningham, of the Agricultural College. Mr. Cunningham has for several years traveled extensively over Kansas in connection with the co-operative experiments being conducted on farms over the state. His observations have added value because of this opportunity for seeing the results following the use of poor seed.

Selecting seed of the sorghums is of even greater importance than usual this year because in many sections these crops have made a late growth and have failed to fully mature in advance of freezing weather. Already killing frosts have occurred over much of the state, and to insure good seed for next year's planting it must be selected soon.

Sorghum seed, if not thoroughly ripe and dry, is easily injured in vitality if subjected to freezing weather. The only way to insure a supply of seed of strong vitality for next season's planting is to select it in the field before there is danger of freezing. Fully matured heads should be selected if they are available, but heads that are not yet quite ripe—in "dough" or "hard dough" stages—will make good seed if properly eared for until they are thoroughly dry.

It would be better to save slightly immature heads for seed rather than take chances on having the vitality of the seed injured or destroyed by freezing. Very little time—perhaps half a day—is required to select a sufficient number of heads to furnish seed for planting next season.

In selecting grain sorghums — kafir, milo, and feterita—choose heads that are true to type and well filled, with large, uniform seeds, is Mr. Cunningham's suggestion. The heads should be well out of the boot, or top sheaf. If the leaf partly surrounds the lower part of the head, it affords a place for insects to hide and for molds and other plant life to develop. Plants of this type are undesirable.

The plant should be given some consideration. Choose heads from strong, sturdy, upright stalks of a uniform height that carry an abundance of leaves. Heads should always be taken from plants growing where the stand is right or possibly a little thicker than normal. Good heads produced under these conditions will likely make better producing seed than those from large heads developed where the stand is thin.

The International Stock Show which will be held in Chicago the first week in December, promises to be one of the finest exhibitions of the feeders' and breeders' art ever made. There should be a record attendance at the International this year. The need for the best of live stock of all kinds has never been greater. This great stock show is one of the places where correct ideals can be formed as to what constitutes real merit in meat producing animals. The entries close November 1. Those of our readers who plan to exhibit stock of any kind should keep this date in mind and be sure to get their entries made in time.

Actual tests have proved that carefully stored seed corn will yield as much as eighteen bushels more to the acre than seed from the ordinary storage of the corn crib. This would mean almost double the yield for some folks.

THE FOOD SITUATION IN FRANCE

Nation Faces Wheat Deficit of Five Million Tons

By FRED B. PITNEY

TELLING the truth about the food situation in France is an extremely difficult thing to do, for one comes immediately into contact with so many counter currents of opinion. There is no question in the mind of anyone conversant with the facts that it is not only with Germany, but with the Allies, as well, that the food situation is serious and needs prompt and effective treatment. But in the endeavor to deal with this question one finds constantly in the official mind an attempt to reconcile two irreconcilable positions.

GOVERNMENTS ALONE CANNOT WIN WAR

On the one hand, there is the open and full recognition of the seriousness of the situation, of the demand for prompt, full and efficacious co-operation and co-ordination of effort among all the nations warring against Germany in order that each may be able to sustain its striking power at the point of highest efficiency. This opinion recognizes that governments alone cannot win the war. It must be a war of the allied peoples against Germany. And this opinion sees the necessity of laying the situation fully and fairly before the people so that they will voluntarily adopt the conservation methods necessary to victory.

On the other hand, confused in the same minds with this opinion there is an idea that if the people are told too much they will become frightened and will weaken. That is a bald statement, very plainly put, but that is what it boils down to. The statesmen and politicians have a peculiar idea that they are the only men who are far-sighted enough and strong enough to face the whole truth and go on fighting. So they try at the same time to arouse the people and to reassure them.

We find a fine example of this in the submarine. On the one side we are told that our efforts to overcome the submarine must be redoubled, while on the other side we are told the submarine is a failure and it is to laugh at the German threats. In regard to food we are told that the Allies must guard their every resource, and immediately on top of that we are told they have reserve stocks for the next three years. We are told that it is vitally necessary for America to put a great army in the field at once and in the same breath we hear that the allied preponderance in man power over Germany is increasing every day.

WHOLE TRUTH MUST BE KNOWN

How can one expect to arouse a nation at war with such a stream of contradictory statements? My own opiuion is that the peoples of all the allied nations are strong enough to know the whole truth and that knowing it will only make them more determined and fight harder, while at the same time their collective action will be much more intelligent. I do not believe in any government trying to win this war. I believe that only an aroused nation will be victorious. And I believe that the way to arouse the nation is to lay every shred of fact fully and completely before the people.

In France, however, one meets with a third phase of official opinion that further complicates the situation. France has borne the brunt of the fighting on the side of the Allies for three years. Her resources in men and material have been strained to the uttermost, and everyone realizes that France cannot go on bearing the brunt of the fighting for another three years. Yet, French statesmen are so afraid of the possible effect at time of the peace conference of an admission that France needs assistance now that immediately the idea is suggested there comes an official denial in one form or another. French statesmen, perhaps with reason, are obsessed with the idea that France will get an extremely short end of the stick at the peace conference, if there is a suspicion that she does not go into them stronger than she went into the war and able to fight on for another million years. But how is she going to get anything at the peace conferences if the Allies are not the victors? And how are the Allies to be the victors unless the people of America know the full truth about the task imposed on them?

This complicated situation makes it extremely difficult, however, to tell the truth about food conditions in the face of the imminent probabilities of thereby injuring susceptible official feelings.

PERSONAL EXPERIENCES IN FRANCE

As I have kept house in Paris during the war, I can speak from experience on the food situation in France as it affects the individual. And let me remark in passing that one learns a great deal, when keeping house, of which one gets no inkling when living in a hotel or eating in restaurants. One can always go to a restaurant and order a meal and get it. I have heard many visiting Americans, who lived in France in that way, pooh-pooh the idea that there was a food shortage in the country. If those same persons had had to search the markets before they had their meals, they would have gained a very different idea of the food situation.

Sugar offers an excellent concrete example. In a restaurant one is fairly certain of sugar for one's coffee. Three lumps to a person is the rule. Formerly the sugar was put on the table in a bowl and one helped oneself. Now the ration is served to each person separately. Still, one is fairly sure of one's sugar in a restaurant.

But if one is keeping house, one finds that one must have a "sugar card," permitting him to buy a stipulated amount of sugar in a month. The allowance is one and one-half pounds of sugar a month, if three meals a day are taken at home; one pound if two meals are taken at home, and one-half pound if only one meal is taken at home. This means for the person who takes three meals a day at home, eighteen pounds of sugar a year. The annual sugar consumption per person in America is eighty-five pounds.

One would not be likely to find this out if one were living in restaurants in France, but one finds it out very soon if one is keeping house.

It is soon learned, also, that the "sugar card" does not mean that one can demand a pound and a half of sugar a month, but only that one is permitted to buy that much, provided a dealer can be found who has it to sell. A dealer who has sugar will not sell it to anyone who comes in. He sells only to his own regular customers.

We paid last winter in Paris 11 cents apiece for eggs and $2 a pound for butter and there was frequently neither butter nor eggs nor milk to be had. Private families were allowed to buy one-eighth of a pound of butter at a time. The grocers could not sell flour, only the bakers. The flour mills could not choose their own customers, nor could the bakers and restaurants choose the mills they would buy from. Lists were made out telling each miller to whom he could sell. This was in order that one section should not be able to eat up the stock of flour belonging to another section, or one baker deprive the customers of another, when all were short.

WHEAT SITUATION IN FRANCE

Let me give you the official figures on the wheat situation in France, so that there can be no question.

It is estimated that there will be a deficit of approximately 5,000,000 tons of wheat in France over the period from September 1, 1917, to September 1, 1918.

The normal annual consumption of wheat in France is from 9,200,000 tons to 9,400,000 tons. France has always been an importer of wheat, her average production for several years before the war being 9,000,000 tons, or slightly less than the consumption. Since the beginning of the war her production has fallen off radically. In 1914 it was 7,700,000 tons; in 1915, 6,065,000 tons, and in 1916, 5,840,000 tons, while for this year the crop is estimated at 4,000,000 tons with a possibility of rising to 4,500,000 tons, leaving for the period from September, 1917, to September, 1918, a deficit of nearly 5,000,000 tons, which must be made up by imports.

WHEAT MUST COME FROM AMERICA

Where can those imports come from except from America? Italy by reason of her position in the Mediterranean takes the first toll from the wheat of the Far East, while England, of whom the Far Eastern wheat producing countries are colonies, takes the remainder. France can get a little from South Africa. Argentina has stopped the exportation of wheat. This country is the only resource left to France.

I have spoken of the scarcity of flour, resulting from the shortage in wheat. Let us try to see what this means to France. In the first place, it must be realized that there bread is the staple article of food. It is the base of all means, especially among the working population. Breakfast consists of coffee or chocolate and bread. Luncheon is bread, soup, coffee, and often, though not always, some meat or fish and a vegetable. The big dish is bread. Bread is again the base of dinner or supper, however the meal may be called. Bread and cheese will make an entire meal for a French peasant, with a glass of wine to wash it down.

BREAD ALLOWANCE AND "BREAD CARDS"

The French soldier's allowance of bread was a trifle over a pound and a half a day. On account of the shortage of wheat it has been necessary to cut this ration to a pound and a third a day. And it is not necessary to say that only dire necessity will countenance the cutting of the soldier's ration.

Another thing that has happened is "bread cards" in some localities. There is no national "bread card" in France as there is a "sugar card," but in some parts of the country it has been necessary to restrict the use of bread by local regulations. I have in mind several letters from my friends among the peasants of Brittany, telling of the privations they were enduring because their bread was cut down so much. Remember that bread is the chief article of diet among those people.

FRANCE SUFFERS IN SILENCE

Do not think they complained. There is no finer-souled, stronger or greater people in the world than the French peasants. They are heroes among a nation of heroes. No trial that justice and right could demand would wring a complaint from Josephine Herve, one of the grandest women among a grand race. That simple peasant woman can neither read nor write, but without a word of bitterness she gave her husband to her country, and she is schooling her five sons and raising them for her country. The oldest goes to the army with the next class that is called out. When little Charlot, next to the youngest of her boys, writes for her and tells what they are enduring, there is no complaint, no bitterness. It is a simple statement of facts in plain and homely language, the story of a peasant cottage told to the child she nursed and loved.

And one cannot help her. One can send money, but it is not money she needs, but bread.

Miami Farm Boys' Tour

MIAMI County farm boys will not soon forget the many things of interest which they saw on the recent tour of their county which was arranged for them by O. C. Hagans, county agricultural agent. The county agent's car and eight others were used for the trip and thirty-eight boys and ten men were in the party.

Horse judging was the object of the first stop, which was made at J. M. Nolan's horse barn, where Percheron, Belgian and Coach horses were studied by the boys. Pointers on judging were given by the owner of the horses and by the assistant county agent, J. L. Lantow.

An orchard on the farm of S. M. Craig, which is an example of effective pruning and spraying, proved to be of much interest to the boys.

Next, a practical lesson in dairying was obtained at L. B. Smith's modern farm dairy. The use of the sanitary equipment, including the water system in the barn, was explained to the boys. The good dairy herd on this farm received its share of appreciation from the visitors.

The party stopped at noon on the shaded bank of the Marias des Cygne River. Each boy had brought along his own dinner, and after the baskets had been emptied an hour was spent in getting acquainted and in having a general good time.

H. L. McDill's herd of 125 pure-bred Hereford cattle, and P. J. Ernst's flock of Shropshire sheep, were objects of the next stops and the boys were much interested in these classes of live stock.

The last stop was made for inspecting an acre of corn grown by one of the boys, Robert Allen. Many questions were asked by the boys in regard to the state corn contest and corn-growing methods. These were answered by D. B. Allison, corn club leader for the county. Most of the Miami County boys who are in the contest expect to finish the season's work in the club and have a part in the exhibits to be made this fall.

The return trip was made by way of Osawatomie, where many of the boys saw the state hospital for the first time. All agreed that the day was spent both pleasantly and profitably.



UNDOUBTEDLY THESE BOYS CAN TELL THE ADVANTAGES OF SHEEP RAISING FOR MIAMI COUNTY

Furs Will Be High

Big fur houses in St. Louis and elsewhere have sent us communications which tell us that the demand for furs throughout the winter promises to be very good. All the American furs are wanted by the big fur houses, including skunk, muskrat, mink, opossum, fox, wolf—in fact, every kind of marketable fur.

This prompts us to remind all our readers to get ready for trapping early. Write to your favorite fur house and ask them for game laws, price information, prices and descriptions of new traps, and any new devices they may have for smoking out fur bearing animals, bait to attract them, and so on.

Plan to do systematic trapping. But don't begin any trapping until the cold weather is on and the animals are full furred. If you trap early you get the animals with thin fur, whereas by waiting a few weeks that same animal will more than double in value. It is money in your own pocket not to sacrifice desirable fur-bearing animals by getting busy in actual trapping too soon.

The concerns which advertise in this paper are reliable.

Cull potatoes make profitable pork.

STARTING WITH PURE BREDS

Begin in Small Way With Good Animals and Grow Into Business

THERE is room for tremendous development in the pure-bred live stock business. The days of the scrub are numbered. How to get started is a question that confronts every beginner. It requires a good level business head as well as technical knowledge of pure-bred stock to bring success.

There have been many failures in handling pure-breds because the beginner was not willing to grow into the business gradually. Some most interesting and valuable experience along this line was given recently in The Shorthorn in America by F. E. Jackson, president of a bank in Hurley, South Dakota. Mr. Jackson's experiences have been both as a banker and as a breeder of Shorthorn cattle. He says:

"While I am fully aware that some bankers do not look with favor on loans for the purchase of pure-bred stock, my experience has convinced me that such loans, properly placed, are not only absolutely safe and desirable from a banking standpoint, but that the borrower can profit handsomely by the intelligent use of the funds. I well remember some failures away back in the early nineties but those times have long passed, I hope never to return again—those strenuous times of eleven-cent corn, eight-cent oats, two-cent hogs and twelve-dollar cows. The pure-bred stock industry was not the only branch of agriculture that suffered. I believe the great majority of our bankers now realize that conditions have permanently changed; that more and better live stock are needed on our high-priced lands if any profit is made, and are willing to finance their customers for foundation stock.

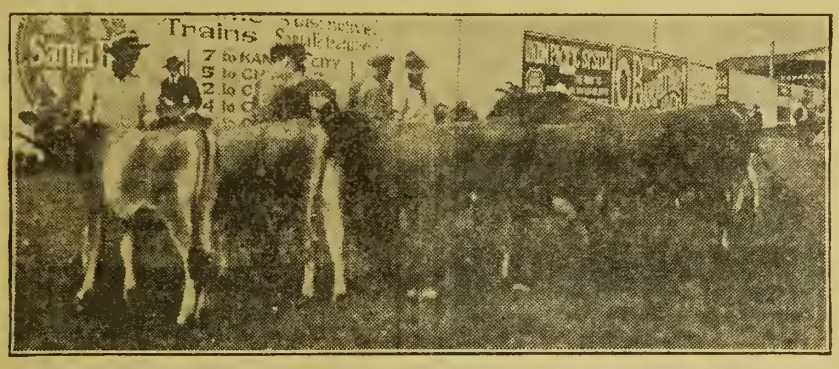
"In the old days, when the best Iowa farms were worth only $15 to $30 per acre and Uncle Sam was giving away countless numbers of 160-acre farms in the Dakotas, had one for everybody that would pay $14 filing fee and loiter about in the same county most of the time for a period of eight months, then the question of value, or rather the problem of income in proportion to land values, need not be considered. But how different today! Land is high and going higher. Many of our farms are mortgaged for four or five times what they cost in the nineties, the interest must be met, the taxes are higher, we must now make our farms produce an income in proportion to the valuation. To do this better farming methods and better live stock must be used. Scrub stock and $200 per acre land are poor companions, financially speaking.

"It just so happened that, as a boy, my environment was such that I gained a little knowledge of the pure-bred stock business that has served me well ever since. At the age of nineteen I secured a position as stenographer in a bank in Corning, Iowa, of which Charles C. Norton, a prominent Shorthorn breeder, was then the cashier. The first Sunday following my arrival there Mr. Norton invited me and one of the other employes out to his home for dinner. How thoughtful on his part, for the first Sunday in a strange town is always a long, lonesome day for a lad just away from home, and he is apt to get homesick. Not so on this occasion, for after a splendid dinner Mr. Norton asked us to accompany him on his Sunday afternoon walk through the pastures to see the Shorthorns. Magnificent cattle they were, and on our way home that evening I remarked to my companion that some day I hoped to be situated as Mr. Norton was then, with an official position in a good bank and a farm near town stocked with Shorthorns. It required sixteen years of effort to realize this "boyhood dream," but it finally was possible. So for several years past I have been a banker-farmer—perhaps I should reverse it: a farmer-banker—and have had a little experience on both sides of this game.

"I mention this only to show that the environment in which I was happily placed in my five years' employment there not only shaped my hopes and ambitions, but gave me a training that was afterward useful in the development of the pure-bred stock industry around my home town, Hurley, South Dakota.

"When I came out here twelve years ago to take the cashiership of the Turner County Bank, and later its presidency, I naturally felt interested in the two men in our business territory who were breeding pure-bred stock, each having a small herd of Shorthorns. As is usually the case, they had started with rather plain cattle, both in quality and breeding, had tried out the business in a careful, conservative way and had begun to see its possibilities. They held a public sale together, making an average of $94 per head, and each then bought a few of the better sort. One of them died before reaping the harvest from his investment in better cattle, but he had built up a splendid herd and could he have lived even another five years, he would have profited handsomely. The other man has built up a splendid herd, about eighty head on his farm now that would bring at least $40,000 if dispersed at auction, but there is no such intention, as his son has taken an interest in the business and it will be continued for another generation at least.

"This industry has developed around our town until we now have sixteen Shorthorn herds, three of Herefords, three of Angus, twenty-four of Polland-Chinas, nineteen of Durocs, and other breeds in lesser numbers. One agricultural editor, in his article, put it this way: 'Hurley is an insignificant little town, not famous for anything else except its pure-bred stock, but in that respect it sticks up on the map like a wart on a man's nose.'



JERSEY HERD SHOWN AT TOPEKA AND HUTCHINSON FAIRS.—HEIFER AT LEFT GRAND CHAMPION FEMALE

"While the business has had my encouragement and financial support, I have never taken any reckless risks with our depositors' money, never had the least trouble with one of these loans, never did anything in fact that any banker awake to the needs of his community and its financial development (which ultimately means the growth of his banking business) should not have done. I believe I can safely say, however, that more money comes to our bank now from sales of pure-bred live stock than from any other source and there is considerable satisfaction in seeing so many young men making good and pushing on toward a successful career.

"My method of starting young men in the breeding business is different possibly from that of most bankers. Some bankers I have known are liberal enough with loans when money is easy, even encouraging a young breeder to go in deeper, driving out to the farm on Sunday to show some eastern friend the class of stock raised in his territory, and all that, then when money gets a little tight and there is the slightest sign of a little depreciation in prices, they get scared clear through and urge the breeder to close out and repay the money. That very thing has been done too many times.

"I prefer to start a man in a small way, with good animals, then stand by him until the race is finished and the note paid instead of forcing him out on a down market. My policy has been to loan enough for four to six cows and a good bull, or two or three sows in case hogs are wanted, emphasizing the point that choice individuals must be selected, then urge my customer to stop spending money (borrowed money at least) and grow his own herd. He should grow into the business rather than go into it. You may wonder why I hold a man down to such a modest beginning, but the plan has many points to recommend it. It is not where a man begins, but where he ends, that counts. By starting with a few of the better kind he will never have to start twice or three times to get in right, as many breeders have done. Then certain lessons must be learned in the school of experience in this business, as in all others, and these lessons are less expensive with a small herd than with a large one. And if financial conditions should get in bad shape and values settle to lower levels, the debt will not be so large that the bankers will get scared and force the breeder to close out while values are down in the dumps, nor will the herd be so large but that the breeder can carry the females through a period of depression until better prices can be realized for such as he cares to sell. If a man is not adapted to the business, he will find it out and get out without getting hurt much, as he might with a large herd and a proportionately heavy debt. As the herd increases and the young breeder gains in experience he can buy more females with money received for male animals sold, or he can even borrow again and build up a little faster if he chooses, but my experience leads me to believe that with five or six good cows to start with a man will get along just about as well without much further help.

"I have never known a man to go wrong or get in financial difficulty in breeding pure-bred stock legitimately. It is getting engulfed in booms, fads and fashions in a speculative way, and doing so on borrowed money, that has sometimes terminated the wrong way. Every man who has started breeding pure-bred stock in our locality is still at it, no quitters yet, so each of them must be making good. Some of our farmers are not keeping up the registration of their hogs, but even they are maintaining the breed in its purity on their farms, producing pork for market.

"Perhaps it would not be out of place here to consider briefly some of the mistakes that are apt to be made by a beginner. The cold fact is that some men will make a tidy little fortune out of the business while others will go broke. Wherein lies the difference? There are about three classes of men who will be failures: The man who holds his purse strings so tightly that he will not buy good animals to start with; the man who, after getting a fairly good herd of females, uses a mean sire to head the herd; and lastly, the man who expects to win out by buying pure-bred stock and giving it scrub treatment.

"My experience has taught me that a man should buy choice animals to start with, limiting the number to his purse, rather than buy a larger number and sacrifice in quality and breeding; that a man can never get anywhere, unless it be on the rocks of adversity, by using a mean sire in his herd, and that good care and proper feeding are just as essential as good breeding. Once satisfied that a young man possesses the right ideas of this business and has the equipment and ability to properly care for his stock, I have not hesitated to make him the loan for foundation stock, and have yet to finance one that has not made good.

"The commonest mistake that has come to my notice is that of over-reaching in numbers when buying foundation stock and under-reaching in the quality and breeding of the animals. A few of the good kind are far more profitable in the end than many of the cheaper kind, this comparison being made on the same amount invested, of course.

"In financing this industry in our business territory our policy is to carry the notes until the sales of male animals cover the note, permitting the breeder to keep his original females and their female progeny to build up his herd. At that, it is not what bankers term 'slow paper,' the hog notes being invariably paid within a year and the cattle notes in two or three years. I cannot remember of carrying a cattle note longer than three years, even with heifer calves predominating, and I believe every banker will find notes in his pouch that he has renewed year after year and carried for a longer period than would be asked on a pure-bred cattle note. 'Let the bull calves pay the note' is our slogan in connection with this industry, and if more of our bankers will carefully study the subject with a view of meeting the needs of their respective communities for better live stock, I believe this slogan can be more generally adopted with gratifying results. Bankers are not such bad fellows on the whole, but naturally they become nervous sometimes when trying to finance something they so little understand. Hasten the day when they all study this growing industry and understand it better than now. No longer is it a hobby or a luxury, but a necessity.

"It might appear on the face of it that the pure-bred stock business could be over-done in a given locality, that the supply would soon exceed the demand, and it might eventually if local demand only were considered, but this is a big country just beginning to realize its necessity for better stock, and as land values continue to increase, better stock will be needed to replace the scrubs if any profit is made. Pure-bred stock may be cheaper some day than now. We all expect that, in fact. War prices will not last forever, we hope not, anyway, but when values go lower, it will be due to financial and industrial conditions that will likewise affect every other industry in proportion, pure-bred stock no more than other industries, and not to any over-production of good stock. In fact, our great South needs all our northern surplus for years to come, your great Northwest needs and is buying more than ever before, and the trade with Argentina and other foreign countries is developing satisfactorily. I have never seen the industry on such a healthy basis as now and the future looks bright.

"Contrary to the general opinion, the industry seems to prosper best in these breeding centers. Buyers will come from a distance who could not come if only one or two herds could be seen; indeed it is a drawing card to advertise that a dozen or more herds are located in one locality and can all be seen with one expense. And it is easier and cheaper to get the trade by bulk advertising for a community than for single breeders, remotely situated, to strive for it singly. So I would say to a young breeder, do not try to corner the business in your locality or make yourself believe that competition will hurt your trade. Let all your neighbors go into it who will, encourage them and help them, then all pull together and watch results."

Sorghum crops have as usual demonstrated their ability to withstand dry weather, according to W. A. Boys, district agricultural agent in West Central Kansas. Much of the corn was damaged beyond recovery while the sorghums will make good yields of forage and possibly some grain in case of the earlier varieties. Feed crops and pastures were improved by the August rains and the yields of crops suitable for silage will be better than were expected a few weeks ago. The quality, moreover, has been improved.

Put the farm machinery in first class order during odd times this winter. An hour spent in repair may prevent later on a day of despair.



Trade Mark Registered





"Loafing acres" are common on many farms now under cultivation. This condition is due to a number of causes, such as uncleared land, poor drainage, deep washes, unused fence lines and neglected corners in fields. Much of this land could be reclaimed and planted this fall or next spring. It is possible by this means to increase the acreage of tilled lands in our middle and western states by 10 to 20 per cent. It is the duty as well as the privilege of every farmer to bring as many of these "loafing acres" under profitable culture as quickly as possible.

The United States Food Administration has just received official figures on the prospective wheat crop in India. The estimates indicate an increased yield of 19.3 per cent over the crop of last year, which would make the estimated production this year amount to 338,600,000 bushels. The exportable reserve of wheat remaining on hand in India September 1 was estimated at over eighty million bushels. Lack of adequate shipping facilities holds this wheat from the world's markets pending peace or the overcoming of the submarine menace.

Kansas Farmer Dairy Club

Importance of Balanced Rations

WE MUST understand what is meant by a balanced ration, if we are to feed cows profitably. The cow eats the hay, fodder, corn, bran, and other feeds, and uses the different things found in these feeds for a number of purposes. A portion is needed for growth if she is a young heifer, and even the full-grown cow needs some material to replace worn-out parts of her body. Then she must keep her body warm, and that uses some of the material found in the feed. Movements of the body, the act of breathing, chewing, and digesting feed, all require something that must be taken from the feed. We speak of this last as energy. It means that by some process the body is able to get from the feed the power of motion. In doing work with a feed grinder or threshing machine, some fuel must be burned under the boiler or in the cylinder of the engine, and this burning of the fuel supplies the energy that makes the wheels go round. In a very similar way certain parts of the feed make heat and energy in the body of the cow.

When you feed your cow she is first going to use all of the feed necessary for these things mentioned above. If she is a milk cow and has anything left, she will make milk. If she happens to be a beef cow, or a dairy cow not giving milk, she will add fat to her body, using the surplus material in the feed for this purpose.

The different kinds of material found in feeds are called nutrients and what the cow uses for her own body is spoken of as the maintenance requirement. It might be compared with furnishing a machine with just barely power enough to keep the empty machine running. If you give your cow just barely enough feed for her own body, she cannot give milk. She will simply be a machine running empty without sufficient material to make any milk. Dairy-bred cows will give milk for a time even when fed only a maintenance ration, because they actually use portions of their own bodies to make the milk. This cannot continue very long, and meanwhile the cow will be getting thinner and thinner in flesh.

Before understanding what is meant by the term, "balanced ration," we must study the composition of the different kinds of feeds. We must know what kind of nutrients are found in each one and in what amounts. We class these nutrients in three groups. The first group is called protein, which term might be defined as necessary elements for tissue building or growth. The protein part of the feed is the part that makes growth of all kinds, such as muscles or lean meat, horn, hair, skin, etc. All feeds have starch and sugar in them. Corn or wheat contains a great deal of starch. Starch and sugar make heat and fat, and can be used by the animal to give it the energy to move about. The protein is very necessary in making milk. Milk is designed by Nature to feed the young calf, and it must grow very rapidly. Therefore its natural food must contain plenty of material for making growth. Milk contains quite large amounts of protein. When milk sours the protein part thickens and forms the curd which is used in making cottage cheese. When you separate the milk in a separator, you take out the cream, which contains the fat, but leave in the skim milk nearly all the protein.

If we expect a cow to give a lot of milk, her feed must have plenty of protein, for nothing else can take its place. Protein can be used to make fat, heat, or energy, but starch or sugar cannot be used to make the curd of milk, no matter how much there may be in the feed. If you gave a carpenter a supply of lumber but no nails, he could not build a house, because the nails are absolutely necessary to fasten the lumber together. So you might feed a cow prairie hay, fodder, and corn, and she might eat all she could hold and still not have protein enough to make very much milk. She would probably have a lot of extra starch and sugar, but these would be wasted or go to make her fat, which is the same thing as wasted on a dairy cow.

All feeds contain small amounts of fat or oil, and these are used for the same purposes as starch and sugar and like them can be used for making the protein part of the milk. We have already mentioned the name applied to the part of the feed which is so necessary in producing growth or milk. The second kind of nutrients we give the group, or family, name of carbohydrates. This is the big family of the feed nutrients. It has many members and nearly every kind of feed contains more carbohydrates than fat and protein combined. For example, a hundred pounds of corn chop contains about 69 pounds of digestible carbohydrates and only 6.9 pounds of protein and 3.5 pounds of fat, which is the name given to the third group of nutrients. Some feeds have a great deal more protein than corn; for example, a hundred pounds of old process linseed oil meal contains 31.7 pounds of digestible protein, 37.9 pounds of carbohydrates, and 2.8 pounds of fat. Two pounds of the oil meal thus contains almost as much protein as ten pounds of corn chop. You can see from this why the feeding of some such feed as oil meal or cottonseed meal is usually necessary when your cow needs more protein.

When we feed a balanced ration, we simply use the right amounts of the different feeds so there will be enough protein, carbohydrates, and fats, and not too much of any one, because the cow simply cannot use anything else in the place of protein for making milk, and if there is too much of the carbohydrates and fat she will get fat or waste what she does not need to keep her body warm and to supply the small amount of fat in the milk and give her energy enough for moving around and doing the other things necessary. The first thing to do, then, is to learn all you can about what is found in the different kinds of feeds. You will have to do this so that you can combine with the feeds having very small amounts of protein other feeds having large amounts of protein. Every Dairy Club member should send to the United States Department of Agriculture, Washington, D. C., for a copy of Farmers' Bulletin No. 743 entitled "The Feeding of Dairy Cows." In this bulletin will be found the very information you need about the composition of the different kinds of feed you will have to use in feeding your cow a balanced ration. The bulletin is free.

We will explain more about how to balance a ration in a later issue.

Send Sample to Manhattan

Hazel Shriver, of Lyndon, writes that she has received the stationery and milk and feed record blanks, and thinks it is going to be fun to keep the records. She asks if the milk samples are to be sent to the Kansas Farmer office or to the Agricultural College.

We hope Hazel and the other new members will enjoy the club work as much as they expect to. It is interesting and there is nothing hard about it if everything is done when it should be done and the work kept up to date. Of course, like any other work, it would become drudgery if one neglected it and got behind with the records.

The samples of milk are to be sent to Prof. O. E. Reed, Dairy Department, Agricultural College, Manhattan, as we have no way of testing them here. The tests are reported to us about the last week of the month and we send them out to club members. The bottle will be returned to you from Manhattan. Remember to take this sample on the fifteenth of each month, following carefully the instructions which were sent you. If for any reason you failed to receive the printed slip telling how to take the sample, write to us for it. Be sure to take a sample of your cow's milk October 15 and send it to Manhattan for testing.

Begins Paying for Cow

The new club members are already beginning to find that a good dairy cow quickly begins to pay for herself. At the end of the first month Stephen Weeker, of Olpe, wrote as follows to F. C. Newman, president of the bank where Stephen borrowed the money to buy his cow: "Inclosed find check for $15.56, which I made on my cow for the first month. I sold my milk at seven cents a quart, which gave me $18.06 for the month. I had to pay $2.50 for pasture, which leaves me $15.56 to pay on the note."

Milk Ration For Jersey Herd

WE have the following letter from C. W. S., Butler County: "I would like your suggestion on a ration for my Jersey cows this winter. I have a good supply of corn fodder which I expect to thresh, as there is not much corn in it. I can get bran at $32 a ton and cottonseed meal at market prices. I also have alfalfa which I can get made into meal. The hay is selling for $18 to $20 a ton. Oats can be purchased for 68 cents a bushel. These feeds are almost all protein feeds with only a small percentage of carbohydrates. Do you think it would be profitable to buy a cheap grade of molasses to mix with them, or would you suggest something else, and in what proportions would it be best to mix the feeds available?"

It is important that every dairyman put more than the usual amount of thought on the feed question. Anyone could make money milking cows when feed is cheap and plenty, but we must make a very careful study of the composition of the different feeds and the requirements for milk production to make the cows pay under present conditions. There has never been a time when it was more important to be sure that the right kind of cows are being fed. Our correspondent has the right idea and is striving to figure out the most economical feeds to use, based on their nutritive value and prevailing prices. To illustrate the knowledge we must have in order to figure on rations, we give below a table showing the digestible nutrients contained in the feeds mentioned. The total digestible nutrients given in the fourth column is the sum of the protein, carbohydrates, and the fat, multiplied by 2.25:

DIGESTIBLE NUTRIENTS IN 100 POUNDS

	Protein Lbs.	Carbohydrates Lbs.	Fat Lbs.	Total Lbs.
Bran. 12.5		41.6	3.0	60.9
Oats. 9.7		52.1	3.8	70.4
Cottonseed meal..37.0		21.8	8.6	78.2
Alfalfa hay 10.6		39.0	.9	51.6
Corn fodder 3.0		47.3	1.5	53.7

The relative price of feeds must always be taken into consideration, and the feeds purchased which supply the necessary nutrients for the least money. On the basis of the prices quoted and the nutrient value of the feeds, we calculate that a hundred pounds of digestible nutrient material can be purchased in oats for $2.84, in bran for $2.62, in cottonseed meal for $3.70, and in alfalfa hay for $2. Because of the variable quality of corn fodder and the fact that no price was given, a similar calculation could not be made for this feed. It probably supplies nutrients, however, cheaper than any of the feeds mentioned, and good use can be made of this material in the ration.

If all feeds contained the different nutrients in the same proportions, the working out of rations would be a much simpler matter. A cow giving twenty-five or thirty pounds of milk daily must have from two to two and a quarter pounds of digestible protein in her daily feed. It would be easy to find a combination that would satisfy the cow but would not contain that much protein, so milk production would necessarily fall off.

The nutrients found in the corn fodder will vary greatly according to the way in which it is handled. Some corn fodder is hardly worth hauling out to the stock and the best fodder is low in protein. Well cured fodder cut at the proper time and containing all the leaves and fine parts, makes a good roughage, and the threshed fodder with alfalfa may well form the basis of the ration fed to these Jersey milk cows the coming season. We would suggest about twelve pounds of alfalfa and fifteen pounds of the shredded fodder as the average daily allowance for each cow. Each cow should be encouraged to eat all she will of the rough feeds, as the nutrients are supplied in the hay and fodder much cheaper than in grain. Figuring the fodder at about $6 a ton, and alfalfa at $20, these amounts will represent a cost or value of about 16 cents a cow daily. Grinding the alfalfa into meal is not likely to be economical unless it can be done at little cost. The cows as a rule can grind their own hay much cheaper than it can be ground for them.

A cow giving twenty-five or thirty pounds of 4½ per cent milk daily cannot keep up this flow of milk on roughage alone. We would suggest a mixture of two pounds bran, two pounds oats, and one pound cottonseed meal for a grain ration, or possibly four pounds of oats to one pound of cottonseed meal. The cost of the first mixture will be about two cents a pound. Feed enough of the grain to keep the cows from falling off in milk or getting thin in flesh. The amount to feed each cow can best be determined by keeping individual milk records. A great deal of valuable information can come from a careful study of a milk record. In fact it is almost impossible to feed a herd of cows intelligently without individual milk records. Without the records the tendency is to feed all the cows alike. Some will get too much and some too little.

Those who would make a careful study of the feeding question should get copies of bulletins or books giving the figures on the nutrient value of the different feeds. These can be obtained of the Federal Department of Agriculture at Washington, D. C., or from our own experiment station at Manhattan.

Our correspondent speaks of the feeds he mentions as all protein feeds. Reference to the table giving the digestible nutrients found in these feeds will show that he is mistaken in this statement. As a matter of fact very common feed contains a much larger proportion of carbohydrates and fats than protein. There is very little danger of feeding a combination of feeds that will be overbalanced on the protein side. Only by feeding heavily of cottonseed or linseed oil meal is this possible. Molasses is of course a carbohydrate feed, its nutrient value being mainly in the sugar it contains. Very seldom is any combination of farm feeds so low in carbohydrates as to make it profitable to use molasses unless as an appetizer. A number of commercial feeds on the market contain a small quantity of molasses, this being its chief function. A little molasses thinned with water and sprinkled over low grade fodder or hay may induce stock to eat it with a keener relish.

Just by way of suggestion, we have figured out a sample ration such as ought to approximate, at least, the requirements of our correspondent's cows giving twenty-five pounds of milk daily:

DIGESTIBLE NUTRIENTS

	Protein Lbs.	Carbohydrates Lbs.	Fat Lbs.	Cost
Bran, 2 lbs.	.25	.832	.06	$.032
Oats, 2 lbs.	.194	1.04	.076	.040
C. S. meal, 1 lb..	.37	.218	.086	.0275
Alfalfa, 12 lbs...	1.27	4.68	.108	.12
Stover, 15 lbs...	.045	7.09	.225	.045
Totals	2.129	13.848	.555	.2645

The different nutrients are here supplied in about the right amounts and proportions for a cow giving twenty-five pounds daily of 4½ per cent milk. As the quantity of milk increases, the proportion of protein must be increased, and that would follow as the result of increasing the amount of the grain combination suggested. Of course since the nutrients are supplied most cheaply in the alfalfa and fodder, we might say simply feed more of these to the cow having the large capacity for milk production. The most profitable cows do have a large capacity for handling rough feed, but there is a limit to any cow's capacity to digest roughage. It should always be the aim to tax each cow's capacity for handling rough feed to the limit, but when that point is reached our well-bred dairy cows have still more capacity for turning feed into milk, providing additional nutrients are supplied in concentrated form.

Getting Started in Dairying

Experience with dairy cattle is the main essential to success in this business. The dairyman must not only be a good judge of cattle, but he must understand how to feed and care for stock in such a manner that will bring best results.

In selecting a breed, one should consider the question from a community standpoint. If there is a certain breed already in the community it is advisable and wise to adopt it and develop the best herd possible. Communities should be organized and farmers and dairymen co-operate more extensively in the development and raising of pure-bred animals. In communities where there are only a few cows it is advisable to purchase a bull for general community service. Farmers are not only aided in disposing of their animals, but feed may be purchased together or extensive advertising of their stock in farm papers can be more economically handled.

One should not start with pure-bred cattle at first unless he has had experience. It is advisable to buy a few good grade cows of some particular breed, and with a pure-bred bull, grade up the herd. A bull backed by good individuals and excellent dairy records should head the herd.—J. B. Fitch, K. S. A. C.

H. L. Hildwein, emergency demonstration agent, started his work in Kingman County by making germination tests of seed wheat for a number of farmers. He reports that much ground is being prepared for wheat in that county. Kingman County corn and sorghums were revived by the late rains.

Victor Supremacy



Victrola XVII, $250
Victrola XVII, electric, $300
Mahogany or oak

The Victrola is the embodiment of all that is best in music

The excellence of any talking-machine can be safely judged by the artists who make records for it—by the music it brings into your home.

The Victrola stands supreme among musical instruments because of its wonderful musical achievements—because it brings to you the exquisitely beautiful interpretations of the world's greatest artists.

Just as there is but one Caruso, one Farrar, one Kreisler, one Melba, one Paderewski, so there is only one instrument able to bring their superb art into your home with absolute fidelity.

The greatest artists themselves have decided that instrument is the Victrola.

Any Victor dealer will gladly play for you the exquisite interpretations of the world's greatest artists who make records exclusively for the Victor. And if desired he will demonstrate the various styles of the Victor and Victrola—$10 to $400. Write to us for the handsome illustrated Victor catalogs, and name and address of nearest Victor dealer.

Victor Talking Machine Co., Camden, N. J.

"Victrola" is the Registered Trademark of the Victor Talking Machine Company designating the products of this Company only. Warning: The use of the word Victrola upon or in the promotion or sale of any other Talking Machine or Phonograph products is misleading and illegal.



SAVES WOMEN'S STRENGTH

No stooping—no reaching over milk can with the Dairy Queen. Sold direct to you. And the price is *right*. Enclosed All-Gear Drive, No Chains; Close Skimming Sanitary Bowl, Easily Cleaned; Splash-Oiling System, Light Running; Low-Down Tank—Simple, Durable, Sanitary. MONTHLY PAYMENTS. $5 down—$5 per month. Made in 350, 500, 650 and 900 lb. capacities. Write for free catalog. Makers of separators for 16 years. Dairy Cream Separator Co. 1501 Washington St., Lebanon, Ind.

60 DAYS TRIAL



THE NEW 1918 MODEL DAIRY QUEEN $39 AND UP



Sixty Per Cent of Living From Farm

UNDER modern conditions too much of the food of the farm family is purchased over the counter. This fact is generally known, but just how far short the farm falls of producing its share of the living expenses has not been known. A series of farm surveys made in Missouri indicates that most farms produce only 40 per cent of the family living. The average family living expense on 191 farms in one of the best farming regions of Missouri are: Cash expenses, $316; furnished by the farm, $239.80. The products furnished by the farm were divided as follows: Meat, $98.21; dairy products, $48.24; poultry used as meat, $35.09; vegetables, $34.45; eggs, $23.81.

In another farming region where the land is not quite so high priced and where it does not yield quite so well, the farm living expenses were: Cash, $233; products furnished by the farm, $173.80. The farm products were divided as follows: Meat, $57; butter and milk, $45; vegetables, $26.20; eggs, $24.40; poultry used as meat, $20.20.

Figures from two households in 1914, the year in which the survey was made, show the following living expenses, there being four in the family and a hired man kept a portion of the time: The total family living expense was $412.38. The produce furnished by the farm was: Milk, $95.80; eggs, $38.17; chickens eaten, $14.79; pork, $37; fruit, 65 cents; vegetables, $10.50 — total $196.91. The cash expenses were: Groceries, $84.06; clothing, $109.57; labor, $7.50; general household expenses $14.34.

The second family comprised three adults. The farm furnished milk, butter, eggs, and meat worth $347.12, fruit and vegetables $31.45. The family purchased groceries worth $110.93; clothing, $48.83; miscellaneous, $38.66, and paid out $14.48 for labor. The total family living was $592.47.

A study of these records together with the records from the larger regions show, first, that the farm furnishes about 40 per cent of the farmer's living in normal times; second, the farm produces very little in the way of fruit; third, the figures from the first farm on which detailed living expenses were furnished indicate that a larger use of fruit and vegetables might have cut down the cash expenses. There is no reason why the farm should not provide at least 60 per cent of the living. The farmer generally grows all of the fruit and potatoes he uses, but he does not usually take advantage of the opportunity to preserve vegetables, other than potatoes, for winter and early spring use. He can produce the same article or a substitute which he ordinarily purchases.

While the foregoing figures were collected in Missouri, they are probably representative of a wide territory in the United States. The average farm could produce at least 20 per cent more than it does of the farm living expense.

Storing Potatoes in Basement

In the furnace-heated house the basement is too warm for vegetable and fruit storage. To overcome this, build in the coldest corner a room, using 2 x 4 matched sheathing lumber and making a double wall. The air space acts as an insulation, preventing changes in temperature. There should be two outside windows, and two wooden air ducts should be made connecting with the outside aid through one of the windows. One of these air ducts should extend to the floor, and the other should have its lower end about four feet from the floor. For potato storage make a rack against one wall to support slatted bushel crates.

In operating a cold room in a basement an accurate thermometer is necessary. The cold of the early winter does not penetrate the cellar, and during this period the ventilator, or a window, may be left open. When the temperature of the cellar falls to 41 degrees and a cold snap threatens, the cellar must be closed tight. On mild winter days the window or ventilator may be opened and the cellar temperature lowered and the air freshened.

Toward spring the potato shows inclination to sprout. The sprouts should be rubbed off. When there are signs of rotting, the potatoes should without delay be examined and picked over. It often happens that the potatoes are wet and slimy from the presence of rotting tubers. This unpleasant condition may be remedied by spreading out the tubers and air-drying; or dry sand, sawdust, or ashes may be used to dry them.

Federal Farm Loans

The Federal Farm Loan Board has recommended that the federal land banks limit their mortgages to thirty-six years. Under the low, mortgages are permitted to run from five to forty years at the option of the borrower, but the thirty-six-year maximum has been recommended by the board because it will greatly simplify the keeping of records.

A mortgage given for thirty-six years at 5 per cent may be wiped out during that length of time by annual payments equal to 6 per cent of the principal. The average interest rate on farm mortgages throughout the United States, under the old regime, has been 7.4 per cent. That rate was for interest alone. At the expiration of those mortgages the entire principal fell due.

Under the Farm Loan Act, annual payments of only 6 per cent will take care of both the interest and principal and the borrower will never have his mortgage fall due, and never be compelled to meet any payment in excess of 6 per cent of the principal.

The Federal Farm Loan Board has also recommended that these amortization payments be made semi-annually, which means that 3 per cent on the principal will be paid every six months.

The minimum loan granted under the Farm Loan Act is $100.. To retire a mortgage of $100 in thirty-six years the borrower would make semi-annual payments of $3 each. With that as a basis any borrower or prospective borrower in the United States is able to compute his semi-annual payment on a mortgage of any size up to $10,000, the maximum permitted under the Act. For instance: If the proposed loan should be for $1,500, the borrower would simply divide $1,500 by 100. The result would be 15. He would then multiply 15 by $3. The result would be $45 as the semi-annual payment to retire, interest and principal, a thirty-six-year mortgage of $1,500 at 5 per cent.

It should be borne in mind that any borrower under this Act is permitted to pay off all or any part of his mortgage after it has run five years. So the borrower who takes his mortgage for thirty-six years gets the benefit of smaller payments during the first five years and then has the privilege, after five years, of paying all or any part of it in amounts of $25 up on any interest paying date.

Use Phosphates with Manure

Barnyard manure is a most valuable fertilizer, but it is not properly balanced for most of our soils needing additional plant food material.

With respect to the needs of the average Eastern Kansas or Missouri soil, manure is markedly deficient in phosphates. To be sure, where large quantities of manure are available, there is no better fertilizer, but even in this case if it is reinforced with phosphates, either acid phosphate or raw rock phosphate, greater returns will be secured. Where only moderate amounts of manure are available the addition of phosphates is much more important.

Tests by the Missouri Experiment Station have shown very large returns from adding 40 to 80 pounds of acid phosphate or raw rock phosphate to each ton of manure applied. One of the best ways to do this, according to Prof. M. F. Miller of the Missouri station, is to scatter the phosphate on the load just before spreading, or it may be scattered on the manure in the shed or pile from time to time as the manure accumulates. Where cattle are fed on the land, the phosphate may be scattered broadcast before plowing.

Experiments have indicated that at

What Will Be Your Reply?

Will you be a U. S. **backer,** or

Will you be a U. S. slacker?

To win this war it requires a vast amount of money, and if we don't win it, your home, your farm, your life, your rights, your liberty become subject to ruthless destruction.

To raise this money, your Government calls upon you for a loan. It does not ask you to give money—simply to lend it and in return gives you a U. S. Government Bond, the best security on earth, on which you draw interest, greater than bank interest, free from taxation, except inheritance and income surtax.

What Will Be Your Reply?

Here is an opportunity to show your patriotism and at the same time get on the Government's pay-roll.

Here is an opportunity for you to "do your bit" and show to the world that the American farmers are still the "backbone" of their country.

Here is an opportunity to say to your nation's enemies, in language none can fail to understand, that "money talks"—and that America knows no defeat and that we intend to wipe militarism and despotism off the face of the earth and finally insure a lasting peace.

What Will Be Your Reply?

Do you know that the total value of the 1917 crops is estimated by Government officials at $17,000,000,000—nearly six times the amount of "The Second Liberty Loan of 1917"?

Do you know that the increase in the value of the 1917 crops over 1916 is $2,000,000,000—almost equalling this Second Liberty Bond issue?

Don't you think then, that the American farmers ought to "respond" libertlly to their Government's call, especially when they get 4% interest on their investment?

What Will Be Your Reply?

You owe it to your country to "reply" with a subscription for as many bonds as you have money to spare.

You owe it to your country to "buy Liberty Bonds" as evidence of your patriotism.

You expect your country to "protect" your life, your home and your liberty.

Your country expects you to do your share toward that end by helping to maintain its credit by lending it your money in this critical hour.

What Will Be Your Reply?

The New Liberty Bonds will be issued in denominations of $50 and up. The total amount is $3,000,000,000 or more.

The interest rate is 4% paid semi-annually on November 15 and May 15. They can be paid for in installments: 2% on application; 18% on November 15; 40% on December 15; 40% on January 15, 1918. They are 25-year bonds, redeemable in ten years.

They carry a conversion privilege and can be changed for any higher interest bearing bonds issued at any succeeding time during the war.

They are exempt from taxation except inheritance and income surtax. The practical effect of this is to exempt holdings up to $5,000.

The subscriptions will start Monday, October 1, and close October 27.

Buy Your Bonds Today!

Don't put it off a moment. You have nothing to risk. Fill out the application below at once.

Send it in to the publisher of this paper and you will have answered your country's call loyally, patriotically and also answered YOUR NATION'S ENEMIES in a way that will bring peace the quickest and most lasting.

If you want to buy, say one $50 bond and wish to pay for it on the installment plan, you send with your Application Blank 2% or $1.00; then on November 15 you remit the 18% or $9.00; on December 15 you send $20, and on January 15, $20.00, making a total of $50. If you buy two or more bonds your payments increase two or more times.

Don't sit back—slacking—wishing for peace. Wishbones are mighty poor back-bones. YOU, the farmers, if worthy of being credited as the "backbone of our nation," must furnish the backing.

Do It Now!

Application Blank for

New Liberty Bonds

KANSAS FARMER

Liberty Bond Dept. Topeka, Kan.

I hereby subscribe for.....New Liberty 4% Bonds.
(No. of Bonds)

Enclosed find $..... (You can send amount in full or first payment of 2% of total amount of bonds subscribed for.)

Please have bonds sent to following name and address:

Name of purchaser .....

Town .....

County..... State.....

NOTE.—The publisher will acknowledge receipt of this subscription, which is done gratis and as an accommodation to our subscribers and an aid to the Government in facilitating the sale of this issue.

normal prices of phosphates, the acid phosphate is probably to be preferred. At present prices, however, there is little choice between the two, but the preference probably would go to the rock phosphate. Where the manure is carefully conserved, where rotation is practiced and clover or some other legume is grown frequently, the use of phosphates with manure will greatly increase the net returns, and this is really the only form of commercial plant food that need be seriously considered. Lime may of course be necessary at times to keep the soil sweet.

Methods of Curing Pork

Hog-killing time will soon be here. Probably many more people than usual will try to lay by a good supply of meat for use the coming winter. Here are two methods of curing pork:

Dry Cure.—Do not cut up the pork till the carcass is well chilled. Make a mixture of clean fine salt forty pounds, white or brown sugar ten pounds, white or black pepper four pounds, red pepper one-half pound. This will make enough cure for about a thousand pounds of pork. If saltpeter is desired, use two pounds in the above mixture. It will give a red color to the lean meat but has a tendency to harden the meat too much. Chili saltpeter may be used instead of the regular saltpeter by taking about 20 per cent less.

Rub each piece of meat thoroughly with the cure. Take special care to work the cure around the ends of bone of hams and shoulders. Pack skin side down on a table or in a box in a cool airy place. Do not place in direct sunlight or in a damp musty cellar. After four or five days overhaul the meat, rub thoroughly with the cure, and repack. Repeat this in about a week. Hams and shoulders should remain in the cure from one and one-half days to two days per pound weight of piece; the latter time is safer for meat that is to be kept during the summer. Bacon should be in the cure a shorter time. Ten days will give a very nice mild cure to a six or eight-pound piece.

Brine Cure.—Make a brine by boiling seven pounds of clean salt and two pounds of white or brown sugar with two gallons of water. If saltpeter is desired add one-fourth pound. This gives about enough to cover 100 pounds of pork when well packed. Sprinkle a little clean fine salt in the bottom of the barrel, rub each piece of meat lightly with the salt, sprinkle a light layer of salt between each layer of meat. Put on a board and weight down with a rock. Allow to stand over night. Tip barrel on side and allow the liquor to run out. Cover the meat with the cold brine and allow to stand in a cool place four or five days. Overhaul, repack, and cover with the same brine. Repeat in about a week. Give the meat the same length of time for curing as with the dry cure.

When the curing is complete wash off the excess cure and hang in the smokehouse. Meat kept in the cure too long should be soaked in warm water to remove the excess of the cure. Smoke with hickory, oak, apple, or any non-resinous wood. Avoid all wood of the pine family. With a continuous smudge the smoking can be completed in twenty-four hours. With intermittent smoking longer time is necessary, as cold meat "takes the smoke" slowly. Wrap the meat to keep it away from the skippers. If rats or mice get at the meat they open the way for the skippers. In damp weather cured meats will mold. This is not injurious except it is advisable to use up shoulders, as the mold grows in the cracks and calls for excessive trimming.

Buy a Liberty Bond

There is now offered to the American people a new issue of $3,000,000,000 of bonds to be known as the Second Liberty Loan. They will be issued in such denominations and upon such terms that every patriotic citizen will have an opportunity to assist the Government by lending his money upon the security of a United States Government bond.

It is essential to the success of the war and to the support of our gallant troops that these loans shall not only be subscribed, but oversubscribed. No one is asked to donate or give his money to the Government; but everyone is asked to lend his money to the Government. The loans will be repaid in full with interest at the rate of 4 per cent per annum. A Government bond is the safest investment in the world; it is as good as currency and yet better, because the Government bond bears interest and currency does not. No other investment compares with it for safety, ready convertibility into cash, and unquestioned availability as collateral security for loans in any bank in the United States.

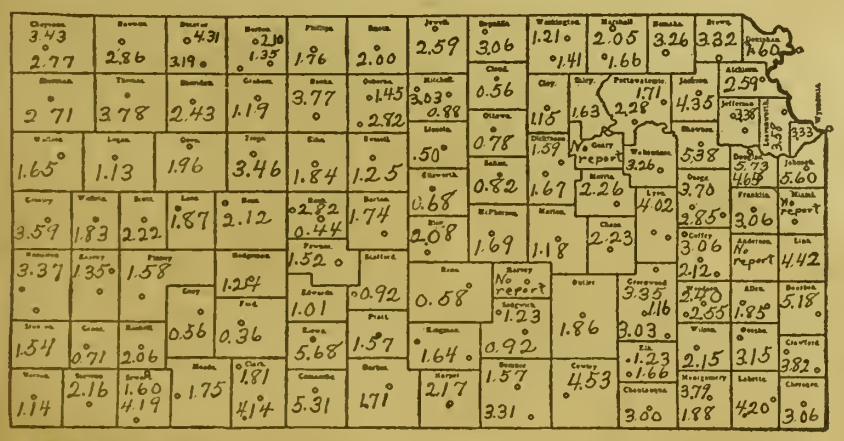
People by thousands ask the Treasury constantly how they can help the Government in this war. Through the purchase of Liberty Bonds every one can help. No more patriotic duty can be performed by those who cannot actually fight upon the field of battle than to furnish the Government with the necessary money to enable it to give our brave soldiers and sailors all that they require to make them strong for the fight and capable of winning a swift victory over our enemies.

To secure the ends for which we are fighting, Secretary McAdoo appeals to every man and woman who resides upon the soil of free America and enjoys the blessings of her priceless institutions to join the League of Patriots by purchasing a Liberty Bond.

The confidence put in county agricultural agents in those counties where such agents have been at work for several years is shown by the insistence of the Jewell County farmers that seed wheat bought outside their own county be obtained from counties having agricultural agents and that the agents supervise the loading of the wheat. The reason given by the farmers for this requirement is that they have faith in the agents' ability to select good seed and have no hesitancy in relying upon them for this service.

Rainfall Over Kansas for September

Reports Furnished by S. D. Flora, Meteorologist, Weather Bureau, Topeka



SEPTEMBER rains this year were very irregularly distributed over Kansas, but were sufficient to keep crops growing nicely and put the ground in splendid shape for fall seeding, except in a few north central and southwestern counties, which failed to get as much as an inch during the entire month. Combined with the rainfall of last August, this made the wettest two-months period in more than a year's time and one of the heaviest amounts that has fallen in August and September together since the state record was begun thirty-one years ago.



"Ball-Band" Vacuum Cured Rubber Footwear

Long Wear, Good Fit, and Comfort

Buy "Ball-Band" Rubber Footwear and you get good, strong, sturdy footwear that will give long steady wear.

The "Ball-Band" Coon Tail Knit Boot is *knit* not felt and has the original "Ball-Band" snow excluder feature. It is completely shrunk and represents the limit of protection from wind, slush, and cold.

Look for that Red Ball whenever you buy Rubber Footwear and you can depend on the greatest number of days wear at the lowest cost per days wear.

Write for free illustrated booklet "More Days Wear" describing the different kinds of "Ball-Band" Footwear your dealer can show you.

MISHAWAKA WOOLEN MFG. CO., 316 Water St., Mishawaka, Ind.

"The House That Pays Millions for Quality"

Feed the Fighters! Win the War!

Harvest the Crops! Save the Yields!

On the battlefields of France and Flanders the United States boys and the Canadian boys are fighting side by side to win for the World the freedom that Prussianism would destroy.

While doing this they must be fed and every ounce of muscle that can be requisitioned must go into use to save this year's crop. A short harvest period requires the combined forces of the two countries in team work, such as the soldier boys in France and Flanders are demonstrating.

THE COMBINED FIGHTERS IN FRANCE AND FLANDERS AND THE COMBINED HARVESTERS IN AMERICA WILL BRING THE ALLIED VICTORY NEARER

A reciprocal arrangement for the use of farm workers has been perfected between the Department of the Interior of Canada and the Departments of Labor and Agriculture of the United States, under which it is proposed to permit the harvesters that are now engaged in the wheat fields of Oklahoma, Kansas, Iowa, North Dakota, South Dakota, Nebraska, Minnesota, and Wisconsin to move over into Canada, with the privilege of later returning to the United States, when the crops in the United States have been conserved, and help to save the enormous crops in Canada which by that time will be ready for harvesting.

HELP YOUR CANADIAN NEIGHBORS WHEN YOUR OWN CROP IS HARVESTED

Canada wants 40,000 Harvest Hands to take care of its

13 Million Acre Wheat Field

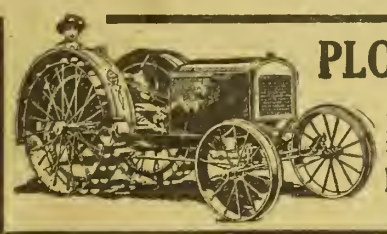
One cent a mile railway fare from the International Boundary line to destination and the same rate returning to the International Boundary. High wages, good board, comfortable lodgings.

An Identification Card issued at the boundary by a Canadian Immigration Officer will guarantee no trouble in returning to the United States.

AS SOON AS YOUR OWN HARVEST IS SAVED, move northward and assist your Canadian neighbor in harvesting his; in this way do your bit in helping "Win the War."

For particulars as to routes, identification cards and place where employment may be had, apply to Superintendent of Immigration, Ottawa, Canada, or to

GEO. A. COOK, Canadian Government Agent, 2012 Main St., Kansas City, Mo.



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A proven success in this and foreign countries. Write today for book on Power Farming and learn why all standard construction means a better, more powerful tractor. Operates on kerosene.

INTERSTATE TRACTOR COMPANY

2526 E. Fourth St. WATERLOO, IOWA

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS



A Sermon Picture

A SHORT time before the above picture was taken, there was a $5,500 barn between the two silos. It burned down. The silos were unharmed. Ask E. H. Salisbury, Kirksville, Mo., who has since erected a new barn, what he thinks of the silos.

Consider the Silo

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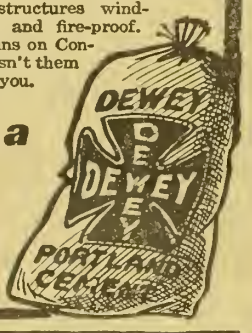

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Egg Profits This Winter

PERHAPS no more important question presents itself to the poultryman this fall than that of feeds. Many are at a loss to know whether it will be possible to feed at a profit when we consider the prevailing high prices for grains. From figures at hand it will cost not far from $2 to feed a hen for a year. This is about double the cost in normal times. Allowing that a hen will lay 120 eggs the coming year, which is not far from the average where hens are cared for as they should be, we have an income of $3.50. This is allowing 35 cents as the average price for eggs. The past year the average in the eastern part of the state has been 30 cents, so it is not out of reason to expect 35 cents for the coming twelve months. Based on these expectations we have a profit of $1.50 per hen. Where hens have been kept properly and accurate accounts kept in past seasons, better profits than this have been made. These figures are where all feeds are purchased and the hens kept in limited runs. It does not cost as much where chickens are allowed free run of the farm, neither can we expect as high an egg production as given above. But where all costs and receipts are considered it is not at all out of reason to figure on a profit of one dollar per year even with the high prices of grain we now have.

There is no reason to become panicky and sacrifice fine young pullets just because it costs a little more than usual to feed them. There will be a good profit in them this winter if good common sense is used in their care and feeding. We must not expect that a hen will shell out eggs if we confine her to a single grain diet. No hen can make eggs from any one grain. It is true she may lay a few eggs, but it will not be intentionally, but only an accident. If we are to get eggs we must understand the grain requirements for egg production. First the yolk of the egg is formed. This is composed largely of fats so it will be necessary to give grains rich in fat-producing elements, such as corn.

Some hold the idea that a hen must not be too fat or she will not lay. No hen was ever too fat to lay if she was compelled to exercise freely for her feed. She may get her feed in such an easy manner that her liver becomes deranged, in which case, because of the unhealthy condition of the liver, she cannot lay. It is not because of the fat, but because of her lazy, torpid condition. Make her work for all her grain feeds. There is a co-relation between a hen's legs and her liver; the faster her legs go, the better her liver acts, and if her liver is in good condition she will not be too fat to lay. After a sufficient amount of fat producing grains have been given, we must provide the elements that go to the making up of the white or albumen of the egg. There is nothing better for this than a liberal supply of sour milk. Milk not only goes to the production of the white of the egg, but it has a very beneficial effect on the appetite and general health of the bird. You cannot give chickens of any age too much milk. Where milk is not available, a rabbit twice a week for each hundred will answer. This should be chopped up or hung up so the hens will have to jump to get it, and should be fed in the raw state. When it is necessary to buy feeds for this purpose the most convenient product is commercial beef scrap, which can be purchased from any good feed store or ordered direct from the packing houses. It will cost around $4.50 per hundred pounds but is worth the price for egg production. Condensed buttermilk, which can be purchased in barrel lots, is also valuable as an egg builder. This should cost not far from $5 per barrel. Bran, shorts, alfalfa and tankage are largely used where hens are kept for winter eggs. The hen cannot complete a large number of eggs without a liberal supply of material from which to construct egg shells. Other animals can get all the ash that the system requires from grains, clovers, alfalfa and the like, but not so the hen. When a hen lays from twenty to twenty-five pounds of eggs in twelve months she has to receive some form of lime in a very available form. Commercial oyster shell is the common and most convenient form in which to supply this need. If a supply of soft limestone is available, it will to a large extent furnish shell material.

At present prices a good egg ration will read something like this: By weight—Corn (cracked), three parts; oats, one part. This mixture to be scattered in straw or hay where the hens will be compelled to scratch for every kernel. With this a mash composed of three parts bran, two parts shorts and one part beef scrap or tankage may be fed dry, as much as the hens will eat readily without wasting it. Where the beef scrap is omitted all the sour milk the hens will drink should be given. Ground oats may be added to the mash with good results. This is only a suggested ration and may be varied to suit the feeder. Do not feed nice plump wheat. The hen is not a bakery and does not need the flour. All she can profitably use is the bran and shorts.

Above all, when working for eggs feed the hen well and keep her in dry houses free from drafts and make her work. It is the busy hen that sings. And the singing hen lays the golden egg. Never allow the hens to bunch on the sunny side of some building. This is an indication that they have all they want to eat and are putting on fat. If we wish a hog to lay on fat, we feed him and ask him to please lay down and keep quiet. Just so with the hen. When she eats and sleeps, look out for torpid livers and a funeral.—N. L. H.

Learn to Cull Poor Layers

All poor layers should be culled from the poultry flock in the early fall.

In a year when high prices of feed prevail it is essential that all non-producers be removed from the flock. The only accurate method to locate the layers is the use of the trap nest. This, however, requires too much time and expense for the average poultryman.

A satisfactory way is to feed the hens liberally at night, and then pass through the house after the birds have gone to roost, feeling the crop of each bird. Those that are laying will have well filled crops, while those not laying or in poor condition will eat much less feed.

All hens found sitting on the roost in the daytime are boarders and should be disposed of immediately. In yellow-legged varieties the yellow color will practically disappear while the hens are laying. In some instances, in fact, the legs will even be white.

Another strong indication of heavy egg production is late molting. Contrary to the prevailing opinion, the hen that molts early and is a fine looking bird early in the fall, is not the one which has been filling the egg basket. The late molter sheds her coat quickly, often being almost entirely naked. Such hens should be carefully fed and kept for breeders the following season.

All immature pullets and hens that do not appear to be in good health should be disposed of as soon as possible. Only those birds showing unmistakable signs of producing eggs throughout the winter and spring should be kept, if profitable returns are to be expected from the feed given to poultry this season.—N. L. HARRIS.

Fall rains, damp and unclean roosting quarters, poorly ventilated houses, and exposure to drafts every year bring about the same poultry complaints—colds, catarrh, roup, diphtheria, pneumonia, and indirectly many more diseases. The result is that 5 to 10 per cent of the stock dies, and egg production drops off. To remedy this, new buildings should be constructed or old houses remodeled to insure dry floors, plenty of sunlight and fresh air, and sanitary arrangements. In erecting new buildings, select a well-drained site. Place floors at least six inches above the grade. Use a muslin front or wind baffler to break drafts, and clean out droppings every week.

ONE MILLION DOZEN EGGS SHIPPED TO EUROPE

—Reports State Department of Agriculture. And George L. Dillingham, past master of the New Jersey state grange, predicts eggs will go to $1.00 a dozen.

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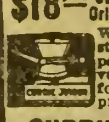

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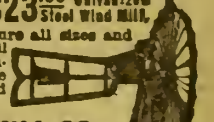

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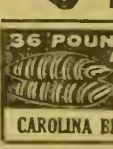

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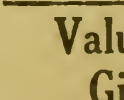

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SHEEP CLEAN UP WASTE

SHEEP are great conservers of farm wastes. "I would not know how to do good farming without sheep," said George McKerrow, of Wisconsin, one of the best and most widely known sheep breeders of America, recently. "Why?" he continued. "Because my sheep use up the wastes of the farm. They clean up the grass, weeds, brush and gleanings, and in so doing turn into cash what otherwise would be lost."

Mr. McKerrow knows sheep and his knowledge comes from a broad experience gained in fifty-one years of breeding them. His is a story filled with romance, faith and devotion to an ideal that covers a span of years from the time an eight-year-old farmer lad, who had saved his pennies and nickels and bought an aged ewe, which in turn produced two ewe lambs, down to the present, when thousands of sheep "eliminate the waste" on his 2,300 acres.

"Sheep," said Mr. McKerrow, "make the most economical gains of any kind of live stock, because they clean up the odds and ends. They are particularly useful on the farm in the fall of the year, for they turn into mutton the things that otherwise would not be used. At the same time they save the feedstuffs that would be given them if they did not have access to these other things."

After harvest, Mr. McKerrow's sheep are turned into the oats fields for a few hours the first day; an hour or two longer the second day; and the time gradually increased until at the end of a week they have complete possession of the fields. The lambs are permitted to enter the corn before it is cut and they clean up on the weeds and lower corn plant leaves. The lambs do not pull down the lower ears of corn as do the mature sheep. Roots are grown for the cattle and sheep on Mr. McKerrow's place, and after the larger roots are hauled in to storage for winter use, the sheep are turned into the field and eat the smaller ones that remain. Both the sheep and lambs are turned into the aftermath of the meadows and this brings them into winter quarters in good condition.

Another profitable practice on this farm is that of plowing up fields that become weedy after harvest. These fields are sown to rape and turnips, and later the sheep are turned in. They eat the rape and turnip tops with relish and will later hollow the meat from the turnip, leaving but a shell.

Mr. McKerrow has found that a frequent change of pasture is beneficial to the sheep. A 36-inch woven wire fence in twenty-rod lengths is moved about, thus preventing the too short cropping of the grass, and furthermore reducing the internal parasite plague to a minimum. Water is also an important consideration, and ewes particularly should have water the same as dairy cows.

"I would not go so far as to say that there should be some sheep on every farm," declared Mr. McKerrow, "for peculiar conditions might not make it practical, but I do believe that there should be sheep on the vast majority of farms in this country. They turn waste into cash. The sort of saving that the good housewife is making in her kitchen can be practiced with corresponding effectiveness by the use of sheep on the farm."

Feeding Demonstrations

J. C. Holmes, who has charge of the cattle and hog feeding demonstrations at the Wichita stock yards, reports that the third demonstration started October 2 and will continue until February 20. Six lots of grade Herefords and three lots of grade Shorthorn steers are being fed, the average weight per steer being about 900 pounds.

They are now being fed a ration of corn, oats, cottonseed cake, and alfalfa hay. For the first thirty days oats will be fed as the main concentrate. As soon as new corn and kafir are available, comparisons of corn, kafir, molasses feed, linseed oil meal, and cottonseed cake will be made.

The cattle will be followed by five lots of hogs, which will be started as soon as kafir is available, careful records of feed and gains being kept. The lot fed corn alone will be eliminated this time and kafir and digester tankage fed instead.

The 350 head of forty-six-pound pigs purchased the first of August made a gain of thirty-two pounds per head in sixty days on five acres of alfalfa pasture and one and one-half pounds of concentrates per head per day. The pork produced cost $12 a hundred pounds. Corn was valued at $2.24 a bushel, shorts $2.80, and digester tankage $4 a hundred pounds. A loss of 4 per cent due to vaccination, castration and handling, is included in the cost. Labor was not counted in the cost.

Silos in Finney County

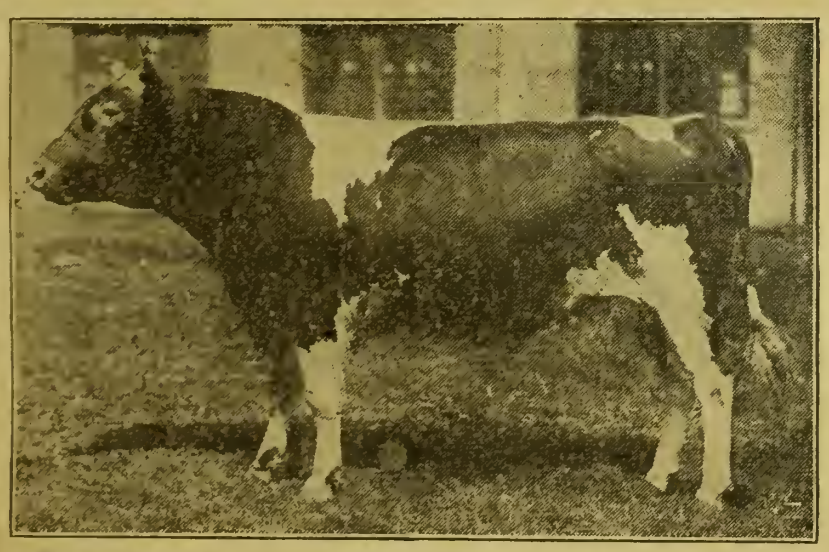
Finney County farmers are encouraged over the prospects for rough feed crops as a result of recent rains, is the report of Charles E. Cassel, emergency demonstration agent.

It is estimated that about 40,000 acres will be seeded to wheat this fall in this county. This acreage is double the amount planted in normal years. The emergency demonstration agent has cooperated closely with the county seed wheat club.

Mr. Cassel is receiving many calls for conferences in regard to adapted crops and cropping systems. In addition to these numerous office calls ninety farm visits were made in one week.

One hundred and fifty Finney County farmers have recently signified their intention to build silos.

Thirty thousand ewe lambs have recently been bought for Kankakee County, Illinois, by J. S. Collier, county agricultural agent, as a result of the co-operation of Harry A. Wheeler, Illinois Food Administrator, and the National Sheep & Wool Bureau. These ewe lambs from Colorado and Montana will arrive in Kankakee during the next two weeks and will be distributed to many farmers who have applied for them. Director Charles Adkins, of the Department of Agriculture of Illinois, is daily placing orders or sending inquiries to the National Sheep & Wool Bureau and these orders are being filled through the clearing house committee in Chicago and other live stock markets.



LANGWATER BENEFACTOR is the chief Guernsey herd bull at the Kansas Agricultural College. His seven nearest dams have annual butter fat records averaging 690 pounds. The annual records of his fifteen nearest dams average 680 pounds of butter fat. He was grand champion at Topeka, Hutchinson, and the Missouri State Fair, and won first in class at the Dairy Cattle Congress held in Waterloo, Iowa, last week. He will be shown at the National Dairy Show in Columbus, Ohio, October 18-27.

American Royal Champions

SHORTHORNS.

Senior Champion Bull—Carpenter & Ross, Mansfield, Ohio, on Revolution.

Junior and Grand Champion Bull—Uppermill Farm, Wapello, Iowa, on Villager's Coronet.

Senior and Grand Champion Cow—W. C. Rosenberger, Tiffin, Ohio, on Viola.

Junior Champion Cow — Bellows Bros., Maryville, Mo., on Parkdale Victoria.

Championship Futurity Heifer — W. C. Rosenberger, on Cloverleaf Gloster.

Championship Futurity Calf—W. E. Pritchard, Walnut, Iowa, on Dale's Reliance.

William R. Nelson Trophy (awarded on champion calf in futurity stakes — W. E. Pritchard, on Dale's Reliance.

Aged Herd (consisting of bull two years or over, heifer two years old, heifer one year old, heifer calf).—1, Bellows Bros.; 2, Carpenter & Ross; 3, Rosenberger; 4, Rees & Sons, Pilger, Neb.; 5, William Herkelmann, Elwood, Iowa; 6, J. E. Kennedy, Jonesville, Wis.

Young Herd (consisting of one bull under two years old, two heifers one year old and under two, two heifers under one year old; all except bull must be bred by exhibitor)—1, Bellows Bros.; 2, Rosenberger; 3, Uppermill Farm; 4, H. C. Lookabaugh, Watonga, Okla.; 5, Carpenter & Carpenter, Baraboo, Wis.; 6, W. E. Pritchard, Walnut, Iowa.

Calf Herd (consisting of one bull and two heifers under one year old, bred by exhibitor)—1, W. E. Pritchard; 2, W. C. Rosenberger; 3, Bellows Bros.; 4, H. C. Lookabaugh; 5, Uppermill Farm; 6, Jos. Miller & Sons, Granger, Mo.

Two Animals of Either Sex, Produce of One Cow—1, Uppermill Farm; 2, Rosenberger; 3, Pritchard; 4, Carpenter & Sons; 5, Bellows Bros.; 6, Herkelmann.

Four Animals of Either Sex, Get of One Sire—1, Uppermill Farm; 2, Lookabaugh; 3, Bellows Bros.; 4, Carpenter & Ross; 5, Rosenberger; 6, Pritchard.

Kansas City Stock Yards Trophy (best ten head of Shorthorn exhibited by owner)—Bellows Bros.

HEREFORDS.

Senior and Grand Champion Bull—W. L. Yost, Kansas City, Mo., on Ardmore.

Junior Champion Bull—E. H. Taylor, Jr., Versailles, Ky., on Woodford 9th.

Senior and Grand Champion Cow—Taylor, on Woodford Lady 3d.

Junior Champion Heifer Cow—C. M. Largeant, Merkel, Texas, on Shadeland Jewel 2d.

Aged Herd — 1, Taylor; 2, Largeant; 3, Yost; 4, LaVernet Stock Farm, Jackson, Miss.; 5, H. M. Halff, Midland, Texas; 6, J. H. Bereman, Aurora, Ill.; 7, Redwine Bros., Fayetteville, Ga.

Young Herd—1, Largeant; 2, Taylor; 3, Robert H. Hazlett, El Dorado, Kan.; 4, Yost; 5, W. A. Dallmeyer, Jefferson City, Mo.; 6, LaVernet Stock Farm; 7, Halff; 8, S. H. Velie, Kansas City, Mo.; 9, Carl Miller, Belvue, Kan.; 10, Engle & Sons, Sheridan, Mo.

Caledonia Pereda Trophy (value $500, offered for three best bulls bred and owned by exhibitor)—Col. E. H. Taylor, Jr., Versailles, Ky.

ABERDEEN-ANGUS.

Senior and Grand Champion Bull—C. D. & E. F. Caldwell, Burlington Junction, Mo., on Blackcap Bertram.

Junior Champion Bull—Congdon & Battles, North Yakima, Wash., on Quality Lad of Rosemere.

Senior and Grand Champion Cow—Caldwell, on Queen Milly of Sun Dance 3d.

Junior Champion Cow—Congdon & Battles on Queen of Rosemere 5th.

Aged Herd—1, Caldwell; 2, Congdon & Battles; 3, G. F. Cowden & Son, Midland, Texas; 4, D. H. Robertson & Son, Madison, Neb.

Young Herd—1, Caldwell; 2, Congdon & Battles; 3, Robertson.

Calf Herd—1 and 2, Caldwell; 3, Congdon & Battles; 4, Cowden.

Get of Sire—1 and 3, Caldwell; 2, Congdon & Battles; 4, Robertson.

Produce of Cow—1, Cowden; 2 and 3, Caldwell; 4, Robertson; 5 and 6, Congdon & Battles.



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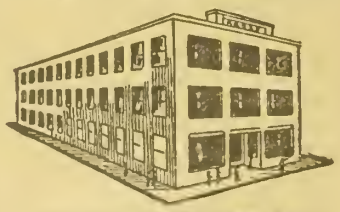

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The production acreage of many a farm can be increased by drainage. Many wet areas are being cultivated which do not produce profitably and are often a hindrance in planting and proper cultivation of the rest of the field. These places are found along the creek bottoms and on seepy hillsides. They are very fertile and can be made the most productive part of the farm by tile drainage. Such work can best be done in the fall.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

"A woman in so far as she beholdeth
Her one Beloved's face,
A mother with a great heart that enfoldeth
The children of the race,
A body free and strong, with that high beauty
That comes of perfect use, is built thereof,
A mind where reason ruleth over duty
And Justice reigns with Love;
A self-poised, royal soul, brave, wise, and tender,
No longer blind and dumb,
A human being of an unknown splendor,
Is she who is to come."

Clothing for School

The same common-sense simplicity should be given to children's school clothing as to their diet. This clothing should be comfortable, easy to launder or clean, should contain a pocket for the handkerchief, and be of becoming material and cut. This last point is no less essential than the others. A mother owes it to her children to teach them discrimination and taste in dressing as in other things. A child becomes painfully self-conscious if there is a great difference between his clothing and that of other children. Loud colors and badly-made clothing lessen a child's self respect and may make him careless of his behavior. Few of us can be at our best when conscious of being inappropriately dressed, and children are even more sensitive to the influence of clothing than grown people.

On the other hand there is a distinctly refining influence in well-chosen apparel. A farmer of our acquaintance says it always seems to him that even his horses work a little better when wearing a new harness. One of the signs of good breeding is to be absolutely unconscious of what one wears, and this is only possible when one feels that he is suitably dressed and therefore can afford to dismiss the matter from his mind. To be dressed with due regard to prevailing fashion, but never in extreme; to be comfortably and attractively dressed in clothing of good taste; to grow up without that intense interest in clothes which detracts from the happiness of so many, is the natural right of every child.

Pickles

It is the usual custom to soak such vegetables as tomatoes and cucumbers in brine before putting them through the regular pickling process, though some persons prefer not to do this. The brine withdraws moisture from the tissue of the vegetable and makes it possible to obtain a firmer product, gives the desired salt taste and a milder flavor, and adds to the keeping quality of the pickle. The strength of brine required depends on the length of time the vegetable to be pickled is to remain in it. Brine may be made by adding one-third to one-half cupful of salt to one quart of water. This should be strong enough to float a fresh egg.

Grape and cabbage leaves are said to help in retaining the natural green color of cucumbers and unripe tomatoes. The bottom and sides of the kettle are lined with leaves, the kettle is then filled with the mixture to be pickled, and the top of the mixture is covered with leaves. Two vinegar mixtures for pickles follow:

RECIPE 1.

1 quart vinegar
1½ teaspoonfuls whole black peppers
1½ teaspoonfuls celery seed
1½ teaspoonfuls allspice
1 tablespoonful sugar
¾ teaspoonful whole cloves
¾ teaspoonful mustard seed
1½ teaspoonfuls cinnamon bark
¾ teaspoonful grated horseradish

RECIPE 2.

1 quart vinegar
½ ounce ginger
1 teaspoonful mace
1 ounce small onions
½ ounce mustard seed.

If pickles have not been soaked in brine, use two ounces of salt.

Cucumber Pickles.—Soak cucumbers in brine for twenty-four hours, then rinse and drain them. Cover with vinegar or vinegar mixture to which has been added one tablespoonful of brown sugar for each quart of vinegar. Bring them slowly to the boiling point. Pack the pickles in a jar and cover with vinegar.

Sweet Cucumber Pickles.—Soak cucumbers in brine for twenty-four hours. Rinse, drain, and wipe them dry. Place in a kettle, and cover with the following vinegar mixture:

1 quart vinegar
1 cupful sugar
8 whole cloves
6 allspice
6 blades mace
8 whole black peppers.

Heat the pickles slowly to the boiling point, and pack at once.

Quick Pickles.—Put cucumbers in strong brine (one-half to three-fourths cupful of salt to one quart of water). Bring them slowly to the boiling point, and simmer for five minutes. Drain off the brine and cover with cold water, changing the water as it becomes warm. Keep changing the water until the pickles are crisp and cold. Cover them with a vinegar mixture made by either of the two preceding recipes.

Jams, Jellies and Preserves

Possibly the price of butter has already suggested the use of jams, jellies and preserves in larger quantities than usual. But aside from the saving in cost, there is a national service as well.

Butter is readily transported and exported, whereas these other products, which are usually put up in glass jars, lend themselves best to home or local consumption. Eat as much as possible of the home-grown products, thus releasing foods which naturally flow in large commercial channels for shipment abroad. This policy has the endorsement of the United States Food Administration and is essentially sound.

Jams, jellies and preserves do not have the same kind of nutriment as butter and are not a substitute, but the judgment of the American housewife and



CANNING demonstration given by Miss Lottie Milam, of the extension division of the Kansas Agricultural College, at Washington, Kansas. One hundred women were present and during the afternoon peas, beans, beets, beet greens, tomatoes, and apples, were canned.

mother is sufficient safeguard against an excessive reduction of butter consumption.

Spanish Pickle

3 dozen green tomatoes
2 medium sized heads cabbage
2 dozen small sweet cucumber pickles
8 small green peppers
1 teaspoonful tumerick powder
1 teaspoonful cinnamon
1 teaspoonful white mustard
1 teaspoonful celery seed
3½ pints vinegar
4 pounds brown sugar

Run cabbage, tomatoes, and peppers, through food grinder, sprinkle each with salt separately, and let stand over night. Scald in weak vinegar. The cabbage should be scalded separately, as it requires more scalding than the other vegetables. Do not allow vegetables to boil. Drain off liquid. Cut pickles in half-inch pieces, mix tomatoes, peppers, cabbage, and pickles. Add spices to good vinegar, boil, and pour over mixed vegetables. This will keep for some time without sealing.

Grape Juice

The ordinary way of crushing and stewing grapes in order to obtain their juice yields a product that does not do full justice to the grape. A better method is to crush the grapes, add a quart of water for each sixteen quarts of grapes, and place the kettle containing them over a second kettle containing hot water, thus steaming instead of stewing the grapes until tender. Their juice is extracted in the usual way, by pouring the cooked fruit into a jelly bag and allowing it to drip over night. Holding the strained juice over night in this way permits it to settle so that the clear top can be poured from the sediment.

The following day the juice is strained into bottles or glass fruit jars, covers and rubbers are adjusted, and the bottles or the jars are set on a rack in a covered boiler or kettle or on the shelf of a steam cooker. If a boiler or kettle is used, warm water is added until it comes up to within about an inch of the tops of the bottles. The water is then brought gradually to the boiling point and should boil for from twenty to sixty minutes, according to the size of bottles or jars used. The tops of the bottles are then dipped in wax or paraffin or the jars are sealed, and the juice is ready for storing.

Grape juice will keep satisfactorily without sugar. If sugar is desired, however, add it to the juice before pouring it into the container, using one-eighth to one-fourth cupful to each quart of juice.

A second-grade grape juice may be made by returning to the preserving kettle the pulp left after the juice has dripped from it, covering it with water, heating it gradually, and allowing it to simmer slowly for from twenty to thirty minutes. It is then treated by the method already described. This is strong enough to make excellent jelly. The pulp may be extracted for juice a third and a fourth time. The yield of each successive extraction is smaller and more dilute than the preceding. If the second, third, and fourth extracts are mixed, a very pleasing juice results.

The juices of all fruits may be extracted and canned as directed for grape juice, the main differences in the process used with various fruits being the amount of water and the length of time needed to extract the juice. Dry fruits of course require more water and a longer time of cooking than do juicy fruits.

Fruit juices may be canned during summer and made into jelly during winter. The juice made by extracting the pulp of fruits used in jelly-making may be bottled and used later as a basis for fruit punches and other beverages. In case of sickness, fruit juices combined with water make a cooling drink for a feverish patient. Rhubarb juice is particularly valuable for fruit beverages and for combining with other fruit juices to give tartness to jellies. Rhubarb juice may be prepared from the stalks that have become too tough to cook in other ways.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 7819—Ladies' Shirtwaist: Cut in sizes 36 to 44 inches bust measure. Comfort every minute and daintiness all the time are expressed in this waist with a shoulder yoke to which the fronts are gathered. The open neck is becoming and the front closing is convenient. The collar and cuffs are in light tone. **No. 8184—Girls' Dress:** Cut in sizes 8, 10, 12 and 14 years. Such a winning little frock as the one shown here must surely prove a great favorite with the school girl. The dress is cut low in front to show the inset vest of the same material as the collar and cuffs. A choice of materials for this dress is found in gingham, chambray, linen or percale. **No. 7802—Ladies' Shirtwaist:** Cut in sizes 36 to 44 inches bust measure. A very pretty style for plain and figured material. The large cape collar, in contrasting note and finished with edging, extends almost to the waistline in back—in square outline—and has all the honor that the tie does not claim for giving unusual style to this blouse. **No. 8137—Misses' Dress:** Cut in sizes 14, 16, 18 and 20 years. Recent developments in the fashion world are well expressed in this model, which has a plain waist and a three-gore skirt. The collar is bound to be the leading style feature—the sleeve cuffs agreeing with it. However, the season is partial to belts of self or separate material that are doubled in covering a waist and skirt joining. **No. 8210—Ladies' Skirt:** Cut in sizes 24 to 32 inches waist measure. That most desirable quality known as style is perfectly expressed in this four-gored skirt. It combines the fashionable fullness with the slender effect around the waist and hips. The distinctive feature is the yoke with its tiny belt ends, having a slightly raised waistline. The sides of the skirt are plaited into the yoke. **No. 8193—Ladies' Dress:** Cut in sizes 36 to 44 inches bust measure. For the woman who desires a very simple model that may be quickly and easily made, nothing could be more practical than this dress, which is equally suitable for a working dress or for a street dress. The addition of white collar, cuffs and belt makes this dress quite wearable.

"Your Flag and My Flag"

"Fling out, fling out, with cheer and shout,
To all the winds, Our Country's Banner;
Be every bar and every star
Displayed in full and glorious manner."
—Cole.



"Long may it wave
O'er the land of the free
and the home of the
brave"

The big demand, the scarcity of good dyes and the high price of cotton have made it hard to secure flags. We have been fortunate enough to secure a few high-grade printed flags 3 feet by 5 feet with canvas heading and brass grommets, colors fast.

You May Have One of These Flags If You Act Promptly
HERE IS OUR OFFER

For only $1.50 we will enter your subscription or extend your subscription for one year and send you this beautiful flag, postpaid. Price a flag of this size and quality. You will then appreciate our splendid offer.

Don't Delay—Send Your Order NOW, Before It Is Too Late
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Ottawa Business College
OTTAWA, KANS. CATALOG FREE

Ten thousand holes darned is the record of Ida Bly, of Pierceville, a member of the girls' sewing club, as reported by the local leader to Otis E. Hall, state club leader. Elsie Snyder, another member of this same club, has darned 3,000 holes, and Virgie Armstrong, a contestant, more than 1,000 holes.

Fly a flag on the farm and teach the children what it stands for.

Classified Advertising

Advertising **"bargain counter."** Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. **Your advertisement here reaches over 60,000 farmers for 5 cents a word per week.** No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. **Terms, always cash with order.**

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted **free of charge for two weeks,** for bona fide seekers of employment on farms.

HELP WANTED.

THOUSANDS U. S. GOVERNMENT JOBS open to farmers—men and women. $65 to $150 month. Vacations. Common education sufficient. Write immediately for list positions open. Franklin Institute, Dept. H-82, Rochester, N. Y.

AGENTS WANTED.

MAN TO WEAR FINE SUIT, ACT AS agent; big pay, easy work. Banner Tailoring Co., Dept. 738, Chicago.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FOR SALE — VERY CHOICE HIGH-grade Holstein calves, either sex, three to six weeks old, at $20 per head, crated for shipment. Or if you want dairy cattle of any age, I will buy them at a commission from the best herds in Southern Wisconsin. Albert M. Hanson, Whitewater, Wisconsin.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked. $23, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

GUERNSEY BULL EIGHT MONTHS OLD, show type and bred for high production. At county fair won sweepstakes as best dairy bull any age or breed in a class of five, two Guernseys, one Jersey and two Holsteins, Mr. Fairchild of the Kansas Agricultural College judging. Dam and both granddams have good production records and he represents blood lines that are now eagerly sought. A registered cow and an imported heifer also for sale. J. W. Marley, Oswego, Kansas.

DOGS.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

POINTERS — RIGHT AGE FOR THIS season. Training instructions. You can't fail to have a good birder for very little cost. W. H. Rawlings, Mill Creek, Okla.

FOR SALE — HIGH CLASS FOX AND coon hounds. The kind that can deliver the goods. Bred right and broken right. If you want a good one, write me. Price reasonable. A. F. Sampey, 317 E. Mt. Vernon St., Springfield, Missouri.

TREES, SEEDS AND PLANTS.

SWEET CLOVER REASONABLE. SOW on wheat and get two crops. J. Lewis, Route 1, Madison, Kansas.

FOR SALE—ONE CAR PURE TURKEY seed wheat, $2.25 per bushel. Alfalfa seed, $8 per bushel, f. o. b. Grantville, Kansas. S. E. Wilson.

TREE PLANT THIS FALL. NEVER A better time. Save money and get our terms. Write today for fruit book and information about growing fruits. Buy direct—it pays. Headquarters for well selected seeds. Box No. R, Wichita Nurseries & Seed House, Wichita, Kansas.

MISCELLANEOUS.

1,024 YEARS AMERICAN HISTORY, 80c postpaid. Elias Pelton, Hudson, Kansas.

GOOD PAYING BUSINESS PROPERTY now rented. Want to trade for young mules. Jno. O. Evans, Asheville, Kansas.

THIRTY DIFFERENT MAGAZINES, late issues, value $3, yours for 25c prepaid. Eastern Bureau, New Egypt, N. J.

REAL ESTATE.

WOULD YOU SELL YOUR FARM IF you got your price? Sell direct; no commissions; particulars free. Chas. Renich, G-46, Woodstock, Ill.

OWNER OFFERS STOCK AND DAIRY ranch in prosperous Southwest Kansas. Land of opportunity. Terms. S. W., care Kansas Farmer.

NORTH CENTRAL KANSAS, OSBORNE County seed, grain and stock farms, $20. Best wheat and corn land, $35 to $50. "Here is the place." J. F. Baum, Natoma, Kansas.

FARMS AND FARM LANDS FOR SALE. All kinds of soils; rain-belt, dry farming or irrigable. Lands five miles or less from railroad. H. M. Madison, General Farm and Immigration Agent, San Antonio & Aransas Pass Ry., San Antonio, Texas.

YOUR CHANCE IS IN CANADA. RICH lands and business opportunities offer you independence. Farm lands, $11 to $30 acre; irrigated lands, $35 to $50, twenty years to pay, $9,000 loan on improvements, or ready made farms. Loan of live stock; taxes average under 20 cents an acre; no taxes on improvements, personal property, or live stock. Good markets, churches, schools, roads, telephones; excellent climate — crops and live stock prove it. Special home seekers' fare certificates. Write for free booklets. Allan Cameron, General Superintendent Land Branch, Canadian Pacific Ry., 234 Ninth Ave., Calgary, Alberta.

POULTRY.

WHITE ROCKS, SIZE AND QUALITY. Prices reasonable. G. M. Kretz, Clifton, Kansas.

COLUMBIAN WYANDOTTE COCKERELS and fifty varieties of fancy pigeons. J. J. Pauls, Hillsboro, Kansas.

FOR SALE — S. C. BROWN LEGHORN cockerels, $1 each. J. R. Stewart, Winston, Missouri.

POULTRY WANTED.

WILL PAY 20c OR BETTER No. 1 HENS, springs, turkeys. Eggs, 35c. Guineas, doz., $4. Coops loaned free. The Copes, Topeka.

THE STRAY LIST.

TAKEN UP — ON THE 18TH DAY OF August, 1917, by W. H. Pottorff, in Royal Township, Ford County, Kansas, one yearling bay mare valued at $25. H. N. Kinkead, County Clerk.

TANNING.

LET US TAN YOUR HIDE: COW, HORSE or calf skins for coat or robe. Catalog on request. The Crosby Frisian Fur Co., Rochester, N. Y.

HONEY.

HONEY—NEW CROP. SEND FOR PRICE list. Bert W. Hopper, Rocky Ford, Colo.

PET STOCK.

WANTED — CANARIES, ALL KINDS. State kind, price, etc. Halfin's Pet Shop, 3111 Olive, St. Louis, Mo.

STRAWBERRY PLANTS.

EVERBEARING, $2 PER HUNDRED; common varieties, $1 per hundred. Choice thrifty stock. State inspected. Pedigreed. J. A. Dowden, North Bend, Neb.

HOGS.

CHESTER WHITES — MAY PIGS AT farmers' prices. Gust Claussen, Bunker Hill, Kansas.

FOR SALE — HAMPSHIRE PIGS FROM sire and dam, first and fourth prizes, Topeka Fair. Roy Crawford, Topeka, Kansas.

Real Estate For Sale

10,000 ACRES of good grazing land, well watered, for $3 to $5. All crops good. No drouth, no hot winds. Grass for cattle and corn for hogs. Best country in the world to live and make money.

W. W. TRACEY - ANDERSON, MISSOURI

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SURE INCOME. Rent from Pasture, Farming, Coal, Gas or Oil will pay for land. ONLY CONDITION, Annual Payments. Will buy for you and rent. Information Free. Write immediately.

Joseph Clark, Indian Land Purchasing Agent Tulsa, Oklahoma

217 ACRES, 3 mi. city, this county, 1,500. 160 a. strictly first class dry black bottom land in cult.; no overflow; bal. pasture; fair improvements. $30 per acre. Terms. **SOUTHERN REALTY CO., McAlester, Okla.**

Best Bargain in S. E. Kansas

360 Acres, 160 acres fine wheat, corn and alfalfa land. Rich creek bottom soil. Balance pasture. $5,000 worth improvements. Splendid oil prospects. A snap. For quick sale, $45 per a. **M. T. Spong, Fredonia, Kan.**

With alfalfa hay worth $15 to $20 a ton it is evident that we cannot afford to feed it wastefully. We have become so accustomed to depending upon alfalfa as the main roughage that it is not always easy to limit the amount fed. Straw has considerable feeding value and can be profitably used to replace part of the alfalfa commonly fed. Oat straw with silage makes a good combination for wintering breeding stock. At the Illinois Experiment Station an average daily ration per steer of 16.7 pounds of corn silage, 9.6 pounds of oat straw, and 3.5 pounds of clover hay put on a gain of over a pound a day in feeding beef steers for market. Straw is too bulky and too low in nutrient value to be used as the sole roughage ration for any kind of stock, but in judicious combinations it can be made to return at least half the value of good hay.

Leading Fairs and Expositions

International Live Stock Exposition, Chicago, December 1-8.

National Dairy Show, Columbus, Ohio, October 18-27.

National Western Stock Show, Denver, Colorado, January 20-27, 1918.

Pacific International Live Stock Exposition, North Portland, Oregon, November 19-24.

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REGISTERED AND GRADE

HOLSTEINS

WILL BE SOLD AT GARNETT, KANSAS, ON

Tuesday, October 23, 1917

One Mile Northwest of Town on D. H. Stiles Farm, Known as the Bean Farm, Dells Stock Farm.

The herd is owned by D. H. Stiles, who is leaving the farm. In the sale will be some of the choice blood of the Holsteins. Such blood lines as Sir Johanna De Kol 25467, Sir Johanna De Kol 19th 64143, Sir Hengerveld De Kol Ormsby 31211, Johanna De Kol Wit 4th 143224, Windsor De Kol King 142390, Dutchland Sir Pontiac Rag Apple 47282, Phroney Jane Korndyke 246908, Sir Echo Pauline 33276, Sir Shadybrook Sir Parthenea 24929, Rag Apple Cornucopia Pauline 121926, Miss Netherland Dells 288062, Pauline Paul's 2d's Counts De Kol 26974, Pauline De Kol Mercedes Vale 203119, Florence Barley 321390, Sir Imperial Hengerveld 163489. Four fine young bulls bred popular. There will be twenty-five to thirty high-grade Holstein heifers, all heavy springers. All have been tested. The herd is straight in every way. One of the nicest herds in the state. You will say so when you see them. Write for catalog to

D. H. STILES

R. F. D. 6 Garnett, Kans.

FARM AND HERD NEWS NOTES

C. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising
O. W. Devine, Field Representative

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Personal mail may have to be held for several days, or be delayed in forwarding, and Kansas Farmer cannot assume any responsibility for mistakes occurring thereby

CLAIM SALE DATES.

Holsteins.
Oct. 16 — The Nebraska Holstein Breeders' Consignment Sales Co., Omaha, Neb.; Dwight Williams, 103 Bee Bldg., Omaha.
Oct. 22—W. H. Mott, Herington, Kansas.
Oct. 23—D. H. Stiles, Garnett, Kansas.
Dec. 6—E. S. Engle & Son, Abilene, Kansas.

Jersey Cattle.
Oct. 23—G. S. Keller, Palmyra, Mo.; B. C. Settles, Palmyrn, Mo., sales manager.
Oct. 31—Geo. W. Hagan, Lee's Summit, Mo.
B. C. Settles, Palmyra, Mo., sales manager.
Nov. 2—W. L. Hunter & Son, Lincoln, Neb.; B. C. Settles, Palmyra, Mo., sales manager.
Nov. 3—E. E. Knoche, Martin City, Mo.; B. C. Settles, Palmyra, Mo., sales manager.
Nov. 12—Will Morton, Taylor, Mo.; B. C. Settles, Palmyra, Mo., sales manager.

Herefords.
Nov. 19—W. I. Bowman & Co., Ness City, Kansas. Sale at State Fair Grounds, Hutchinson.
No. 22—Sam Dryhread, Elk City, Kansas.
Nov. 23—W. H. Rhodes, Manhattan, Kansas.

Shorthorn Cattle.
Nov. 20—W. W. Waltmire & Son, Peculiar, Missouri.

Poland Chinas.
Oct. 13—Arthur Anderson, Clyde, Kansas.
Oct. 16—H. B. Walter & Son, Effingham, Kansas.
Oct. 17—Walter B. Brown, Perry, Kansas.
Oct. 23—Herman Gronniger & Sons, Bendena, Kansas.
Oct. 24—Fred G. Laptad, Lawrence, Kan.
Nov. 6—Ross & Vincent, Sterling, Kansas.
Nov. 7—H. E. Myers, Gardner, Kansas.
Dec. 5—U. S. Byrne, Saxton, Missouri.
Feb. 18—Deming Ranch, Oswego, Kansas.
Feb. 19—Fred B. Caldwell, Howard, Kansas.
Feb. 20—B. E. Hodson, Ashland, Kansas; sale at Wichita.
Feb. 21—E. J. Erhart & Son, Ness City, Kansas; sale at Hutchinson.
Feb. 22—P. Olivier & Son, Danville, Kansas.
Feb. 23—V. O. Johnson, Aulne, Kansas.

Spotted Polands.
Oct. 19—Fred Rhodus, Excelsior Springs, Missouri.

Chester White Hogs.
Nov. 20—W. W. Waltmire & Son, Peculiar, Missouri.

Durocs.
Oct. 20—O. W. Long, Maitland, Missouri.
Oct. 24—Fred G. Laptad, Lawrence, Kan.

E. D. King, of Burlington, Kansas, owner of one of the largest herds of pure-bred Berkshire hogs now assembled, reports his herd doing fine. Mr. King has been breeding Berkshires for years and feeds Berkshires in large numbers for market and has found them a very profitable farm hog. A feature of his herd at present is a choice lot of boars that are herd headers.

The Jersey show herd from Longview Farm were consistent winners at the big fairs this year. This show herd consists of twenty head, all but four of which were bred on Longview Farm. The following is a list of the 1917 winnings of the herd up to October 1: Tulsa, first nine, second eleven, third three, fourth one, fifth one, champion three, grannd champion one; Iowa, first twelve, second eight, third six, fourth three, fifth one, champion three, grand champion two; Indiana, first fourteen, second twelve, third two, fourth one, champion four, grand champion two; Kentucky, first twelve, second eight, third six, fourth six, champion four, grand champion two; Tennessee, first twenty-one, second eleven, third eight, fourth one, champion two, grand champion one; Missouri, first twelve, second ten, third two, fourth one, champion four, grand champion two. Totals —First, eighty; second, sixty; third, twenty-seven; fourth, thirteen; fifth, two; champion, twenty; grand champion, ten.

BOOK NOTICES

"Equipment for the Farmstead" is the title of a new book published by Ginn & Company of Boston. This book covers the whole range of farm equipment, from the principles of mechanics and transmission of power to instructions on tying knots and making splices in rope. Several chapters are devoted to the farmhouse, including the subjects of water, light, and sewage disposal. There are chapters on cement and concrete, grain binders, corn harvesters, gasoline engines, and tractors. The descriptive matter is accompanied by numerous illustrations and working diagrams. It is a valuable addition to the Country Life Education series. It sells for $2.25.

• • •

"Greenhouses — Their Construction and Equipment" is a new book from the Orange Judd Company press. It is a very complete and well illustrated treatise on this subject. Price, $1.60.

• • •

"Around the Year in a Garden," from the Macmillan press, is a book designed to help busy people who have little time for garden work. Definite seasonal directions are given for the various tasks coming up in garden work. The book sells for $1.75.

• • •

The Macmillan Company, of New York, has just added a valuable new book to its series of rural manuals, entitled "Manual of Dairy Products." It treats of every phase of the milk question from its secretion and chemical composition to the making of all kinds of milk products, and includes a full treatment of the many problems of the farm dairy. The book makes no special claim to originality, being a bringing together of all the best authorities on the subject so as to serve the needs of busy people. The price is $2.

POLAND CHINAS

POLAND CHINAS.

—BANNER HERD— POLAND CHINA SALE

OCTOBER 23, 1917

AT FARM NEAR BENDENA, KANSAS

Fifty head Poland China boars, March and April farrow, sired by Big Bob 2d, Rexall and Big Wonder. This is the place to buy your boars for fall use. Send for catalog and come to the sale.

HERMAN GRONNIGER & SON, BENDENA, KANSAS

BERRY'S IMMUNED SPOTTED POLANDS

March pigs, weight 150 to 160 pounds, price $35; pairs, $70; April pigs, $30; May, $25. Sired by Spotted Mike 81038, a 600-pound yearling. Lots of spots, bone, and good backs. Write me your wants. Can furnish pairs, not related.

E. C. BERRY, ROUTE 3, HARRIS, MISSOURI

Spotted Poland Chinas

Thirty spring boars, thirty spring gilts. Sired by Billie Sunday, Cainville Giant and Perfect Judge. Sows by Brandywine, Budweiser, Old Clipper and Spotted Giant. Priced to sell.

J. O. RILEY & SON - CAINSVILLE, MO.

DEMING RANCH QUALITY

Big-Type Poland China Hogs.

Fifty March boars for sale. All immuned. Bred sow sale February 18. Send for catalog.

H. O. Sheldon, Herd Manager
OSWEGO, KANSAS.

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. **CHAS. E. GREENE, Peabody, Kan.**

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

FAIRVIEW POLAND CHINAS.

Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.

P. L. WARE & SON - PAOLA, KANSAS

SPOTTED POLAND CHINAS

April and May farrow. Either sex. Priced right. Papers furnished.

B. A. SHEHI, WESTMORELAND, KANSAS

POLAND CHINA BOARS

Fifteen spring boars sired by Sir Dudley, Eclipse Model and Exile. Price, $30 to $45. Write at once.

C. B. PALMER
ROUTE 5 MARION, KANSAS

Langford's Spotted Polands.—Last call for early spring boars. Yours for good hogs—

T. T. Langford & Sons, Jamesport, Missouri.

POLAND CHINA HOGS 150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.

V. O. JOHNSON - AULNE, KANSAS

POLAND CHINAS

For Sale—Ten fall yearling gilts, bred for September farrow to Dalebanks Hadley and King Jumbo; twenty-five spring boars ready for service; twenty-five spring gilts open. One hundred and fifty head registered hogs in my herd. Write today what you want.

E. L. BARRIER - EUREKA, KANSAS

Henry's Big Type Polands

March and April pigs, sired by Big Wonder, first in class at Topeka; Mammoth Orange and King Price Wonder. Immune.

JOHN D. HENRY, LECOMPTON, KANSAS

SPOTTED Poland Chinas

Two hundred fall pigs in pairs and trios, not related, sired by two state fair winners. Price, $25 each. Also a few choice spring boars and gilts. All immuned. Write your wants.

E. R. McKEEFER & SON, Ossian, Indiana

GREEN WOOD FARM POLANDS

Spring boars, very best big-type breeding, sired by Big Wonder, my 900-pound boar, and Orange Wonder, an Iowa bred boar, out of big sows. Farmer prices.

M. F. RICKERT - SEWARD, KANSAS

Faulkners Famous Spotted Polands

Late summer and fall pigs for sale. Buy them from the Fountain Head. Annual brood sow sale February 13. Ask for catalog.

H. L. FAULKNER, Box K, Jamesport, Mo.

White Oak Park Polands

Outstanding herd boar prospects by 1,100-pound Missouri Jumbo 210461 and 1,000-pound Long Big Joe 227387, twelve-inch bone. Dams popular big-type breeding. If you want boars that will mature to 1,000 to 1,100-pound hogs, I have them, big high-quality fellows. Fall boars farrowed August and September, spring boars February and March. Will record in buyer's name. All immune.

Henry Koch, Edina, Missouri

OLD ORIGINAL SPOTTED POLANDS

March and April pigs for quick sale.

H. A. or PAUL H. MATTOX, Route 2, Burlington, Kan.

McGATH'S BIG ORPHAN

Grand champion Topeka and Hutchinson fairs, 1917. Thirty-five boar pigs by the grand champion for sale. Write for prices.

Bert E. Hodson, Ashland, Kan.

DUROC JERSEYS.

TAYLOR'S DUROCS

For Sale—One Missouri State Fair prize winning boar. Seven yearling boars sired by champion boars that are real herd headers. Fifty spring boars that are fine prospects. Write for prices or come and see my herd.

Chas. L. Taylor - Olean, Mo.

IMMUNED DUROCS

With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. **C. G. Ditmars & Co., Turney, Mo.**

WOOD'S DUROCS

Boars, sows and gilts. Best lines of breeding.

THE WOOD DUROC FARM
F. F. Wood Wamego, Kansas

DUROC BOARS

Thirty-five spring boars by G. M.'s Crimson Wonder, Crimson Wonder Again Jr., Critic D. and Great Wonder, out of my best herd sows. Priced to sell. Come and see my herd.

G. M. Shepherd, Lyons, Kansas

McBRIDE'S DUROCS

I have four Pathfinder Duroc boars for sale, all immune. Also one Orion Cherry King, four months old, weight from 125 to 140 pounds, and they are extra nice ones. Priced right. **W. T. McBRIDE, Parker, Kan.**

HARRISON'S DUROCS

Pure-bred Duroc boars.

W. J. HARRISON - AXTELL, KANSAS

Royal Grand Wonder Durocs

The first prize junior yearling at Kansas State Fair heads my herd. A few choice March boar pigs for sale. Come and see my herd.

B. R. ANDERSON, R. 7, McPherson, Kansas

Immune Duroc Boars on Approval

Pedigreed Duroc boars with size, length and bone. Immune and guaranteed breeders. Shipped to you before you pay for them.

F. C. CROCKER, BOX K, FILLEY, NEB.

15 Duroc Spring Boars

Sired by Illustrator O'Rion 3d and Fancy Victor and out of my best herd sows. They are real herd prospects, selected from 91 pigs raised. Write today if you want a good spring boar.

John W. Petford
Route 1 Saffordville, Kansas

Jones Sells On Approval

Large-type spring boars and gilts of fashionable blood lines at reasonable prices. Herd immuned.

W. W. Jones, Clay Center, Kan.



PERCHERON STALLIONS

FOR SALE THIS FALL AT REDUCED PRICES

Two yearling colts; two 2-year-old colts; two 3-year-old colts; two 4-year-old colts, and one herd stallion. All sound and registered in Percheron Society of America. Blacks and bays. If sold this fall I will cut the prices. Also five registered Shorthorn bulls, reds and roans. Come and see me.

J. C. PARKS - - - - - HAMILTON, KANSAS

MODERN HEREFORDS

HAZFORD PLACE

Home of the Grand Champion BOCALDO 6TH, assisted by CALDO 2D, PUBLICAN 4TH AND BEAU BALTIMORE.

All our show cattle our own breeding. Inspection of farm and breeding herd invited. A few choice young bulls reserved to head high-class pure-bred herds now ready for inspection and sale.

William Condell, Herdsman. ROBT. H. HAZLETT, EL DORADO, KANSAS

HOLSTEIN CATTLE.

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

SAND SPRING HERD

E. S. ENGLE & SON - - - - ABILENE, KANSAS

THE HERD OF LONG DISTANCE PERFORMERS



Cameola of Sand Spring produced 15,000 pounds milk, 665.4 pounds butter, in 365 days as a four-year-old. We have others as good and some better. Await announcement of our sixth annual sale in December. We stand back of every animal that goes into our ring. Does this mean anything to you?

MAURER'S HOLSTEIN FARM

Is offering anything you might desire in pure-bred and high-grade Holsteins of exceptional merit. They are the RIGHT KIND and at the RIGHT PRICE.

For further particulars wire, phone or write.

T. R. MAURER & COMPANY - - - - - - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.

DUROC JERSEYS

FORTY DUROC-JERSEY BOARS

Cholera immuned, of rare breeding and excellent individuality. Sired by Gold Medal 176231, R. L.'s Model Chief 105673, Taylor's Model Chief 126455. Order yours now. Our prices are reasonable.

W. R. HUSTON - AMERICUS, KANSAS

FARM AND HERD.

J. R. Young, of Richards, Missouri, has claimed November 9 for a Poland China sale at Richards, Missouri. Mr. Young has a well established herd of Poland China hogs, having made the show circuit for a number of years. At the Missouri State Fair this year he won first on produce of dam, first on young herd bred by exhibitor, second on young herd owned by exhibitor, and second on get of sire, pigs sired by The Mint, he by Golden Gate King. Mr. Young was one of the successful winners in the futurity classes.

Ross & Vincent, of Sterling, Kansas, have catalogued sixty-five head of Poland Chinas to be sold at the farm adjoining Sterling, Rice County, Kansas. The offering is one of the best to be sold this year and includes twenty-eight spring gilts, twelve fall gilts, five tried brood sows with fall litters at foot and twenty choice spring boars. Among them are a number of real herd header prospects.

Dr. J. H. Lomax, of South St. Joseph, Missouri, held one of the successful Poland China sales at his farm at Leona, Kansas, on October 4. There were fifty-five head catalogued and sold for an average of better than $40. There were no boom prices but a good average sale for mostly spring pigs, which was very satisfactory to Mr. Lomax.

P. M. Gross, the well known live stock auctioneer, formerly of Macon, Missouri, has located in Kansas City, Missouri. Colonel Gross is one of the successful live stock auctioneers now engaged in the business and the move to Kansas City was necessary in order to be more centrally located in the live stock field.

H. L. Faulkner, of Jamesport, Missouri, owner of the famous Highview Breeding Farms, made famous by the great herds of old original big-boned Spotted Polands, reports the demand for that favorite breed steadily growing. His mail order sales for September aggregated fifty-two head, distributed in many states.

George W. Hagan, of Lee's Summit, Missouri, has announced a public sale of select Jersey cattle to be held October 31. A very choice offering of Tormentor and St. Lambert bred cows and heifers will be catalogued for this sale. The cows that go in this offering are heavy producers and the entire offering is of record breeding. B. C. Settles, of Palmyra, Missouri, will manage the sale.

E. S. Engle & Son, owners of one of the choice Holstein herds in Kansas, have announced December 6 as the date of their sixth annual sale of Holsteins. They will catalog about fifty head of select pure-bred and high grade Holsteins for this sale.

M. F. Rickert, of Greenwood Farm, Seward, Kansas, has succeeded in building up one of the choice herds of big-type Polands in Kansas. He has the big, easy-feeding, early-maturing type that make the profitable farm hog. This year he raised a large number of spring pigs that have grown out fine. A feature of his herd at this time is the fine lot of young stock, including a choice lot of boars by Big Wonder, a 900-pound boar, and Orange Wonder, a massive Iowa-bred boar.

H. A. Mattox, of Burlington, Kansas, who owns one of the high class herds of old original big-boned Spotted Polands, reports his herd doing well. Mr. Mattox has bred a number of his best sows for fall litters. A feature of the herd at this time is the choice lot of spring boars and gilts that have made a fine growth and are the big, high-quality, easy-feeding kind.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

SUNNYSIDE HOLSTEINS

"Echo Segis Fayne," our great herd sire, for sale to avoid inbreeding. He is a grand individual, only 3 years old, and by King Fayne Segis Clothilde, brother to Segis Fayne Johanna, the world's 50 pounds butter in seven days cow. Price $700. Also yearlings and bull calves sired by Echo Segis Fayne, for sale. **SUNNYSIDE STOCK FARM, John Montle, Prop., U. S. P. O. Derby Line, Vt.**

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

Holsteins and Guernseys

FOR SALE—High grade Holstein and Guernsey springer cows and heifers. A choice lot. Cows, $100 to $150; large heifers, $90 to $125; heifer calves, $20, crated. Don't write, but come and see them.

BOCK'S DAIRY
Route 9 Wichita, Kansas

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. **Clover Valley Holstein Farm, Whitewater, Wisconsin.**

CHOICE HOLSTEIN CALVES

Twelve heifers and two bulls, 15-16ths pure, beautifully marked, five weeks old, from heavy milkers, at $20 each. Safe delivery and satisfaction guaranteed.

FERNWOOD FARM, WAUWATOSA, WIS.

Braeburn Holsteins

Always A. R. O. Bull Calves, better than the common run. Just now a few females to make the herd fit the stables.

H. B. COWLES
608 Kansas Avenue Topeka, Kansas

BERKSHIRE HOGS.

BERKSHIRE HERD BOARS

For quick sale—Two choice Berkshire herd boars, three winter boars and five spring boars, all choice.

E. D. KING - BURLINGTON, KANSAS

HOG SALE

TENTH SEMI-ANNUAL SALE

LAPTAD STOCK FARM, Lawrence, Ks.

CHOLERA IMMUNE



CHOLERA IMMUNE

WEDNESDAY, OCT. 24, 1917

50 HEAD — POLANDS AND DUROCS — 50 HEAD

Send for illustrated catalog.

SHEEP.



200 — RAMS — 200
REGISTERED SHROPSHIRES
Our flock was awarded 20 prizes at 1917 Iowa State Fair. Weight and wool always win. Rams and ewes for sale. C. W. & Frank Chandler, Kellerton, Ia.

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

POLLED DURHAM CATTLE.

DISPERSION SALE of all my double-standard Polled Durham cattle soon. Watch for date.
D. C. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 Miles S.-E. of Topeka)

Breeders' Directory

ANGUS CATTLE.
D. J. White, Clements, Kan.

DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.

HORSES AND MULES.

PERCHERONS—BELGIANS—SHIRES



2, 3, 4 and 5-yr. stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
FRED CHANDLER, R. 7, Charlton, Ia. Above Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes. Illinois Horse Co., Good Blk., Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

AUCTIONEERS.

Jas. T. McCulloch — Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

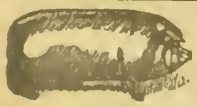
Live Stock and Real Estate Auctioneer. Fifteen years experience. Write for terms. Thos. Darcey, Hutchinson, Kansas.

CHESTER WHITE HOGS

WESTERN HERD
CHESTER WHITE HOGS

Thirty spring boars, forty spring gilts, bred or open. Write for prices. Satisfaction guaranteed.

F. C. Gookin, Russell, Kansas



FOR SALE
Spring Pigs in Pairs and Trios
Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

Clinton County Chesters

Booking orders for spring pigs of National Swine Show blood lines. Fall and spring pigs at bargain prices.
J. H. McANAW - CAMERON, MISSOURI

AYRSHIRE CATTLE.

SOUTH FARM AYRSHIRES
300 HEAD.
75 Animals Imported from Scotland.
143 cows have qualified for advanced registry.
Males and females for sale.
SOUTH FARM
WILLOUGHBY - - - - OHIO

SAPPHIRE (BLUE) HOGS

SAPPHIRE (BLUE) HOGS
The quickest pork producer known. Breeding stock for sale. L. E. JOHNSON, Waldron, Harper County, Kansas.

MULEFOOT HOGS.

KNOX MULEFOOT HOGS
Orders booked for fall pigs. A few choice May pigs, either sex, not related. Write for price and booklet.
S. M. Knox, Humboldt, Kansas

SHORTHORN CATTLE.

ABBOTSFORD SHORTHORNS
Two choice bulls and ten extra good heifers for sale. Priced to sell. The kind that always please.
D. BALLANTYNE & SON, Herington, Kan.

Sunflower Herd of Shorthorns
A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

SHADY LAWN SHORTHORNS
At head of herd, Kansas Archer 440809 by Mistletoe Archer. For sale, fifteen choice young bulls from spring calves to yearlings. Come and see our herd.
F. H. HULL & SONS - EUREKA, KANSAS

SHORTHORN CATTLE
A few Scotch bulls for sale of breeding age. Red and roans. Write or come and see my herd.
O. A. HOMAN & SON, PEABODY, KANSAS

Doyle Spring Shorthorns
Bulls twelve to fifteen months old, sired by Orange Marshall and Star Goods.
DOYLE SPRING STOCK FARM
Peabody - - - - Kansas

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Pearl Herd Shorthorns

Valiant 346162 and Marengo's Pearl 391962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

Can ship on Rock Island, Union Pacific or Santa Fe Railway.
C. W. TAYLOR - ABILENE, KANSAS

GALLOWAY CATTLE.

GALLOWAY BULLS
SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

GUERNSEY CATTLE.

GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

GOING TO COLLEGE?

Our young readers who contemplate attending business college this fall or winter will find it to their advantage to write KANSAS FARMER for information that will be valuable to them.

It will cost you nothing but a postal card or a two-cent stamp to find out what our proposition is. Address

DESK D, KANSAS FARMER
Topeka, Kansas

Brown's Big Bone Type POLAND CHINA HOGS

WILL SELL AT

PERRY, KANSAS
Wednesday, October 17

SALE AT RESIDENCE IN TOWN

This great offering sired by such noted boars as

King Joe
Model Big Bob
Chief Miami
Iowa King
Gerstdale Knight by Gerstdale Jones
Anderson's Big Bone by Long Big Bone

One of the best offerings to be held in Kansas this fall. Breeding and individuality of the best. A variety of breeding seldom equaled in any one sale. An all top offering selected with the utmost care for this sale and presented in just the right breeding condition. Everything immune. O. W. Devine will represent Kansas Farmer at this sale. The only Gerstdale Jones blood to sell in Kansas this fall at public auction.
Auctioneers—Col. Chas. Crews, Col. Jas. Tom McCulloch
Write for catalog and mention Kansas Farmer.

WALTER BROWN, Perry, Kans.

JERSEY CATTLE.

GREAT DISPERSAL SALE

Of 100 Head A. J. C. C. Jerseys, Owned by E. E. Knoche, Martin City, Missouri, November 3, 1917.

Fifty cows averaging 450 pounds butter per year, and their female descendants, will go in this sale. Prof. C. H. Eckles of the Missouri University says: "The best producing herd in the state."

Write at once for catalog to

B. C. SETTLES, SALES MANAGER, PALMYRA, MO.
Col. Perry, Auctioneer

DISPERSAL SALE OF SEVENTY HEAD OF

REGISTERED JERSEYS

AT LEE'S SUMMIT, MISSOURI,
WEDNESDAY, OCTOBER 31

Mr. Geo. W. Hagan has been breeding Jerseys for over twenty years, and he will sell a splendid lot of profitable cows and heifers of the best St. Lambert and Tormentor blood to be found in any herd. The cows are all heavy persistent milkers, tuberculin tested and in perfect health. Don't fail to write at once for catalog to

B. C. SETTLES, SALES MANAGER, PALMYRA, MO.
COL. P. M. GROSS, AUCTIONEER, KANSAS CITY, MO.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

REGISTERED JERSEYS.
Cows, Heifers and Calves.
Good breeding. Good individuals. Must reduce herd. Price reasonable.
C. F. PFEUTZE
Route 4 Manhattan, Kansas

HEREFORD CATTLE.

Greenwood Hereford Farm

Prince Rupert Herefords

One carload yearling bulls; fifty head bull calves. Will price single lot or carload.

W. J. Brown, Fall River, Kan.

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 42. TOPEKA, KANSAS, OCTOBER 20, 1917. Established 1863. $1 a Year

SHORTAGE OF DRAFT HORSES

Twenty-one Million Horses in Country but Only Million Real Drafters

"THE time to keep up horse production is when the average man wants to quit," says Wayne Dinsmore, secretary of the Percheron Society of America, in a recent communication sent to Percheron breeders. From the facts presented by Mr. Dinsmore it is apparent there is a shortage of real draft horses, although there are too many of the smaller horses. Attention is called to the fact that producers or Percherons must never forget their continued prosperity depends on a prosperous condition of the trade in grade horses for commercial purposes.

The latest available figures for European countries, supplied by Food Commissioner Hoover, show an actual increase in the number of horses in Germany and Great Britain since the war began. France shows a decrease of 914,000 head between 1913 and 1916, and all other European countries having available data show decreases except Sweden, where there has been a slight increase. Germany's increase is due to horses taken from Belgium, Northern France and Russia; Great Britain's to horses bought for war purposes. The decrease in France came during the first eleven months of the war—since then there has been a slight gain due to purchased war horses.

The United States had 21,195,000 horses January 1, 1915, and 21,126,000 on January 1, 1917—a very slight decrease, in spite of the fact that we exported 805,422 head during the twenty-eight months ending January 1, 1917. Mules increased from 4,479,000 January 1, 1915, to 4,639,000 on January 1, 1917, although we exported 267,144 mules in the twenty-eight months ending January 1, 1917. Exports have continued at a heavy rate so far in 1917 and will undoubtedly continue while war lasts.

The outstanding fact, however, is that prices have not advanced on any but very heavy draft horses. Grain, cattle, hogs and sheep have doubled or trebled in value—horses have not advanced at all, save for the limited class mentioned. Automobiles and light delivery trucks have displaced nearly all driving and delivery horses. There is no longer a general market for surplus horses under 1,200 pounds weight. Those that will not do for military work sell very low, ranging from $65 to $115, and are hard to dispose of at that. Horses from 1,200 to 1,500 pounds are still used to a very limited extent in the cities, and are a popular kind for use on farms. They also have a wide outlet for artillery purposes, but the supply of these, especially those under 1,400 pounds, is more than equal to the demand.

The most experienced horse market men in America—such men as Dr. Reid of Campbell & Reid, St. Louis; P. M. Chappel of Cooper & Co., Chicago, and Harry McNair of Ellsworth & McNair, Chicago, are agreed in declaring that there is still a vast surplus of horses weighing under 1,200 pounds, and by far too many of those which range from 1,200 to 1,400 pounds. They see no possibility of an improvement in prices on these kinds, and are of the opinion that prices on the smaller horses will be cut in half within ten years. Draft horses, however, if over 1,600 pounds in working flesh, give every promise of holding present prices, with the probability of some advances.

The supply of heavy horses is limited. The best informed men estimate that of our twenty-one million head, less than a million are real draft horses, weighing over 1,600 pounds; and the demand for these efficient workers is such that they are holding their own in cities and increasing in popularity on farms. There is every reason to believe that the demand for drafters will continue to exceed the supply for at least twenty years yet.

With a view to obtaining the most accurate data possible on horse production, questions were recently sent by the Percheron Society to representative breeders throughout all parts of the United States. Replies were received from 277 prior to the issuance of this letter, and we take this opportunity to thank those who cooperated with us in this inquiry.

Reports from these men on conditions in their own localities show that there has been a marked reduction in the number of mares bred in 1917. While some localities have bred nearly all available mares, this is not generally true, and it appears that not more than 40 per cent of the mares old enough to breed have been bred this season. The number of stallions in service is considerably less than in 1916. This is further confirmed by reports from twelve stallion boards, which reveal a decrease of 625 pure-bred draft stallions, and a total decrease of 3,209 stallions all told, which is a tremendnous reduction for one year.

Sixty-eight per cent of the men report very few surplus horses good enough for sale for war or other purposes, on hand in their localities. Horses ranging from 1,000 to 1,200 pounds are reported to be selling from $90 to $125 average; horses from 1,200 to 1,500 pounds at from $140 to $175 average, and horses over 1,500 pounds at from $200 to $250 average.

Eighty-nine per cent of the correspondents report no horses that will mature at 1,700 pounds or over, or that there are only few; only 11 per cent report over twelve such horses in their communities. This bears out the repeated declarations of market men and horse buyers, who insist that there are very few real draft horses in any section. This, taken in conjunction with the price—$250 to $300 on the heavier horses—is ample evidence of our urgent need of more big horses. There is no incentive to produce small horses; every reason to produce more real drafters.

The situation regarding pure-bred Percherons seems especially encouraging. Seventy per cent report that all surplus Percherons of salable age are already sold; 10 per cent report "fairly sold out," and only 20 per cent report any considerable number of salable Percherons left in their communities. Sixty-one per cent report prices about the same as last year, 21 per cent report higher prices, and only 18 per cent report prices lower. Dealers who have made independent reports to the society state that there are practically no three-year-old stallions left in the hands of the breeders, and that the majority of the two-year-old and a good share of the yearling stallions have already been bought up.

Importations have practically ceased. Only sixty-four Percherons have been imported in 1917. One leading importer has publicly stated that the American-bred horses he has bought in the last three years have developed far beyond his expectations. He further says that he can buy better American-bred horses here now than the horses he formerly obtained in France. His purchases confirm his statements. Other importers are gradually coming to the same position. It is, however, necessary for dealers to purchase horses at younger ages, and to provide separate pastures—an acre or more—to prevent the young stallions from injuring each other sufficiently to impair sales.

Consideration of all the facts we have painstakingly gathered leads to but one conclusion. There is a shortage of draft horses, which is not likely to be fully supplied for at least twenty years. Draft stallions are scarcer than they were and will be in demand to make more draft horses, out of mares that are 1,400 pounds or over. Horses weighing over 1,500 pounds, if sound and right, are bringing approximately $100 per head more than those under 1,200 pounds, and are averaging $225 or better. Percherons of salable age are well sold out. Prices are steady to stronger in nearly all instances. The future for Percheron breeding is favorable, but the stock must be sound, well proportioned and well grown to be salable. Young stock especially should be well cared for. Grain can be saved in some degree by giving all the oat straw, corn fodder and alfalfa colts will eat; but even with this allowance foals and yearlings should have daily at least three-fourths of a pound of grain per each hundred pounds live weight.



SUPPLY OF DRAFTERS MUST COME FROM FARMS WHERE SUCH MARES AS THESE ARE KEPT AS WORK ANIMALS AND TO RAISE COLTS

Winter Care of Stallion

Plenty of exercise, good ventilation, light, and proper care throughout the whole year are necessary for the vigor and health of a stallion. During the winter season there is a tendency to neglect the stallion.

Exercise tones the muscles, stimulates the circulation and digestion, gives strength and vitality to every tissue and every organ of the body. Good honest work is the best kind of exercise for stallions. Some owners find it practical to work them in pairs while others find it more satisfactory when a stallion is worked with a gelding or pregnant mare.

Utmost care is necessary in working stallions. They are big, strong and willing, but are usually soft and fat from lack of exercise. Consequently they must not be given hard work at first. One should begin with light work—only a few hours each day—gradually increasing the work until the stallion is able to do daily a full day's work.

Aside from the economy resulting through such work the stallion will become stronger, more vigorous, more tractable, easier to control, and more agreeable to handle, as well as a better breeder. Of course the owner must use his judgment about special cases.

The proper amount of exercise given will make the question of feeding the stallion less troublesome. How to feed is more important than what to feed. The stallion should be fed three times a day regularly and at the same time each day. Plenty of pure, clean, fresh water should be provided. The problem of proper ration will depend largely on the feeds available, on those that are home-grown, as well as upon the consideration of the amount invested in the stallion. A good wholesome ration should be selected and enough should be fed to keep the stallion in fairly good flesh but not too fat.

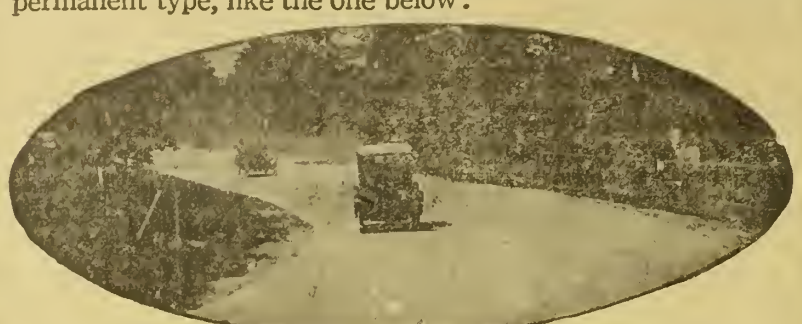
The place where the stallion is kept should be flooded with sunlight, and properly ventilated. Sunlight and fresh air are the best and cheapest disinfectants we have, but avoid draughts.—C. W. McCampbell, K. S. A. C.

A Simple Road Problem

What is the repair cost on your old roads ?

How much would concrete roads cost ?

Your tax receipts will answer the first question. Your county engineer should be able to answer the second. By subtracting the cost of permanent roads from the repair expense for 20 years of poor roads you will find capital for building the permanent type, like the one below:



Sheridan Road, near Kenilworth, Ill.—Built by Edw. Laing, Highland Park, Ill. C. N. Roberts, Chicago, Engineer

THE fact has been established that in the average rural community in the United States, temporary roads cost to repair and rebuild during a 20-year period, about twice what it would cost to build permanent concrete roads.

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Moderate Cost

Be sure you know what a concrete road is

Concrete is made of portland cement, sand and pebbles, or crushed stone, and water. It is hard and durable. Concrete is the material used in building concrete dams, factories, bridges, and big engineering works like the Panama Canal requiring great solidity and strength.

Write for a free copy of our Bulletin 136. After you have read it, pass it on to your road officials, then insist that your road funds be spent for permanent concrete roads.

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FARM LIFE, Dept. 60 SPENCER, IND.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

RECORDS were recently kept very carefully of the cost of hauling gravel for some main roads in Minnesota, which show the value of horse and mechanical traction under similar conditions. About twenty-two miles of road had the gravel distributed over them by teams and about 3.6 miles were covered with gravel hauled by a caterpillar traction outfit. Itemized cost records were kept so carefully that the results of these two methods of hauling can be compared.

Using teams it was found that the cost of loading and hauling a cubic yard up to one mile ranged 57 to 94 cents per mile. Where the hauling was one-half to one mile the cost per mile ranged from 30 to 48 cents. Where it was from one to one and one-half miles, the cost was 23 to 35 cents, and where it was between one and one-half and two miles the cost per mile was 22 to 28 cents. The detailed figures show that the cost depended largely upon the efficiency of the men engaged in loading the wagons. These loading costs varied from 7 to 25 cents per yard. The least figure was obtained by making the teamsters help in the shoveling and the highest figure was due to an excessive amount of frost and firewater.

The tractor outfit consisted of a gasoline driven caterpillar tractor, the type of machine upon which the design of the British army tanks is based, seven 3½-yard spreading wagons, a fifty-yard storage bin and a loading machine. The work was complicated by a very heavy grade at one place. The best that could be done here was to haul four cars across private land and then go back and haul the remaining three cars across this rough ground. A full train was then made up and hauled the remaining two and one-half miles. The total average haul was about three miles. As the work progressed another gravel pit was opened where these grades did not exist and the hauling was done more easily. On the first part of the work the average cost was 15.4 cents per yard per mile and on the latter part it was 15.41 cents.

The engineer who reported these figures, Orrin J. Kitt, has stated that with a more powerful tractor and a loading outfit of greater capacity, a much lower operating cost could have been obtained with the tractor outfit. It is his opinion that with proper equipment, mechanical traction of this type is much cheaper than hauling by team. There are also other advantages which he has summed up as follows: By applying the gravel in two courses with a tractor, the gravel is rolled without additional cost and the road is ready for travel as soon as the tractor leaves it. Furthermore, by loading the gravel into a bin, thence into wagons and finally dumping it on the road, the material is better mixed than when it is shoveled directly from the bank into the wagons which dump it on the roads.

Farm Tractor Misunderstood

In a recent issue of the Implement and Tractor Trade Journal, Melvin Ryder makes the statement that the farm tractor is still somewhat misunderstood. Charges are made that the chugging machine is intent upon driving "Old Dobbin" from the farm, and predictions follow that soon there will be horseless farms throughout the entire country.

The tractor has no desire to drive out the use of horses on the farm. An investigation will tend to show that the tractor and the horse are not in direct competition, such as would result in the elimination of the one or the other. The tractor has a place in farming, and so has the horse.

For example, if winter wheat is to have a place in the crop rotation the land should be plowed as soon as possible after the preceding crop is removed. The tractor can get to work at once, while the horse must often await suitable weather conditions.

In like manner, the use of fertilizer is frequently contrasted with the use of manure. Just as some farmers are prone to consider the tractor as opposing the horse, so are fertilizers sometimes considered in contrast to manures. It is not a question of eliminating the one and using the other any more than it is a question of eliminating the horse and using the tractor.

Both have a definite and important place in maintaining the fertility of the soil. When each is used to supplement the other, better results and bigger profits will be secured.

Methods and conditions are rapidly changing in the agricultural world. Labor problems, high prices of farm lands, larger investments in machinery and equipment and other factors are now entering into the economics of farming, as never before. Improved machinery that saves labor and secures greater efficiency is being introduced everywhere. The business farmer must keep awake to the changes that are taking place, if he is to secure the greatest net returns from his operations.

With all these factors is coming the vital need of greater production of foodstuffs per acre, not only as a national and world problem, but more directly to the farmer as his problem on his own farm. In order to meet the changes and new conditions that have arisen, greater production demands that greater attention be paid to maintaining and increasing the productivity of the soil. This includes not only crop rotation, the use of lime when necessary and the best cultural methods, but also the utilization of all farm manures, and in addition properly selected fertilizers to meet the plant food requirements of the different crops and make up for the deficiencies of the soil.



NORTON County farmers listening to silo talk of Charles R. Weeks, of the Fort Hays Experiment Station, given at Lenora at the time of the visit of the "cross-country truck silo special" run co-operatively by the Division of Extension of the Kansas Agricultural College and the Fort Hays Experiment Station. A. S. Neale, dairyman from the extension division of the college, and W. A. Boys, district agricultural agent in West Central Kansas, are the other speakers who had a part in the campaign. Twenty-four counties were visited, 116 meetings were held, and the total attendance at these meetings was 5,767. This campaign was unique in that the truck made possible meetings at many inland points, at cross roads, and on farms. As a result of the efficient work done during the campaign in the explanation of the different types of silos and the value of silage in farm feeding operations, several hundred silos will be constructed in the section visited.

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LOANS ON GRAZING LAND

The grazing lands of Kansas represent an approximate valuation of $400,000,000. There are forty acres of grass to every hundred acres in cultivation. Most of this land is more valuable for grazing than for cultivation. The permanence of the cattle industry of the state depends in large measure on the grass lands. Thousands of cattle are turning this grass into wealth each year. The values of grass land are less subject to speculative fluctuation than the values of cultivated land.

In view of the above facts, it would seem that no restrictions should be placed on financing the men who are trying to make the most of this grazing land. A few weeks ago we published a letter from W. P. Harrington, of Gove County, addressed to the Federal Land Bank at Wichita. The arguments presented were directed towards convincing the bank officials that they were wrong in rejecting some loans based on grass lands in Western Kansas. Farmers generally take the view expressed by Mr. Harrington in this open letter to the loan bank. They consider their grazing lands as a part of their productive acreage, and in fact less risk is attached to getting returns from grass than from land that is plowed.

The question of this discrimination against stockmen came up at the annual meeting of the Kansas Irrigation Congress held in Scott City, September 27, and those present went on record in the following resolution:

"We endorse the Federal Land Loan Act and urge all farmers who borrow to take advantage of it. We hope ere many seasons to see all farm borrowing done co-operatively. Complaint has been made that the Federal Land Bank at Wichita is discriminating against stockmen by refusing to make loans on grazing lands. We declare that all who live on the farm and make their living from the products of the soil are farmers, and look alike to us, and all farmers are entitled to like treatment. The live stock interest is as important to the country as grain growing and has the same need for cheap money. We demand that this discrimination against stockmen cease, that they be given the same treatment as grain farmers, and that, if necessary, the Federal Land Loan Act be so amended as to guarantee them all the privileges enjoyed by other farmers."

KANSAS FARMER endorses this view of the farm loan question as regards the discrimination which seems to be now made against live stock farmers, and will lend its influence toward getting the officials in charge of the Federal Loan Act to properly recognize the stockman of Western Kansas. Live stock farming is far safer than exclusive grain farming, and especially for the western part of the state, but the live stock farmer needs more capital than the exclusive grain farmer and should be able to get his money just as cheaply.

FOOD CONSERVATION CAMPAIGN

In last week's issue we published on the editorial page the food conservation proclamation of Dr. H. J. Waters, federal food administrator of Kansas. At the request of President Wilson, the date given in this proclamation for enrolling people in the food-saving campaign has been changed to the week of October 28 to November 4. The reason given is that it was necessary for the Treasury Department to close the second Liberty Loan subscriptions the week of October 21 to 28, and it did not seem best to have these two big events occur the same week.

This change of date imposes additional burden on those who have volunteered to present the food conservation campaign and aid in carrying it to a successful conclusion. President Wilson in asking the Food Administration to change the date says:

"I would be glad if you would convey to all your staff throughout the country my feeling of the prime importance of their plans and their work. I wish particularly to express my great appreciation of the service which this additional tax on their time will impose upon the many thousand volunteers who have already deferred their own concerns to public interest in this important work. I ask them not to allow this alteration in program to dampen their fine enthusiasm but rather to redouble their energies in their very great branch of national service."

Mr. Hoover's reply is as follows:

"We, of course, have taken the necessary steps to comply with your wish as to deferring the final week of our food conservation pledge campaign until the week of October 28 to November 4. You will, of course, realize that we may be unable to reach some of the more remote districts. I have no doubt that the 500,000 workers who have enlisted in their service will loyally respond to your request for a greater and longer continued exertion. Your emphasis on the national importance of the conservation campaign should stimulate our large body of devoted workers to the utmost effort during the new week."

The plan of the Food Administration of enrolling the whole population of the country as volunteers in the food-saving campaign seems to the average individual to be an almost impossible task. It cannot be successful unless every single person conscientiously does his part without a thought of what someone else is going to do. At a public dinner recently the editor remarked to a lady across the table that she might save some sugar for France by using a little less in her coffee. The people of France will have no sugar at all in a few months unless we as a people cut down our consumption so as to have a surplus to send them. This lady said that she had no assurance that her lump of sugar would ever get to France, and therefore she was going to use all she was accustomed to using. If this feeling prevails generally, we will fail as a people in serving our country as we should in this crisis. To most of us the need for saving and conserving food supplies may seem remote, but we should strive earnestly to visualize the world-wide view. Our mite may seem small, but the united effort of a hundred million people each contributing his little mite to the common cause will accomplish the desired end.

We hope KANSAS FARMER readers will respond to this call for volunteers in the army for food conservation.

COST OF PRODUCING WHEAT

The men who are growing wheat ought to be able to figure out what it costs to produce a bushel of this cereal. On another page of this issue we publish some figures on the cost of wheat production, furnished by farmers who kept cost accounts. We will be glad to give more figures on the cost of growing wheat or other farm products. Why not try to figure out the actual cost of producing all our crops and farm products? If we do not know exactly what it costs to produce an article, and cannot show the different items of expense, we are working in the dark. The pencil ought to take a much more important place in farming than it has in the past.

In urging the importance of selecting from the field early maturing heads of kafir, W. A. Boys points out that F. Buchholtz, of Trego County, has been selecting kafir heads for seed from the field for several years. As a result of having this strong germinating, acclimated seed, last year he had the best matured field of kafir in the district.

It is evident President Wilson did not contemplate the heavy raid on farm labor which the selective draft is making. During his address before the Hereford Breeders' Association in Kansas City the week of the Royal, Gifford Pinchot was interrupted with the question as to how farmers could raise more hogs when the draft had cleaned up all the farm help. One man said that between the draft and the big demand for labor at the oil wells in his section he was unable to get any farm help. Mr. Pinchot plainly stated in reply that the War Department was to blame for diverting the selective draft from its real purpose so as to cause these heavy drains on farm labor. He urged that protests be made direct to the President by the men assembled.

The live stock department of the Kansas Agricultural College is still winning with the steers bred and fitted on the college farm. There was a time when state institutions picked up their show steers wherever they could be purchased. Prof. W. A. Cochel has demonstrated that an agricultural college can get into the game of breeding cattle that will win in our leading fat stock shows. For several years nearly every animal shown by the Kansas institution has been bred as well as fitted by the college. At this year's Royal the college show herd won first in the two-year-old Shorthorn class on Archer Dale, first in seninor calf class on Golden Dale, and first on Shorthorn herd of three steers. Other exhibitors were William Herkelmann and the Claverburn Farm of Iowa, J. W. McDermott of Missouri, Eben E. Jones of Wisconsin, and the University of Missouri. The Kansas college also won first in the two-year-old Angus class on Glenn, second on yearling Angus, third on calf, and first on herd of three steers. G. F. Cowden & Son of Texas, Caldwell of Missouri, and the University of Missouri were the other exhibitors. In showing Hereford steers the Kansas college was not so successful. Col. E. H. Taylor, of Kentucky, had the best of the Hereford steer show. The college won second in the two-year-old class, fourth on senior yearling, second on calf, and second on herd of three steers.

In the quality of cattle shown, this year's Royal outclassed any previous exhibition ever made. Not an inferior animal of any of the three beef breeds was led into the ring. The high character of the exhibits was most clearly apparent when the groups and herds were being judged. Many a remark was heard from the spectators to the effect that there was little indication of high priced feed in the condition and quality of the cattle shown. In the showing of groups the skill of the breeder stands out most sharply, for here the uniformity of his animals and their close conformity to the highest ideals can be easily seen.

Live stock shippers will be greatly interested in the results of an important hearing which was recently heard before Examiner Disque pertaining to the matter of rates based on valuations. In his tentative report to the Interstate Commerce Commission, Mr. Disque holds that tariffs collecting rates on ordinary live stock based on valuation are unlawful according to the second Cummins amendment to the act to regulate commerce. Carriers are directed to amend their tariffs accordingly. This decision confirms the position that has been taken by the National Live Stock Shippers' Protective League, and is of great importance to shippers who have been forced by the railroads to declare a valuation on their stock when offering it for shipment.

F. P. Lane, agricultural agent of Harvey County, points out the need of breeding up a strain of early maturing kafir. There are fields now in that county where enough mature heads could be secured to furnish seed for next year's planting, while the rest of the field will not be ripe enough to cut before frost. Let us try a little head selection and build up an earlier strain of kafir.

"Eat less candy. The Allies need the sugar," says the Food Administration. "All right," our patriotic farm boys and girls are saying, "Nuts and popcorn are better anyway."

IMPORTANT HOG MEETING

How to profitably increase the pork production of Kansas will be the subject of a meeting at the Kansas Agricultural College which will be held next week, Wednesday, October 24. The opening session will be at 10 o'clock, in the agricultural building. The department of animal husbandry and the extension division will have charge of the program, which will be of unusual interest to hog growers of the state.

Some of the speakers at this meeting will be G. M. Rommel, chief of the division of animal husbandry of the Federal Bureau of Animal Industry; Doctor White, of the office of hog cholera control of the U. S. Department of Agriculture; J. H. Mercer, state live stock sanitary commissioner; members of the animal husbandry department of the college, and practical hog growers of the state.

Some very valuable feeding experiments have been conducted by the Kansas Experiment Station, and the experiments with 120 pigs are now in progress. These will be used as demonstrations at the meeting. The experiments include the use of self-feeders in alfalfa pasture and in the dry lot, the feeding of corn, shorts, and tankage, corn alone, corn and shorts, and corn, shorts and tankage with and without additional mineral matter on alfalfa pasture. Experiments have also been conducted with brood sows for determining the effect of different rations on the litters, and the results of these tests will be given at this meeting.

It is a significant fact that three-fourths of the world's export of pork and pork products are sent from the United States in normal times. The war has greatly increased this percentage. Notwithstanding the increased demand for pork and pork products, there was a decrease of 313,000 hogs in the United States between January 1, 1915, and January 1, 1917.

We hope every hog man in the state who can possibly do so will arrange to attend this meeting.

STUDENTS TO DAIRY SHOW

The agricultural college dairy judging team is in Columbus, Ohio, this week, where the members took part in the dairy cattle judging contest of the National Dairy Show, October 19. This trip is made very instructive to the members of the team. They visited many of the great dairy farms of the country on the way to Columbus. Dairy students strive earnestly to obtain a place on the team.

The National Dairy Show, which began October 19, is the largest dairy show in the country. The contest between the teams of the different colleges is always a hard fought one. The main prizes are two $400 scholarships awarded to the best man in all classes. There are in addition a number of loving cups and medals which are offered to individuals and teams winning.

The Kansas team this year consists of S. M. Mitchell, of Kansas City, Missouri; D. A. Hine, of Manhattan, and L. K. Saum, of Norton, all seniors electing the dairy husbandry course. J. R. Mingle, of Holton, went as alternate. The places on this team are decided by the character of the judging work the men do in class. J. B. Fitch, associate professor of dairy husbandry, accompanied the team and gave them valuable instructions in the course of farm visits they made en route.

The average results at the Fort Hays Experiment Station show that there is little variation in yields of wheat seeded from September 21 to October 15, but from the latter date on the yields decrease rapidly. It is also shown that more seed is required for the later seedings. Where three pecks per acre are seeded on the early dates it would be advisable to seed one bushel per acre for the later October dates.

COST OF GROWING WHEAT

Figures From Several Farms Shows Increases In Many Items



THE EYES OF THE WORLD ARE UPON THE WHEAT FIELDS OF KANSAS.—EVEN WITH INCREASED COST OF PRODUCTION, WHEAT GROWERS ARE RESPONDING TO THE CALL FOR MORE WHEAT

WHAT does it actually cost to produce a bushel of wheat? This question was recently asked by the Federal Price Fixing Commission in their search for information on which to base the Government price for this year's crop. They failed to get any considerable number of very definite statements as to production costs. It is a much more difficult matter to determine the cost of producing an agricultural product than a manufactured product. There are so many variable factors involved, and especially conditions over which the grower has no control.

It is possible, however, even in farming operations to know more about the business end of production than most farmers do. Manufacturing industries made their greatest strides when they adopted systematic bookkeeping, auditing of accounts, and careful cost accounting methods. Farming has lacked the advantages possessed by the big business enterprises, but even on the farm we are beginning to see the necessity of applying similar methods as far as they are practical.

In studying the economics of the farm business, it is important to have a clear idea of the part capital plays in crop production. Some forms of capital as feed, fodder, or fertilizer, is used up and appears as a finished product in some other form. Then there is a kind of capital which is permanent, such as land, buildings, and other equipment. There is a greater risk attached to the use of the first kind of capital, therefore it must be rewarded with a higher rate of interest than capital in land. The fundamental principle is that the earnings of capital must appear in the cost of producing a crop.

We might classify capital as related to crop production into two groups: land and buildings, and working capital. Working capital will include the fixed capital, such as investment in machinery, tools, live stock, work animals, and man labor, and the circulating capital the cash, feeds, seeds, fertilizers, fuel, and food for the farm labor. Every one of these items must be given consideration in figuring on the cost of producing wheat or any other farm crop.

We complain because we have so little part in fixing the selling prices on our farm products. The general rule is for farmers to take what is offered and pay what is asked. Our weakness in dealing on the market as does the manufacturer is to a considerable extent due to the fact that we cannot show definite figures on production costs. It is a serious handicap in the marketing of farm products. When farming as a business can show fairly definite figures on production costs, the producer will be in a much stronger position than at present in marketing wheat or other farm crops.

It is imperative that we study economics, and especially as applied to agricultural conditions. In order to meet the present conditions and obtain justice in the matter of prices, the study of economics as applied to farm business must be widely taken up. Some progress is being made and many people have become interested in making farm management studies. It has been agreed that we have overdone the producing side of agriculture, or at least have devoted an entirely disproportionate amount of attention to production problems to the neglect of the business side of farming. The big problems in agriculture today center around marketing and the adoption of such business methods as will give agriculture the same sort of knowledge as is now possessed by other businesses.

In a recent issue we quoted some figures on the cost of wheat production as worked out by Prof. L. E. Call, of our Agricultural College. No details were given, and in justice to Professor Call it must be said that these figures were not made on the basis of conditions existing at the present time. Every farmer and wheat grower knows that unusual conditions have prevailed during the past year. In the one item, cost of seed, an attempt was made to bring the figures to date. We gave these figures more with the idea of calling the attention of wheat growers to the various items entering into the cost of production than to offer these figures as fitting the conditions existing at the present time. In giving them we made an appeal for farmers who had kept accounts of wheat production costs to send in their figures. Several have responded, and we hope others will do likewise. It is through such publicity that people generally are stimulated to study the economic side of crop production.

John F. White, of Washington County, says: "In this county of Washington the owner of the land takes two-fifths of the wheat delivered to market, which would leave the wheat grower eight and two-fifths bushels to the acre on the basis of a fourteen-bushel crop. This at $2 a bushel would net the grower $16.80. The cheapest price at which I could hire a tractor to plow this fall was $2 an acre, and I find that plowing with horses costs fully as much. Thirty-seven cents certainly will not cover the cost of drilling when drill rent alone costs 15 to 20 cents an acre.

"The actual cost of producing an acre of wheat is what it will cost to hire the work done. It does not matter who owns the land or who does the work, the cost is the same. Here is a fair estimate of what it would cost in this part of the state: Plowing, $2 an acre; double disking, 80 cents; harrowing twice, 40 cents; five pecks of seed at $2.50 a bushel, $3.12; drilling, 73 cents; twine, 28 cents; harvesting, $1.15; shocking, 30 cents; shock threshing, labor, 82 cents; threshing bill, 84 cents; bin for storing wheat, 21 cents; delivering to market, 54 cents; hail insurance, 50 cents; 6 per cent interest on the money to handle the work, 70 cents—a total of $12.39.

"Taking fourteen bushels as the acre yield, the wheat grower would have $4.40 profit on each acre after deducting what was due the land and cost of production.

"I have sowed wheat eight falls in succession and lost three crops by winter killing. The lost crops could not be considered in the cost of producing an acre of wheat, but I know from experience that these losses wipe out much of the profit when you do get a crop."

John P. Reilly, of Pottawatomie County, says: "I object to the first item in the cost of wheat production as given in KANSAS FARMER in the issue of September 29. I offered a tractor outfit in this locality $2.25 an acre to plow seventy acres this fall and they refused, claiming they had already turned down offers of $2.50 an acre. A man could not make $5 a day for himself and a four-horse team disking at 73 cents an acre or harrowing at 33 cents. It takes a live man with four good horses to drill thirteen acres a day. At 37 cents an acre he would earn $4.81, which would not make him rich very fast feeding two-dollar corn and fifteen-dollar hay to his teams and allowing fifty cents a meal for himself. A bushel and a half of seed at the government price of two dollars would cost three dollars, and some are selling seed wheat here at three dollars a bushel, which would bring the cost of seed up to $4.50 an acre. It takes three pounds of twine to bind an acre of wheat in this locality, which at 18 cents a pound makes 54 cents. Some paid 20 cents a pound for twine this year.

"Another item is harvesting. Instead of getting it done for 54 cents an acre, I paid 75 cents an acre this season and furnished the teams to cut eighty acres. I paid $2.50 a day for shocking and a man cannot shock properly more than seven acres a day, which would make the shocking cost 36 cents an acre instead of 24 cents.

"From the standpoint of investment, I figure four mules at $200 each, harness $200, gang plow $80, harrow $30, drill $125, binder $175, wagon $90, feed for teams while sowing and harvesting $180, and land at $100 an acre. Then there must be an allowance for depreciation on teams and tools, and there are the chinch bugs, Hessian fly, and winter killing to contend with.

"To thresh a thirty-two-acre field yielding twenty-five bushels to the acre took six teams, three pitchers, and two grain teams a day, at a cost of $41. Two meals for thirteen men at 35 cents, $9.10; 1,800 pounds of coal, $5.40; water boy with horse, $2; machine bill at 8 cents a bushel, $64. I kept busy myself gathering up around the machine and watching to see that no wheat was lost, but made no charge for my labor. The total threshing expense amounted to $121.50, or $3.80 an acre. I figure the total cost of production as follows: Plowing, $2.50 an acre; harrowing, 40 cents; double disking, 90 cents; drilling, 60 cents; harvesting, $1.25; twine, 60 cents; shocking, 40 cents; threshing, $3.80; hauling to market, 62 cents; rent on land, $5; interest on investment in mules, machinery, feed, etc., 75 cents; seed, $3.40; depreciation in land, teams and tools, 50 per cent, as teams and tools are useless after fifteen years, and land farmed in wheat continuously fails rapidly in fertility; crop failure, Hessian fly, chinch bugs, flood and drouth, $1, or 5 per cent of a twenty-bushel average at $1 a bushel.

"While the Government guarantees two dollars for next year's crop, shorts on the day I write is quoted at Kansas City at $2.90 a hundred in carlots. Flour at $6 a hundred is only one dollar cheaper than when wheat was selling for $3.25 a bushel."

The items which Mr. Reilly gives, exclusive of the depreciation, total $21.22, which we understand to be his cost of production of one acre of wheat, the acre yield from the thirty-two-acre field upon which the figures are based being twenty-five bushels. In spite of the high cost of some of the items, this seems a very reasonable cost per bushel.

Mr. Reilly enumerates about $1,500 of investment in teams and tools, but allowing this equipment a life of fifteen years, the annual depreciation would be only $100, which of course would be distributed over the number of acres involved. A 50 per cent depreciation would junk the equipment in two years. Land depreciation is a hard item to figure. Every bushel of wheat taken from the land removes fertility from the farm. Scientists tell us that the money value of this fertility is 46 cents a bushel, of which value 26 cents is in the grain and 20 cents in the straw. Of course the straw should be returned to the land in some form or other, but the 26 cents' worth of fertility in the grain is a legitimate item of expense in the production of a bushel of wheat.

William Knabbe, another Washington County reader, writes as follows: "I give some figures on the cost of raising wheat in Washington County. They give the cost if I could or would hire my neighbors to do the work. I figure, as does Professor Call, on an average yield of fourteen bushels to the acre. This at $1.75 a bushel brings $24.50. Of this the owner of the land gets two-fifths, or $9.80. Plowing will cost $1.50 an acre, harrowing 33 cents, disking 73 cents, drilling 60 cents, five pecks of seed at $2.50 a bushel, $3.12; twine, two pounds at 21 cents, 42 cents. The harvesting will cost $1.50 an acre; shocking 25 cents, stacking 84 cents, threshing, at 6 cents a bushel, 84 cents, hauling crop to market 42 cents, board for help 80 cents, which makes a total of $21.15, leaving me as a renter a net return of $3.35 an acre.

"I figure $1.75 a bushel, because that is about all I can get at my town on the basis of two dollars for number one wheat in Chicago. Number two wheat, which is as high as mine ever grades, will not bring over $1.75 at my station. At two dollars a bushel, Chicago, I figure that there is not enough net profit for me to put out wheat under my conditions. I have not raised wheat for four years, and lost on wheat every year before that. I had intended to sow some this fall and bought seed at $2.90, but after the price was fixed at $2.20 on this year's crop I decided not to risk it and sold my seed at $2.50 a bushel. I am a corn and hog man, and if you would like to know how I raise hogs to 180 to 200 pounds weight at six months of age, write me."

Mr. Knabbe is probably doing the wise and patriotic thing in confining his efforts to his specialty of corn and hogs. He can without doubt do his bit more effectively in producing pork than wheat. Pork is one of the vital needs of our allies and our own army as well. We hope to have a full account of how Mr. Knabbe makes the 200-pound hog in six months.

The wheat figures submitted are not from sections where wheat is grown extensively. In the real wheat belt of Kansas where wheat is the main crop, the production cost will vary somewhat from the figures given by the farmers we quote above. We hope others will go into this matter of figuring on production costs and give us the results of their experiences and calculation. It is worth while to simply try to set down in black and white the items involved in producing any farm crop.

To sell a cow that you will need again next spring, or that will be needed in your neighborhood, will surely prove a loss. If the war continues, it is possible that the price of cows next spring will be double that of last spring. If you need all the cows and heifers you have, it is a public duty to keep them.



RULES FOR MEASURING HAY

IN THE measurement of hay there are two points to be considered. These are the number of cubic feet required to make one ton and the method of determining the number of cubic feet in the stack.

The number of cubic feet required to make one ton of alfalfa at various seasons of settling are approximately as follows: When the hay has been thirty days in the stack, allow 560 cubic feet to the ton; for sixty days, 540 cubic feet; ninety days, 512 cubic feet; 120 days, 485 cubic feet; in late winter, 450 cubic feet.

Prairie hay packs more closely, the usual figure being 422 cubic feet for one ton in a well-settled stack.

There are three general methods of arriving at the number of cubic feet in the stack. All three methods require the width, length, and over-measurement. The latter is the distance from the ground on one side, straight over the top to the ground on the other side. Where stacks are irregular, it is best to secure a number of measurements for the width and length and the over-measurement, and use the average.

Rule 1.—One-fourth of the "over" multiplied by the width, then multiplied by the length and divided by the required number of cubic feet to make one ton. This rule gives accurate figures on small, squat stacks when the width is from one-third to one-half of the "over."

Last fall the Colorado Experiment Station bought 98.55 tons by the use of this rule, and when weighed out it weighed 98.18 tons.

Rule 2 (Colorado Rule).—Subtract the width from the "over." Multiply one-half the result by the width; multiply the product by the length; divide by the number of cubic feet required to make one ton. This rule is most accurate when the width exceeds one-half the "over."

Rule 3 (Government Rule).—Width plus "over" divided by four and squared, then multiplied by length and divided by the number of cubic feet required to make one ton. This rule is satisfactory for large tall stacks of twenty-five to forty-five tons, and favors the seller with ordinary small squat Colorado stacks.—T. E. LEIPER, Colorado Agricultural College, Fort Collins.

Bonded Warehouses Save Loss

Under the Federal Reserve system, warehouse receipts for various farm products stored in a bonded warehouse become collateral upon which the farmer may borrow from 50 to 75 per cent of the market price at his bank. Usually the local bank holds these receipts, but if necessary they can be rediscounted at the nearest Federal Reserve Bank.

It is said that the operation of this plan gave Florida farmers the first money they had ever been able to borrow at 6 per cent, the legal rate of interest in that state being 8 per cent.

The men who established the Gainesville warehouse have planned a chain of similar enterprises extending through Florida, Georgia, Alabama, and North and South Carolina.

Bulletin for Farm Borrowers

The Federal Farm Loan Bureau has published a "borrowers' bulletin," containing information of value to those who contemplate borrowing under the new federal farm loan system. The bureau will be glad to send the bulletin to any prospective applicant, or, indeed, to anyone interested in the system. The address is: Federal Farm Loan Board, Treasury Department, Washington, D. C.

The Food Administration has secured Henry Wolfer, formerly head of the Minnesota State Binder Twine Works, to undertake at once a complete investigation of the sisal and hemp industry and its distribution with view to action in the reduction of price. The price has been foreed up 500 per cent since the war began and has become intolerable.

Winter Care of Bees

While visiting some of the farms of Lyon County in company with C. A. Boyle club leader for that county, he called our attention to the large number of stands of bees. Inquiry revealed the fact that in most cases the bees were not being profitably kept. This is not because it is impossible to keep bees so as to return a profit. While a great many people have stands of bees, there seems to be a serious lack of knowledge of how to care for them properly.

In a recent issue of the Kansas Industrialist, Prof. J. H. Merrill emphasizes the importance of properly preparing bees for the winter so that strong colonies will be ready for the spring harvest of honey. If the colony is strong, it will raise plenty of brood, thus enabling it to take advantage of the honey flow.

The essential points in preparing the colony for winter are protection from cold and plenty of food. The tendency now is toward outdoor wintering in packing cases and an abandonment of cellar wintering. If the bees are properly protected outdoors they will be safer and in better condition for the honey flow.

Two or more hives may be placed in one packing case and in this way will aid in keeping each other warm. A space of eight inches should be left between the hives. The packing cases should be filled with some good packing material, such as cork, sawdust, shavings, or leaves. A tunnel should be made from the hive to an outside entrance on the south side of the case.

Doctor Merrill advises that the colonies be packed after the first killing frost. Then if the bees are well supplied with stores there will be no need of disturbing them until the following spring.

From twenty-five to thirty pounds of honey should be left for the bees. Honey is the best winter food for bees. It is preferable that light honey, such as that from white clover, be left to be used as food. Honeydew honey should never be left in the hive for winter use.

After the honey flow ceases, if it is found that there is a shortage of stores, a sugar syrup may be provided. This is made by boiling for fifteen minutes two to two and one-half parts of sugar to one part of water by volume. One ounce of tartaric acid should be added for every forty to sixty pounds of sugar used.



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KANSAS FARMER DAIRY CLUB

How Much to Feed

LAST week we told about the different kinds of nutrients found in feeds. To feed most economically and with the best results, the different nutrients—protein, carbohydrate, and fats—must be supplied in the right proportions and amounts. Cows can economically use only about six and one-half to seven and one-half pounds of carbohydrates and carbohydrate equivalent to every pound of protein. By carbohydrate equivalent we mean the fat found in feeds after it has been multiplied by 2.25. The reason for doing this is that fat is two and a fourth times as valuable for making heat or energy as carbohydrates. So it would not do to add the fats contained in the feed to the carbohydrates without first multiplying the amount by 2.25. If in feeding the cow she gets too much protein and too little carbohydrate, the expensive protein will be wasted and she will probably fall off in weight. If there is not enough protein the cow simply cannot make milk.

Most farm feeds have plenty of the carbohydrates and fats, but do not have enough protein. Alfalfa or clover hay contains more protein than most farm feeds, and if you can feed either of these kinds of hay, you may be able to get along without buying such feeds as cottonseed meal or linseed meal, which are very rich in protein. Prairie hay, corn or kafir fodder, or cane hay, contains very little protein, and for that reason is not good milk feed when fed alone. If you have to feed this kind of hay and fodder as your only rough feed, you will have to have some cottonseed meal or linseed oil meal to feed or your cow will not get enough protein to make milk.

In figuring out the balanced ration for your cow, the first thing to consider is how much does she need for her own body? She has to have enough to keep her body warm and to replace wornout parts, and until this amount is supplied she cannot begin to make milk. In so far as making milk is concerned, all she takes for her own body is lost. In feeding for profit, the more the cow can eat above her own needs the more there will be for milk. Therefore to feed profitably you must feed liberally. The following table from Farmers' Bulletin 743 will illustrate this point:

Cost of Ration	Cost of Maintenance	Available for Milk Production	Proportion of Ration Available for Production
10 cents	10 cents	..	.....
15 cents	10 cents	5 cents	One-third
20 cents	10 cents	10 cents	One-half
25 cents	10 cents	15 cents	Three-fifths

From these figures you will see that when the cow is fed just ten cents' worth of feed she can produce no milk. When she is fed twice as much feed, half of all she eats can be used for milk, and when she is fed two and a half times the amount needed for maintenance, three-fifths of it can be used for milk. One of the most common mistakes made in feeding good dairy cows is in not giving them enough. The better the cow, the more apt you are to make this mistake.

While it may at first seem a little complicated, you will want to know how much protein, carbohydrates, and fat, your cow needs for her own body and how much for milk. In ordinary feeding a daily allowance of seven-tenths pounds of digestible protein, seven pounds of digestible carbohydrates, and one-tenth of a pound of fat is enough for the thousand-pound cow to keep her own body going. In figuring out your balanced ration, then, these amounts of the different nutrients must first of all be provided for. The next question is how much of the different nutrients to allow for the milk. Prof. T. L. Haecker, one of our leading authorities on feeding dairy cows, has found that to make thirty pounds of milk testing 3.5 per cent butterfat requires 1.476 pounds of digestible protein, 6.62 pounds of digestible carbohydrates, and .567 of fat. If we add to these quantities the amounts needed for the cow's own body, we have 2.176 pounds of protein, 13.62 pounds of carbohydrates, and .667 fat as the daily needs of a thousand-pound cow giving thirty pounds of average milk a day. Cows giving richer milk require more feed, and large cows need more for their own bodies. In last week's KANSAS FARMER on page nine we answered an inquiry from one of our grown-up dairymen and if you will look up that article you will find a balanced ration figured out. To do this you must of course know exactly how many pounds of digestible nutrients are contained in a hundred pounds of the feeds used. Balancing a ration simply means using the kinds of feeds that will supply enough of these different nutrients and not too much of any one. If you have to feed a lot of kafir, fodder, corn fodder, cane hay, or prairie hay, your ration will be deficient in protein unless you feed some such feed as cottonseed meal or linseed oil meal to balance it, because this kind of fodder and hay contains very little protein.

If you have any questions to ask about feeding your cows, send them in and we will try to help you figure out the best ration to feed for milk. Be sure to get the bulletin we told you about last week. Simply write a postal or letter to the United States Department of Agriculture, Washington, D. C., asking them to send you a copy of Farmers' Bulletin 743, entitled "The Feeding of Dairy Cows."

Grain for Heifer

Harold Laird, of Emporia, writes that his cow has a nice heifer calf. It is nearly all white, with black spots. The editor of KANSAS FARMER saw the cow and calf recently and took a picture of them which will probably appear in some future issue of KANSAS FARMER. Harold asks for advice on what to feed his cow. She is now getting bluegrass pasture and in addition some fodder.



ELSIE DAVIES, OF EMPORIA, AND PURE-BRED HEIFER

We visited Harold's home a few days after he wrote us about his calf and were very much disappointed in not finding him at home. The heifer looks as though she has not been getting quite as much feed as she ought to have. She is only two years old and ought to be fed well enough so she can grow some as well as give milk. Of course the bluegrass pasture is good as long as she has plenty of it, but it would be a good plan to feed her some grain. At the present time oats is about as cheap a grain as can be purchased. Ground oats make a very fine milk cow feed, although it is sometimes difficult to get them ground. Floyd Gerardy is feeding his cow oats and bran and she is doing very well. We have suggested to Harold that he try feeding a mixture of two parts oats and one part bran by weight, or better yet, a mixture containing a linseed oil meal. For example, this might be mixed in the proportion of four pounds of oats, two of bran, and a half pound of oil meal. We have suggested that he try feeding her two or three pounds of one of the mixtures suggested at each feeding.

When you are feeding grain to your cow, always study the milk record very closely so as to see whether it is making her give enough more milk to pay for the grain. In feeding young heifers, however, part of the feed must always be counted as being used for growth. Of course this means that you will not get immediate returns for it, but the heifer will be growing and developing and will be a better milk cow next year or when she is full grown. A heifer stunted while she is making her growth will never be as valuable a cow as one fed liberally enough so she can grow out to full size. The feed used in this way is not lost, because the heifer will be so much more valuable when she is a mature cow.

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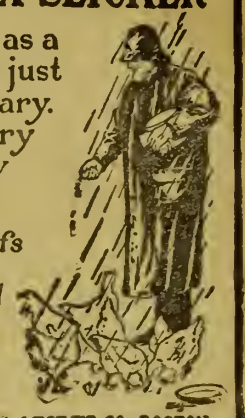

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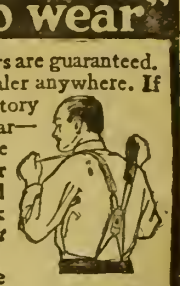

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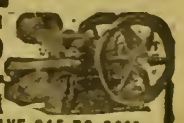

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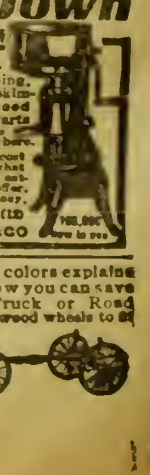

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Winter Feeding of Cows

HOW to feed the milk cows most economically and keep them producing profitably is a question confronting every dairyman as the winter feeding period draws near. Feeds have never been higher in price than they are at present and this makes it necessary to study the feeding question much more closely than has been the practice in the past. In a recent bulletin from the United States Department of Agriculture much emphasis is placed on the fact that if dairy cows are to be fed for profitable production they must receive a liberal ration at all seasons. For winter feeding the rations usually used consist of hay, silage, and a mixture of grains. In properly balancing the ration the grain mixture is so prepared as to fit the roughage, giving due consideration to its bulk, cost, palatability, and physiological effect on the cow. For best results cows must be fed as individuals.

A few simple guides for feeding are summarized in this bulletin as follows:

"Under most circumstances the cow should be fed all the roughage that she will eat up clean, and the grain ration should be adjusted to the milk production.

"A grain mixture should be fed in the proportion of one pound to each three pints or pounds of milk produced daily by the cow, except in the case of a cow producing a flow of forty pounds or more, when the ration may be one pound to each three and one-half or four pounds of milk. An even better rule is one pound of grain each day for every pound of butterfat that the cow produces during the week.

"Feed all the cow will respond to in milk production. When she begins to put on flesh, cut down the grain."

It is shown in the treatment of the subject that the problems involved in winter feeding are usually distinctly different from those of summer feeding. Pasture — or green feed — usually the basis of summer feeding, is not available. Broadly speaking, there are two factors involved in this problem: first, to satisfy the needs of the cow, and, second, to suit the pocketbook. The cow must have an ample supply of feed of a palatable nature, and this feed must be supplied at a price which will permit a profit on the feeding operation.

Viewed from an economic standpoint, there are some fundamental considerations which should first receive attention. In general farm practice it is advisable, as far as is economical, to use the feeds produced on the farm. Often the freight rates and the middleman's charges, if saved, will constitute a good profit for the feeder. This is especially true of roughage. Such feeds are bulky and in most cases must be baled at a considerable cost; the freight rates also are much greater in proportion to the nutrients contained than on the grains.

When land is high in price and the markets for dairy products are good, it is often impracticable to grow all the feeds on the farm. In such cases arrangements first should be made to grow the roughage, on account of the high cost of transporting these feeds. In most cases the prime object of the farm under such conditions will be to supply the greatest possible quantity of roughage.

It is a difficult problem to provide a system of winter feeding of roughage which will make the best use of home-grown roughage and at the same time insure full production.

In addition to containing the proper nutrients in the right proportion, part of the ration should be of a succulent nature. It is extremely difficult, if not impossible, to keep cows in full production throughout the winter without some succulent feed. There are two chief sources of succulent feed for winter feeding—silage and roots. Of these, silage is in almost universal use by commercial dairymen. While almost any green crop may be used for silage, the heavy yields of corn, as compared with other crops, and its comparative ease of handling, together with its keeping qualities, make it the leading silage crop. Where the cost of land and the prices of dairy products are high, and the system of farming of necessity is intensive, it is questionable whether the dairyman should consider any other silage crop.

The chief function of roots in cattle feeding is to supply a succulent feed. Under general farm conditions the quantity of nutrients grown per acre in root crops is small in comparison to the cost of production. These root crops, however, can be preserved during the winter equally well whether large or small quantities are fed each day, and therefore have special application when only a few cows are to be fed. Of the different root crops, mangel-wurzels furnish the greatest yield per acre. Other kinds of beets and turnips and carrots may be used. Turnips, however, should be fed after milking rather than before, as they cause a bad flavor in the products if fed immediately before milking. Carrots impart a desirable color to the milk.

The best kinds of dry roughage to be fed to the dairy cow, in connection with corn silage or roots, are leguminous hays, such as alfalfa, red, crimson, or alsike clover, and soy-bean or cowpea hay. While corn silage is an excellent feed, it is not a balanced one, as it does not contain sufficient protein and mineral matter to meet fully the requirements of the cow. The leguminous hays, in addition to being very palatable, have a tendency to correct this deficiency. They are also one of the best and cheapest sources of protein. One or more of these hays can be grown on any farm, and in addition to their value for feeding purposes they improve the soil in which they are grown.

Corn stover, coarse hay, etc., also find a good market through the dairy cow. This class of roughage is low in protein, however, and when it is used the grain ration must be richer in protein.

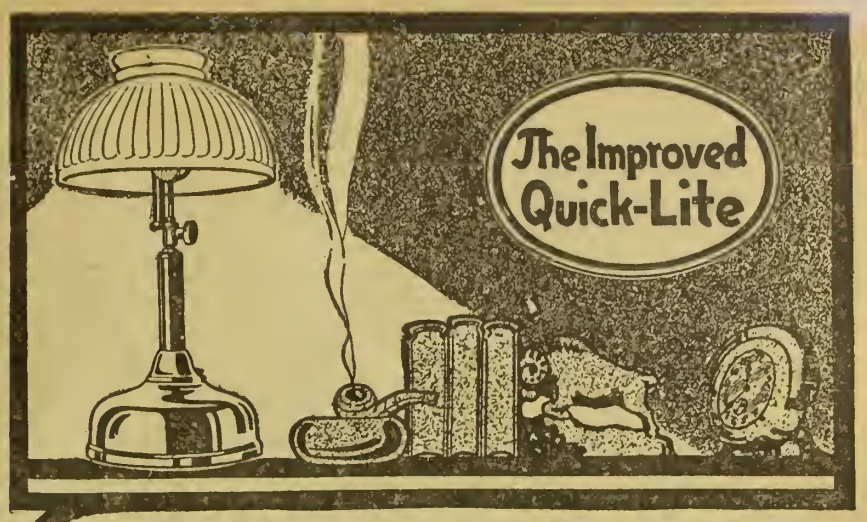
No positive rule can be laid down as to the quantity of dry roughage that should be fed, but about six to twelve pounds a day for each cow, in addition to silage, will be found to be satisfactory in most cases. When the dry roughage is of poor quality, such as coarse, weedy hay or a poor grade of cornstalks, a large portion can often be given to advantage, allowing the cow to pick out the best and using the rejected part for bedding. With this quantity of dry roughage the cow will take, according to her size, from twenty-five to fifty pounds of silage. This may be considered as a guide for feeding to apply when the roughage is grown on the farm. When everything has to be purchased, it is often more economical to limit the quantity of roughage fed and increase the grain ration.

While a cow's stomach is large and her whole digestive system is especially designed to utilize coarse feeds, there is a limit to the bulk that she can take. This limit is below the quantity of roughage that it would require to furnish the nutrients she must have for maximum production; that is, a ration may contain the proper proportions of protein and carbohydrates and still be so bulky that she cannot handle it. She therefore should have some grain even though the roughage in itself is a balanced ration.

Dairying on Small Farm

On the small farm dairy cows often can be made to bring in more profit than beef cows. J. E. Payne, of Oklahoma, tells of meeting a farmer near Lawton who had until last August kept only beef cattle on his 160-acre farm. He fed all the feed he raised last year to his stock and got no returns, except the growth of the young stock. This was not near enough to pay market price for the feed used. In August of this year this farmer sold his beef cattle and bought eight cows of dairy breeding. These have been bringing him an income of from three to four dollars a day, besides the growth of the young stock. So far they have been fed only a little rough feed while running in a pasture which has a reliable water supply.

This sort of experience suggests the idea that on the small farm milking a few cows will bring good returns from the feed grown.



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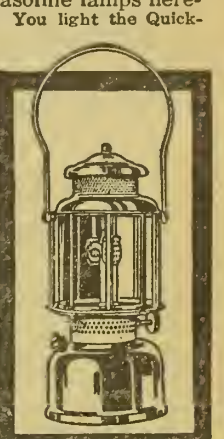

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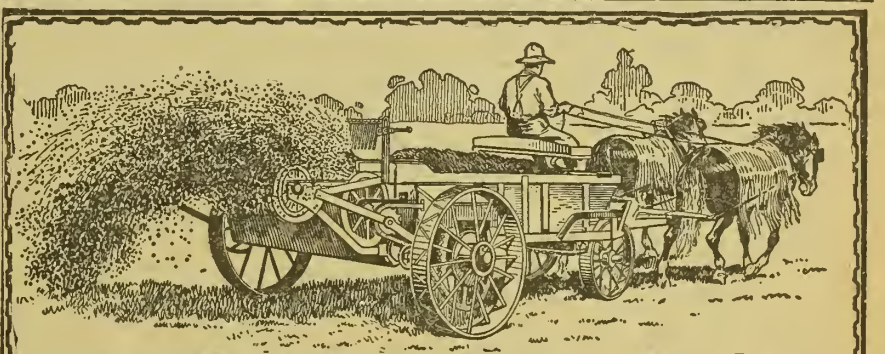

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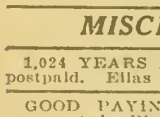

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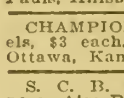

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We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

The block of granite which was an obstacle in the pathway of the weak becomes a stepping stone in the pathway of the strong.—THOMAS CARLYLE.

Christmas Gifts

Whether our Christmas giving shall be a thoughtful selection of an appropriate token of our esteem for each friend, or a hurried and indiscriminate buying of something at the last minute, depends on when we begin to get ready for the holiday season. It is not too early to begin to crystallize into definite form the ideas that we have vaguely in mind. It is a good plan to make a list of the friends we wish to remember and put down opposite the name of each appropriate suggestions as they occur to us, making or purchasing these gifts as we have opportunity. A number of items will probably be changed before Christmas, but the list will help to keep the matter in mind.

Christmas is pre-eminently the children's holiday. What Santa Claus will bring means a great deal to them, but to grown-ups the value of a gift is in the thought which prompts it. A simple remembrance selected with careful consideration of the needs or the tastes of the one to whom it is given will mean much more than a costly but inappropriate present to which it is obvious but little thought has been given.

All Can Help This Way

Our ally, France, has asked us to help make it possible for the United States to ship 100,000 tons of sugar to that country in the next month. The people of France will be without sugar for the next two months, or until the West Indian crop is harvested and refined, unless we rise to the emergency and ship them sugar for use during this period.

A little under four ounces a day for each person is the average sugar consumption in the United States at the present time, while the average in France is less than one ounce per day for each person, and the average for English and Italian people is about the same.

Herbert Hoover, our national food administrator, has asked us to save one-third of the sugar we are now using. This action on our part will enable our Government to fill the order received from our ally.

Most of us are guilty of adding sugar to food that is well sweetened before it is served, or of using sugar on food that would be just as palatable without it. In other words, the use of sugar has become a habit. Is there one of us who is unwilling to give up one-third of our abundance of sugar in order that the people of France may continue to have their present daily ration of sugar, which is only one-half of what ours will be even when we have made it possible for the French order to be filled?

This is a patriotic duty easily performed, and we should begin immediately to help our Government fill this order. The saving must be made by individuals, but it would be a spur to the individual and a substantial help to those upon whom devolves the filling of the order if we would make this pledge in writing. If we are members of community organizations, let us be instrumental in the adoption of resolutions pledging ourselves to use one and a third teaspoonfuls of sugar in our coffee instead of two teaspoonfuls—the amount we are now using—to use it sparingly in all foods, and to use it unnecessarily in no case. Then let us communicate this desire to help our Food Administrator that he may be governed accordingly in handling the request from France. This is a test of our patriotism, and unity of action will measure the results.—J. L.

Have you noticed that you are handling more new coins than usual? The dates on some of them may not be recent, but they have obviously not been in circulation long. The Government is using these to pay the soldiers, and we are near enough to Camp Funston so that many of them reach us. When you get a new coin, the chances are that it has passed through the hands of some soldier boy or some employe at the fort.

Dill Pickles

Wash the cucumbers and pack them into a clean, water-tight barrel, keg, or crock. On the bottom of the barrel place a layer of dill and a handfull of mixed spice. Add another layer of dill and another handful of spice when the barrel is half full, and when almost full add a third layer. If a keg or crock is used, the amount of dill and spice can be reduced in proportion to the size of the receptacle. When the container has been filled to within a few inches of the top, add a layer of covering material—beet tops or grape leaves—about an inch will protect the vegetables beneath. Press down with a clean board weighted with bricks or stone. Do not use limestone or sandstone.

Make a brine by adding one pound of salt to ten quarts of water. To each ten quarts of brine so made add two-thirds of a quart of vinegar. The vinegar is used primarily to keep down the growth of injurious bacteria until the lactic acid starts, but it also adds to the flavor. Add sufficient brine to cover the material and allow to stand twenty-four hours.

To prevent a scum from forming it is necessary to exclude the air from the surface of the brine twenty-four hours after the vegetables have been packed. This may be effected by covering the surface to a depth of one-eighth inch with some edible oil, or paraffin.

The time necessary for complete fermentation to occur depends upon the temperature. In a warm place only five days to a week may be necessary; in a cool cellar, three to four weeks.

Pepper Relish

12 red peppers
12 green peppers
12 onions
1 pint vinegar
2 cupfuls sugar
3 tablespoonfuls salt

Chop peppers and onions, cover them with boiling water, and let them stand for five minutes. Drain off the liquid. Add vinegar, sugar, and salt, and boil the mixture for five minutes. Pour into scalded jars and seal them.

Mock Mincemeat

3 pounds green tomatoes
3 pounds apples, chopped
5 pounds brown sugar
2 pounds raisins, chopped
2 tablespoonfuls salt
1 cupful suet
1 cupful vinegar
2 tablespoonfuls cinnamon
2 teaspoonfuls cloves
1 nutmeg
Orange peel if desired.

Chop the tomatoes and drain them well. Measure the juice and add an equal amount of water to the pulp. Scald the mixture and drain off the liquid. Repeat twice this process of adding fresh water, scalding, and draining. Add the remaining ingredients down to and including the suet, to the pulp, and cook the mixture until it is clear. Add the remaining ingredients and cook until the mixture is thick. This mincemeat will keep in a covered stone jar.

This earth would be changed into a paradise if, instead of hating, human being loved; if, instead of speaking evil of one another, they spoke only good; if, instead of grasping and holding, they gave away.—JAMES STALKER.

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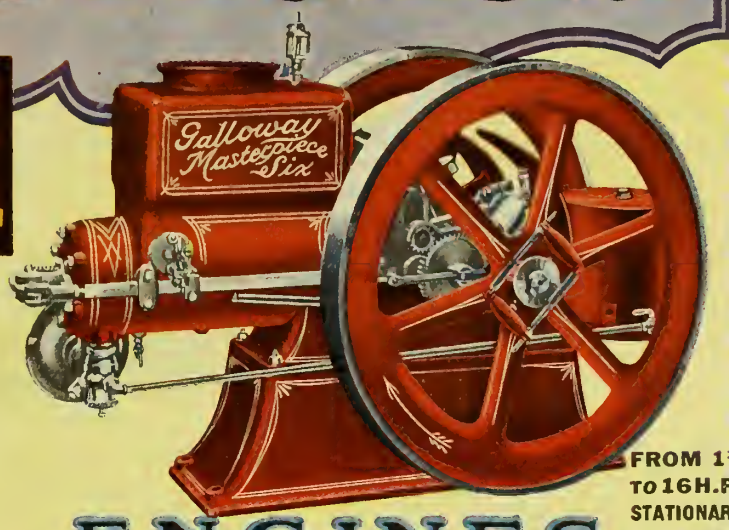

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FOR 1918—the sixth year of success—my new, wonderful sanitary bath-in-oil cream separator. Our factory capacity now 30,000 annually. Thousands upon thousands have been sold because each one sells another and sometimes six or a dozen in a community. Positively the most popular separator in America today because of its perfect skimming, its sanitary features, its scientific design, perfect construction, its ease of operation and **low price.** Thousands of folks write me voluntarily that my new sanitary model suits them head and shoulders above any other separator, even those that cost 25 to 50% more. This is true because it is the way I build them. I operate one of the best equipped separator factories in the world where I build my new sanitary model complete and sell to you direct from this factory. That's why the price is low.

Simply Designed and Built—Easy to Skim, Wash and Clean

Bowl runs in true and perfect alignment—which insures perfect skimming—all the time, because it is supported by one casting, the gear case, into which the gear shaft and both spindle bearings are built. Every external part is rounded so there are no sharp corners to gather dirt and grease. Bowl discs separate from each other for washing. All working parts run in constant spray of oil. No sharp edges or corners in the bowl to break up butter fat globules. Every drop of milk gets the full skimming force of the bowl—the milk so distributed that each disc gets its full share to skim. No floating at top of bowl and no cross currents to disturb the bottom. Skimming capacities of my four 1918 models exactly what I say they are, and more. We believe in under-rating. You get the capacity you want and pay for. Try it. If you like it, buy it. If you don't, send it back. Test it for 90 days—180 milkings—before you decide. It is positively the best separator made, and is sold at the lowest figure a separator can be built and sold for. That's why I can afford to make this unlimited trial test. If Galloway separators were not made as I say they are and did not do the work I claim for them, I could not make such a liberal guarantee. They are described in full in the catalog. Mention separators when asking for my 1918 book.

ENGINES

FOR LIGHTEST OR HEAVIEST JOBS ON FARM OR IN SHOP

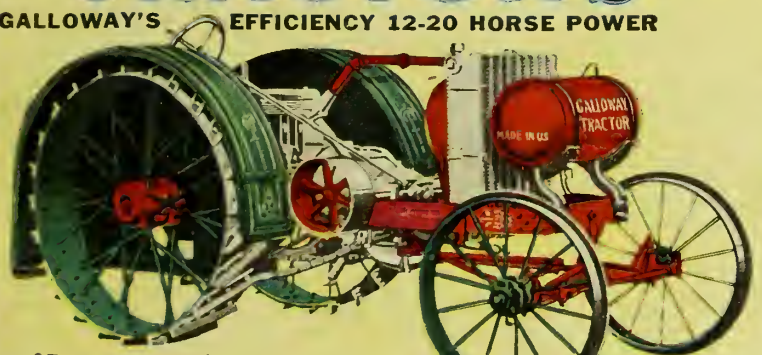
THE Galloway improved gasoline or kerosene engines for 1918 are **the best I ever built.** All sizes, from 1¾ h. p. to 16 h. p. moguls, stationary and portable, for the lightest or the heaviest and toughest jobs on your farm or in your shop. All Galloway engines are the large bore, long stroke, low speed kind that do not rack themselves to pieces like short stroke, small bore, high speed engines. In no other implement can you be so easily fooled as on an engine. That's why I say be careful where you buy. A Galloway engine will give you satisfaction every day in the year, winter or summer, because they are easy started, fool-proof, economical and will last for years with ordinary care. Galloway engines are designed by experts and as scientifically built as the highest priced automobile motors. Every part is interchangeable. Every engine develops above its rated horse power. We do not believe in over-rating.

Note These Big Important Features for 1918

Adjustable bearings. New model 1918 economy carburetor that cuts down fuel bills; simple, positive air valve adjustment makes easy starting any weather, mixes perfect fuel charges, makes gasoline ideal fuel—worth $15 more on any engine, but costs you nothing extra. Exhaust and intake valves in the head like highest class automobile engines. Double ball governor—never sticks—regulates speed perfectly. Arch of strength, water-cooled cylinder head—positively cannot blow off—absolutely gas tight with end of cylinder. One-piece cylinder and base on all Galloway engines from 4 to 16 h. p.—absolutely insures perfect alignment of cylinder, piston, connecting rod, crank shaft and flywheel and absolute uniformity of wear. Make and break igniter—never misses fire. Webster magneto supplies blue-hot spark. Large counter-balanced flywheels. Water pot and cylinder frost-proof. Improved lubrication prevents engine ever over-heating. Galloway engines honestly rated, scientifically, accurately, handsomely built. For full description mention engines in writing

TRACTORS

GALLOWAY'S EFFICIENCY 12-20 HORSE POWER



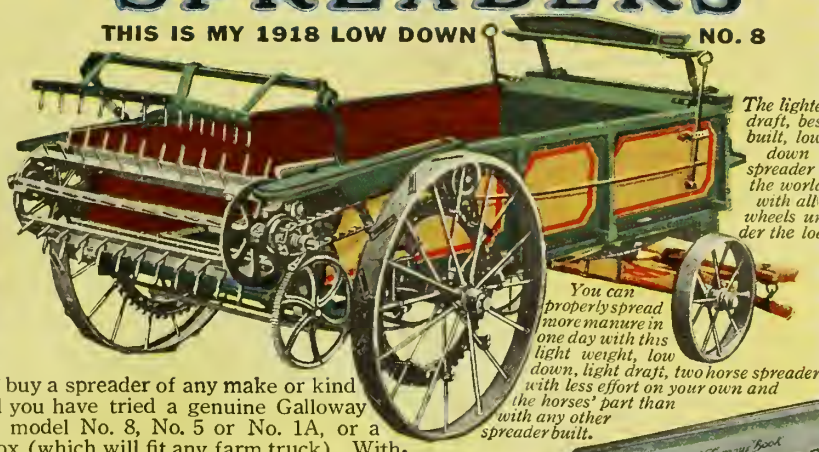
FOR the average size farm the Galloway Efficiency tractor is a year round money maker. Unlike other tractors the Galloway tractor is designed and built—not just thrown together. It has plenty of weight in front so that it doesn't fly up or swing around under a heavy load. Develops 20 full horse power at the belt—12 full horse power at the draw bar. Pulls three 14 inch bottoms from 6 to 8½ in. deep in average soil. Has large, powerful, heavy duty type four cylinder tractor motor, 4 in. bore and 5½ in. stroke. Operates equally well on gasoline or kerosene. Eats only when working. When you are not plowing, discing, harrowing, dragging or pulling binders with it, you can use it for sawing, silo filling, a grain separator, and other jobs that require steady, reliable power.

Unit Type Motor and Transmission—NO LOST POWER

Patented transmission eliminates jerkiness in starting—runs in oil bath. 21 sets of anti-friction, power-saving roller and ball bearings—enclosed, dust-proof and long-wearing—the chief reason for the Galloway tractor's great efficiency. These bearings enable the Galloway tractor to deliver 85% of the motor's power for actual work at the draw bar. Few tractors have more than 60%. Double chain drive—no gears to break and no teeth to strip. Pierce governor prevents engine racing. Sectional anti-frost, puncture-proof radiator. Simple control—only two levers. Plows straighter than horses. Drives like an automobile. Rear wheels 58 in. high, 14 in. wide, affording perfect traction. Weight 5000 lbs.

SPREADERS

THIS IS MY 1918 LOW DOWN NO. 8



The lightest draft, best built, low-down spreader in the world with all wheels under the load

You can properly spread more manure in one day with this light weight, low down, light draft, two horse spreader with less effort on your own and the horses' part than with any other spreader built.

DON'T buy a spreader of any make or kind until you have tried a genuine Galloway 1918 model No. 8, No. 5 or No. 1A, or a spreader box (which will fit any farm truck). Without obligating yourself in anyway, give my spreader thirty days' actual field trial and return to me within one year if not perfectly satisfactory. Could anything be more fair? How can I make you a better offer? This spreader is worth more in actual use in the field than any other spreader made. Don't buy a spreader until you have read all about my new Low-Down No. 8. Don't buy any that does not have the eleven Galloway improvements. Read below what these patented features mean to you.

1918 Features Make Easier and Better Spreading

Wide-spreading V rake, worth $15 extra on any spreader, costs you nothing extra on the Galloway. Invincible, irresistible patented roller feed—an exclusive Galloway feature—one of the secrets of its light draft—alone worth $25 on any spreader—costs you nothing extra. Patented automatic stop, uniform clean-out push-board, worth $10 extra on any spreader, costs nothing extra. All wheels under the load. Short turn. All steel beater—cannot twist or warp.

Get my 1918 catalog. Mention manure spreaders. It tells the history of manure spreaders—how to increase your corn crop—how to increase small grain crops—how to handle manure with the least labor—how a Galloway spreader will pay for itself in one year by increased crop profits. Say that you are interested in a manure spreader and I will send free my famous book "A Streak of Gold." Write now—today—don't put it off.



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Wm. Galloway *President*

Wm. Galloway Co. GALLOWAY STATION WATERLOO IOWA

FARM IMPLEMENT MANUFACTURING SPECIALISTS: GASOLINE & KEROSENE ENGINES—MANURE SPREADERS—CREAM SEPARATORS—FARM TRACTORS



I Put Millions in Farmers' Pockets —Is Yours Ready?

Wm Galloway

Saving a million dollars for the American Farmer is the result of my Factory-to-Farm Method of doing business. That's how I "Divide the Melon." That's how I am saving a million dollars for farmers of America and keeping these savings at home **in farmers' pockets.** I make the better grade implements in my great chain of factories at Waterloo, Iowa, and sell them right off the factory floor at the lowest manufacturer's price, which includes only the cost of raw materials, expert designing, skilled workmanship and one small manufacturer's profit, based on a tremendous, big production. All waste in effort, all waste in time and all waste in money are prevented. **I cut out unnecessary profits between maker and consumer.** I challenge anyone to prove my story is not true. I defy anyone to meet my prices. I invite comparison on the same quality of goods. Abandon prejudice against buying by mail. Throw off old habits. Buy Cream Separators, Manure Spreaders, Gasoline Engines and Farm Tractors the new way—the direct way. **Read my book.** Learn my story—resolve to get your share of these big savings.

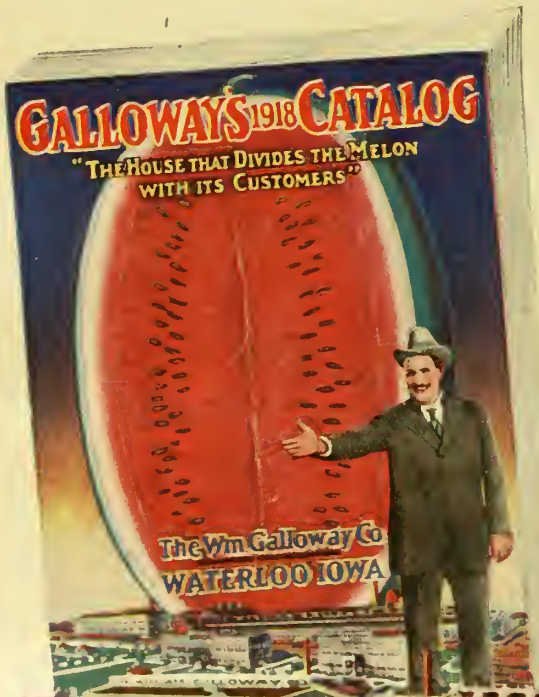
I Sell Direct from Factory to Farm

Nineteen years ago I started this business because I knew the farmer was paying two and three prices for his implements. There were too many slices of the Profit Melon divided before the farmer got his goods. Too many had a finger in the Profit Pie. So I started this business—that of manufacturing and selling direct from the factory—to correct the evil. My whole story—how I happened to stumble on to the three and four profit system, how I at one time was a part of that system, how I determined to cut loose, make my own goods and sell them direct, giving farmers the benefit of these great savings—is told completely in my **New 1918 Book.** Read it.

Buy Direct from Factory—Save Money!

You know Galloway. You have met me at the fairs and at my factories in Waterloo. But some of you have never bought from me yet. Why is it? Why do you hesitate? Does habit and prejudice hold you back? Don't let anybody fool you. Don't let anybody talk you out of buying from Galloway. Take nobody's word but your own. Send for my book. Read how I am making a million dollar drive in savings for you farmers of America and how you can get your share when you buy direct from my factory. Come and see my factories and make me a visit. I will be glad to see you.

Why Not Pocket These Big Savings? Add to Your 1918 Profits!



Why haven't you bought from me? Your neighbor has and is satisfied and is buying again. Why lose your share of these savings through habit—the habit of failing to take advantage of money-saving opportunities? In prosperous times as in hard times it is equally important to save. Saving money is earning money. Economy is wealth. The way to these savings is the **Gallo-way.** Send me **one** order. Start on the way to great cash savings. Do as your neighbors do. **One order** will convince you that Galloway goods are right, that Galloway prices are right—that they have directly and indirectly saved millions of dollars for farmers of America, proving that Galloway **Divides the Melon** with his customers on Spreaders, Separators, Engines, Tractors, and other farm implements.

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When you read my story you will know the Galloway institution and policies. My book tells the story of the Galloway business since I started nineteen years ago. This book is not merely a catalog, but a helpful farm guide that shows you new ways to get the most out of your farm and make it yield the utmost profits. Now, I want you to have this book. Tell me what implement you are interested in and expect soon to buy. Throw off your old habits or prejudices and hold off buying anything until you get the book. My catalog is my only salesman. It explains what I mean by "Dividing the Melon" and how you get your share of this great million dollar saving. Come to Waterloo some time and see me. You can stop at our Agricultural Club as my guest. Thousands of my farmer friends visit me every year. To save you on the freight I have established a warehouse near you and can ship from Council Bluffs, Chicago, Kansas City, and St. Paul, besides from my factories at Waterloo. Send today.

Use the coupon, or drop a postal or send a letter, but write.

WILLIAM GALLOWAY, President

WILLIAM GALLOWAY COMPANY

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Send me your 1918 Book. I specify below the implement I am interested in.

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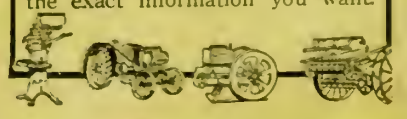
R. F. D. _____ State _____

Mark a Circle

around the implement you want special information about.

This is Important

because it means you will get the exact information you want.





Keep The Hens That Lay

THE good hen is now paying better than ever, while the poor hen is losing more than ever. These are facts proved by actual production of eggs, marketed from day to day, as compared with the consumption of present high-priced food, by the hens in the American Egg-Laying Contest.

The main trouble lies in the fact that all hens are not good hens. In fact, if we use as a standard of a good hen, a production of 150 eggs per year, we find a large portion of all hens in America fail to qualify. It seems to be a recognized fact, based on the last census figures compiled by our Government, that the average farm hen lays about seventy-five eggs. We believe this is perhaps too low a figure for the present—the 1917 average hen. We believe that the increase in breeding from standard-bred stock in the past five to ten years has already made an improvement in the egg production of the average hen.

In these days when every ounce of food should be conserved by feeding it only where it will produce its like, or more, in food value, and also in these days of high priced grains, we should take steps which insure the keeping of all hens with good laying ability while the non-producers should be culled out and sold for meat.

The present American Egg-Laying Contests and preceding contents have proven the following rules for culling to be profitable, especially under present conditions:

1. Keep the birds with rather large plump combs and wattles.
2. Hens with pale vents, pale beaks and pale legs have been good layers.
3. Keep the late molters.
4. Keep the pullets which mature quickly and start laying first. Those which start laying when less than 200 days old, or nearest that age, are the best layers if they have had the right care.
5. Market those which have been slow to feather or seem to lack vitality.

The skin of the best layers should be rather loose and flabby on the abdomen between the vent and breast bone.

7. The pelvic bones must be thin, straight, flexible and wide apart.
8. Market the hens which are bagging behind and which have a heavy, fat, thick abdomen, which hangs below the point of the breast bone.
9. Keep the hustlers and heavy eaters that go to bed late and with full crops.
10. Birds that have long toe nails that show no signs of being workers are usually unprofitable.
11. If a bird meets the above requirements it should have a broad back, long body, stoutly built and be in good flesh.
12. If a bird is not molting and still has a small, dried-up comb, covered with a sort of whitish substance, or if a bird has thick or crooked pelvic bones which will be found on each side of the vent and above the point of the breast bone, these are always money losers.—T. E. QUISENBERRY.

Cost of Feeding a Hen

The question before all poultry raisers is how to feed their chickens more economically and yet get satisfactory results. In making changes in rations, one must remember that any quick or marked changes will have a bad effect on the hen. Changes should be made gradually. It takes a month for a hen to respond to a new method of feeding and if this new method can be adopted gradually no ill effects are likely to follow. Frequently a new ration is criticised, when the fault is not with the ration but with the feeder in making the sudden change. The Missouri College of Agriculture recommends corn two parts and wheat one part for scratch food. This constitutes two-thirds of the ration. A mash consisting of equal parts by weight of bran, shorts, corn meal and beef scrap is recommended for the rest of the ration. At present prices for corn and wheat, the scratch food mentioned will cost $4 a hundred. At present prices for mash constituents—bran $1.60, shorts $2.60, corn meal $4, and beef scrap $4—the mash would cost $3 a hundred.

If a hen requires seventy pounds of feed per year, fifty pounds scratch food and twenty pounds mash, the cost for grain and mash would be $2 and 60 cents respectively. Thus the total food cost per hen per year would be $2.60.

By introducing oats into the ration, the cost can be reduced. With oats at 2 cents a pound, a scratch food of one-half oats can be made which will cost 3 cents a pound. This will reduce the cost of the scratch food 50 cents a year for each hen. The mash can also be reduced in cost by substituting middlings for the corn meal. It is doubtful whether wheat should be used for poultry feeding. The by-products, such as bran and shorts, are still available at comparatively reasonable prices. By careful figuring, the cost of feed per hen need not be over $2 a year. If a hen lays ten dozen eggs, the feed cost of a dozen eggs need not be more than 20 cents.

Reduce Egg Losses

A big percentage of the loss that occurs in marketing eggs might be saved through the organization of egg circles. This statement is made in a recent bulletin from the U. S. Department of Agriculture. The annual value of the country's egg crop is equal to the average value of its annual wheat crop—approximately $600,000,000. Nearly 8 per cent of the eggs marketed are lost through spoilage or breakage, according to this bulletin. The industry undoubtedly would be put on a more businesslike basis if these facts were more generally appreciated. Improper handling between the farm and the market, the bulletin declares, is responsible for a large part of the loss. This loss, it is suggested, could be greatly decreased if farmers would co-operate more generally and market their eggs through community egg circles. These organizations take care of the frequent collection and the proper packing and marketing of the eggs of members, attend to accounting and making collections, establish standards, encourage the raising of better breeds of poultry, the use of improved methods, and the production of infertile eggs.

The bulletin tells how to go about the formation of a community egg circle and prints a suggested constitution and by-laws for such an organization. Copies of the bulletin, which is entitled "The Community Egg Circle," may be had free, as long as the supply lasts, by application to the United States Department of Agriculture, Washington, D. C.

Laying Hens Need Grit

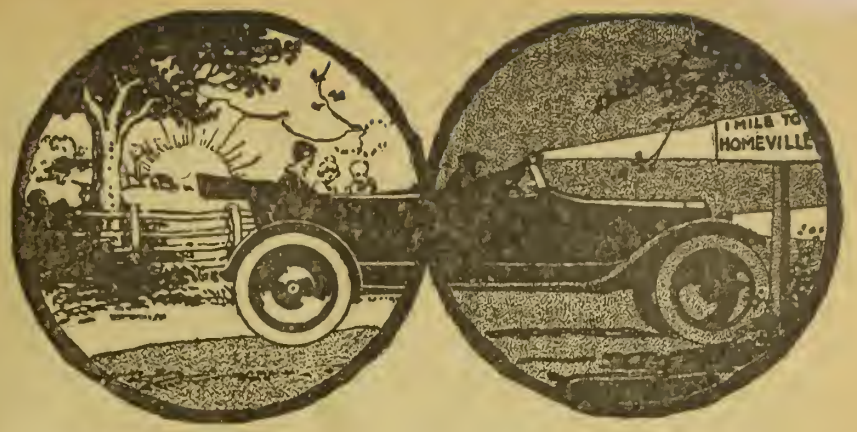
Ground feeds are necessary for most efficient digestion in poultry. Hopper feeding saves labor and furnishes the necessary supplementary feed at all times. There is no danger of poultry over-eating on ground feeds fed dry in a hopper. The hopper is a labor saver in the poultry yard.

Limestone grit or oyster shell is also necessary for laying hens. A laying hen requires large quantities of shell-making material. Nearly all of this must come from the grit and shell she eats. It is poor economy not to keep a liberal supply accessible. One extra egg a year will pay the bill. It returns the money invested a hundred fold.

Chickens raised on range can be produced much more economically than those kept closely confined around the farm buildings. Not only is less feed required, but the danger from disease is reduced. The edge of the corn field makes an ideal poultry range. Chickens grow best on plowed ground and the corn furnishes shade, which is essential during the summer. Under such conditions a pound of chicken can be produced from three to four pounds of grain.

This is a critical time for handling the pullets that are to supply the winter eggs. Special care in the preparation of winter quarters will be more than repaid in winter eggs. Sudden changes are to be avoided. Birds housed too closely after being used to free range are likely to molt and stop laying. Keep the house open and try to minimize changes in feeding and housing.

Tool sheds haven't risen in price nearly so fast as farm machinery.



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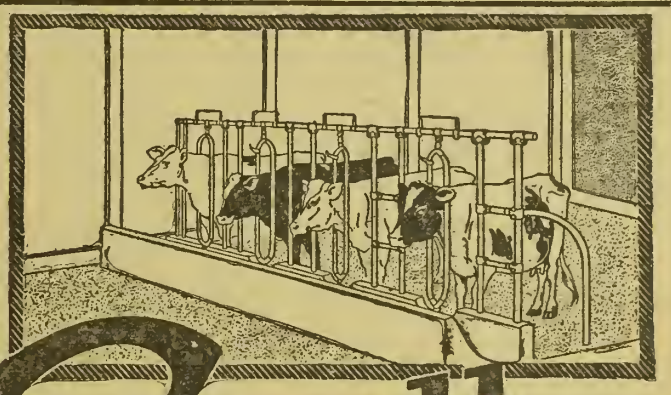

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"Easy to Buy and Apply"

A MODEL DAIRY

You can keep your cows in a warm, verminproof and sanitary place at small expense by lining your barn with Cornell-Wood-Board.

Cornell-Wood-Board is especially adapted to the dairy, milk house, chicken house, summer kitchen, garage, buggy shed, as well as for all alterations and repairs. Takes paint or kalsomine perfectly. *Guaranteed satisfactory when properly applied.*

Nails directly to the studding or over walls and stays there. Application cost is reasonable.

Send for FREE Plans Whether you buy Cornell-Wood-Board or not, our Department of Design will gladly draw up free plans and specifications, with cost estimate, for any room or rooms. Send accurate dimension sketches or blueprints. Write today for catalog and large sample. Mention Kansas Farmer.

On special request we will send free plans for Model Dairy Barn, 31 feet x 72 feet.

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Send me Panel Suggestions and Cost Estimate as per dimension sketch enclosed—or just send sample and complete information about Cornell-Wood-Board.

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Dr. HESS & CLARK
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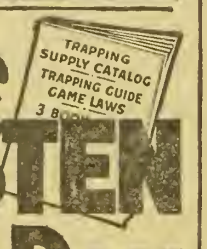



Get this free book; tells how you can make **fur profits** in trapping. Tells how to trap. Shows all good furs in beautiful, natural colors. Gives game laws, prices on steel traps, smokers, etc.

Remember, the largest fur house in the world needs your furs. **We pay cash.** Price list on Raccoon, Muskrat, Skunk, Opossum, Fox and other Furs **free.** Most money every year to trappers made us biggest. **FREE.** This big volume—three books in one. Write for it. [2693]

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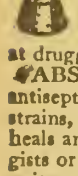

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Take No Chances With Cholera

VACCINATION is cheap insurance against hog cholera in view of the present high prices of pork, says Dr. C. W. Hobbs, field veterinarian and director of the serum laboratory of the Kansas Agricultural College.

In discussing vaccination as a safeguard against hog cholera, Doctor Hobbs advises that the exact health condition of the hogs or pigs be ascertained before treatment. The herd should be penned in a clean and disinfected inclosure the day before they are treated. This allows the herd to become reconciled to the new surroundings. One may then take temperatures and come to some definite conclusions as to the condition and health of the pigs.

ASCERTAIN HOG'S CONDITION

Swine that are penned and prepared for immediate treatment will show abnormal temperature and thus render it impossible for the veterinarian to give an accurate statement as to their exact condition.

The operator should be required to take the temperature of each individual before administering the serum or virus, and if any of the animals show an abnormal temperature, they should be given only the serum and be isolated for investigation. All those showing normal temperatures may be given the simultaneous treatment. Those that are isolated may be given the serum and virus after they regain normal condition.

WHEN TO GIVE TREATMENT

The best age for treating pigs is from ten to fifteen days after weaning. Give one cubic centimeter of serum per pound weight of the pig up to thirty-five pounds and after that one-half cubic centimeter per pound weight. Half a cubic centimeter of virus per pig is sufficient. Should there be any infection on the farm, pigs may without danger of infection be treated about ten days before being weaned, as nursing pigs rarely contract cholera. The milk from the mother, if she is immune, protects the pigs. Pigs must not receive the serum and virus treatment before being weaned unless their mothers are immune.

Many breeders are following the plan of vaccinating pigs before they are weaned, as then there is no danger of losing them from the treatment, and the expense is lessened considerably.

TO ADMINISTER SERUM

A convenient method of administering the serum to pigs of from 35 to 100 pounds is to take a V-shaped trough, eight to ten feet long, and place it outside the pen where the pigs are kept. Nail a strip across the trough three feet from the top. Place the pig on his back in the trough with his face under the strip. An assistant should hold his hind legs.

The side of injection should be thoroughly cleaned with a cresol solution and then dried. The serum should then be injected in the arm pit or axillary space, dividing the dosage in each side. The virus should be injected in the inside of the thigh.

KEEP FEED FROM HOGS

Feed should be withheld a day or two previous to vaccination and from six to eight days after. Plenty of exercise and green pasture are all the pigs need after vaccination.

It is advisable at all times to employ a qualified veterinarian to vaccinate swine. He will be able to give the exact condition and will understand the dosage. If one is not available, however, it is easy for a person to learn to administer the virus and serum accurately. Anyone can administer serum but a permit must be secured from the live stock sanitary commissioner before one is allowed to use virus.

New Corn to Hogs

We have been asked if the feeding of new corn is not responsible for some of the hog cholera. It has long been thought that there was some relation between new corn and cholera. This was probably due to the fact that there always seem to be more cases of cholera in the fall after hogs are put on feed. Real hog cholera, however, cannot be caused by feeding new corn. It is true that in the fall when new corn is being fed, we hear of a great deal of sickness among hogs, especially digestive troubles. A good portion of this is simply the result of changing the ration too abruptly, thus causing derangements of the digestive tract. Sudden changes of diet, especially a change from old corn to new, are apt to cause trouble of this kind, and any derangement of the digestive system will make the hogs more susceptible to other diseases.

The best plan for getting hogs accustomed to new corn is to begin feeding it very gradually some time before it is ready to husk. Our most successful hog men usually begin cutting a little green corn for the hogs soon after it reaches the roasting ear stage, allowing about one stalk a day to each hog. After feeding a stalk a day for a week or two, the allowance can be increased. Later when the stalk and leaves have got so dry that the hogs will not eat any portion of them, the corn can be snapped, and only the ears fed. The ration of old corn should be reduced gradually as more new corn is fed. Beginning in this way the hogs gradually become accustomed to new corn and there will not be the slightest danger of their having digestive troubles of any kind. This is not a means of avoiding hog cholera, however. It is simply a matter of using some reason and judgment in getting the hogs accustomed to new corn so they will not get out of condition and perhaps have some of the symptoms of hogs coming down with cholera.

Student Contest at Swine Show

The first students' judging contest confined exclusively to hogs was held at the third National Swine Show, which was held in Omaha the first week in October. At the banquet given for the college men who took part, the magnitude and importance of the hog industry was the keynote of the talks made. The following men spoke at this meeting: W. M. McFadden, president of the National Swine Show; H. W. Mumford, Illinois University; E. C. Burnett, Nebraska University; Frank Silver, an Iowa hog breeder; C. H. Walker, of the Poland China Journal; L. E. Frost, of the Berkshire World, and L. E. Ashbrook, of the Federal Bureau of Animal Industry.

Hog products are of vital importance in provisioning an army, and Germany and other European countries are suffering more for fat than for any other animal product. These facts lead to increased interest in the hog industry. Hog men of this country will be called on to make good the shortage which exists. The team from the Nebraska Agricultural College won first place in the judging contest. Missouri was second, Iowa third, Kansas fourth, and South Dakota fifth. C. W. McCampbell, associate professor of animal husbandry at the Kansas Agricultural College, accompanied the men of the Kansas team. The cash prizes won by the teams competing and by individual students amounted to $565.

Spread Manure Thin

In the old days of hand spreading of barnyard manure we did not begin to get full value from the manure hauled out on the fields. Some farmers even came to the conclusion that hauling manure did not pay, because they had seen crops go to the bad following a very heavy application of barnyard manure.

It is almost impossible to spread manure thin enough by hand, but now that we have the spreaders we can distribute it evenly over much larger acreages, and while the effect may not last as long, the results are far more satisfactory. There is no over-stimulation of the crop and there is never enough coarse material plowed under at any one time to dry out the soil, as so often happens when a thick coat of manure is plowed under. On a live stock farm there is no piece of equipment used that pays a better return on the investment than the manure spreader.

Made Money with Sheep

A year ago in August, Thomas Price, of Reading, bought 230 breeding ewes which cost him, delivered at Reading, $1,700. He wintered them on clover hay



Concrete Feeding Floors

SAVING feed is important on the farm of today. A Feeding Floor has become one of the most useful farm improvements—it saves its entire cost in one year. It means the prevention of all waste—and waste at the present prices of feed, is inexcusable. A concrete feeding floor, watering trough, and hog wallow are essentials on every modern farm.

Your livestock will have full protection against disease if you build of concrete. Concrete is sanitary. It is reasonable in initial cost. Above all, it does not decay or deteriorate.

DEWEY Portland Cement

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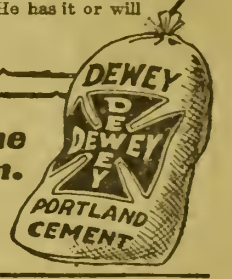

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—or that Curb, Splint, Ringbone or other blemish with Kendall's Spavin Treatment. Mr. Martens of Shawano, Wis., writes this about

KENDALL'S Spavin Treatment

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GOPHER TRAPS—Something the gophers can't ever up. Descriptive circular sent free. A. F. RENKEN, Box 602, Crete, Nebraska.

and during the winter lost fifteen of the ewes and last spring lost a number of the lambs. The ewes sheared 1,950 pounds of wool that brought $1,796, and when he shipped them in August of this year the ewes brought $2,492, while the 129 head of lambs brought $1,236.60. These sheep did not have any grain; they were summered on tame pasture and a weed patch. After deducting the cost of the sheep, he had $2,824.60 for his trouble.

V. D. Milner, of Hartford, bought 127 head of fall-sheared Mexican ewes last spring at $9 per head. Soon after they were established on the farm, lambs began to come. One ewe turned out to be a wether, and the remaining 126 ewes produced a 100 per cent lamb crop. The ewes were given alfalfa hay and silage and pastured on weeds and prairie grass. For a short time before shipping the lambs were fed oats, and when marketed brought $8.80 per head. The ewes sheared three pounds of wool per head, which at present prices will bring $2.10, and when put on the market the ewes brought 12½ cents a pound.

V. D. Milner, W. W. Pressey and C. K. Turner, of Hartford, and C. E. Haas, of Allen, have bought five single-deck carloads of breeding ewes the past week. They have bought registered Shropshire rams for use in these flocks. People planning to buy sheep should get them soon, as the early lambs are the most profitable.—H. L. Popenoe, in News Letter to Farm Bureau Members.

Self-Feeder Wins Again

In a hog-feeding experiment just concluded at the Nebraska Experiment Station, the self-feeder again found its way to the top of the list as a profit-maker. Corn and tankage in self-feeders, supplemented by alfalfa pasture, made the largest profit per head, $6.81. Hominy feed, tankage, and alfalfa pasture made the lowest cost of gains, $13.15 a hundred. Hogs that were fed semi-solid buttermilk with alfalfa pasture made the greatest daily gain, 2.14 pounds. These figures were calculated with feeds at current prices: Corn, $2 a bushel; semi-solid buttermilk, 3½ cents a pound; tankage, $80 a ton; hominy, $70 a ton; and pasture, ½ cent a head daily.

Concrete Feeding Floors

Concrete feeding floors are money-makers. With corn at present prices we cannot afford to let hogs waste it by feeding in the mud. If a large number of hogs are being fed, a concrete feeding floor will pay for itself in a single season.

Anyone who will follow a few simple directions carefully can build a concrete feeding floor. They are nothing more than several strips of concrete sidewalk laid side by side. They may be rectangular or any other shape. Most feeders prefer a square floor.

The following table shows the size of floor required for different numbers of hogs and the materials necessary:

No. of Hogs	Sq. Ft. of Floor Required	Sacks of Cement	Cubic Yds. of Sand	Cubic Yds. of Pebbles
10	150	17	1.25	1.75
20	300	33	2.5	3.75
40	600	65	5	7.25
60	900	98	7.25	11
80	1200	130	9.75	14.5
100	1500	163	12.1	18

Each ten lineal feet of curb and apron requires 2¼ sacks of cement, 4½ cubic feet of sand and 6¾ cubic feet of pebbles. All of the above based on a 1:2:3 mixture, floor five inches thick.

A feeding floor should be located so it will be slightly higher than the immediate surroundings; drainage from beneath the floor will then be good. It should be near the corn crib or granary and have a south exposure so animals will have protection in cold weather. Where the ground is firm and well drained, concrete may be laid directly upon the soil after all grass roots and other perishable matter have been removed and the area brought to proper level and firmly compacted.

Concrete feeding floors should be made five inches thick. What is known as one-course construction, which means the same mixture of concrete throughout, should be used. The best mixture is a 1:2:3, which means one sack of Portland cement to two cubic feet of clean, well graded sand, to three cubic feet of clean, well graded pebbles or broken stone. Two-inch lumber should be set up for forms and be firmly staked to line and grade. The floor should be sloped in at least one direction so it will drain quickly after rains. Sunshine and rain will then keep the surface clean—sanitary. A slope of a fourth of an inch to the foot will be enough. Not all of the area which is to be concreted need be staked out with forms at once. Concreting may be done in strips, just as concrete walks are made, laying alternate slabs first and intermediate slabs last. Slabs should be five feet square and joints between them extend clear through to the foundation or subgrade. Finishing should be done with a wood float instead of with a steel trowel so that the even gritty surface thus obtained will provide a foothold for the animals.

It is a good plan to build a curb or apron on three sides of the floor so that hogs cannot push grain off when feeding. This curb or apron should also extend twelve inches below ground level to prevent hogs from rooting underneath the floor.

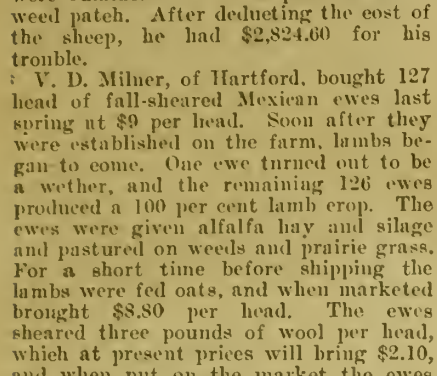
After concreting has been finished the work must be protected by a covering of moist earth or similar material kept wet by sprinkling for about a week, then the covering can be removed and the floor put into use. Wagons should not be driven over it, however, until it is at least three or four weeks old.

Cement advertisers or cement dealers will gladly supply pamphlets giving directions and plans for concrete work on the farm.

Shredded Fodder

While visiting on some of the farms of Lyon County recently, we were asked if it would not pay this year to get a feed cutter and cut up the fodder for stock. When rough feed is very expensive it is sometimes the practice to chaff or shred hay or fodder in order that animals will not waste so much. Cutting or shredding rough feed, such as fodder, straw, or hay, does not make it more digestible, but does induce stock to eat more of it. The shredder puts the fodder in better shape, however, than a cutter such as is used for cutting the silage crop. The stalks of dry corn or kafir fodder are very hard and when cut into short pieces there will be a good many sharp edges which will hurt the mouths of the stock. In the silo this material is kept soft by the juices of the plant.

Well cured shredded fodder is worth about three-fourths as much as prairie or timothy hay, and it is much more convenient to feed than whole fodder. It can be stacked or blown into a barn loft. The refuse from shredded fodder makes good bedding also, and the manure can be handled without trouble. It is almost impossible to handle the manure in yards where whole fodder is fed until the rejected stalks have had time to thoroughly decompose.



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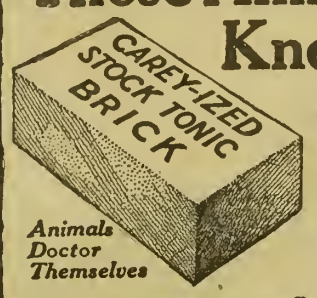

Animals Doctor Themselves
Better not wait till your hogs or other animals begin to cough, have a lean, lank look, roughened hair, panting sides, get feverish and lose appetite. It isn't safe—you're taking desperate chances with your live stock profits. Give them a chance to keep well with
Carey-ized Stock Tonic Brick
This brick is a complete, scientifically compounded health prescription for hogs and all other live stock. Composed of Powdered Gentian Root, Sulphate of Iron, Bi-Carbonate of Soda, Sulphur, Carbonized Peet, Quassia, Charcoal and Pure Dairy Salt.
These ingredients, properly proportioned, keep the digestive organs and bowels in healthy condition, purify the blood, strengthen the liver and kidneys—tone up the entire system and resist all disease.
Easy and Economical to Feed—Put up in solid brick form which preserves full strength of medicine till the last bit is eaten. Animals partake of it only when they feel the need of medicine and as much as their natural instincts demand. Not only supplies needed medicines, but salts animals regularly and without waste.
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the original guaranteed Stock Tonic and Conditioner
Producers and workers must be vigorous and healthy. Pratts Animal Regulator makes them so. Not a food, but a combination of tonics and conditioners mixed with the regular feed, which sharpens the appetite—assists digestion—regulates the bowels—purifies the blood—tones up the entire system—prevents waste of feed—insures health. Give Pratts a fair trial at our risk under these terms:—
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MENTION KANSAS FARMER WHEN YOU WRITE.

FARM AND HERD.

G. E. Cox & Son, Elk City, Kansas, have announced a closing out sale of their entire herd of sixty-five head of Angus cattle at the farm on November 23. Mr. Cox is leaving the farm and will offer this valuable herd of registered cattle without reserve. A number of the cows have calves at foot and are rebred to the great herd bull, Rosebud Crown, he by Blackbird Crown by Prince Ito 2d. The herd cows represent all the popular families of the Angus breed and are a useful lot of breeding cattle.

J. R. Young, of Richards, Missouri, has catalogued fifty-seven head of very high-class Poland Chinas for his November 9 sale. The offering consists of fifteen fall and winter gilts by The Mint, he by Golden Gate King; thirty choice spring gilts sired by Caldwell's Big Bob, the grand champion Poland China boar at the 1917 swine show and weighs 1,150 pounds; Fessy's Timm, King Joe and Big Bob Wonder. This promises to be one of the real high class offerings to be sold this year.

U. S. Byrne, of Saxton, Missouri, has announced December 5 as the date of his Poland China sale. Mr. Byrne will sell eighty head, including two great herd boars, B. Wonder and Long Jumbo 2d, two of the leading boars of the breed. Among the sow offerings are some of the very best herd sows of popular blood lines.

For fifteen years the Star Breeding Farm, near Elk City, Montgomery County, Kansas, has been the home of a choice herd of Hereford cattle. Samuel Drybread started fifteen years ago with only a small herd and 160 acres of farm land. Today Mr. Drybread owns 400 acres of land, well improved, and has 175 head of registered Herefords on the farm. While he has raised registered Duroc hogs and kept a few registered Percheron horses, the real money maker has been his Hereford herd. Mr. Drybread has announced November 22 for his sale and will catalog and offer to the public seventy-five head of cows, heifers and young bulls from his famous herd of Herefords on that date.

The Hampshire Association sale held at Valley Falls, Kansas, October 12, was one of the satisfactory sales of this breed. Forty head of March and April pigs sold for an average of $44.75. The top price was paid for No. 40 in the catalog, which went to F. W. Timmerman, West Liberty, Iowa. The Halcyon Hampshire Pig Club has made great progress under the management of George Ela, secretary of the Kansas Hampshire Association.

Arthur Patterson, of Crystal Springs Farm, Ellsworth, Kansas, reports his Duroc herd doing well. Mr. Patterson has built up one of the outstanding herds of Durocs in Kansas. He has the best blood lines of the breed and few herds have more prize winning breeding. This year he raised a choice lot of spring pigs, a lot of them sired by the grand champion at Iowa and Nebraska, 1917. He has a very choice lot of herd sows and recently sold one of them with her fall litter for $400.

Mahlon Groenmiller, of Pomona, Kansas, reports his herd of pure-bred Red Polled cattle making a good record this year. Mr. Groenmiller owns one of the good herds of this popular dual-purpose breed and a feature of his herd at this time is the outstanding lot of young stock.

Bert E. Hodson, Ashland, Kansas, is the owner of one of the largest Poland China hogs in Kansas, McGath's Big Orphan. This hog was first and grand champion Poland China boar at both the Topeka Free Fair and the Kansas State Fair at Hutchinson. Mr. Hodson reports eleven litters by this great hog now in his herd that are the best prospects he ever had on the farm. He has a number of very high class herd sows, including Bessie Wonder, the highest priced sow sold in Kansas last year; Tecumseh Girl, the dam of Big Hadley Jr., the boar that was grand champion of Oklahoma this year; Goldie Bob by Caldwell's Big Bob, the grand champion of the National Swine Show at Omaha.

J. H. Keith, of Coffeyville, Kansas, owner of a very fine herd of Hereford cattle, reports his herd doing well. Mr. Keith has succeeded in building up a herd of pure-bred Herefords, representing the best blood lines of the breed and made up of choice individuals. At this time a feature of the herd is a very fine lot of cows and heifers and some outstanding young bulls.

W. L. Hunter & Son, the well known Jersey cattle breeders of Lincoln, Nebraska, have announced a sale of Jersey cattle to be held November 2. The offering will include seventy head of very high-class richly-bred Jerseys. Among the sixty-two cows and heifers catalogued there will be many Register of Merit cows and their descendants. Daughters of Golden Fern's Noble, Cowslip's Golden Lad, Financial Countess Lad, Hebron's King, Owl of Hebron, Glenida's Champion and other great sires will be in this sale. The bulls will include a great son of Noble's Jolly Sultan, the undefeated champion and grand champion at Nebraska state fairs of 1916 and 1917. B. C. Settles, of Palmyra, Missouri, will manage the sale.

Homer Drake, of Sterling, Kansas, who has succeeded in building up a choice herd of pure-bred Durocs, reports his herd doing well. Mr. Drake has the best blood lines of the breed in his herd. He also has the big easy-feeding early-maturing type. A feature of his herd is the choice lot of young Durocs by such boars as Reuben's Wonder and Col.'s Wonder by Crimson Wonder Again Jr.

Robinson & Shultz, of the Albechar Holstein Farm at Independence, Kansas, have announced December 3 and 4 for a two days' sale of 125 head of registered Holstein cows and heifers. This offering will include more high class registered Holstein cows than will be sold in any sale in Kansas this year and they will all be bred to one of the best bulls of the breed. This firm has been breeding Holstein cattle for a number of years and has built up one of the best dairy plants in the Southwest.

A. A. Meyer, of McLouth, Kansas, owner of one of the outstanding herds of pure-bred Poland Chinas in Kansas, reports his herd doing well. This year Mr. Meyer raised one of the best lots of pigs in the history of his herd. This is the last lot of pigs he will have by his great breeding boar, Meyer's Orange, and the lot includes some outstanding herd material.

Max J. Kennedy, of Fredonia, Kansas, has announced a dispersion sale of his entire herd of registered Holsteins, to be held on October 30. The offering will include thirty head of registered cows and heifers, two bull calves, and one of the best two-year-old herd bulls in the state. The cows and heifers are all bred to Sir Johanna Walker Pietertje, whose first five dams have an average seven-day butter record of 27 pounds. This bull will also be sold. Daughters and granddaughters of Colantha Johanna Lad, King of the Pontiacs, and other noted sires, will go in this sale.

Mott & Seaborn, of Herington, Kansas, owners of one of the outstanding herds of Duroc hogs in Kansas, report their herd doing well. A feature of their herd at this time is the fine lot of young boars and gilts all of popular breeding and including outstanding fall yearling boars, spring boars and fall and spring gilts.

Dr. F. B. Cornell, of Nickerson, Kansas, has announced a big sale of live stock to be held October 24. His offering will include a lot of draft and standard-bred horses, some jacks and jennets, ten choice Jersey cows, some Jersey bulls, a lot of high grade Shorthorn heifers, a fine offering of big-type Poland China hogs, twenty head of Shropshire ewes, and twenty head of Hampshire ewes.

C. F. Pfuetze, of Manhattan, Kansas, reports his Jerseys making a fine record. Mr. Pfuetze has one of the richly-bred Jersey herds in Kansas. They are bred for producers and are the kind that are profitable. A feature of his herd is the choice lot of young cows and heifers of record breeding.

WHEN WRITING TO ADVERTISERS
MENTION KANSAS FARMER

More or less silage will decay at the top unless the silo is sealed over or unless feeding is begun soon after filling. To prevent much of this loss, seal the silo with three or four loads of green corn from which the ears have been removed. Some use other sorts of heavy green crops, while still others use sawdust satisfactorily. In every case it is advisable to soak this covering thoroughly with water and tramp it regularly for several days after it has been placed in the silo.

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360 Acres, 160 acres fine wheat, corn and alfalfa land. Rich creek bottom soil. Balance pasture. $5,000 worth improvements. Splendid oil prospects. A snap. For quick sale, $45 per a. **M. T. Spong, Fredonia, Kan.**

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Seven miles McAlester. Fifty acres cult., 25 a. dry bottom, 25 a. slope. No rock. No overflow. Balance pasture. $22 per acre.
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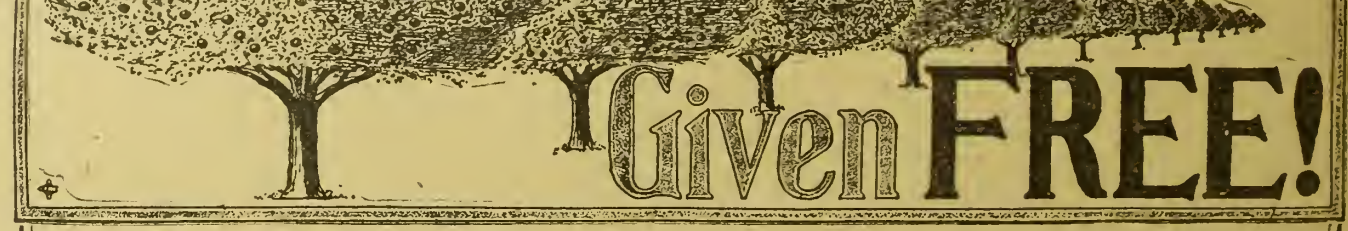
12 Grafted Apple Trees Given FREE!



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12 Grafted Apple Trees



3 GENUINE DELICIOUS
This apple has, ever since its introduction, secured and maintained the highest price ever paid for any apple. A beautiful deep red, shading to golden yellow at the blossom end. Of wonderful flavor and aroma.



3 STAYMAN WINESAP
Deep, rich red in color, it is a marked improvement over the old Winesap, both in appearance and quality. It is a universal favorite in all markets.



3 JONATHAN
The Jonathan is liked by everyone. Its deep wine color apparently reflects its rich winey flavor. Invariably in good demand at high prices.



3 WEALTHY
One of the first really good apples of the season, and a general favorite, especially for eating out of hand.

Given with Kansas Farmer This collection of Twelve Grafted Apple Trees which we want to send you, consists of **three trees each**, of four varieties of proven merit. They are hardy, will thrive anywhere, and provide a nice succession of quality fruit.

INCLUDING THREE GENUINE DELICIOUS, THREE STAYMAN WINESAP, THREE JONATHAN AND THREE WEALTHY

These Trees are genuine grafted stock, guaranteed true to name, sound and healthy. We have arranged with one of the largest nurseries in the country for a supply of these grafted trees, and we want to send you a set of twelve. Whether your place is large or small, these twelve trees will find a place, and add to its beauty and value.

Early Maturing Varieties such as these four grand varieties, mean that you will have fruit from this orchard in just a few years. In three years you should have some apples from these trees; in five years you should have an abundance. No better varieties could be found for a Model Home Apple Orchard than the four in this collection.

Complete Instructions are sent with each set of twelve trees, practical, simple directions that explain just how to plant and take care of these twelve trees. By following these instructions you will have, in a few years, an orchard that will prove a constant source of pleasure and profit to you.

Our Offer is made possible by a comparatively new method of propagating the apple tree. Instead of the slow, laborious method of "budding" a "seedling" apple tree to obtain the variety desired, a much quicker method is now employed. Healthy, vigorous branches are clipped from trees selected for their size and yield. To each of these branches a strong root from a tree of the same type is carefully grafted, and the little tree, thus complete, is ready to be set out. The twelve little trees we send you are all produced in this manner. They take root at once, make thrifty growth, and develop into large, heavy-bearing orchard trees as soon or sooner than a large tree set out at the same time. These little trees are about a foot long, and the thickness of a lead pencil. You could not secure trees of better quality, or trees that would come into bearing quicker, if you were to pay a dollar apiece for them. Thousands of trees are sold every year and sent packed in damp moss at the proper time for planting

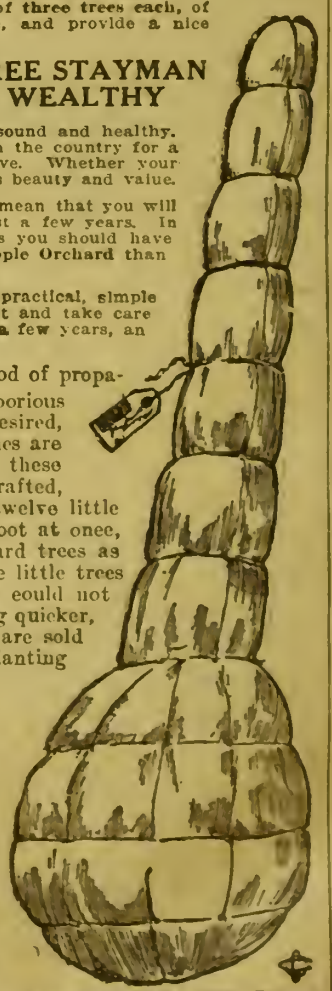
How to Get These Trees

If you will send us $1.00, we will enter or renew your subscription to KANSAS FARMER for one year and send you the TWELVE (12) Apple Trees postpaid to you; or, if you will send $2.00, we will renew your subscription two years and send KANSAS FARMER one year to some new subscriber you may name, and send you the trees. As the demand for these trees is enormous, you should take advantage of this offer at once. We reserve the right to refund money after the supply is exhausted.

Send All Orders to

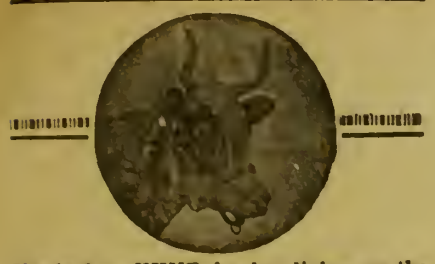
KANSAS FARMER

625 Jackson Street, Topeka, Kansas



These twelve Grafted Apple Trees are packed in sphagnum moss, are well wrapped in heavy oiled paper, and securely tied. They will stand the longest trip by parcel post, and arrive in perfect condition for planting.

AYRSHIRE CATTLE.



She had to HUNT for her living on the Scottish moors and hills—

That's what developed the valuable qualities of the—

AYRSHIRE

hardy vigor, health, strength, vitality, her willingness to browse and her great production on scanty feed.
Dairymen and Farmers who MUST make their herds profitable in these days of high costs are naturally turning to this breed. Write for information to the—
AYRSHIRE BREEDERS' ASSOCIATION
C. M. WINSLOW, Sec'y. • 33 Park St., Brandon, Vt.

AYRSHIRE BULLS

Ready for service. Sire a son of Canary Bell, 17,496 pounds of milk, 786 pounds of butter in one year. From cows with records from 10,000 to 13,000 pounds of milk yearly.
Dairy Department
UNIVERSITY OF MISSOURI, Columbia, Mo.

MULEFOOT HOGS.

KNOX MULEFOOT HOGS

Orders booked for fall pigs. A few choice May pigs, either sex, not related. Write for price and booklet.
S. M. Knox, Humboldt, Kansas

SHEEP.



200 — RAMS — 200
REGISTERED SHROPSHIRES
Our flock was awarded 20 prizes at 1917 Iowa State Fair. Weight and wool always win. Rams and ewes for sale. C. W. & Frank Chandler, Kellerton, Ia.

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

POLLED DURHAM CATTLE.

DISPERSION SALE of all my double-standard Polled Durham cattle soon. Watch for date.
D. C. VAN NICE - RICHLAND, KANSAS
(On Mo. Pac. Ry., 17 Miles S.-E. of Topeka)

HORSES AND MULES.

PERCHERONS—BELGIANS—SHIRES



2, 3, 4 and 5-yr. stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
FRED CHANDLER, R. 7, Charlton, Ia. Above Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes.
Illinois Horse Co., Good Blk., Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

CHESTER WHITE HOGS

WESTERN HERD CHESTER WHITE HOGS

Thirty spring boars, forty spring gilts, bred or open. Write for prices. Satisfaction guaranteed.
F. C. Gookin, Russell, Kansas



FOR SALE
Spring Pigs in Pairs and Trios
Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

Clinton County Chesters

Booking orders for spring pigs of National Swine Show blood lines. Fall and spring pigs at bargain prices.
J. H. McANAW - CAMERON, MISSOURI

DUROC JERSEYS.

CRYSTAL SPRING DUROCS
Twelve head of Duroc Jersey spring boars, no better breeding anywhere, seven of them sired by Kern's Sensation, grand champion of Iowa and Nebraska this year. Priced reasonable.
ARTHUR A. PATTERSON, Ellsworth, Kan.

DUROC JERSEYS

FORTY DUROC-JERSEY BOARS
Cholera immuned, of rare breeding and excellent individuality. Sired by Gold Medal 176231, R. L.'s Model Chief 105673, Taylor's Model Chief 126456. Order yours now. Our prices are reasonable.
W. R. HUSTON - AMERICUS, KANSAS

TAYLOR'S DUROCS

For Sale—One Missouri State Fair prize winning boar. Seven yearling boars sired by champion boars that are real herd headers. Fifty spring boars that are fine prospects. Write for prices or come and see my herd.
Chas. L. Taylor - Olean, Mo.

IMMUNED DUROCS
With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

DUROC BOARS

Thirty-five spring boars by G. M.'s Crimson Wonder, Crimson Wonder Again Jr., Critic D. and Great Wonder, out of my best herd sows. Priced to sell. Come and see my herd.
G. M. Shepherd, Lyons, Kansas

McBRIDE'S DUROCS

I have four Pathfinder Duroc boars for sale, all immune. Also one Orion Cherry King, four months old, weight from 125 to 140 pounds, and they are extra nice ones. Priced right. W. T. McBRIDE, Parker, Kan.

HARRISON'S DUROCS
Pure-bred Duroc boars.
W. J. HARRISON - AXTELL, KANSAS

Royal Grand Wonder Durocs

The first prize junior yearling at Kansas State Fair heads my herd. A few choice March boar pigs for sale. Come and see my herd.
B. R. ANDERSON, R. 7, McPherson, Kansas

Immune Duroc Boars on Approval

Pedigreed Duroc boars with size, length and bone. Immune and guaranteed breeders. Shipped to you before you pay for them.
F. C. CROCKER, BOX K, FILLEY, NEB.

IMMUNED DUROCS

A few good boars by Rhuben's Wonder and Colonel's Wonder by Crimson Wonder Again Jr. HOMER DRAKE, Sterling, Kan.

Jones Sells On Approval

Large-type spring boars and gilts of fashionable blood lines at reasonable prices. Herd immuned.
W. W. Jones, Clay Center, Kan.

MAPLEWOOD DUROCS

Seventeen yearling and early spring boars, ready for service, as good as we ever grow. Twenty-five gilts, open. Three bred gilts due to farrow this month and early in November. Prices reasonable. Write us your order at once and get first choice.
MOTT & SEABORN, HERINGTON, KAN.

DUROC SPRING BOARS

That weigh over 200 pounds, sired by Illustrator's Orion 3d, that giant son of the Champion Illustrator dam by Joe Orion 2d. Two by Fancy's Victor dam by John's Combination. Come, see, write or wire.
John W. Petford
Route 1 Saffordville, Kansas

SHORTHORN CATTLE.

ABBOTSFORD SHORTHORNS

Two choice bulls and ten extra good heifers for sale. Priced to sell. The kind that always please.
D. BALLANTYNE & SON, Herington, Kan.

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

SHADY LAWN SHORTHORNS

At head of herd, Kansas Archer 440809 by Mistletoe Archer. For sale, fifteen choice young bulls from spring calves to yearlings. Come and see our herd.
F. H. HULL & SONS - EUREKA, KANSAS

SHORTHORN CATTLE

A few Scotch bulls for sale of breeding age. Red and roans. Write or come and see my herd.
O. A. HOMAN & SON, PEABODY, KANSAS

Doyle Spring Shorthorns

Bulls twelve to fifteen months old, sired by Orange Marshall and Star Goods.
DOYLE SPRING STOCK FARM
Peabody - - - - Kansas

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Pearl Herd Shorthorns

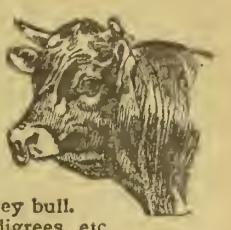
Valiant 346162 and Marengo's Pearl 391-962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

Can ship on Rock Island, Union Pacific or Santa Fe Railway.
C. W. TAYLOR - ABILENE, KANSAS

Jerseys for Net Profits



You're in the dairy business for profit—the *net* profit that your herd has made you at the end of the year will determine the size of your bank account. Jerseys yield the largest returns from every ounce of feed—proved by tests at two great expositions. Jersey milk averages 5.3% butter fat, 9.1% solids not fat—highest of all breeds. Buy a Jersey bull.



Write the breeders advertised below for prices, pedigrees, etc.

The American Jersey Cattle Club, 375 West 23rd Street, New York City

120 JERSEY COWS AND HEIFERS

Pure-bred and high-grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. Berry & Son
JEWELL CITY - - - - KANSAS

IDYLWILD STOCK FARM

For Sale—Bull calf dropped March 3, 1917; dam, Pet of Clover Hill F's 2d 227416; sire, Jacoba's Prize Premier 137930. Price, $50.00.
C. F. Blake, Glasco, Kan.

LONGVIEW JERSEYS
(Register of Merit Herd)

Bull calves sired by champion bulls out of Register of Merit dams, for sale at all times.
Longview Farm
LEE'S SUMMIT - - - MISSOURI

Registered Jerseys

Cows, Heifers and Calves. Good breeding, good individuals. Must reduce herd. Price reasonable.
C. F. Pfeutze, Rte. 4, Manhattan, Kan.

Catalogs Are Ready

For the following Jersey Sales to be held under my management:
Lochrie & McCoy, Carl Junction, Mo., Sept. 27; Oklahoma Breeders' Sale, Oklahoma, Okla., Sept. 29; Redmon & Sons, Tipton, Mo., Oct. 1; Geo. W. Hagan, Lee's Summit, Mo., Oct. 31. Write today and ask to be placed on my mailing list. Address
B. C. SETTLES, Sales Mgr., Palmyra, Mo.

REGISTERED JERSEY BULLS

BUTTER-BRED, FROM HIGH-PRODUCING COWS.
Photo furnished.
Maxwell's Jersey Dairy
ROUTE 2 TOPEKA, KANSAS

LOMAX JERSEYS

A Herd of Producers, Backed by Records. Popular blood lines. Choice individuals. We invite inspection of our herd at all times.
Write us your wants.
Dr. J. H. Lomax
STATION B - - ST. JOSEPH, MO.

J. B. PORTER & SON

MAYETTA, KANSAS
BREEDERS OF HIGH-CLASS JERSEYS.
STOCK FOR SALE AT ALL TIMES.
WRITE US YOUR WANTS.

DISPERSAL SALE OF SEVENTY HEAD OF

REGISTERED JERSEYS

AT LEE'S SUMMIT, MISSOURI,
WEDNESDAY, OCTOBER 31

Mr. Geo. W. Hagan has been breeding Jerseys for over twenty years, and he will sell a splendid lot of profitable cows and heifers of the best St. Lambert and Tormentor blood to be found in any herd. The cows are all heavy persistent milkers, tuberculin tested and in perfect health. Don't fail to write at once for catalog to

B. C. SETTLES, SALES MANAGER, PALMYRA, MO.
COL. P. M. GROSS, AUCTIONEER, KANSAS CITY, MO.

GREAT DISPERSAL SALE

Of 100 Head A. J. C. C. Jerseys, Owned by E. E. Knoche, Martin City, Missouri, November 3, 1917.

Fifty cows averaging 450 pounds butter per year, and their female descendants, will go in this sale. Prof. C. H. Eckles of the Missouri University says: "The best producing herd in the state."

Write at once for catalog to

B. C. SETTLES, SALES MANAGER, PALMYRA, MO.
Col. Perry, Auctioneer

70 - HEAD - 70

COMPLETE DISPERSAL SALE
W. L. Hunter & Son's Imported and Home-Bred
REGISTERED JERSEY CATTLE
State Fair Grounds, Lincoln, Neb., Friday, Nov. 2, 1917

SIXTY-TWO FEMALES, including many Register of Merit cows and their descendants; daughters of Golden Fern's Noble, Cowslip's Golden Lad, Financial Countess Lad, Hebron's King, Owl of Hebron, Glenida's Champion, and other great sires.
EIGHT BULLS, among them Imp. Euterpean, son of Noble's Jolly Sultan and an undefeated champion, grand champion Nebraska State Fairs, 1916-17. A show and breeding bull of unusual merit. Your chance to buy good foundation blood from one of the greatest herds in the West. Write for catalog.

B. C. SETTLES, PALMYRA, MO., SALES MANAGER
COL. D. L. PERRY, AUCTIONEER

POLAND SALE

At Richards, Mo., Friday, Nov. 9

HERE IS THE BUYER'S GOLDEN OPPORTUNITY.

In view of the unprecedented demand for brood sow material this sale assumes unusual importance at this time. The sale includes fifteen fall and winter gilts by The Mint, a great breeding son of Golden Gate King. Big, growthy gilts, excellent propositions in herd improving material or to fill out winter sale offerings.

Thirty choice spring gilts sired by Caldwell's Big Bob, Fessy's Tim, King Joe, Big Bob Wonder, and others of the breed's leading sires. These gilts are exceptionally fine.

The boar offering of unusual class includes an even dozen of the tops of the 1917 crop. Nothing but the very best will be sold in this sale.

THIS OFFERING INCLUDES ALL OUR MISSOURI STATE FAIR PRIZE WINNERS

Here is one of the last offerings to be sold this fall and one of the best. Get the catalog of this big sale and arrange to attend.

THE ENTIRE OFFERING IS IMMUNE

When writing for catalog, please mention Kansas Farmer.

J. R. YOUNG, RICHARDS, MO.

O. W. Devine will represent Kansas Farmer at sale.

Col. R. L. Harriman, Auctioneer.

MYERS' POLAND CHINAS

Gardner, Kans., Wednesday, Nov. 7

52 Head Spring and Fall Boars and Gilts

Twenty choice Spring Boars, twenty toppy Spring Gilts, sired by GIANT JOE, KING GIANT by King of Wonders, MODEL BIG BOB, MASTER ORPHAN, WEDD'S LONG KING, and ECLIPSE MODEL. The dams of these are sired by Wedd's Long King, King of Wonders, Caverly's Big Defender and Big Bob Wonder. Ten Fall Gilts, big and smooth, sired by Giant King, will be sold with breeding privileges to Giant Joe.

One sired by GIANT JOE out of Queen of Wonders, the top sow in the Wilver Dell herd sale. The other by GIANT BEN, the noted Pfander boar, out of Big Bob's Wonder by Big Bob.

ARRANGE TO ATTEND THIS SALE.

When writing for catalog, please mention Kansas Farmer. O. W. Devine representing Kansas Farmer.

H. E. MYERS, GARDNER, KANSAS

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POLAND CHINAS

BERRY'S IMMUNED SPOTTED POLANDS

March pigs, weight 150 to 160 pounds, price $35; pairs, $70; April pigs, $30; May, $25. Sired by Spotted Mike 81038, a 600-pound yearling. Lots of spots, bone, and good backs. Write me your wants. Can furnish pairs, not related.

E. C. BERRY, ROUTE 3, HARRIS, MISSOURI

Spotted Poland Chinas

Thirty spring boars, thirty spring gilts. Sired by Billie Sunday, Cainville Giant and Perfect Judge. Sows by Brandywine, Budweiser, Old Clipper and Spotted Giant. Priced to sell.

J. O. RILEY & SON - CAINSVILLE, MO.

DEMING RANCH QUALITY

Big-Type Poland China Hogs.

Fifty March boars for sale. All immuned. Bred sow sale February 18. Send for catalog.

H. O. Sheldon, Herd Manager

OSWEGO, KANSAS.

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

CEDAR ROW STOCK FARM

A. S. Alexander, Prop. Burlington, Kansas

SPOTTED Poland Chinas

Two hundred fall pigs in pairs and trios, not related, sired by two state fair winners. Price, $25 each. Also a few choice spring boars and gilts. All immuned. Write your wants.

E. R. McKEEFER & SON, Ossian, Indiana

GREEN WOOD FARM POLANDS

Spring boars, very best big-type breeding, sired by Big Wonder, my 900-pound boar, and Orange Wonder, an Iowa bred boar, out of big sows. Farmer prices.

M. F. RICKERT - SEWARD, KANSAS

Faulkners Famous Spotted Polands

Late summer and fall pigs for sale. Buy them from the Fountain Head. Annual brood sow sale February 13. Ask for catalog.

H. L. FAULKNER, Box K, Jamesport, Mo.

McGATH'S BIG ORPHAN

Grand champion Topeka and Hutchinson fairs, 1917. Thirty-five boar pigs by the grand champion for sale. Write for prices.

Bert E. Hodson, Ashland, Kan.

The Lone Cedar Polands

Last Lot of Meyers' Orange Pigs. I will have either sex, some extra fine gilts. Cholera immune for life.

A. A. MEYER - McLOUTH, KANSAS

FAIRVIEW POLAND CHINAS.

Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.

P. L. WARE & SON - PAOLA, KANSAS

SPOTTED POLAND CHINAS

Baby pigs, either sex. Priced right. Papers furnished.

B. A. SHEHI, WESTMORELAND, KANSAS

POLAND CHINA BOARS

Fifteen spring boars sired by Sir Dudley, Eclipse Model and Exile. Price, $30 to $45. Write at once.

C. B. PALMER

ROUTE 5 MARION, KANSAS

Langford's Spotted Polands.—Last call for early spring boars. Yours for good hogs—

T. T. Langford & Sons, Jamesport, Missouri.

POLAND CHINA HOGS

150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.

V. O. JOHNSON - AULNE, KANSAS

POLAND CHINAS

For Sale—Ten fall yearling gilts, bred for September farrow to Dalebanks Hadley and King Jumbo; twenty-five spring boars ready for service; twenty-five spring gilts open. One hundred and fifty head registered hogs in my herd. Write today what you want.

E. L. BARRIER - EUREKA, KANSAS

Henry's Big Type Polands

March and April pigs, sired by Big Wonder, first in class at Topeka; Mammoth Orange and King Price Wonder. Immune.

JOHN D. HENRY, LECOMPTON, KANSAS

White Oak Park Polands

Outstanding herd boar prospects by 1,100-pound Missouri Jumbo 210161 and 1,000-pound Long Big Joe 227387, twelve-inch bone. Dams popular big-type breeding. If you want boars that will mature to 1,000 to 1,100-pound hogs, I have them, big high-quality fellows. Fall boars farrowed August and September, spring boars February and March. Will record in buyer's name. All immune.

Henry Koch, Edina, Missouri

OLD ORIGINAL SPOTTED POLANDS

March and April pigs for quick sale.

H. A. or PAUL H. MATTOX, Route 2, Burlington, Kan.

GUERNSEY CATTLE.

GUERNSEY BULLS.

Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

B. E. FRIZELL, Frizell, Pawnee Co., Kansas

HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

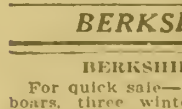
of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM

is offering twenty-five pure-bred heifer calves from six weeks to eight months old; also a choice lot of yearlings, bred heifers and young cows, all with top-notch breeding and at prices that cannot be equalled elsewhere; grade cows and heifers. BUY YOUR NEXT PURE-BRED BULL FROM US. For description and prices, wire, write, or call.

T. R. MAURER & COMPANY - - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER

Way Side Stock Farm - Whitewater, Wis.

HEREFORD CATTLE.

Greenwood Hereford Farm

Prince Rupert Herefords

One carload yearling bulls; fifty head bull calves. Will price single lot or carload.

W. J. Brown, Fall River, Kan.

IDEAL HEREFORDS

For Sale—Ten to twenty cows bred, some now calving, also some yearling heifers and choice young bulls from six to twenty months old. Blood of Price Rupert 52d, Generous and Don Perfect. Outstanding good cattle. Priced right.

J. H. Keith, Coffeyville, Kansas

Public Sale

October 24th.

SHEEP—

Twenty Shropshire Ewes.
Twenty Hampshire Ewes.

JERSEYS—

Ten Cows under five years old, fresh or fresh soon.
Two Bull Calves.
All strong in the blood of Eminent Golden Jolly.

POLAND CHINAS—

Nineteen Sows with pigs or to farrow soon.
Fourteen Spring Pigs.
Some fine Herd Boar prospects.
Everything vaccinated. These hogs are from the best herds in the West. Gerstdale Jones, Big Price, Blue Valley, Big Orange, Oakland's Equal and Big Gem being represented.

HORSES—

Several Standard-Breds. Good drivers and good prospects.
One Percheron Mare five yrs. old, in foal.
One Percheron Mare two yrs. old, in foal.
One Percheron Mare six months old.
Two Jennets in foal.
One Jack Colt coming two years old. A good one.

All above stock is registered or can be. Will also sell twenty-five high grade Shorthorn heifers, some young mules and other stock.

DR. F. B. CORNELL

Nickerson - - - - Kansas

Please Mention Kansas Farmer When Writing to Advertisers.

BERKSHIRE HOGS.

BERKSHIRE HERD BOARS

For quick sale—Two choice Berkshire herd boars, three winter boars and five spring boars, all choice.

E. D. KING - BURLINGTON, KANSAS

HOLSTEIN CATTLE.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

SUNNYSIDE HOLSTEINS

"Echo Segis Fayne," our great herd sire, for sale to avoid inbreeding. He is a grand individual, only 3 years old, and by King Fayne Segis Clothilde, brother to Segis Fayne Johanna, the world's 50 pounds butter in seven days cow. Price $700. Also yearlings and bull calves sired by Echo Segis Fayne, for sale. SUNNYSIDE STOCK FARM, John Mantle, Prop., U. S. P. O. Derby Line, Vt.

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

Holsteins and Guernseys

FOR SALE—High grade Holstein and Guernsey springer cows and heifers. A choice lot. Cows, $100 to $150; large heifers, $90 to $125; heifer calves, $20, crated. Don't write, but come and see them.

BOCK'S DAIRY

Route 9 Wichita, Kansas

Segrist & Stephenson, Hollon, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

CHOICE HOLSTEIN CALVES

Twelve heifers and two bulls, 15-16ths pure, beautifully marked, five weeks old, from heavy milkers, at $20 each. Safe delivery and satisfaction guaranteed.

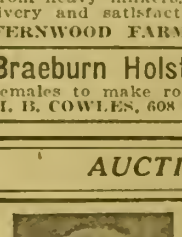
FERNWOOD FARM, WAUWATOSA, WIS.

Braeburn Holsteins

Always A. R. O. Bull Calves, a few females to make room.

H. B. COWLES, 608 Kan. Ave., Topeka, Kan.

AUCTIONEERS.



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The quickest pork producer known. Breeding stock for sale. L. E. JOHNSON, Waldron, Harper County, Kansas.

RED POLLED CATTLE.

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HEREFORD CATTLE SALE - 110 HEAD - AT HUTCHINSON, KANSAS, MONDAY, NOVEMBER 19, 1917



SEVENTY-FIVE HAND-PICKED COWS AND HEIFERS

Big, roomy, prolific cows of the choicest breeding, including about **twenty 2 and 3-year-old daughters of Generous 5th**, bred to **Lawrence Fairfax** and **Imported Shucknall Monarch**; thirty of same age sired by **Gladwyns, College Count and Beau Donald 33d**, bred to **Generous 5th, the show bull Sampson, Lawrence Fairfax and Shucknall Monarch.** Others range four to seven years old and are safely bred to our herd bulls.

We consider this the most valuable lot of young females we ever offered and, being mated to such good bulls, believe they present the best investments to be offered in any sale.

WRITE FOR OUR ILLUSTRATED SALE CATALOG AND MENTION THIS PAPER.

REPPERT & MILLER, AUCTIONEERS O. W. DEVINE, KANSAS FARMER REPRESENTATIVE

THIRTY-FIVE TOP BULLS

Mostly sired by Generous 5th by Old Generous, out of dams of Rich Anxioty breeding. Others by College Count, Gladwyne, Marion, Beau Donald 33d. Extra heavy-boned well-grown husky fellows. The best bunch we ever raised.

HERD BULLS of great character and substance a plenty, including the show and breeding bull

SAMPSON 437001

Besides the thirty-five head catalogued, we have two carloads of yearlings of like breeding and character for private sale, making this the best opportunity of the fall for bull buyers.

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At Sterling, Kansas on

Tuesday, November 6, 1917



28 Spring Gilts

12 Fall Gilts

5 Tried Brood Sows with Litters at Side

20 Spring Boars Ready for Service, and

A number of fine Herd Boar prospects of strictly big-type Poland China.

They are well grown out and we guarantee a good offering. Catalogs are ready to mail out. O. W. Devine will represent Kansas Farmer at the sale. Send for catalog today to

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Hurst's Annual Fall Sale

Bolckow, Mo., Thursday, Nov. 1, 1917

40 HEAD OF TOP BOARS AND GILTS AT AUCTION **40**

BY FAR THE BEST OFFERING WE EVER MADE

We Have Them with
SIZE, STRETCH, BONE and FINISH

"WE SELL SOME SALE TOPPERS EVERY TIME"

SPECIAL ATTRACTIONS

Boars and gilts by COL. CRIMSON, the boar that sires our best ones.

ONE LITTER BY KING'S COL., dam QUEEN ELIZABETH, litter sister to the World's Fair Grand Champion sow. (By one of America's greatest brood sows, RED LADY.)

UNEEDA WONDER is siring good ones. Watch for his pigs sale day.

See the ones by UNEEDA GIANT and JUMBO MODEL.

Our offering is BETTER BRED, HAS MORE SIZE AND QAULITY THAN EVER BEFORE.

Write for catalog today to

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FOR SALE THIS FALL AT REDUCED PRICES

Two yearling cilts; two 2-year-old colts; two 3-year-old colts; two 4-year-old colts, and one herd stallion. All sound and registered in Percheron Society of America. Blacks and bays. If sold this fall I will cut the prices. Also five registered Shorthorn bulls, reds and roans. Come and see me.

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Home of the Grand Champion BOCALDO 6TH, assisted by CALDO 2D, PUBLICAN 4TH AND BEAU BALTIMORE.

All our show cattle our own breeding. Inspection of farm and breeding herd invited. A few choice young bulls reserved to head high-class pure-bred herds now ready for inspection and sale.

William Condell, Herdsman. **ROBT. H. HAZLETT, EL DORADO, KANSAS**

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OF GREENSWARD FARM, FREDONIA, KANSAS

TUESDAY, OCTOBER 30, 1917

Thirty Head of Registered Cows and Heifers, Two Bull Calves, and the Best Two-Year-Old Bull in Kansas

All cows and heifers will freshen soon to Sir Johanna Walker Pietertje, whose first five dams average over 27 pounds butter per week. This bull also sells at sale.

Every animal tuberculin tested.

Daughters and granddaughters of Colantha Johanna Lad, King of the Pontiacs, the $50,000 bull; King Segis Pontiac Alcartra, Sir Ormsby Skylark, King Walker, etc. Some prize winners and grand A. R. O. cows.

Sale held within one-half block of union depot and within fifty feet of stock yards, rain or shine, under cover, in warm building. Write for catalog.

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MAX J. KENNEDY, PROPRIETOR

(On three railroads—Frisco, Santa Fe and Missouri Pacific.)

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Mitchell —a roomy 7-passenger Six, with 127-inch wheelbase and a highly developed 48-horsepower motor.

Three-Passenger Roadster, $1490
Club Roadster, $1560
Sedan, - - $2275 Cabriolet - $1960
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Also Town Car and Limousine.

TWO SIZES

Mitchell

SIXES

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Mitchell Junior —a 2 or 5-passenger Six on similar lines, with 120-inch wheelbase and a 40-horsepower motor. ¼-inch smaller bore.

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All Prices f. o. b. Racine.

Double Margins of Safety Mean

Lifelong Service---Less Repair Costs

Three years ago, after 11 years of car building, we decided to double the usual margins of safety.

We adopted the standard of 100 per cent over-strength. We based our requirements on the careful watching of many thousand cars. Then we devised radical tests to prove that parts had twice the needed strength.

It meant some added weight. It meant oversize parts. It meant higher grades of steel. The Mitchell of today has a wealth of Chrome-Vanadium. It has 440 parts made of toughened steel. It has gears which are tested for 50,000 pounds per tooth. It has rear springs which have never yet been broken.

$100,000 For Inspection

We spend $100,000 yearly for testing and inspecting parts and cars. Our steels are made to formula. They are proved in a crushing machine of 200,000 pounds capacity. We have our own speedway for testing the finished cars.

The result of these standards, apparently, is a lifetime car. Two Mitchells that we know of have already been run over 200,000 miles each. That is 40 years of ordinary service. Repair cost has been lessened by some 75 per cent.

Mitchell endurance has become world-famous. Under the hardest road conditions — in Russia, Australia and South America — it has won a great reputation. It is known in America as "The Engineers' Car"—so many noted engineers have bought it. The demand for the Mitchell has quadrupled since this standard was adopted.

Many Extra Attractions

The Mitchell is also a most complete car. It has 31 wanted features which nearly all cars omit. These include a power tire pump, reversible headlights, a dashboard engine primer and shock-absorbing springs.

It is also an extra-luxurious car. It has a deep, enduring finish, fixed by electric heat. It has extra-grade leather, deep upholstery, a light in the tonneau, a locked compartment, etc.

Before designing these Mitchells, our experts examined 257 show models. So all the known attractions are combined in these new cars.

A Bate-Built Factory

With all these added values, Mitchell prices are far below other cars in this class.

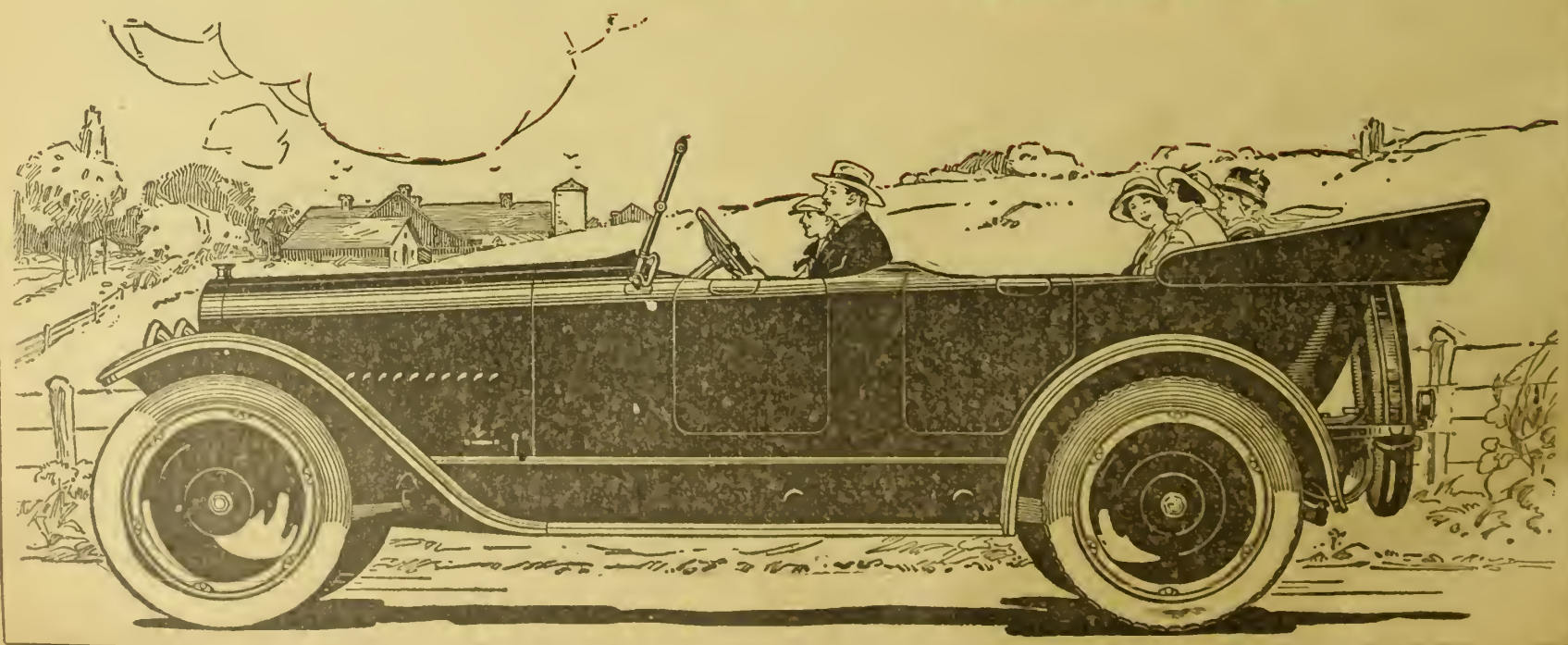
The reason lies in factory savings, in minimized labor cost. This mammoth plant was built and equipped under John W. Bate, the efficiency expert. Every building, every machine was designed to build this one type economically.

Here we build the whole car — chassis and body—under Bate efficiency methods. The yearly saving amounts to millions of dollars. Under no other conditions could cars like these be built at Mitchell prices.

The Mitchell comes in two sizes, at two basic prices. The smaller Six — at $1250 — has a 120-inch wheelbase and a 40-horsepower motor.

When you buy a fine car and a car to keep, you will want a car like this. It means low upkeep, small repairs, and a car to be proud of. See the latest models. If you do not know our nearest dealer, ask us for his name.

MITCHELL MOTORS COMPANY, Inc., Racine, Wis., U. S. A.



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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 43. TOPEKA, KANSAS, OCTOBER 27, 1917. Established 1863. $1 a Year

FRANCE SACRIFICES FOR ARMY

Agriculture at Low Ebb Due to Labor and Machinery Shortage

By FRED B. PITNEY

HOW many times I have heard soldiers on leave from the front say, "I would rather have our bread at the front than your bread here in Paris." The same thing was true of coffee. Soldiers would say, "What do you call this stuff? We get real coffee at the front."

At the rear the civilians drank a compound of chicory, for the coffee supply was short, while the real coffee was reserved for the army. In like manner the soldiers get a purer wheat flour than do the civilians. The wheat supply being so much curtailed, two measures have been necessary to try to increase the amount of flour.

A law has been passed requiring the mixture of 30 per cent of other grains with wheat in making flour, while another law raised the percentage of extraction permitted in the manufacture of flour. Before the war this percentage was 70; it has been raised successively to 74, 77, 80 and 85. Seventy-seven is the extreme limit of nutritive extraction. After that the flour becomes permeated with particles indigestible for human beings.

The result of mixing grains and high extraction has been a flour that is often not only unpalatable but indigestible and it has caused not a little sickness, particularly gastric troubles among the children. Adults frequently throw away the soft inside of the bread and eat only the hard-baked crust. Very often I have found this "war bread" an unpleasant dark brown in color with a soggy, glutinous inside. It is no one's fault. It is the best that can be done under the circumstances.

ALL GRAINS SHORT

Another problem enters with the authorization to mix other grains with wheat in making flour. It is the shortage of the other grains. For it is not only wheat that is short in France, but all cereals. We can have recourse once more to the official figures.

The annual consumption of barley in France before the war equalled approximately 1,250,000 tons, of which about 15 per cent was imported. The production has fallen off to such an extent that nearly one-third of the barley had to be imported last year. This year, owing to special reasons, the production will be slightly higher, but there will still be a deficit far above the normal. Furthermore, the deficit in barley must be considered not only in relation to the normal consumption, but with regard to the fact that it must be used very largely to supplement and replace wheat.

With rye the normal consumption was about the same as for barley, with imports of about 8 per cent of the requirements. In 1915 the production was about 400,000 tons under the normal consumption and in 1916 it was about 350,000 tons under the consumption, while in both of those years there were practically no imports. Thus there was less rye than was needed and rye could only help out wheat by reducing still further the amount given to its normal uses.

The annual consumption of corn averaged 1,150,000 tons, about one-half being imported. The proportion of imports in 1916 had risen to two-thirds.

The annual consumption of oats before the war was 5,500,000 tons, of which 500,000 tons were imported. In 1916 the imports rose to over 1,000,000 tons and the stock was still short 500,000 tons.

AGRICULTURAL LABOR SHORTAGE

When one travels over France, one speedily learns the reason for the shortage in the grain crops. It is because there is not the labor to do the farm work. Cultivation has to be left to the old men, the women and the children. All others have been taken for the armies and the defense of the country.

In crossing and recrossing the French agricultural regions it has been a continual source of wonder to me how the few workers in the fields have been able to produce the crops they have achieved. One sees plows with the handles held by women and the horses led by small boys, women stooping among the long rows of corn, cultivating the ground, groups of women slowly crossing the fields, creeping on their knees, painfully tending the newly-planted crops. Occasionally one sees a white-bearded patriarch among the women. I should say that the proportion is roughly one man to six women. This, however, is by no means an official figure. It is only my own rough guess.

There is no wonder that with this tremendous shortage in labor, fields are left bare, while those that can be cultivated produce less than the normal amount per acre. What would our western farmers think of turning the land in the spring with long-bladed hoes? Yet I have seen this very thing being done in many parts of France because of the dearth of agricultural machinery.

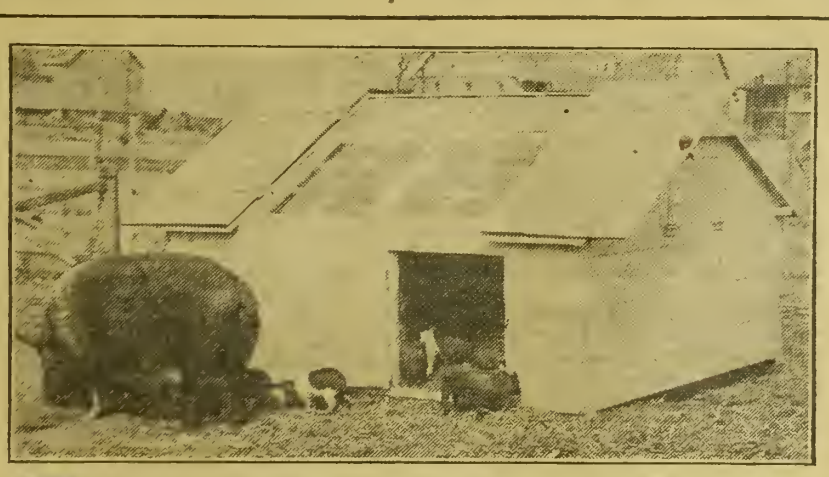
Most of the farm implements of France before the war were of American make. One saw the American mark on the plows and harrows, the rakes and reapers and binders and threshers all over France. Since the war much of this machinery has deteriorated sadly and a great part of it is entirely unfit for use, because there are not the mechanics to keep it in repair, and there has not been the importation of new machines and parts to replace the old and worn-out pieces.

France is a country at war, very really and terribly at war. The invader is on her soil. Her mines and furnaces and factories are in German hands. Her richest manufacturing provinces are held by the enemy. Her men must go to the trenches to defend their country and drive back the hordes from across the Rhine. And those men of the armies must be fed and have the means to fight. Above all, they must have arms and munitions, big guns and shells.

RESOURCES HAVE SUFFERED

Every thought of France for three long years of a bloody and sacrificial war has been given to "les braves" at the front. Little has remained for the civilians at the rear, who have borne their trials in stoic calm for the sake of the soldiers in the trenches. And in those years the resources of France have suffered, especially the farm resources, for imports have had to be directed to the army. The steel brought in has been for shells, the machinery to make more shells and guns. The plowshare has been beaten into a sword, while the reaper has rotted idle in the fields with only the hands of women and children to tend it.

Now, France needs grain. She must have grain to make bread both for soldiers and civilians. And only America can supply it. The burden of victory lies as heavily on our western farmers as on the soldiers on the battlefields of France.



LITTLE pigs are happy and contented in the Iowa Movable Sunlit Hog House. It is snugly built and furnishes ideal shelter for the fall litter. This house is warm and dry and provides abundant light and direct sunlight into the nest during a portion of each day. By lifting the far side and one end, it becomes a cool summer house. Ventilation is through the peak ends. It has solid wood floors, and there is plenty of space in which to work in cleaning. Such a house gives safety, comfort, convenience, serviceability, and durability. Houses of this type built at the Iowa station in 1907 look as though they might stand ten years more service. They are reasonably low in first cost and cost little for maintenance. Such a house is good for the brood sow, the little pig, the suckling sow, the fattening shoat, the heavy fat hogs, and the herd boar—all are contented within its walls—and it costs no more than one-half of the present value of a 250-pound hog.

Surface Drainage

Every farm presents its own drainage problems. The black alluvial soils in the river valleys of Kansas are generally conceded to be the most fertile in the state, yet such land often is unproductive because of poor drainage. That owners of flat, heavy land should remember that the first step in draining these black, waxy, gumbo soils is to secure adequate surface drainage, is the suggestion of H. B. Walker, drainage and irrigation engineer.

The fall season is the best time of the year to plan drainage work. The troubles of the past season are fresh in mind and measures can be taken to overcome them the following year.

Gumbo soils are finely divided and more or less compact, consequently they offer considerable resistance to the free percolation of water downward. Where no provision is made for the removal of storm water by adequate open ditches, crop losses are of frequent occurrence.

Professor Walker points out that tile drainage, although beneficial, is not adequate as a complete drainage outlet for both surface and soil water, and it is questionable if underdrainage should be attempted at all unless good surface drainage has been previously provided.

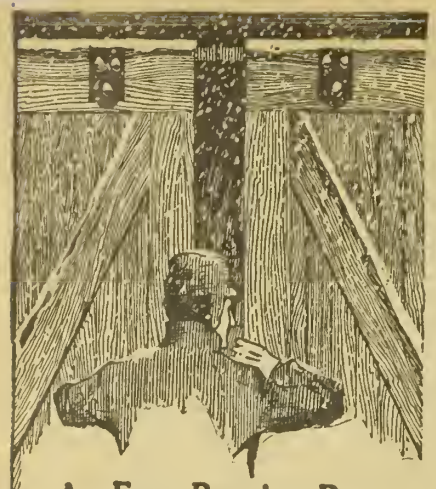
While a good system of surface drains well located and properly graded is essential as the initial step in reclaiming these heavy soils, correct methods of cultivation will aid materially in securing more effective drainage. Such land should be farmed in the direction of the greatest natural slope by plowing with head lands and dead furrows. In some localities this method is known as bedding or ridging.

The bedding need not be pronounced but should be just sufficient to afford a natural drainage tendency laterally from the head lands to the dead furrows. The dead furrows, in turn, must be used as lateral surface ditches, and these must be kept open at their lower ends into larger surface ditches leading into some natural depression or stream. If the dead furrows are not kept open, all of the advantages of the bedding system are lost.

The practice of plowing flat or level land around the field is not satisfactory where gumbo soils are encountered, since this method of cultivation does not afford any simple system of surface drainage.

Forward looking farmers are making necessary repairs on their machinery before putting it away for the winter.

Farm boys should lay in plenty of nuts and popcorn. It's going to be patriotic to eat it instead of candy this winter.



An Easy-Running Door—*Even in Winter*

Even in winter, when ice and snow cover the track of the average door, your barn or garage door positively will not stick if it is equipped with a

McKinney-Pittsburgh Door Hanger

McKinney-Pittsburgh tracks are covered on top, sides and ends. Snow and ice cannot reach the track or rollers. Moreover, your door can never catch on the floor. There is a vertical adjustment which takes care of that. It can never scrape against the wall and stick, because there is a lateral adjustment by which you can increase or decrease the space between door and wall. And it can never jump the track because the two pairs of roller-bearing wheels, joined by strong axles, fit snugly into deep grooves on both sides of the track. All metal is heavily galvanized

McKinney-Pittsburgh Door Hangers and track can be used on any type of sliding door, are quickly and easily installed, and are sold under a guarantee which fully protects you. If your dealer does not have them, send us his name. Also give the width of your door opening, the height of your door, and whether double or single; and we will tell you what it will cost to equip it. We will also send full description.



McKinney Mfg. Co.
Makers of Hardware for the Farm
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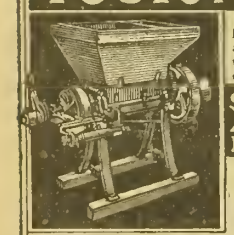

First—Don't waste it by feeding whole grain; grind the grain and save 25%. Second—Don't waste it by buying from an obscure manufacturer.

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Take advantage of our fifty years' experience—select from the most complete line made, the mill suited to YOUR needs. We have it.

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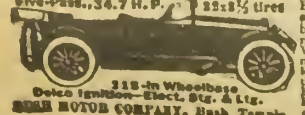
Drive and demonstrate the Bush Car. Pay for it out of your commissions on sales. My agents are making money. Shipments are prompt. Bush Cars guaranteed or money back. 1918 models ready. Write at once for my 48-page catalog and all particulars. Address J. H. Bush, Pres. Dept. 10-P Chicago, Illinois



BUSH MOTOR COMPANY, Bush Temple,

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

FOR helping out in the hauling of farm products, the trailer is getting to be a very satisfactory means. George Brown, in The County Agent, has the following to say about this means of reducing hauling expense:

"We farmers are largely dependent on the railways for getting our products to a market, or we were until the internal combustion motor brought more power and speed to our farms. War is taking 100,000 motor trucks and their production was limited before war orders were given. The railroads to meet governmental demands to supply thirty-two new cities of at least in each, 40,000 hearty eaters, in training in those army cantonments, have reduced their passenger service by 25,000,000 miles per anum, to augment freight movement. On the steel rails economy obtains to a high degree, and yet, from the sources of production for food and raiment, although plethoric bank accounts prevail, ancient haulage methods rule.

"There are over 4,000,000 automobiles in the United States and it is estimated that over 40 per cent of them are owned by farmers, power on the farm, for haulage. The external appearance of the car counts for little for that purpose, but the chassis should be additionally equipped with a few necessary parts, such as frictionally acting shock absorbers to prevent jolts and jars, and then power is at hand and always ready to hitch to a trailer which should be equipped with a coupling to pull the trailer perfectly in any direction over roads as they are, and with no strain on the motor car in starting, stopping or turning. The hitch should couple to the body or springs of the car and not to the rear axle.

"With your own car, plus gasoline, you have power, at a great saving of time and money, to haul loads to market on the trailer at a cost, for the latter, of from $125 and up, according to capacity. It is practical haulage economy and the user will be performing a patriotic duty in these strenuous times of war, curtailed transportation and high cost of existence for man or beast."

Non-Skids in Front

Most of the automobiles that you see nowadays have smooth tires in front and rough treads on the rear wheels. One of the reasons given is that the rough tires do not require chains in winter and so save a lot of bother.

I have been using a car for a couple of years, and it gets winter weather and mud as much as summer weather and good roads. I have decided that it pays to have the rough treads all around.

Though there is no traction on the front wheels, there is the tendency to slip in the mud that means a good deal when you are trying to stay either in or out of a track. And it is about as hard to get out of a muddy track or rut as anything else. The non-skids will catch on the edge of the rut and help themselves out a good deal quicker than the smooth tires.

Then there is another reason why I like the rough treads. I believe that it pays in miles built in the tire. If you will weigh the same size tire of both smooth and rough treads you will see that the weight is far more in proportion in favor of the rough treads than is the cost.

Another thing I like about it is that you can change tires from one wheel to another without having to use a smooth tire on the rear.—EARL RODGERS, in Power Farming.

Keep Tractor in Order

The tractor is as responsive to good treatment as an animal or any other machine, says E. R. Gross, of the Colorado Agricultural College. In the case of a great many machines the response to good treatment is not so noticeable. This is true because the tractor is a power-furnishing machine while the average farm machine consumes power. If the tractor is not just right in every way, it falls short in the production of power. This is sure to be very noticeable, as it is usually pulling a full load and only a small loss in power cuts down the amount of work done.

In the case of the power-driven machine, any disorder calls for greater power to operate it. The horses or the machine furnishing the power work harder and approximately the same results are accomplished. Hence it is much easier to overlook a slight indisposition on the part of a power consuming machine than on the part of the power producer.

If any part through which power is transmitted is loose, it may cause a reduction of power. The tractor operator should examine his machine thoroughly every week or ten days to prevent such loss. A bolt in the crank case is loose, oil is lost. The adjustment on a valve stem loosens, the valve is out of proper time and the cylinder does not give full power. Similar leaks may develop in the fuel system and the ignition system. Any of these cause heavy drains on the power. Usually they can be quickly repaired if attended to early. Left too long, they may result in a breakdown involving a large repair bill and loss of much valuable time.

The throb and rhythm of the tractor should be a part of the operator so that he detects the trouble in its earliest stage.

How to Use Hammer

Care in the use of the machinist's hammer, which forms a part of the tool equipment of every automobile, is one of the first things the amateur automobile repair man must learn when working around the engine, says a writer in the current issue of American Motorist. With this hammer he can do more damage in a moment than a good man can repair in a week. His first inclination is to use this form of persuasion on any and every refractory part, and this is a desire which should be overcome.

Not only should the hammer itself not be used on any metal parts without the intervention of a block of wood to protect the surface, but care must be exercised to avoid hitting the other parts through the inaccuracy of aim that distinguishes the unskilled wielder of this tool.

A poorly aimed blow that misses its target and lands on one of the valve push rods or similarly vulnerable parts with any degree of force is apt to cause trouble of an expensive nature.

It is a good thing for the novice to be sparing in the use of his hammer as a cure-all. Do not resort to it unnecessarily, and do not use a sledge-hammer blow where a light tap will do the work.

Protection Aids Machinery

The price of farm machinery has been advancing for some time. The cost can be reduced by making each machine last longer. Much farm machinery wears out too soon because it is not given proper care and attention. More machinery is put out of commission each year by rust and weather than by service. The life of any machine may be lengthened by protection from weather, good lubrication, and prompt attention to repairs.

Farm machinery is frequently left standing in the field throughout the winter. Housing not only protects the implements from rust but leaves them in good condition for use the following season.

Women have been working in the hay fields of Wilson County while the men are busy with the silo filling and the preparation of wheat ground because of the scarcity of labor.

Considered as an economic question, as a means of providing for increased production and larger profits per acre, it is not difficult to see the place which fertilizers have in present day farming operations. The use of fertilizers, the use of tractors, cream separators, Babcock testers, and silos must all be understood and appreciated by the farmer who wishes to take his place in the foremost rank of farming today.

Thirty-five calves were vaccinated for blackleg by the farmers in one community in Leavenworth County in a half day in vaccination demonstrations given by I. N. Chapman, county agricultural agent and F. S. Turner, his assistant.



The Comforts of Good Plumbing

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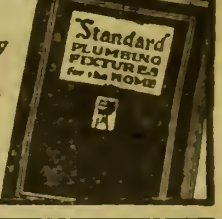

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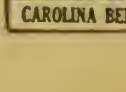

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FARMERS DISCUSS WHEAT PRICES

The 200 or more farmers who met in Kansas City, Kansas, last Thursday at the call of Maurice McAuliffe, president of the State Farmers' Union, took the stand that the Government had not been fair in fixing the price on the 1917 crop of wheat in that the producers were not taken into consultation. Dr. H. J. Waters, one of the speakers at the convention and a member of the price fixing commission, made it clear that he and other members of the commission representing the producers, had done all in their power to get as good a price as possible.

The one point around which most of the protest centered was the fact that while the price of wheat was now arbitrarily fixed, the saving was not being passed on to the consumers as promised, and products which the farmers must buy continued to soar in price without any apparent regulation. In other words, the farmer's war profit on wheat had been cut and the amount of this cut was being pocketed by someone between the producer and the consumer. The producers present insisted that all they asked was a square deal with the price of such industrial products as entered into the cost of growing wheat controlled and regulated in the same ratio as the price placed on wheat.

Considerable dissatisfaction was expressed over the operation of new grain grading regulations. It would seem that dealers have been taking unfair advantage of producers in buying wheat under the new law. Doctor Waters assured the men of the conference that he, as food administrator for Kansas, was hot after the federal authorities both by letter and telegram regarding this point. The Department of Agriculture had been urged to send an absolutely open-minded man out into the field to study at first hand the operation of the new rules.

After a good deal of talk and discussion, some resolutions were passed, one of which called for the appointment of a committee to go to Washington and present to the President and to Mr. Hoover the grievances voiced in this meeting. A strong resolution pledging the loyalty of the various farmers' organizations represented was also passed. We believe the resolution asking that the wheat price question be opened was ill advised. The demand that prices on all industrial products come under the same regulations and control as the price of wheat, which was embodied in one of the resolutions, is clearly in the interest of fair play. A collection of $140 was taken for the purpose of paying expenses of the committee to Washington. This, however, is but a drop in the bucket, and if such a committee is sent the organizations represented will have to take money from the treasuries to pay the necessary expense.

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WINTER COLLEGE TERM

The old winter term idea is to be revived this year as a wartime measure at the Kansas Agricultural College. Students who stayed at home this fall to help in the putting in of crops and performing other necessary farm work are to have a chance to go on with their college work. A special semester or term has been adopted in the interests of these patriotic young men who remained at home in order that there might be no falling down in crop production as a result of labor shortage. This term will open November 12, closing March 30, and more than a hundred courses will be offered. At the close of this semester students who are able to remain the rest of the year will be permitted if they wish to take courses that will give them a half term's credit in addition. Students can thus enter in November and during the present academic year make credits amounting to three-fourths of an entire year's work.

A large number of the students who left college last spring and stayed at home this fall in order to help out with the planting and harvesting of spring crops and the putting out of wheat, will welcome this opportunity to continue their college work. Practically every department of the college is offering courses in this special semester. It means a great deal of extra work for the instructors, since they will necessarily be giving duplicate courses. This special term should not be confused with the regular ten weeks' short course which begins in January, and is open to young men direct from the grade schools.

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SHOOT AS YOU SHOUT

Some of our city papers are accusing farmers as a class of lacking in loyalty, of being slackers, and of profiteering. Farmers naturally resent this charge, for we know that no class of our citizenship is more loyal. We were told early in the war that the Middle West was not awake, while the East was on fire with patriotism. When the time came for the raising of armies, the enlistment records of the West as compared with those of New York and other eastern cities gave the lie to such charges.

Farmers may not have done so much shouting from the platforms, but their loyalty has been proved by the enlistment records of the strictly agricultural states and by the fact that farmers have worked early and late to raise the largest crops on record. No one has ever caught a farmer leaning on his plow or fork handle waiting for the clock to strike eight before beginning his day's toil. He probably has been an eight-hour man, but it has been eight hours in the forenoon and eight in the afternoon.

Theodore Roosevelt in making a speech in New York City before an audience which was unusually noisy, told them that the thing to do is to "shoot as you shout," which epigrammatic statement might well be taken to heart by some of our people who are making a lot more noise than the farmer.

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THE FOOD SITUATION IN FRANCE

In this issue we print the second of three articles by Fred B. Pitney on the food situation in France. Mr. Pitney is a well known foreign correspondent who writes from personal experience and first-hand information of the conditions existing in that war-torn country. We are glad to be able to give our readers this information. He maintains that it is a mistaken idea of statesmen and politicians that they are the only ones wise enough and strong-hearted enough to face the whole truth. Therefore when the nation is hard-pressed and its man power and food supplies at a low ebb, they endeavor to keep the full truth from the people. Reports of meager resources have been officially denied by politicians for fear France will come to the table of the final peace council lacking in war prestige.

The writer of these articles sets forth the true conditions as he sees them and shows it is a dangerous policy to withhold part of the truth, since it results in conflicting reports and weakens the confidence of people in their government.

Save Food and Win War Quickly

THE United States has undertaken the biggest job that as a nation we have ever tackled. Since the beginning of our national history there has been an irreconcilable conflict between our fundamental ideas of government and those fostered and upheld by the central powers of Europe. Three years ago these powers decided that the time had come to begin their program of bringing the whole world to their ideas of government. We have not been drawn into this conflict to avenge the insults to our flag, but because it was necessary to again fight for human liberty just as truly as our forefathers fought in 1776.

A million and a quarter of our finest young men are now mobilized in training camps. Other millions will follow, and by sheer force of man power we can look forward to ultimate victory, but at terrible cost. The billions in money, and the many sacrifices of comforts which we at home must make, cannot for a single moment be weighed against the sacrifices made by these boys from our homes who gladly go to the front to uphold the side of humanity in this great struggle.

By holding back and raising what now should be considered petty questions, we are increasing the necessary sacrifice of blood. We can win the war in time because of our great reserve of man power, but we can win it more quickly and with less bloodshed by fighting the war as a nation with every man, woman and child as truly enlisted in the cause for which we stand as our boys in uniform who offer their lives in support of our ideals of government and the universal brotherhood of man.

It takes money, munitions, and food, to make our armies efficient. Soon we will be maintaining on a battle front three thousand miles away these boys from our homes who will need a continual stream of these necessary supplies to make them efficient. Lack of united support from home will increase the bloodshed and prolong the suffering. We can "muddle through" and win by sheer force of numbers, or we can hasten the end and save the lives of many of our boys by doing everything in our power to make for their efficiency.

The Food Administration is now endeavoring to get every family in the land to definitely pledge to do its part in carrying out the program of food economy to the end that there may be no lack in keeping our armies and those of our allies properly rationed. The food pledge week originally set for October 21 to 28 has been carried forward to the week beginning October 28. The signing of the pledge cards means that we definitely go on record to do our part in keeping up the stream of food supplies that mean so much in shortening the period of actual fighting.

America is seeking to accomplish by voluntary pledges of food economy what Europe has wrought by stern legal enactment. In his proclamation to Kansas people H. J. Waters, food administrator for Kansas, said in part:

"In the warring countries of Europe the saving of food has been enforced by law. In this country, in keeping with the principles of democracy for which we are contending, the problem is to be solved by the voluntary co-operation of the citizens of the nation.

"During the week mentioned, throughout Kansas, as well as throughout all other states of the Union, every man, woman, and child will be asked to subscribe his name in the lists of those who will form the great volunteer army of food conservers.

"The people of Kansas have responded nobly to the call for soldiers, to the appeals for subscriptions to the Red Cross and other essential wartime activities, and to the call for unprecedented production of food with which to feed American soldiers and our allies. In these great activities it has been the pride of the state that Kansas contains no slackers. In this special campaign about to be inaugurated—quite as significant as any that have gone before—let Kansas enrol every citizen in America's army of conservation. What we waste may lose the war. What we save will win it."

KILL THE GOPHERS

Pocket gophers are one of the worst pests we have in our alfalfa fields. Every year they destroy large quantities of this valuable crop. The farm bureau of Doniphan County has estimated that from 5 to 10 per cent of the alfalfa crop of that county is taken annually by gophers, and a crop worth a million dollars was raised in 1917. They have determined that this loss shall not occur in 1918. Gophers are easily poisoned, but efforts to get rid of them have failed largely because the work has been done in a haphazard manner. A definite county campaign is to be made in Doniphan County under the direction of the farm bureau and its agricultural agent, William R. Curry. On November 6 every farmer in the county will be expected to put poison in all the new gopher mounds on his farm. The poison has been obtained in large quantity and distributed at different points, being sold at cost.

Following this day of poison distribution, a careful watch will be kept and any gophers that live through will be located and destroyed. This sort of a systematic campaign is certain to result in greatly reducing the gopher damage. It is well worth while making the attempt, and especially in view of the present high price of alfalfa.

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PROTECT BEANS FROM WEEVIL

The ravages of the bean weevil can be prevented by storing beans in air-slaked lime. Beans have been raised by many people this year who have had no previous experience with this crop. G. A. Dean, head of the entomological department of the Agricultural College, is authority for the statement that there will be serious losses unless precautions are taken to protect stored beans from the ravages of these insects.

To use the air-slaked lime, simply mix one part by weight with each two parts of beans and store in bags or boxes. This should be done as soon as the beans are threshed. The lime does not injure the beans either for food or for seed.

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AGRICULTURE IN SCHOOLS

Sixty-seven school districts in Rice County recently participated in a county school fair, which represented the activities of the children both in the schools and in their homes. This is the third annual event of this kind for Rice County. Linking up the school life of the rural districts with the home environment seems to be an accomplished fact in this country. It is evident that agriculture is being taught and taught successfully to children in the rural schools.

The exhibits at this fair comprised agricultural products grown and collected by the pupils, samples of sewing and cooking, and in addition some of the usual school work, such as penmanship, arithmetic, and drawing. Over a hundred kinds of agricultural products were shown, over thirty-one of these being from the gardens and twenty-five from the orchards. Nearly every school used corn, milo, feterita, and kafir for a prominent part of its exhibit and the specimens of these crops were of excellent quality.

Rice County has set a pace in this matter of interesting the school children in agricultural and home-making matters which might well be followed by other counties.

ECONOMY IN PORK PRODUCTION

Iowa Experiment Station Shows Methods of Reducing Cost of Feeding Hogs

THE simple addition of tankage, milk, or other supplement to rations of corn or corn and corn by-products, changes to a remarkable degree the results in feeding hogs for market. A study of the hog-feeding experiments being conducted by the Iowa Experiment Station at Ames impressed the visiting hogmen with the great possibilities of scientific mixing of feeds—feeds that physiologically niche when properly combined like the meshing of a group of differential cog wheels.

About 250 were present at the Iowa hog meeting held October 9, and the visitors were much profited by their study of the experiments and the addresses given. During the progress of the meeting, Dean C. F. Curtis emphasized the need for greater production of hogs. F. G. Ashbrook, of the Bureau of Animal Industry, who was present, told of a shortage and of the general plans for holding meetings in the various states to promote the hog industry. R. K. Bliss, director of agricultural extension, spoke of the necessity for furnishing meats and fats to our allies as well as to our own people. J. R. Brown, of Chicago, told of how the brood sows had been excessively marketed during the past three months, and spoke of the prospects for good prices in the months to come. He predicted 20-cent hogs for the coming year. Dean J. H. Skinner, of Purdue University, emphasized the importance of learning better methods of production, particularly as regards better feeding and selection of brood sows. It was his idea that through rigid culling and the keeping of only the best kind of brood sows, four might be made to do the work which has required five.

CORN OIL MEAL AS TANKAGE SUBSTITUTE

The Iowa experimental work in swine feeding is in charge of Prof. John M. Evvard. One of the tests upon which he reported shows that the feeding of corn oil cake saved considerable tankage in balancing a corn ration. This feed is the residue after the corn oil is pressed from the corn germ, this process being carried on in the corn products factories. The oil cake meal runs about 22 per cent protein and about 9 per cent fat, this being double the percentages of each present in the natural corn grain.

To secure some first-hand information on the value of corn oil cake meal when added to a shelled corn-tankage-salt ration as well as a hominy-tankage-salt ration on timothy-bluegrass pasture, the experiment now in progress was run. This also gave more data on the relative value of shelled corn and hominy feed.

The six groups were handled as follows: Group 1—Corn self-fed plus meat meal tankage self-fed; Group 2—Corn self-fed plus a mixture (tankage 25, corn oil cake meal 75) self-fed; Group 3—Corn self-fed plus tankage self-fed plus corn oil cake meal self-fed; Group 4—Hominy feed self-fed plus tankage self-fed; Group 5—Hominy feed self-fed plus a mixture (tankage 25, corn oil cake meal 75) self-fed; Group 6—Hominy feed self-fed plus tankage self-fed plus corn oil cake meal self-fed. Salt was allowed to all groups.

Six fifty-pound weanling pigs were fed in each group. The prices on feeds were as follows: Corn, $2 a bushel, or $71.42 a ton; hominy feed, same price as corn; meat meal tankage, $90 a ton, and corn oil cake $65 a ton. On the basis of an $18 market, all the hogs made a profit, the highest average per hog—$6.57—being in Group B where corn was supplemented by the corn oil cake as well as tankage, all self-fed.

TEACHINGS OF EXPERIMENT

Professor Evvard draws the following conclusions from the results of this test:

"First—Hominy feed does not produce quite as rapid gains as does corn; furthermore the feed requirement with the hominy feed is a little over 5 per cent higher than with corn, or averaging the three corn and three hominy feed groups we have 281.7 pounds total required with the former, and 403.7 with the latter.

"Second—Hominy saves tankage, there being the average required only twenty-four pounds for a hundred pounds gain as contrasted with 35.3 with shelled corn, or practically 45 per cent more. This is particularly of moment when meat meal tankage is high and corn and its starchy by-products low in price.

"Third—The addition of corn oil cake meal (Group 2) to the 'free-choice' corn-tankage ration (Group 1) shows an improvement in that the gains are increased, feed requirement lowered, and profits augmented. Tankage is saved to the extent of 26 pounds on the hundred pounds gain. Fifty-eight pounds of corn oil cake meal saves 44 pounds of corn plus 26 pounds of meat meal tankage, a total of 70 pounds mixed feed, or 100 pounds of the oil cake saved 75.9 pounds corn plus 44.8 pounds meat product, a total of 120.7 pounds.

"Fourth—The 'free-choice' offering of the corn oil cake in addition to corn and tankage also increases the gains, and that apparently even more materially than with the mixture, but not nearly so much tankage is replaced. Six pounds of corn oil cake saves three pounds meat product plus 22 pounds of corn, a total of 25 pounds. But dealing in small numbers like these is apt to lead to exaggerations. At any rate, corn oil cake meal added to corn and tankage on timothy-bluegrass pasture is of much merit and helps us to save much tankage when mixed with this highly efficient corn supplement.

"Fifth—Hominy feed is already very rich in the germs of corn (twenty pounds of the hominy feed carrying as much germ as 56 pounds of the shelled corn) therefore the addition of the germ oil meal is not attended with such favorable results. Nevertheless 54 pounds of cake meal saved 13 pounds tankage plus 44 pounds of hominy feed, a total of 57 pounds mixture, or 100 pounds saved 24 pounds tankage plus 81 hominy feed, a total of 105 pounds mixture. For some unknown reason Group 6 'upsets the dope' apparently. At any rate the market effects of the corn oil meal added to corn are not apparent with hominy feed. This still further emphasizes the mysteries underlying the practice of feeding. Here is a case wherein a corn product added to a corn ration in company with a little tankage shows up much merit. Without the tankage the corn cake is a poor lone supplement to corn. Skim milk or buttermilk works well also with the corn oil cake meal and corn.

"This point is to be emphasized: Just because a corn by-product added to the original corn does not balance it, or even help it out any, materially, is no good reason for assuming that corn by-products should not be fed with the corn grain. The simple addition of a little milk or tankage changes the entire complexion of things, and opens our eyes to a new inner world of potent possibilities concerning the scientific mixing of feed."

CORN, GLUTEN FEED, AND TANKAGE

To learn more concerning the value of gluten feed for pigs while running on rape pasture, using it as a substitute for as well as a supplement to corn, seven groups of pigs, averaging forty-five in the beginning, are being fed to a marketable finish. These groups were all fed on rape pasture, the grain rations being as follows:

Group 1—Corn, self-fed; Group 2—Corn, self-fed, plus mixture (tankage 50 and gluten feed 50 parts) self-fed; Group 3—Corn self-fed plus tankage self-fed plus gluten feed self-fed. Group 4—Corn self-fed plus tankage self-fed; Group 5—Corn self-fed plus gluten feed self-fed; Group 6—Gluten feed self-fed; Group 7—Gluten feed self-fed plus tankage self-fed.

All corn is fed shelled, the meat meal tankage runs 60 per cent protein, and the rock salt is allowed ad libitum to all groups.

The results of this feeding trial were given for the first ninety days only, or from June 27 to September 27. The following prices were charged for feeds: Corn, $2 a bushel; corn gluten feed which came from Cedar Rapids, $60 a ton; meat meal tankage, $90 a ton, and block salt, $20 a ton.

RESULTS OF TEST TO DATE

According to Professor Evvard, the following conclusions might be drawn from the results of this test to date:

"First—Corn alone on rape produces somewhat more rapid gains with less pounds per hundred increase than does corn gluten feed fed alone under otherwise same conditions. However, the gluten feed gains are slightly cheaper (12 cents per hundred) when costing $11.42 less a ton, practically a seventh less. However, both these feeds are this year unsatisfactory when fed alone on rape. In some other years we have had quite good results with corn alone on rape; this is our first test with gluten feed on this basis. With sheep, wintering pregnant ewes on silage and alfalfa hay with corn versus gluten feed, a pound of the latter was a little more valuable than a pound of No. 2 corn.

"Second—Meat meal tankage in a self-feeder added to corn self-fed on rape increased the gains practically 50 per cent or from 84 to 126 pounds in a hundred days and returned a greater margin by $1.37 per pig. Tankage added to gluten feed increased the gains only 23 per cent and lessened the margin of profit by 34 cents. Evidently tankage is worth more when added to corn than to corn gluten feed. A lighted match added to a wet brush pile is a disappointment, but when merely touched to a dry brush heap causes a wonderful change. And so we find the more we study the feeding game and the more data we secure, the more complex it seems, yet we believe there's a sort of millenium coming that will show us how simple after all is the explanation of the mystifying results.

"Third—The mixture of gluten feed and tankage self-fed alongside corn gave much better results than corn alone, but not so good as when all were fed separately.

"Fourth—Gluten feed added to corn and tankage (comparing Groups 4 and 3) did not affect appreciably the rate of gain or the economy of gain or the margin of profit per pig. However, the mere adding (by the pigs) of five pounds of the gluten feed caused an increase in the meat meal tankage required for a hundred pounds of gain of two pounds, but a decrease in the corn of five pounds. But these figures are too close together to make much of them. However, the eating of five pounds of gluten feed produced a saving of five pounds of corn and a loss of two pounds of tankage or meat meal. It appears that gluten feed fed separately from the corn and tankage is a better proposition than mixing it with the tankage.

"Fifth—Gluten feed self-fed as a lone supplement to corn self-fed on rape for young pigs decreased the gains, increased the feed for 100 pounds gain, and lowered the margin per pig.

"Sixth—Corn gluten feed may have a much better field of usefulness with the brood sow or in the maintenance of shoats than with the young fattening pigs. Gluten feed contains a little too much fiber, as do middlings and bran, for young pigs whose stomachs are comparatively small, but for the brood sow whose stomach needs to be filled to keep her happy this drawback may become a fair asset. We expect to do some work with gluten feed for brood sows, awaiting the results with much interest."

First hand study of the results of such experimental work as is being conducted at our experiment stations is of great value to those who will make the effort to be present at these station meetings.



EVERYONE knows that the whole corn grain is a wonderfully good hog feed, hard to beat. That's one good reason why we speak of the feeds we use to replace it as "substitutes," and no substitute is quite like the original. Shelled corn with meat meal tankage, both self-fed on bluegrass, slightly excel in gains hominy and meat meal tankage, both self-fed, but only about 6 per cent, and requiring some 7 per cent less total feed. The requirement for 100 pounds gain was 316 of corn plus 50 of meat meal tankage, totaling 366 pounds. This as compared to 359 pounds of hominy feed plus 35 of meat meal tankage, a total of 394 pounds. Peculiarly enough high-priced meat meal tankage was saved as usual through the use of the hominy feed, or practically 30 per cent, which is worth while. But hominy feed is a corn product being the 20 to 22 pounds by-product remaining from a bushel of corn after 34 to 36 pounds of human food, corn meal, are milled from the bushel. Hominy feed is a good whole corn substitute, which was well worth the money in the summer of 1917 at current prices of at least 8 and sometimes more per cent less than the corn per pound. In the illustration the "corn" pig has his nose to the ground, as if picking up a kernel of his favorite feed.—JOHN M. EVVARD.

Breeding Ewe Lambs

Ordinarily the breeding of ewe lambs in the fall is not recommended, but the threatened shortage of meats warrants the breeding of such lambs that were born in April or May. Both wool supply and meat supply should be increased by this measure, and little harm to the lambs should result. Lambs that weigh 100 pounds now certainly will suffer no injury. However, they should not be bred until late in the season. About 75 per cent of the flock will become pregnant if rams are allowed to range with ewe lambs.

Wheat yields at the Hays Experiment Station have nearly always been in proportion to the amount of moisture present in the soil at seeding time. This fact has been determined by careful moisture studies covering a considerable period of time. If there is little or no moisture in the ground at seeding time, the chances are decidedly against a paying crop of wheat being grown. The present year corn fields that have been carefully tilled and kept free from weeds contain a fairly good reserve of moisture. Fields that have been permitted to raise a heavy growth of weeds contain but little moisture and consequently are not very safe places to put out wheat.

The freight congestions of last winter should be a warning as to what we may expect the coming season. We are too prone to be unconcerned until the time comes when we wish to market some stock or wheat or perhaps buy coal, feed, or other supplies. It will then be too late to do anything to help out the situation. Every car of any commodity that is handled right now means one less car to handle when the winter congestion is on. We are being urged to plan as far in the future as possible in the matter of ordering machinery and supplies of all kinds in order to help out in overcoming the congestion that is almost sure to come later in the season.

Prompt action is imperative in dealing with hog cholera; therefore, get expert advice at once if you have a sick hog.

CO-OPERATIVE MARKETING LAWS

Corporation Laws Not Adapted to Co-Operative Marketing—By R. C. Gano

CO-OPERATIVE marketing cannot be conducted to the best advantage by farmers, under ordinary state corporation laws.

In the states where co-operative marketing has flourished it has been found necessary to secure special legislation covering this unusual form of co-operation—and today California, Washington, Minnesota, Wisconsin, Nebraska, Iowa, Illinois, Florida, Texas, and possibly some other states, have laws covering the formation of co-operative companies, societies, or associations, and empowering them to do business as corporations.

The failure to secure proper legislation, and the practical difficulties that have beset the paths or groups of farmers trying to co-operate under the form of ordinary stock corporations, explain many of the failures in the annals of co-operative marketing. Strict co-operative ideals call for a form of company which has no capital stock, pays no stock dividends, makes no profits, but which prorates all earnings back to its members in the exact proportion in which they contributed their produce. In other words, the most successful co-operative corporation is that one which is operated strictly at cost, paying all money above expenses back to the members, not according to stock owned but according to business transacted.

The corporation laws of most of the states, however, provide only for capital stock corporations. And it is also true that a number of the states which have provided for the incorporation of co-operative associations have not included a provision for non-capital stock, non-profit associations, but apprehend by the term a sort of qualified stock corporation which limits the rights of its members to hold above a certain amount of stock, limits the size of dividends to a fixed per cent, and makes other unusual requirements intended to equalize as far as possible the rights of members, such, for instance, as that each member, regardless of stock held, shall have only one vote at stockholders' meetings.

VARIETY IN CO-OPERATIVE LAWS

The California co-operative law, which has stood guard over the world's greatest co-operative marketing association—the California orange and lemon growers—is the broadest in scope probably of all. Its outstanding features are that associations formed under it shall be non-profit associations with no capital stock, and that members shall be allowed to make their own rules regarding voting power, conditions of membership, transfer of membership, etc.

The Texas law, passed only this year, probably stands next in its simplicity and the latitude given to the associations for managing their own affairs. This also provides only for purely co-operative non-profit associations. It apprehends contributions of members to a working capital, however, and says earnings may be distributed according to amounts of working capital contributed, or according to business transacted with members. No member shall have more than one vote.

The Nebraska law defines a co-operative company as one distributing its earnings "wholly or in part" according to business transacted with members. While the word "wholly" undoubtedly makes possible a non-profit association, as a matter of fact practically all associations formed under the Nebraska law have been stock corporations, paying dividends of some sort. The Nebraska state constitution permits no exceptions to its rule that voting in corporations shall be according to stock held—so even a non-profit corporation would have to provide for issuing shares of stock.

Under the Washington, Wisconsin and Minnesota laws, such associations must be stock corporations, and the one-vote rule is in force. Dividends up to a certain per cent may be paid on stock in the two former states. In Minnesota earnings can be apportioned as desired.

STOCK DIVIDENDS A MISTAKE

Some of the authorities consider the capital stock form of co-operative association, which pays dividends, handicapped to start with. They say the co-operative spirit within such an organization is apt to be weakened by the ever-present thought that the small shareholder or the non-share-holder gives up part of his total earnings to pay dividends on capital invested. The idea of idle money earning a wage and of the wealthier members who own stock getting the lion's share of the earnings—i. e., dividends on their stock as well as their proportionate share of surplus earnings—doesn't go well in co-operative associations. Experience seems to show that where operations are conducted absolutely at cost, the spirit of comradeship is stronger and the association is more apt to hold together and to grow rapidly.

The one-vote rule is also a provision that often seems unfair. The man who markets 10,000 boxes of apples through the association does not see why the man who markets only 500 should have the same voting power. Sometimes, however, the general spirit of the members is for equal voting power. But the California law is probably wise in leaving this matter to the members themselves. In the California Fruit Growers' Exchange, owners of the Sunkist brands, voting power is not equal.

The one problem in connection with the non-capital stock form of association is that of financing. With no stock to sell, where shall it get money to begin operations? But this is not a real problem if the banks' co-operation may be had. In California the usual method is to secure the amount needed on a corporation note, with personal notes of leading members as additional security if required. This note is paid out of the first season's earnings and thus charged to operating expense. In a very short time the association owns its home free of all encumbrances. In admitting new members a membership fee is charged which is the equivalent of what charter members originally contributed from earnings to build the plant.

In the writer's judgment the California law is the ideal to copy after. It has "proved the pudding"—for co-operative marketing under it has reached wonderful pinnacles of success. This does not mean that the laws of the other states have not considerable virtue. They are good as far as they go, and under their provisions many associations are thriving. But the California, both on theoretical analysis and judged by results, appears to be the broadest in scope, the most liberal, the most desirable.

LOOK TO THE LAW

Farmers who plan to form co-operative associations should post themselves fully on the legal aspects of their undertaking. If their state has no law authorizing co-operative associations, one of three courses is open: (1) They may incorporate as an ordinary stock company (which except in rare cases will doom the enterprise to failure); or (2) they may, if the state laws permit it, incorporate under the laws of a state which has a co-operative law and then enter their home state as a foreign corporation; or (3) they may set to work and secure the passage of a co-operative association law by their state legislature.

The second procedure named might be fraught with considerable difficulty. The co-operative corporation is a new kind of institution in the world. Many states and many lawyers know little or nothing about them, do not understand their legal status or the fundamental reasons for their peculiar rules, etc. An inquiry directed to the Attorney General of Texas a year or so ago, before the Texas law was passed, as to whether a group of Texas farmers could incorporate in California and then enter Texas as a foreign corporation, proved to be a puzzler. The attorney general thought a non-profit association could not secure a permit to do business in Texas, while a well known firm of Texas lawyers were equally convinced that it could secure a permit.

The attorney general of Wisconsin, replying to a somewhat similar query, says: "As to whether a farmers' co-operative society can incorporate under the co-operative law of Wisconsin, and then enter another state as a foreign corporation, permit me to say that this will depend altogether upon the laws of such foreign state, and you should consult a legal adviser in the state where it is desired to have the company operate." Similar opinions were received from the attorneys general of Florida, Nebraska and Washington.

It is probable, however, that in a majority of the states it would be possible to incorporate under the laws of any of the states which have co-operative laws and then enter the home state. In this way the law deemed best suited to the association's purposes could be selected. It might even be worth while for a Wisconsin or Minnesota association to incorporate under another state's co-operative law, if the two laws happened to differ in points that were considered vital.

But expert legal advice should by all means be had for every case. Understanding the law and operating in careful accord with it is one of the first essentials to the success of a co-operative marketing enterprise.

The House as a Workshop

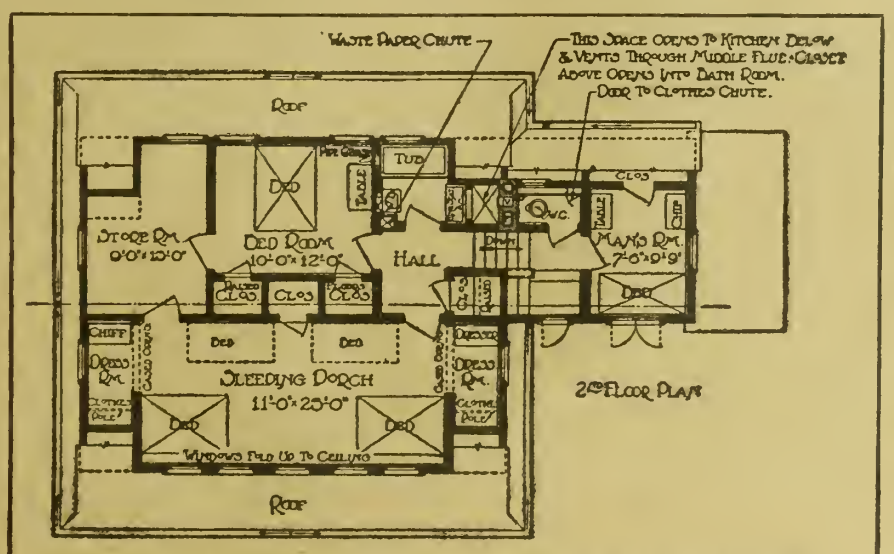
THE modern farmhouse must provide for saving the labor of the housewife in every way possible. In "The Farmhouse Improved," by Prof. W. A. Etherton, the following principles are set forth as important in the treatment of the house as a workshop:

The house, as a workship, will be more convenient if the fuel, water, food supplies, and the kitchen equipment are near to the places where needed—if the fuel and water do not need to be carried into the house by the kitchen worker, and the waste water, garbage, and ashes do not need to be carried away by her—if, then, there is running water in the house, a convenient form of garbage receptacle, and ash cans, or pits, into which ashes will fall from the fireplace and the range automatically—if the house is provided with modern heating and lighting plants, vacuum cleaners, modern bathing facilities, lavatories, and water closets—if special provisions are made for sewing, washing, drying, ironing, and storing of clothing—if the house is simple in plan and no larger than necessary—if it is provided with non-absorbent wall and floor surfaces that are smooth and easy to clean—if the lines of travel within the house are short—if the men can enter the dining room and sleeping rooms without having to pass through others—if the kitchen, in particular, is not a thoroughfare to other rooms.

In discussing the question of farm houses versus city houses, it is stated in the pamphlet that it is in the requirements for convenience that the problems of the farmhouse differ most from others, particularly from that class of city homes in which servants are employed. In such city homes the kitchen and other service rooms are of secondary importance. They are a sort of necessary evil to be mitigated as much as possible by obscuring them from the senses of sight, smell, and hearing. To this end, they are removed as far as practicable from other rooms and, quite commonly, to the rear of the house, where they can be reached from the outside only by a servants' walk and an inconspicuous entrance.

The man of this city house leaves it in the morning and returns in the evening. He may seldom see the kitchen. He has no business there and possibly nothing more than a financial interest in the kitchen so long as it serves its intended purpose. The woman of the house is engaged much of the time in the living room and parlors, or with social duties elsewhere. She has only supervisory duties in the service quarters.

The family on the farm is seldom away from home and the men are in and out of doors during the day. All members of the family and the farm help have their "three square meals" a day, two of them in many instances while the sun is below the horizon. During harvest time, when the well-to-do city family may be in the mountains or at the beach and little or no kitchen work be done at its home, the farm family is busiest, and the kitchen and dining room are taxed to their greatest capacity. All members of the family at home are workers and farmers, and the house is a part of their industrial equipment. It is the workshop for the women from dawn until dusk, and the kitchen is the center of their activities. They have parlors, but for occasional use only. If they succeed in getting help for the housework, it is to assist and not to serve. The relative importance of living rooms and service room is, therefore, reversed in city and country, and in like manner the relative value of working equipment. Convenience is one of the most important requirements for the farmhouse, and the possibilities for further attainment have yet to be commonly understood and realized.



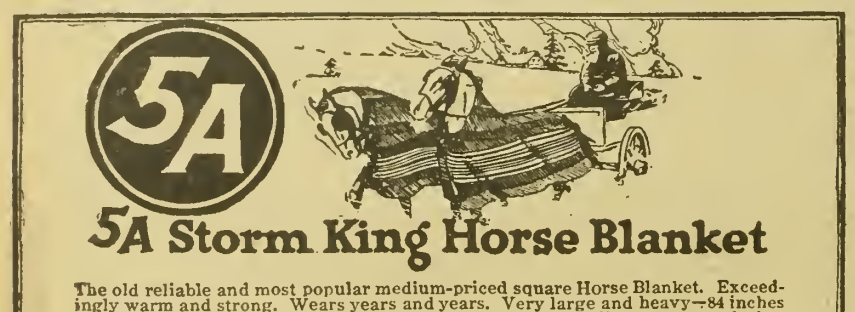
ONE OF SEVERAL PRACTICAL ARRANGEMENTS THAT CAN BE MADE FOR THE SECOND FLOOR OF THE HOUSE ILLUSTRATED IN OUR ISSUE OF SEPTEMBER 1

Holstein Association Meeting

The Holstein-Friesian Association of Kansas will hold its fall meeting at Nortonville, October 31. In the evening the Commercial Club of Nortonville will entertain the visiting members at a banquet.

Holstein breeders in Kansas are getting to the point where they have some surplus stock for sale and at this meeting the matter of organizing a state Holstein sales association will be considered. Such an organization should be most helpful to the small breeder who may have a few animals to sell each year. The beginner with only a few surplus animals to sell is handicapped in marketing them, and a well conducted sales association will help him to get what his stock is worth. Such organizations have proved very helpful in other states. Holstein men of the state should keep this meeting in mind and plan to attend.







Dairy Club Prizes

The following prizes are offered for work in the Kansas Farmer Dairy Club:

Beatrice Creamery Company, hinge-door silo.

R. J. Linscott, Holton, Kansas, pure-bred Jersey bull calf.

Empire Cream Separator Company, cream separator.

Beatrice Creamery Company, cream separator.

Hinman Milking Machine Company, two-unit milking machine.

Hunt-Helm-Ferris Company, complete cow stall.

N. A. Kennady Supply Company, twelve-bottle Babcock milk tester.

In our May 20, 1916, issue, KANSAS FARMER offered the following special prizes:

To the member who wrote us oftenest telling of the interesting things that happen in connection with the club work and things learned from it, and who sent us the best pictures, we offered $3 and one year's subscription to KANSAS FARMER. To the one ranking second, $2 and a year's subscription to the paper; third, $1 and a year's subscription; fourth and fifth, one year's subscription each.

Paul Imel, of Fairland, Indiana, a graduate of the agricultural college of Perdue University and a practical farmer, has been appointed specialist in pig and baby beef clubs in Kansas and will devote his whole time to this work. Mr. Imel has had wide experience. As assistant county agricultural agent in St. Joseph County, Indiana, he became interested especially in club work for boys and girls. In his pig and baby beef work in Kansas, Mr. Imel will work under the direction of Otis E. Hall, state club leader, and the department of animal industry of the Kansas Agricultural College.

It pays to be suspicious whenever you find a sick hog in the herd. Pork prices are too high to take chances with hog cholera.

KANSAS FARMER DAIRY CLUB

Balancing the Ration

BALANCING rations for milk cows is the subject of this lesson. After you have learned about the nutrients found in the different feeds, just what they do in the animal body and how much the cow needs of the different things, you are ready to figure out your ration. By the term "ration" we always mean the amount of feed you give the cow in twenty-four hours. Ordinarily this ration is fed in two equal parts, or at least the grain portion. The roughage can be fed whenever it is most convenient. You may, for example, give your cow all the alfalfa she is to have for the day in a single feed, perhaps while she is in the stall. During the rest of the day you may let her run to the fodder, straw, or whatever other kind of rough feed you are feeding.

The first step in planning a ration is to figure out just as nearly as possible what your cow needs each day of the different nutrients, the protein, carbohydrates, and fats, about which we told you in a previous article. First comes maintenance, because the cow's body must be kept up in working order. We told you last week that the average cow of a thousand pounds weight needs each day .7 of a pound of protein, 7 pounds carbohydrates, and .1 pound of fat. If you have a large cow, weighing 1,200 pounds, add one-fifth, since 200 pounds is one-fifth of a thousand. According to Prof. T. L. Haecker, to whom we referred last week, it requires on an average to produce one pound of milk testing 3.5 per cent, .049 pound of protein, .22 pound carbohydrates, and .019 pound of fat. From these figures you can find out what your cow ought to have each day of these three necessary nutrients. For example, to make twenty pounds of 3.5 per cent milk, the cow will need each day .98 pound of protein, 4.40 pounds of carbohydrates, and .388 pound of fat. To this add her maintenance needs and we have 1.68 pounds of protein, 11.40 pounds of carbohydrates, and .48 pound of fat. This can be taken as the approximate daily nutrient requirements of the thousand-pound cow, producing daily twenty pounds of milk. If the feed she is given does not supply these nutrients, she cannot continue very long to give that quantity of milk.

Now that we have found approximately what the cow needs in nutrients, we must study the different feeds from the standpoint of the nutrients found in them and supply the cow with such a combination as will give her the amounts indicated above. This ration must also be bulky enough to satisfy her appetite. Cattle are by nature adapted to getting their nutrients from bulky feeds like hay and fodder, and as these feeds are low in price as compared with grain or mill feed, we try to supply all the nutrients possible in bulky feed. In fact the chief function of cattle is to convert these bulky farm-grown feeds which cannot be used as human food into such products as milk, butter, or beef. They thus furnish a market for low grade farm-grown feed.

In attempting to supply your cow the necessary nutrients, you might decide that it would be a simple matter to feed her, for example, prairie hay only. She probably could not or would not eat more than twenty-five pounds a day. A study of the nutrients contained in prairie hay shows that it is not a balanced ration for milk production. The twenty-five pounds would not contain to exceed one pound of digestible protein, which is considerably below the amount she needs for the twenty pounds of milk. It contains 10.35 pounds digestible carbohydrates, and .275 pound of fat. Since the cow cannot eat and digest more of the prairie hay, she cannot produce this amount of milk, because she gets only a very little more protein than is necessary for her own body.

In balancing rations for milk production, we find that it is best to feed some things that contain more than the average amount of protein and with this rich protein feed some other cheaper feeds containing small amounts of protein. If you can feed alfalfa and silage to your cow, you have the foundation for almost an ideal balanced ration. The thousand-pound cow giving twenty pounds of milk will not need any grain at all if you can feed twelve or fourteen pounds of alfalfa a day and thirty-five or forty pounds of good corn or kafir silage. The table shows how nearly this ration meets the requirements of the cow giving this quantity of milk:

DIGESTIBLE NUTRIENTS

	Protein Lbs.	Carbohydrates Lbs.	Fat Lbs.
12 lbs. alfalfa	1.27	4.68	.108
40 lbs. corn silage	.44	6.00	.28
Totals	1.71	10.68	.388
Required for 20 lbs. of milk	1.68	11.40	.480

Work with your head as well as your hands. You are learning to do this by weighing your milk and feed and keeping careful records.

Winners In Dairy Club Contest

WINNERS in the Kansas Farmer Dairy Club contest, which ended for all members September 1, 1917, are as follows:

Rudolph Enns, Newton, Kansas, first
Firmer Hiddleston, De Soto, Kansas, second
Mahala Smith, Leavenworth, Kansas, third
Glen Romig, Topeka, Kansas, fourth
Howard Weis, Thayer, Kansas, fifth
Lester Kincaid, Oakley, Kansas, sixth
Elise Regier, Whitewater, Kansas, seventh
Max Hollister, Sedgwick, Kansas, eighth
Theresa O'Mara, Colony, Kansas, ninth
Everett Zirkle, Berryton, Kansas, tenth.

This closes the first year's work in the first contest of this kind ever conducted. It represents faithful, painstaking work on the part of every member of the club, extending over a period of twelve months. It is no small thing to have kept milk and feed records for a year, making all the calculations required, reporting promptly each month to the banker and the Kansas Farmer office, and finally closing the year with a complete, connected story of what has been accomplished. A good many more boys and girls than the ones whose names appear above have completed the year's work with honor and credit to themselves. There are not enough grand prizes to go around, but those who failed to win one of the special prizes can console themselves with the thought that they have won a cow at least and gained a fund of useful knowledge and experience. Some have not only paid for the contest cow within the year, but have two heifer calves. The list of grand prizes appears on this page. The silo offered by the silo department of the Beatrice Creamery Company through H. H. Pugh, manager of the silo department at Topeka, has been assigned as first prize. The balance of the prizes have not been definitely assigned and if the members standing high enough to win any of these prizes care to express a first and second choice, we will give as much consideration as possible to their wishes.



Vital Principles at Stakes

IT IS maintained by the National Grange that money is no more sacred than blood and should be conscripted to pay the cost of the war. In expressing its disapproval of the action of Congress in fixing the scale of taxes on incomes and war profits, the following telegram was sent to members of Congress by the legislative committee:

"National Grange is not satisfied with amount proposed on incomes and excess profits. Poor people pay the bulk of tariff and internal revenue taxes. The soldiery must largely come from the same class. You have conscripted men, you should now in fairness conscript excess profits."

In the September issue of the National Grange Monthly, John A. McSparran, secretary of the legislative committee, stated that our federal tax system has always been arranged to fall heaviest upon the poor people of the country. "It is to be hoped," said Mr. McSparran, "that we will not follow the precedent that we have made in other wars, of sending the poor people to fight the nation's battles and then letting them come home and pay their expenses. The great bulk of our federal taxes are gotten from tariff and internal revenue taxes. If you lay a tariff tax of a cent upon a pound of rice, while one rich man will buy a pound of rice and pay his tax, a thousand poor ones will also buy a pound of rice, and each pays his share without any regard to his ability to pay. While one rich man will smoke a cigar, a thousand poor ones will also smoke a cigar and each pays his internal revenue tax without regard to his ability to pay. We all recognize that no one can be so poor that he ought not to help support the government under which he lives, but we also contend that along with tariff and internal revenue taxes should go taxes that fall heaviest upon those who are best able to pay.

"We have one right taxing principle in this regard, in the income tax. Its scope should be enlarged for the reason that no element of sacrifice attends it, as does oftimes the collection of a tariff or internal revenue tax. Graduated as it is, it falls heaviest upon those who are best able to pay. For instance if a person has property or business enough to yield an income of $500,000 a year, and in this vital emergency the government should take it all, there would be no real sacrifice for such a one could live on his principal for a year or two until the war is over and not be in any danger of poverty. If the government has found it necessary to conscript the youth of the nation, as men and money go together in war, the wealth of the country should be taken to meet the emergency that called for the sacrifice of the men. No talk of disturbing business will pass muster. The family that sends a boy to war is terribly disturbed and it might be said with just as much sense that we could not send an army to the front for the reason that it would disturb families.

"The excess profit tax is fundamentally right from two standpoints: In the first place the profits of war induce war. You have but to examine some of the organizations that were so earnestly advocating preparedness a couple of years ago to get the full significance of that statement. And if these profits are taken by the government to finance the war it will have a tremendous influence in favor of settling these disputes by arbitration. In the second place the soldier has to lose all profits. There is no money in the fighting business and when the soldier returns he has to find his place again in business. Fabulously large amounts of money must be gotten to prosecute this war and it has been estimated that there are $5,000,000,000 annually in excess profits arising out of the war. It will be hard to convince the people of this country that they should subscribe to the Liberty Bonds if this tremendous source of immediate cash without sacrifice is allowed to remain. Surely no less than $4,000,000,000 of these excess profits should take the place of that many bonds, whose interest and sinking fund will mean taxation for generations after the war is over."

A Call for Help

A Western Kansas reader, M. D. Davis, is showing the right spirit in his desire to do his part in conserving the food supply. He seems to be in the grip of circumstances over which he has no control and is asking for help. Here is his story in his own words:

"After reading the article on the front page of last week's KANSAS FARMER entitled 'War Demands on Live Stock,' I decided to write of my peculiar experiences in live stock the past season. I fattened a hog for market last summer, and had him weighing around 250 pounds in March. I offered him to a hog buyer in Weskan at that time, but they shipped out without letting me know. I then turned this hog in with the stock hogs. In August the buyers came to my place and offered me thirteen cents a pound, which I refused. I fattened this hog again this fall and told the hog buyer I wanted to sell him, but he made up a carload and shipped out again without letting me know about it long enough ahead so I could get the hog in to the stock yards. I live eight miles from Weskan and have no telephone. Now apparently all I can do is to butcher this hog, and I can use only about a hundred pounds of meat and the hog weighs fully three hundred. After reading the appeals from the Food Administration, it makes me feel like a German sympathizer to waste even an ounce of human food, but what can I do? I have other hogs, including a brood sow which I must fatten and butcher as quickly as possible."

Has anyone a suggestion to make to Mr. Davis as to how he can best dispose of the meat from these hogs for which he has no use himself?

Value of Good Sire

The value of a good sire is well illustrated by the record of a bull owned by the Nebraska Agricultural College. This bull has sired five heifers whose butterfat production is 823 pounds greater than that of their dams. At 40 cents a pound, this butterfat makes an increased income of $329 a year from five members of the herd, an increase due entirely to an excellent sire. If one had to borrow the money to buy this sire, this increased income would pay interest on $5,490.30.

Remarkable as this increase seems, it cannot equal the improvement that a good sire will make in an average herd. The dams of these heifers were already high producers, and consequently infusion of high-producing blood would not raise production so much as in the average herd.

Sheep Return Good Profits

"The man who persisted in keeping a few sheep on his farm is now reaping his reward," says C. E. Wood, of Shawnee County. "In the first place," says Mr. Wood, "he has not only increased the value of his land by getting rid of weeds, but he has also increased his bank account. A year ago lambs were bringing around eleven dollars a hundred on the Kansas City market. Now they are worth the fancy price of fifteen to eighteen dollars, while breeding ewes are bringing from eleven to fifteen dollars. We should not overlook the handsome returns from the wool, which is simply a by-product. Last year we received thirty-two cents a pound and thought that a good price, but this year at shearing time wool was bringing about forty-five cents a pound and this fall it is as high as eighty-five cents.

The creamery does not pay for the actual weight of the cream, but for the butter fat it contains. Result: 286 pounds of cream testing 35 per cent contains as many pounds of butter fat as 500 pounds of cream testing 20 per cent. And the 35 per cent cream saves 214 pounds of skim milk, worth at present prices $1.60 for feeding calves, pigs or chickens.



Plan now for next season. Get the utmost power from your tractor, automobile, gas engine or motorcycle. Begin to add to the life of your motor. Multiply its operating power. Eliminate carbon annoyances. Use En-ar-co White Rose Gasoline for gasoline powered tractors (or En-ar-co National Light Oil for kerosene powered tractors) and En-ar-co National Motor Oil.

Read This Advice of Farm Experts

No engine manufacturer will contradict the statement that more gasoline motors are ruined by being burned out through insufficient or faulty lubrication, which means lack of oil or the use of improper oil, than through any other cause. In reality, lubrication is the life of the mechanism. Friction must be eliminated to prevent wear, and in no case is this more true than of gasoline engines. Effective service can be expected from any reputable make of gasoline engine if it is properly cared for. Poor results are certain with the best and highest-priced engine that money can buy if the requirements of lubrication are not observed.—SUCCESSFUL FARMING

EN-AR-CO
National Motor Oil
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The Better The Lubricant The Better The Motor

And there is only one "better" lubricant—En-ar-co National Motor Oil

Without lubrication the most expensive motor is as lifeless as the raw material from which it was made. Faulty lubrication will soon return it to its native value—a few cents per pound as scrap. But *efficient lubrication* will endow it with pulsating life. It will give it an energy that answers to your will and performs the tasks you dictate. An En-ar-co lubricated motor will continue its service more efficiently and beyond the life of motors using ordinary oils.

Uniform Motor Fuel Insures Uniform Power

Power is the "big word" in farm production—En-ar-co White Rose Gasoline IS power.

Upon your selection of motor fuel depends the motor's degree of driving force. But to be efficient, this force must be continuous and uniform. Just as human energy is dependent upon foods that supply vitality, so is your motor's best efforts dependent upon the vitality of its fuel. En-ar-co White Rose Gasoline is the accepted standard of highest power on thousands of farms today.

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En-ar-co satisfaction may be yours. Send in the coupon for free handy oil can and full information on lubrication and power problems

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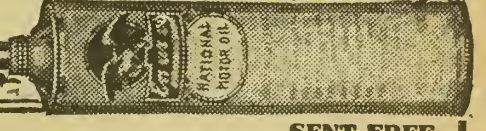

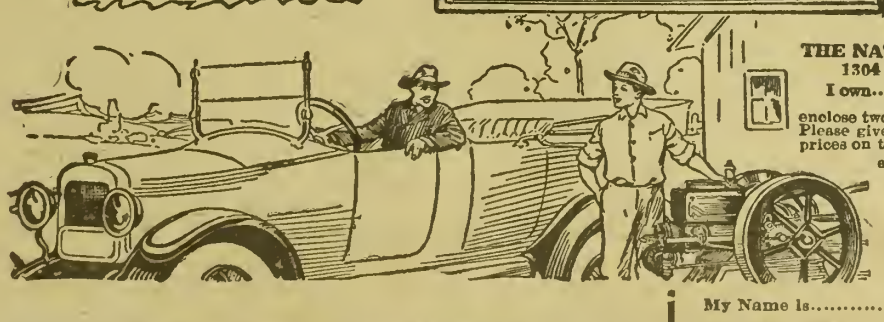

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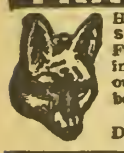

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Topeka, Kansas

Harvey County has a larger kafir acreage this year than for several years, and an unusually heavy crop of the sorghums is expected, reports F. P. Lane, county agricultural agent. The silage tests indicate that kafir and cane will make two or three times the amount of silage the corn has made. Plans are being made by the Harvey County farm bureau for holding several township school fairs. In one township where a fair has been held for several years, the five schools are appropriating ten dollars each from the school treasury to make up a premium list.



Abortion in Dairy Cattle

ABORTION is one of the serious diseases afflicting cattle. Every case of abortion is not by any means infectious, but the safe plan is to treat every cow that aborts as a suspicious case. P. W. Allen, of the dairy bacteriology department of Illinois University, offers the following suggestions regarding this dangerous disease:

Abortions among dairy cows are due either to an accident or to a germ. The amount of loss due to the former cause is slight, while abortion due to the germ, that is, infectious abortion, within the last few years, has resulted in one of the most serious losses suffered by the dairymen. It is a great misfortune to the dairyman that while this trouble is prevalent and increasing in all parts of the country where cows are kept, as yet no effective treatment has been developed and the control of the disease is greatly hampered by lack of knowledge of just how the disease is most often spread.

The disease is characterized by the dropping of the calf prematurely, due to an infectious catarrh of the womb caused by the abortion germ.

Abortion may take place any time from the third month to within a few days of completion of the term, most commonly during the fourth and fifth month of pregnancy. Sometimes the fetus is retained in the uterus and becomes mummified. That is, the dead fetus dries up in the membrane surrounding it, and may be carried for months beyond the normal period. Cows which have aborted once develop enough immunity to the disease to carry the calf longer the second year than the first and the third year they will generally complete the term and give birth to healthy calves and show no ill effects of the disease. Still such cows are not as good as sound animals since they may still carry the germ and can infect other cattle.

Cows infected for the first time often carry the calf but three months and the expelled fetus may easily be removed with the manure and bedding unnoticed. However, when the fetus is carried the greater part of the term a yellowish discharge usually occurs. Also, all the signs of calving will begin to develop prematurely. After the abortion, a yellowish discharge may continue for several weeks. Retention of the afterbirth usually accompanies an abortion where the fetus has been carried from seven to nearly nine months. It is considered that the very unhealthy condition which necessarily accompanies retention of the afterbirth often results in sterility. In purchasing animals the best means of getting information as to their infection with the abortion germ is to have the blood of the cow tested. This method of detecting the disease has not become commonly used by dairymen, as no wide campaign for controlling the disease has been started.

It is quite generally accepted that the modes of spread of the disease are by the bull, by the vaginal discharge, and by the milk. The occurrence of abortion in cows having been served by the same bull has repeated itself so often that this mode of transmission has been assumed. That the characteristic yellowish discharge from aborting cows will cause the disease has been definitely proven.

Not enough is known about the spread of abortion at present to satisfactorily control it. There is no cure for the disease known. Many who wish to sell a remedy have taken advantage of the fact that a cow will develop immunity in from one to three years and thus cure herself, the remedy often getting credit for the cure, where this fact is not understood. The best recommendations for the control of the disease seem to be:

1. Isolate infected cows and bring up their calves on the milk of cows known to be uninfected.
2. Disinfect the navel of the new-born calf from an infected mother.
3. Burn or bury in lime the fetus and afterbirth and disinfect stable and all litter after an abortion.
4. Wash thoroughly the hind quarters of an aborting cow and irrigate the vaginal tract with a good antiseptic daily until all signs of discharge have passed.
5. Disinfect the bull before and after every service.
6. Add new animals to a sound herd as calves only.
7. Keep clean animals and clean stalls.

Co-operative Feed Buying

Money can be saved in buying feed co-operatively. Many Granges and Farmers' Union locals in Kansas have proven the feasibility of this sort of saving. In a recent issue of The County Agent, the plan being followed by the dairymen's league of New York is described. The league has a branch in every organized farm bureau county and has established a central feed office in New York City. It is arranging for the manufacture and sale of feeds, according to the formulas issued or approved by Cornell Experiment Station. The endorsement of the dairymen's league will appear on all of the bags of all manufacturers authorized by the league. The central office assists in handling transportation difficulties in providing to prevent delays.

The general plan is a very simple one. A local dealer is selected carefully by the local committee to handle the business. He is allowed a fair profit. The maximum price of feed is to be $3 per ton above the wholesale price at the time purchase is made. If a member takes the entire carload for his own consumption, he pays cash, and takes the feed from the car, for which he receives $2.50 per ton discount. If he orders in less than carload, he gets $2 per ton discount. If, however, he takes his feed from the general local storehouse, he gets but $1 discount. Non-members get no discounts but pay regular prices if there is a sufficient quantity to be had.

The local dealer is required to make up cars to the maximum capacity to save freight and he must have storage space in order to make up shipments when he cannot get full carload orders. He is also required to keep a supply to carry feeders over from one car to the next in case he should rent either.

This plan is recommended to farm bureau organizations, not only for feed but for seeds, fertilizer, limestone, coal and other supplies. The principle, while co-operative, is sound. Where no dealer can be found who is satisfactory, or who is willing to undertake the work on a fair basis, the local societies may appoint one of their own members as their agent, but this is not generally desirable because one of their local members has all he can do to attend to his own business, besides the experience and capital of the local dealer should be employed. This plan will be found feasible and profitable to all concerned.

In no case should the county agent himself act as agent for this buying and selling proposition. In the first place it is absolutely forbidden by the Department of Agriculture. In the second place he, being a public officer, has no right to discriminate against the business men of his community. A co-operation which is formed merely to put somebody out of business is nearly always a pernicious one. A co-operation which is formed to do business on business principles is always to be commended.

Cow Testing Associations

In keeping your Dairy Club records you are doing what grown-up dairymen find can most satisfactorily and economically be done by organizing a cow testing association. It is very easy to get so busy with farm work of all kinds that record work cannot be handled. A group of from twenty to twenty-six men milking cows can organize themselves into an association and have their testing and record work handled by one man.

The members of the associations are assessed $1.50 annually for each cow. A tester hired by the association makes a trip to each herd once a month, weighing the milk for one day and testing all the cows. Private record books are furnished by the United States Department of Agriculture.

By this method each association member has an exact record of the performance of each cow and is better able to

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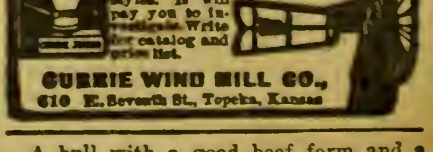

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weed out those not paying their way.

The oldest testing association in Kansas is in Dickinson County. There is another at Mulvane, a third in Montgomery County, and a fourth in Sedgwick and Harvey counties.

The cow testing associations are showing their members the value of dairy blood in the herd. When the Dickinson County Association was organized in 1912, five pure-bred sires were owned by members of the association. Now there are twenty-five.

The dairy department of the Agricultural College is urging that dairymen in other sections of the state form cow testing associations. Prof. O. E. Reed says that these associations can become a very important factor in bringing about improvements in the dairy industry. We feel that the work our club members are doing along this line will be of great value in their home communities because in many instances the results you will get in keeping these accurate records on your cows will cause the older dairymen to become interested in doing similar work. Keep this in mind and perhaps some of the Dairy Club members can be given credit for starting a movement for cow testing associations in the communities where they live.

Community Breeding Helps

Certain improvement, uniformly good individuals and constructive breeding are the results of mating females with superior sires. Small breeders and those just beginning in the breeding business frequently find the best sires apparently too expensive. As a result such breeders must either be satisfied with mediocre sires, paying a heavy service fee for a good one, or co-operate in the purchase of a sire.

Unfortunately too many choose the easiest and ultimately the most disastrous route—the cheap, inferior sire. In most instances a few sacrifices in personal fancies regarding type and character and inconvenience in breeding will afford the use of a good sire. Organized community breeding offers opportunities for the small breeder to improve his herd and flock by the use of the best sires owned co-operatively.

Community breeders offer further opportunity through the exchange of sires. While using mature sires frequently does not appeal to some persons, it should be remembered that their real value seldom becomes known until their get have developed. This means that many sires are disposed of before their value is known. Constructive breeding and permanent improvement are the results of keeping the best healthy, tried sires of good disposition and exchanging them within the communities. Aside from the economic consideration this is another step in constructive breeding. The secretary of the local breeders' organization should have a record of every sire and his performance and make this available to each member.—S. T. SIMPSON, Missouri College of Agriculture.

Cost of Official Testing

Is official testing of pure-bred dairy animals worth the price? The American Jersey Cattle Club has recently imposed a fee of two dollars for each cow placed on Register of Merit test. Some breeders have written to the secretary that they will stop official testing because of this fee, which really does not begin to take care of the office end of the expense. The Guernsey Record Association charges an application fee of five dollars and a fee of five dollars in addition before a cow's record is accepted. Of course the cost of supervising is additional expense, and these various items make official testing expensive, but breeders of high-class pure-bred dairy cattle need the official test.

The Guernsey Cattle Club has from the beginning made its advanced registry work self-supporting, the additional fees amounting, as stated above, to ten dollars. Yet there is a great deal of testing done by Guernsey breeders. The Jersey breeder is getting off easy in being asked to pay only two dollars in addition to the cost of supervising, and yet the secretary reports that some of them think this fee is greater than they can afford to pay.

"Surely this attitude on the part of the Jersey breeder comes from not fully understanding or comprehending the benefits of an officially tested herd," says R. M. Gow in a recent issue of the Jersey Bulletin. "The prices at three sales of Jerseys, recently held on the Pacific Coast, throw a great deal of light on the question whether or not any breeder can afford not to do Register of Merit testing. In fact, they are clinching arguments as to the value of Register of Merit records. Buyers now look for authenticated records of yield in the pedigrees of Jerseys offered for sale, and are quite willing to pay for them. Authenticated records, or their absence, make the difference between obtaining 'breeder's prices' or just 'dairy prices.'

"In the case of what we will designate as Sale A, the mature cows were all in the Register of Merit, and the other animals were out of Register of Merit dams. Nineteen cows over three years averaged $303.42. Three animals under three years of age, out of tested dams, averaged $151.33. Ten males, from three days to twenty months old, out of Register of Merit dams, averaged $158.

"In Sale B there were no cows with Register of Merit records, and only one animal, a young bull, out of a tested dam. Nineteen untested females over three years averaged $145.79. Twenty-seven untested females under three years averaged $73.58. Six bulls and bull calves, none out of tested dams, averaged $40. But note that the one animal out of a tested dam, a two-year-old bull, brought $770.

"The tested females in Sale A brought twice as much as the untested females in Sale B; and the bulls in the tested herd brought nearly four times as much money as those in the other.

"In the case of Sale C, the animals could claim no immediate connection with Register of Merit stock. The females averaged $78.41 and the males $49.38, not even dairyman's prices, as the sale had not been advertised. If it had been a tested herd it could not help being advertised by its entries in the Register of Merit.

"Broadly speaking, a fair estimate of the entire cost of testing a cow for one year is $20. The American Jersey Cattle Club has now added $2 to this, making an addition to the investment in a cow of $22. But on sale day this adds a value of over $150, according to the demonstration of the value of Register of Merit testing given by the sales under review."

Sire for Dairy Herd

No other one thing could do more in developing the dairy herds of Kansas than the use of high class pure-bred sires with good production records back of them. The future success of a dairy herd depends largely on its head, says O. E. Reed, professor of dairy husbandry at our Agricultural College.

As a result of his wide observation and experience, Professor Reed believes grade dairy cattle to be just as good as pure-breds for the average farmer, who is primarily interested in getting milk. Good grades will give more milk than an average or poor class of pure-breds. The great bulk of dairy products is and will continue to be furnished by grade cows.

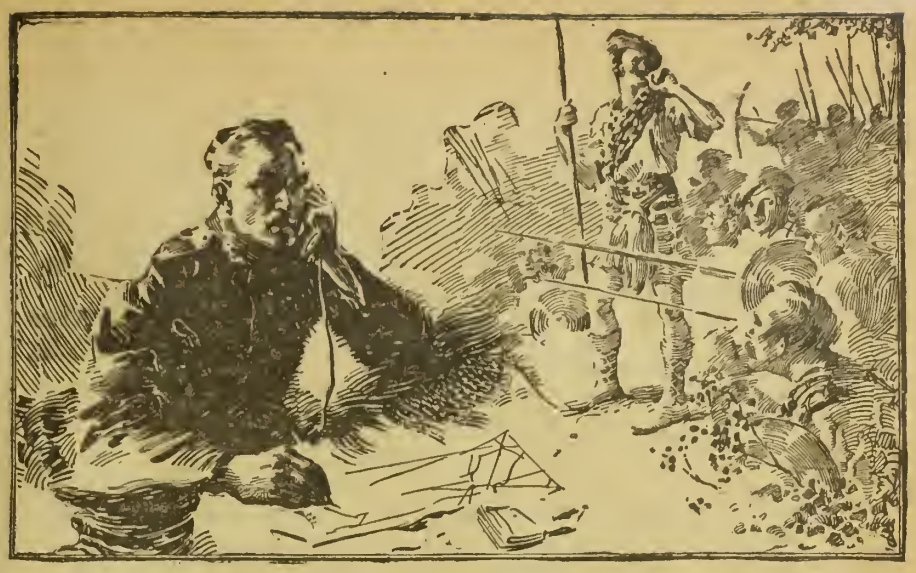
The proper way for a new dairyman to establish a herd is to get the best cows he can buy and use a pure-bred sire in building up his herd. It has been said that the sire is half the herd, and it is a fact that all the future cows in the herd carry 50 per cent of his breeding.

The herd sire should be a pure-bred of the breed he represents and be backed by good ancestry. If possible a sire should be purchased whose mother and other close female ancestry have shown high records of production. A yearly record is to be preferred to one of shorter duration.

Often it is possible to buy an old sire which has proved to be a satisfactory breeder. Good results from the use of such an animal are certain. The objection to buying an old bull is that he is high priced, if his value is known, and one runs a chance of getting an unruly animal. A bull calf is usually selected. A calf can be purchased for less money and the owner can train him as he chooses.

Germination tests do not tell the whole seed corn story. Corn that will come up but that will produce an unprofitable crop is worse than seed which won't grow at all, because it fools a farmer into using labor and land that are lost. Know what your seed will do by selecting it yourself.

Prairie hay is better for the young calf than alfalfa hay.



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The Way I Fought

I am not bound to win Life's game, I am
not charged to reach a goal;
It is not told that victory alone shall consecrate the soul.
Not all the great men come to wealth, not
all the noble men succeed,
The glory of a life is not the record of one
daring deed;
And if I serve a purpose true, and keep my
course, though tempest-tossed,
It shall not matter in the end whether I
won my fight or lost.

I was not ordered at my birth to come to
death possessing gold;
No stern command was given me that riches
must be mine to hold.
The reason for my life is hid, I shall not
solve the mystery here,
And even what is victory for mortal man is
far from clear;
But this I know, when comes the end and
all my toiling here is done,
The way I fought will count for more than
all the goals I may have won.

If only victory were good, and only riches
proved men's worth,
Then only men of strength would live, and
brutes alone would rule the earth;
Then striving for a lofty goal and failing to
succeed were sin,
And men would lie and cheat and steal and
stoop to anything to win.
But there are greater goals than gold, and
finer virtues than success,
And how I've fought shall count for more
than what I've managed to possess.
—By Edgar A. Guest, in The American Boy.

Watch Out for Waste

We do not ask the American people to starve themselves. Eat plenty, but wisely, and without waste.

Do not limit the plain food of growing children.

Preach and practice the "gospel of the clean plate."

Buy less; cook no more than necessary; serve smaller portions.

Use local and seasonable supplies.

Patronize your local producers and lessen the need of transportation.

Do not eat between meals.

Watch out for the waste in the community.—United States Food Administration.

Canned Sweet Red Peppers

Method 1.—Can peppers as soon as possible after they are removed from the plant. Cover them with boiling water for ten minutes. Drain them and slip off the skins. Carefully remove the stem, all seeds, and the core. Pack the peppers in glass jars, and sterilize in hot water bath for forty-five minutes. Remove from bath and tighten covers.

Method 2. — Carefully remove stems and seeds from the peppers, plunge them into boiling water for five minutes, drain, and pack at once into jars. Fill the jars with boiling water, and sterilize them in a hot water bath for thirty minutes. Do not remove the skins of the peppers and do not add salt to the jar. Store jars in a cool, dark place.

Test Quality of Material

The laws of our country at present offer no protection to the purchaser of textile materials. If the price of "all wool, a yard wide" goods is paid and later it is found that the material is half cotton, there is nothing left for the purchaser to do but to enter it as "loss" in her profit and loss account. To be sure there are any number of stores where the dealers are truthful about the textile materials handled, but nevertheless a knowledge of the following simple tests suggested by Miss Beryl Dixon, of the Colorado Agricultural College, may not come amiss:

Sometimes sleazy, thin cotton material is made to look quite firm and attractive by the use of sizing or dressing. By rubbing a corner between the thumb, and finger the sizing is removed and the real quality of the material is apparent. In very thin materials the sizing may be detected by holding the cloth to the light. The starch will show between the threads.

An examination of the raveled warp and woof threads will often reveal much. Cotton fibers are short and broken ends of cotton threads will appear fuzzy. Linen fibers are long, and consequently broken ends of linen threads are more pointed than those of cotton. Cotton material feels warmer than linen.

Some woolen materials are "made over"—that is, old woolen rags and short broken fibers, and the clippings from broadcloth are used in its manufacture. Sometimes this can be detected by unraveling the end. The short fibers are loosened and fall out.

It is not by any means certain that a man's business is the most important thing he has to do.—Robert Louis Stevenson.

Simple and Wasteful

Could a housekeeper serve less than bacon, rolls, and coffee for breakfast? The answer is serve more, and waste less. Yes, waste less of what the Food Administration has asked the American people to use carefully. Bacon and wheat flour are two of these foods. The simple breakfast of bacon and rolls means eating too much of the concentrated foods needed for shipping to Europe, and too little of the perishable foods that can be used only at home. This substitution of the perishables for the foods that can be shipped is the small daily service asked of each householder.

With this simple breakfast a boy of twelve will eat six rolls and all of the bacon you will allow, and then not be satisfied.

Rolls, bacon, and coffee — too much wheat, too much meat — a waste of the most precious products when we consider the world's needs; a waste of highly concentrated foods when we consider the limited shipping space available for sending food to our fighting men and allies.

How can the housekeeper get that simple breakfast in line with Americanism and simple humanity? Here is the



CANNING DEMONSTRATION ON THE JOE ARMOUR FARM, HARVEY COUNTY, AT WHICH F. P. LANE, COUNTY AGRICULTURAL AGENT, HELPED TO CAN CORN, BEETS, BEANS, AND TOMATOES.—THESE VOLUNTEERS AND THEIR CAPTAIN ARE SERVING THEIR COUNTRY IN A VERY SUBSTANTIAL WAY

answer: Replace the rolls with corn-meal muffins, cut the bacon to two rashers apiece, and add a generous dish of apples or potatoes.

This is a cheaper meal, a better balanced meal, and a less wasteful meal than that simple breakfast.

Cooking Hints Worth Trying

Steam odors can be prevented by placing a small bit of charcoal in the saucepan with boiling vegetables or meat. When cooking cabbage add a piece of stale rye bread to absorb the unpleasant odor.

To prevent cabbage from boiling over, put a piece of drippings the size of a walnut into the saucepan. Peel a little potato and put it into the pan when frying in deep lard to prevent its boiling over.—Chicago Journal.

Potato Soup

2 cupfuls hot riced or mashed potatoes
1 quart milk
2 slices onion
3 tablespoonfuls butter
1 teaspoonful chopped parsley
2 tablespoonfuls flour
1½ teaspoonfuls salt
Celery salt
Pepper
Cayenne

Scald the milk with the onion; remove the onion; add the milk slowly to the potatoes. Melt the butter; add to it the dry ingredients; stir the mixture until it is well blended. Add this to the liquid mixture, stirring constantly, and boil the soup for one minute. Strain it if necessary, add the parsley, and serve. Left-over mashed or riced potatoes may be used.

Peanut Loaf

1½ cupfuls bread crumbs
Milk
1½ cupfuls shelled nuts
4 teaspoonfuls baking powder
1 egg
Salt and pepper

Cover bread crumbs with milk and soak until soft. Chop peanuts very fine and mix with baking powder; beat egg; mix thoroughly all the ingredients and turn into an oiled bread pan. Bake forty-five minutes in a moderate oven. Serve with a tomato sauce made as follows:

1 tablespoonful fat
1 tablespoonful flour
1 cupful tomato juice
Salt and pepper

Brown the flour in the fat, add the tomato juice and seasonings. Let boil well, and serve hot; or if preferred heat the tomato juice, thicken with the flour dissolved in a little of the tomato juice, season, and add fat just before removing from fire.

Twilight Animal Stories

Bumper The White Rabbit

By George Ethelbert Walsh

(Copyright, 1917, by George E. Walsh)

WHERE BUMPER CAME FROM

THERE was once an old woman who had so many rabbits that she hardly knew what to do. They ate her out of house and home, and kept the cupboard so bare she often had to go to bed hungry. But none of the rabbits suffered this way. They all had their supper, and their breakfast, too, even if there wasn't a crust left in the old woman's cupboard.

There were big rabbits and little rabbits; lean ones and fat ones; comical little youngsters who played pranks upon their elders, and staid, serious old ones who never laughed or smiled the livelong day; boy rabbits and girl rabbits, mother rabbits and father rabbits, and goodness knows how many aunts, uncles, nephews, nieces, cousins, second cousins and distant relatives-in-law! They all lived under one big roof in the back yard of the good old woman who kept them, and they had such jolly times together that it seemed a shame to separate them.

But once every day the old woman chose several of her pets, and carried them away in a basket to a certain street corner of the city where she offered them for sale. She was dreadfully poor, and often when she returned home at night, counting her money, she would murmur: "It's a cabbage for them or a loaf of bread for myself. I can't get both."

She didn't always get the loaf of bread, but the rabbits always had their cabbage. They were all pink-eyed, white rabbits, and people were willing to pay good prices for them. But the whitest and pinkest-eyed of them all was Bumper, a tiny rabbit when he was born, and not very big when the old woman took him away on his first trip to the street corner. Bumper had never seen so many people before, and he was a little shy and frightened at first; but Jimsy and Wheedles, his brothers, laughed at his fears, and told him not to mind.

After that he plucked up courage, and when a little girl suddenly ran out of the crowd and picked him up in her arms, he tried not to be afraid. "Oh, you sweet little thing!" the girl exclaimed, pinching his ears softly. "Where did you come from, and where did you get those pink eyes and those long, fluffy ears?"

Then the girl kissed Bumper and rubbed his nose against her soft, fresh young cheek; but when the old lady approached, all smiles, and said, "Want him, dear?" she put him down in the basket again.

"Want him? Of course I want him!" she replied a little scornfully. "But I can't buy him today. I spent all my birthday money on candies and cakes. Take him now before I steal him and run away."

She was a pretty girl, with red hair, a dimple in her chin, and one big freckle on the end of her nose; but her eyes were blue, and they made Bumper think of the sky which he could see through a hole in the roof of his house. I suppose it was because he had pink eyes that he thought blue was so becoming to little girls.

That night, when he got home, Bumper was bursting with excitement. The day's experience was enough to cause this, but the words of the little girl who had spent all of her birthday money for candies and cakes were fresh in his mind. The first thing he did when he got in his box was to pester his mother with so many questions that she had hard work answering them.

"A little girl asked me where I came from, mother, and I couldn't answer her. Where did I come from?"

"Why, dear, from a snowball, of course. How else could you be so white?"

"And have I pink eyes?" That was the little girl's second question.

"What color did you think they were?" asked Bumper's mother, smiling. "Look at the eyes of your brothers and sisters."

Bumper looked in Jimsy's and Wheedle's eyes, and saw they were pink, but he was still doubtful. "But mine," he added, "are you sure they are pink? They might be green or yellow—"

Mother rabbit laughed and hopped over to a basin of water which the good old woman kept filled for her pets. "Look in that," she said, "and then tell me what you see."

Trembling with excitement, Bumper plunged both front paws in the basin, and the water rippled in little waves so that he could see nothing. He was terribly disappointed at first, for the water was a little dirty, and he was afraid the black specks floating in it might be the reflection of his eyes. Then the water cleared as the dirt settled at the bottom, and straight up from the depths there glowed two tiny pink spots. Bumper watched them in silence until his mother asked: "What do you see, dear?"

"Two pink stars!" he murmured.

Mother rabbit, like all fond mothers, smiled and leaned over to kiss the wet nose of her little one. Jimsy and Wheedles and all the other rabbits were anxious to see the two pink stars in the water, and they crowded around the basin to get a look. They held their breath in amazement, for wonder of wonders! instead of two, there were a dozen tiny pink stars! They twinkled and flashed, and when they bobbed their heads up the stars faded away or disappeared entirely.

Mother rabbit, who was very fond of her little ones, smiled proudly, and said:

"All my children have pink eyes!"

"But don't all rabbits have pink eyes?" asked Bumper, whose little brain was still bursting with questions.

"No, dear, they do not—only those rabbits that come from snowballs have pink eyes."

"Oh!" exclaimed one and all, and particularly Bumper, who had started all this probing into the family history.

Then the last question of the little girl popped up into his head, and without waiting to catch his breath, or to give his mother time to think up a suitable answer, he blurted it out.

"Where did I get these long, fluffy ears, mother? The little girl said they were long and fluffy."

Just to make sure he had not been deceived, he pulled them right down between his two front paws, and looked at them. They were, indeed, long, silky and fluffy, and as white as snow.

Mother rabbit shook her head slowly just as if she intended to scold, and then said in the softest, gentlest of voices:

"I'm afraid that little girl has been putting vain ideas into your head, dear. You must be careful, and not let compliments about your eyes and ears spoil you. If you do people won't like you."

Bumper promised not to be spoilt by listening to what little girls said, and then eagerly repeated his question.

"Why, that is simple enough," Mother rabbit answered, having had time to think. "When you were only a little snowball, we had to hang you up to dry, and that pulled your ears out."

That was an answer good enough for any rabbit, and Bumper should have been satisfied, but he had a very inquisitive mind.

"But why didn't I melt when I was hung up to dry?" he asked quickly. "Snowballs melt in the sun, don't they?"

"Yes," gravely, "so they do, dear, if you leave them in the sun too long. But it was mother's business to see that you didn't melt. It's like baking bread or cake. If you leave the dough in the oven too long it burns up, and then it isn't either bread or cake. It's very hard to know just when it's done, and it's harder"—sighing aloud—"for mothers to know just when a snowball is turning into a white rabbit, and when it's beginning to melt away into nothing. Now don't ask me any more questions tonight. It's bed time, and little rabbits with pink eyes should be fast asleep."

Which was true, but Bumper went to sleep dreaming of a million questions he would ask his mother in the morning.

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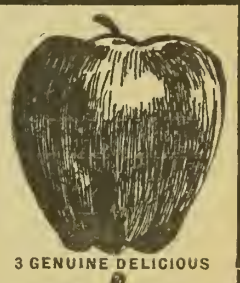

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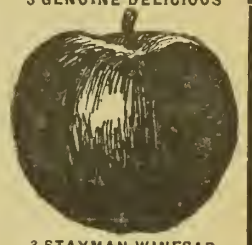

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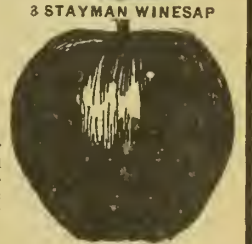

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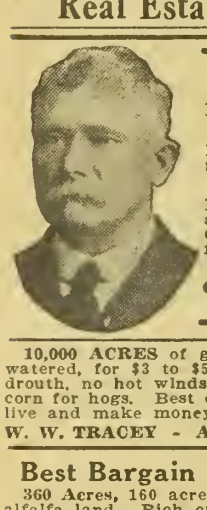

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CLAIM SALE DATES.

Angus Cattle.
Nov. 23—G. E. Cox & Son, Elk City, Kan.

Holsteins.
Nov. 7—E. L. Ensign and W. H. Zimmerman, Cameron, Mo.
Dec. 3-4—Robinson & Shultz, Independence, Kan.
Dec. 6—E. S. Engle & Son, Abilene, Kansas.

Polled Durhams.
Nov. 8—D. C. Van Nice, Richland, Kan.

Jersey Cattle.
Oct. 31—Geo. W. Hagan, Lee's Summit, Mo.
B. C. Settles, Palmyra, Mo., sales manager.
Nov. 2—W. L. Hunter & Son, Lincoln, Neb.; B. C. Settles, Palmyra, Mo., sales manager.
Nov. 3—E. E. Knoche, Martin City, Mo.; B. C. Settles, Palmyra, Mo., sales manager.
Nov. 12—Will Morton, Taylor, Mo.; B. C. Settles, Palmyra, Mo., sales manager.

Herefords.
Nov. 19—W. I. Bowman & Co., Ness City, Kansas. Sale at State Fair Grounds, Hutchinson.
No. 22—Sam Drybread, Elk City, Kansas.
Nov. 23—W. H. Rhodes, Manhattan, Kansas.

Shorthorn Cattle.
Nov. 20—W. W. Waltmire & Son, Peculiar, Missouri.
Dec. 6—Fremont Leidy, Leon, Kan.

Poland Chinas.
Feb. 6—H. B. Walter, Effingham, Kan.
Nov. 6—M. C. Pollard, Carbondale, Kan.
Nov. 6—Ross & Vincent, Sterling, Kansas.
Nov. 7—H. E. Myers, Gardner, Kansas.
Dec. 5—U. S. Byrne, Saxton, Missouri.
Nov. 9—J. R. Young, Richards, Missouri.
Feb. 18—Deming Ranch, Oswego, Kansas.
Feb. 19—Fred B. Caldwell, Howard, Kansas.
Feb. 20—B. E. Hodson, Ashland, Kansas; sale at Wichita.
Feb. 21—E. J. Erhart & Son, Ness City, Kansas; sale at Hutchinson.
Feb. 22—F. Olivier & Son, Danville, Kansas.
Chester White Hogs.
Nov. 20—W. W. Waltmire & Son, Peculiar, Missouri.

Fremont Leidy, of Leon, Kansas, has announced December 6 for his Shorthorn sale. On this date he will offer to the public forty-two head of Scotch-topped cattle. They are a useful lot of breeding cattle and will be sold right out of the pasture without extra fitting. Mr. Leidy has used good sires in this herd for a number of years and the offering promises to be one of the good lots to be sold this year.

D. C. Van Nice, of Richland, Kansas, has announced November 8 for a double standard Polled Durham sale at his farm near that city. Mr. Van Nice owns one of the best herds of this famous hornless cattle known in the West. A number of very high class herd sires have been used in this herd in the past few years, including Roan Hero, the grand champion bull at the International at Chicago.

Park E. Salter, of Wichita, Kansas, has announced November 9 for a Shorthorn sale at his farm near Augusta, Kansas. Arrangements for a special train will be made from Wichita to the farm on the day of the sale. Fifty head of pure Scotch cattle will be catalogued, consisting of forty females and ten serviceable bulls, including one imported herd bull, Newton Friar 528120. This bull was bred by A. M. Gordon, Aberdeenshire, Scotland, and has proved a great sire in the Salter herd of real high class cattle.

M. C. Pollard, of Carbondale, Kansas, announces November 6 as the date of his annual Poland China fall sale. Mr. Pollard has built up one of the good herds of big-type Polands in Kansas and has the big, easy feeding, profitable type. For his fall sale he will catalog forty head of fall yearling and spring gilts, triew sows and fall yearling and spring boars out of a choice lot of big-type dams and sired by Broadus Expansion, Miami Chief and Ware's Blue Valley.

The Standard Dairy Company, of Wichita, Kansas, owns one of the good Holstein herds now assembled. They have at the head of their herd the great young bull, Sir Johanna De Kol 19th 64143, sired by the great Sir Johanna De Kol with sixty-six A. R. O. daughters to his credit. Sir Johanna De Kol weighs 2,500 pounds. He is a half brother to Johanna De Kol Van Beers, the $7,000 cow, whose two sons sold for $45,000. This young bull has several thirty-pound daughters to his credit.

Jos. Baxter, of Clay Center, Kansas, is preparing a choice offering of Polled Durham cattle for his sale to be held at the Agricultural College sale pavilion at Manhattan, Kansas, December 12. This offering will consist of a number of choice bulls and thirty head of high class cows and heifers.

Josias Lambert, of Smith Center, Kansas, one of the pioneer Poland China breeders of the state, reports his herd doing well. Mr. Lambert owns one of the good Poland China herds and his herd is headed by Black Orange and Smooth Gold Dust, two of the good sires now in service.

John M. Montie, of Sunnyside Stock Farm, Stanstead, Quebec, owner of one of the great herds of pure-bred Holstein cattle now assembled, reports the herd making a fine record again this year. This great herd was started twenty years ago. The first herd sire was Eunice Clay's Baron, a son of Eunice Clay, a famous cow in the 90's that won the dairy test at the Ohio State Fair and afterwards won at Toronto. Echo Segis Fayne, the present herd sire, is a son of King Fayne Segis Clothilde, a brother of Segis Fayne Johanna, who holds the world's butter record of fifty pounds in seven days.

R. P. Wells, of Formosa, Kansas, owner of the famous Marsh Creek herd of Durocs, reports his herd doing well. This year Mr. Wells has a large number of choice fall litters by his great young boar, Highland Cherry King, and out of the big high class sows in his herd. Highland Cherry King, at the head of this herd, is one of the good boars now in service. He is a senior yearling, stands thirty-four inches high, has very high quality, and has proved to be a very fine breeder.

E. L. Ensign and W. H. Zimmerman, of Cameron, Missouri, have announced a sale of Holstein cattle to be held November 7. They will catalog 176 head of high class Holsteins for this sale. The offering will include twenty-five head of choice registered cows and heifers and six registered bulls. The balance of this big offering will be choice high grade cows and heifers.

We have just received a copy of a booklet issued by the National Duroc Jersey Record Association of Peoria, Illinois. This booklet is for free distribution and contains a lot of information that is valuable to all swine breeders and that will be of more than ordinary interest to Duroc breeders or anyone interested in the Duroc breed.

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WINTER EGG PRODUCTION

SOME special effort is required to get eggs in the winter. It is unnatural for hens to lay during this season of the year. Well matured pullets and to some extent old hens can be stimulated by proper methods of feeding and housing to lay more eggs even during the winter period. It is possible through good management to get a fair egg production during the time of the year when eggs are highest in price and most in demand.

In a recent circular of the Bureau of Animal Industry of the Department of Agriculture, Alfred R. Lee points out some of the methods which will help to increase winter egg production on the farms.

To receive good results from a flock of poultry during the winter, all houses and coops should be in good condition, only healthy fowls placed in these buildings, and good care given to the poultry. These houses should be thoroughly cleaned, disinfected, and made tight for winter. If the house has a dirt floor it is well to remove the top three or four inches of dirt and replace this with dry gravel or sand. If it has a cement or wooden floor, remove all litter and dirt and put in four or five inches of fresh straw or litter. Be sure that the house is tight on three sides and that there is no chance for a draft to strike the hens. If hens roost or are placed in a draft during the fall and winter, colds are sure to develop, which may result in roup and other troubles. From one-third to one-half of the south side, or front, of the poultry house may be made of curtains and windows, but should be under control, so that the openings may be closed gradually as the weather becomes cold. Have muslin curtains in the front of the house or leave a window partly open, even on the coldest nights, to allow some ventilation in the house. Fowls will stand considerable cold air provided it is dry, and ventilation will keep the air thoroughly dry in the house.

Before the pullets are mixed with the older fowls be sure that the hens are banded or that the web of the foot is punched in some way so that you can distinguish between the pullets and the hens. In this way the older stock may be culled out whenever it appears desirable, and the young hens kept for further laying. Do not keep hens for egg production over two years, but some of the best hens may be kept for breeders until three or four years old. The pullets that mature early in the fall and that molt late are usually the best layers and should be saved for breeding stock. Cull the chickens which are brought into the laying house carefully, and fatten and market all chickens which are small, poorly developed, or in poor condition. These small, poorly developed chickens are apt to catch cold if put in with the other poultry and develop diseases which quickly spread through the flock.

In order to get the greatest egg production in the early fall and winter it is essential to have well-matured pullets which were hatched in March or April. By early hatching and by supplying good conditions for egg production more eggs will be produced in the fall and winter, while a larger proportion of hens will go broody early in the spring, thus completing the necessary circle for early fall egg production.

Feed the grain in a deep litter on the floor and make the hens exercise for all of their grain. The mash may be fed either wet or dry, and should be so regulated that the fowls will get about equal parts of mash and of the scratch grains. It is necessary to give the fowls plenty to eat to get good results, but the birds should always be eager for each feed. In cold weather feed about one-third of the scratch grains in the morning and two-thirds at night, in which way the hens are forced to exercise more than if given all the grain they desired at the morning feed. Scratch grains, mash or ground grains, animal protein, green feed, grit, and shell, should be supplied in the winter. Good scratch mixtures may be made of equal parts, by weight, of cracked corn, wheat, and oats, or of two parts of cracked corn and one part each of wheat and oats. If wheat is relatively very high in price it may be left out of this latter mixture. In addition a mash made of three parts corn meal and one part each of wheat bran, wheat middlings, and beef scrap should be fed. Green feed, such as cabbages, mangel wurzel beets, cut alfalfa, or sprouted oats should be fed during the winter to replace the green feed which the fowls have been securing in the fields; and beef scrap, skim milk, cut green bone, or some similar feed is needed to replace the bugs which the fowls have been securing on the range.

Beef scrap or feed of this nature is very essential in securing a good supply of eggs during the winter months and is the one essential feed often omitted in feeding the farm flock. In the experiments conducted by the department an average production of 41.5 eggs for the first four months from pullets fed a ration containing beef scrap was secured, compared with 18.7 eggs from pullets fed the same ration without the beef scrap. The pullets not fed beef scrap practically stopped laying whenever the ground was covered with snow. The feed cost of their eggs was 2.2 cents higher per dozen for the year than for the pullets fed beef scrap. Skim milk or buttermilk will larkely take the place of beef scrap, if a constant supply can be kept before the fowls, but if the supply of milk is limited some beef scrap should also be fed.

People raising poultry as a side issue in towns and villages can utilize waste products from their table and kitchen to very good advantage, producing fresh eggs and poultry for their own use as well as some surplus for market. As these scraps contain some waste meat, the proportion of beef scrap in the mash can be reduced accordingly. These table scraps can be mixed with the ground grains and fed as a moist mash.

Clean the dropping-boards at least once a week, and spray the roosts once a month during the winter with kerosene or some commercial preparation for killing mites. Have a good supply of sand or dry dirt on hand to use on the dropping-boards during the winter.

If any of the birds develop colds, put as much potassium permanganate as will remain on the surface of a dime into a gallon of water and keep this material in their drinking water for several days, or until the symptoms of the colds have disappeared. Remove any sick birds from the flock as soon as noted and treat them in coops by themselves or kill and bury them if they are not worth treating.

Examine the pullets and hens for lice and dust thoroughly with a good insect powder or apply a mixture of equal parts of vaseline and mercurial or blue ointment, applying a piece about the size of a pea one inch below the vent of the bird, rubbing the mixture lightly on the skin. An application of this ointment two or three times a year will keep the fowls free from lice. Where insect powder is used, it should be applied three or four times a year, or oftener if the fowls become infested with lice. Provide a small box in the house, partly filled with dry road dust or fine dirt, in which the hens may dust themselves, thus helping to keep free from lice.

A whitewash that disinfects, kills mites, and brightens the poultry house is made as follows: Slack five quarts of rock lime with hot water to about the consistency of cream. To this, add one pint of crude carbolic acid or zenoleum, and one quart of kerosene. Stir thoroughly, and dilute with twice its own volume of water. Apply with either spray pump or whitewash brush. When properly prepared, this solution serves three purposes: The zenoleum acts as a disinfectant, killing the germs; the kerosene penetrates the wood, destroying the mites; and the lime whitens the walls, making the building sweet and light.

PERCHERON STALLIONS

FOR SALE THIS FALL AT REDUCED PRICES

Two yearling colts; two 2-year-old colts; two 3-year-old colts; two 4-year-old colts, and one herd stallion. All sound and registered in Percheron Society of America. Blacks and bays. If sold this fall I will cut the prices. Also five registered Shorthorn bulls, reds and roans. Come and see me.

J. C. PARKS - - - - HAMILTON, KANSAS

MODERN HEREFORDS

HAZFORD PLACE

Home of the Grand Champion BOCALDO 6TH, assisted by CALDO 2D, PUBLICAN 4TH AND BEAU BALTIMORE.

All our show cattle our own breeding. A few choice young bulls reserved to head high-class pure-bred herds now ready for inspection and sale. Inspection of farm and breeding herd invited.

William Condell, Herdsman. ROBT. H. HAZLETT, EL DORADO, KANSAS

AYRSHIRE CATTLE.

AYRSHIRE BULLS

Ready for service. Sire a son of Canary Bell, 17,406 pounds of milk, 786 pounds of butter in one year. From cows with records from 10,000 to 13,000 pounds of milk yearly.

Dairy Department
UNIVERSITY OF MISSOURI, Columbia, Mo.

MULEFOOT HOGS.

KNOX MULEFOOT HOGS

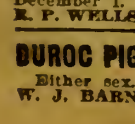
Orders booked for fall pigs. A few choice May pigs, either sex, not related. Write for price and booklet.

S. M. Knox, Humboldt, Kansas

Breeders' Directory

ANGUS CATTLE.
D. J. White, Clements, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

SHEEP.



200 — RAMS — 200
REGISTERED SHROPSHIRES
Our flock was awarded 20 prizes at 1917 Iowa State Fair. Weight and wool always win. Rams and ewes for sale. C. W. & Frank Chandler, Kellerton, Ia.

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

HORSES AND MULES.

PERCHERONS—BELGIANS—SHIRES



2, 3, 4 and 5-yr. stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
FRED CHANDLER, R. 7, Charlton, Ia. Above Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes.
Illinois Horse Co., Good Blk., Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH, Lawrence, Kansas.

BERKSHIRE HOGS.

BERKSHIRE HERD BOARS

For quick sale—Two choice Berkshire herd boars, three winter boars and five spring boars, all choice.
E. D. KING - BURLINGTON, KANSAS

DUROC JERSEYS.

CRYSTAL SPRING DUROCS
Twelve head of Duroc Jersey spring boars, no better breeding anywhere, seven of them sired by Kern's Sensation, grand champion of Iowa and Nebraska this year. Priced reasonable.
ARTHUR A. PATTERSON, Ellsworth, Kan.

DUROC BOARS

Thirty-five spring boars by G. M.'s Crimson Wonder, Crimson Wonder Again Jr., Critic D. and Great Wonder, out of my best herd sows. Priced to sell. Come and see my herd.

G. M. Shepherd, Lyons, Kansas

McBRIDE'S DUROCS

I have four Pathfinder Duroc boars for sale, all immune. Also one Orion Cherry King, four months old, weight from 125 to 140 pounds, and they are extra nice ones. Priced right. W. T. McBRIDE, Parker, Kan.

IMMUNED DUROCS
With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

MARSH CREEK DUROC HERD
Fall pigs by Highland Cherry King 204165 out of tried sows, big type. Ready to ship December 1.
R. F. WELLS - - FORMOSA, KANSAS

DUROC PIGS, REGISTERED, $11.00

Either sex. Large type, best breeding.
W. J. BARNES, Route 5, Oswego, Kansas.

DUROC JERSEYS

FORTY DUROC-JERSEY BOARS
Cholera immuned, of rare breeding and excellent individuality. Sired by Gold Medal 176231, R. L.'s Model Chief 105673, Taylor's Model Chief 126455. Order yours now. Our prices are reasonable.
W. R. HUSTON - AMERICUS, KANSAS

TAYLOR'S DUROCS

For Sale—One Missouri State Fair prize winning boar. Seven yearling boars sired by champion boars that are real herd headers. Fifty spring boars that are fine prospects. Write for prices or come and see my herd.

Chas. L. Taylor - Olean, Mo.

HARRISON'S DUROCS
Pure-bred Duroc boars.
W. J. HARRISON - AXTELL, KANSAS

Royal Grand Wonder Durocs

The first prize junior yearling at Kansas State Fair heads my herd. A few choice March boar pigs for sale. Come and see my herd.
B. R. ANDERSON, R. 7, McPherson, Kansas

Immune Duroc Boars on Approval

Pedigreed Duroc boars with size, length and bone. Immune and guaranteed breeders. Shipped to you before you pay for them.
F. C. CROCKER, BOX K, FILLEY, NEB.

IMMUNED DUROCS

A few good boars by Rhuben's Wonder and Colonel's Wonder by Crimson Wonder Again Jr. HOMER DRAKE, Sterling, Kan.

Jones Sells On Approval

Large-type spring boars and gilts of fashionable blood lines at reasonable prices. Herd immuned.

W. W. Jones, Clay Center, Kan.

MAPLEWOOD DUROCS

Seventeen yearling and early spring boars, ready for service, as good as we ever grow. Twenty-five gilts, open. Three bred gilts due to farrow this month and early in November. Prices reasonable. Write us your order at once and get first choice.
MOTT & SEABORN, HERINGTON, KAN.

DUROC SPRING BOARS

That weigh over 200 pounds, sired by Illustrator's Orion 3d, that giant son of the Champion Illustrator dam by Joe Orion 2d. Two by Fancy's Victor dam by John's Combination. Come, see, write or wire.

John W. Petford

Route 1 Saffordville, Kansas

SHORTHORN CATTLE.

ABBOTSFORD SHORTHORNS

Two choice bulls and ten extra good heifers for sale. Priced to sell. The kind that always please.
D. BALLANTYNE & SON, Herington, Kan.

Sunflower Herd of Shorthorns

A few good cows and heifers for sale, also choice bull calves. Come and see my herd.
A. L. HARRIS - OSAGE CITY, KANSAS

SHADY LAWN SHORTHORNS

At head of herd, Kansas Archer 440809 by Mistletoe Archer. For sale, fifteen choice young bulls from spring calves to yearlings. Come and see our herd.
F. H. HULL & SONS - EUREKA, KANSAS

SHORTHORN CATTLE

A few Scotch bulls for sale of breeding age. Red and roans. Write or come and see my herd.
O. A. HOMAN & SON, PEABODY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Pearl Herd Shorthorns

Valiant 346162 and Marengo's Pearl 391962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

Can ship on Rock Island, Union Pacific or Santa Fe Railway.
C. W. TAYLOR - ABILENE, KANSAS

Cedar Heights Shorthorns

For Sale—Three red bulls, 12 months old. A few cows and heifers. Priced reasonable. Come and see my herd.
HARRY T. FORBES
Route 8 Topeka, Kansas

DISPERSION SALE OF

DOUBLE STANDARD POLLED DURHAM CATTLE

AT

RICHLAND, KANS., THURSDAY, NOV. 8



ROAN HERO X, SIRE AND GRAND SIRE OF A LARGE PART OF OUR OFFERING

FORTY-SEVEN HEAD OF DOUBLE STANDARD POLLED DURHAMS

Consisting of eight bulls, four of serviceable age; twenty-nine cows and heifers, eleven cows have calves at foot. The herd bulls used in my herd last few years were Belvidere X, Roan Hero X, and Chief X by True Sultan X. My herd cows are such cows as Golden Lady X by Golden Knight X, Nora Clay 5th X by Tippicanoe 53d X, Scottish Beauty X by Acacia Victor X. All a well bred lot and useful cattle for farmers and breeders to buy. Catalogs are ready to mail out. Write for catalog and come to sale.

D. C. VAN NICE - - - - RICHLAND, KANSAS
Sixteen Miles Southeast of Topeka, on Missouri Pacific Railway.

GUERNSEY CATTLE.

GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
R. E. FRIZELL, Frizell, Pawnee Co., Kansas

HEREFORD CATTLE.

Greenwood Hereford Farm

Prince Rupert Herefords

One carload yearling bulls; fifty head bull calves. Will price single lot or carload.

W. J. Brown, Fall River, Kan.

IDEAL HEREFORDS

For Sale—Ten to twenty cows bred, some now calving, also some yearling heifers and choice young bulls from six to twenty months old. Blood of Prince Rupert 52d, Generous and Don Perfect. Outstanding good cattle. Priced right.

J. H. Keith, Coffeyville, Kansas

JERSEY CATTLE.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

REGISTERED JERSEYS.
Cows, Heifers and Calves.
Good breeding. Good individuals. Must reduce herd. Price reasonable.
C. F. PFEUTZE
Route 4 Manhattan, Kansas

Walter B. Brown, of Perry, Kansas, held one of the successful Poland China sales at his farm near Perry, Kansas, on October 17. Forty head sold for an average of better than $50. The top boar pig went to R. P. Smith, of Grantville, Kansas, at $78, and the top gilt went to H. B. Walter, of Effingham, Kansas, at $73. These were no boom prices, but a good average sale for mostly spring pigs, which was very satisfactory to Mr. Brown.

TAMWORTH SWINE.

PURE-BRED REGISTERED TAMWORTHS

THE HOG THAT TOPS THE MARKET

We offer pigs from our fall crop, weanlings, about eight weeks old, weight about twenty pounds, including registration papers and crating:

Boar pigs, each $10.00
Sow pigs, each 12.50
One sow pig and an unrelated boar.... 20.00
Two sow pigs and an unrelated boar.. 28.50

All well bred, well grown animals that will grow into money for you before you know it.

HAWTHORNE FARMS COMPANY
BARRINGTON - - - - ILLINOIS

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere.
Write for date. CLAY CENTER, KANSAS

Live Stock and Real Estate Auctioneer.
Fifteen years experience. Write for terms.
Thos. Darcey, Hutchinson, Kansas.

CHESTER WHITE HOGS

WESTERN HERD CHESTER WHITE HOGS

Thirty spring boars, forty spring gilts, bred or open. Write for prices. Satisfaction guaranteed.

F. C. Gookin, Russell, Kansas



FOR SALE
Spring Pigs in Pairs and Trios
Not related, from my undefeated show herd 1916. Ship at weaning. Send for prices and show record. COLEMAN & CRUM, Danville, Kansas.

Clinton County Chesters

Booking orders for spring pigs of National Swine Show blood lines. Fall and spring pigs at bargain prices.
J. H. McANAW - CAMERON, MISSOURI

SAPPHIRE (BLUE) HOGS

SAPPHIRE (BLUE) HOGS
The quickest pork producer known. Breeding stock for sale. L. E. JOHNSON, Waldron, Harper County, Kansas.

When Writing to Advertisers, Please Mention Kansas Farmer

POLAND SALE

At Richards, Mo., Friday, Nov. 9

HERE IS THE BUYER'S GOLDEN OPPORTUNITY.

In view of the unprecedented demand for brood sow material this sale assumes unusual importance at this time. The sale includes fifteen fall and winter gilts by The Mint, a great breeding son of Golden Gate King. Big, growthy gilts, excellent propositions in herd improving material or to fill out winter sale offerings.

Thirty choice spring gilts sired by Caldwell's Big Bob, Fessy's Tim, King Joe, Big Bob Wonder, and others of the breed's leading sires. These gilts are exceptionally fine.

The boar offering of unusual class includes an even dozen of the tops of the 1917 crop. Nothing but the very best will be sold in this sale.

THIS OFFERING INCLUDES ALL OUR MISSOURI STATE FAIR PRIZE WINNERS

Here is one of the last offerings to be sold this fall and one of the best. Get the catalog of this big sale and arrange to attend.

THE ENTIRE OFFERING IS IMMUNE

When writing for catalog, please mention Kansas Farmer.

J. R. YOUNG, RICHARDS, MO.

O. W. Devine will represent Kansas Farmer at sale.

Col. R. L. Harriman, Auctioneer.

POLLARD'S POLAND CHINA SALE

CARBONDALE, KANSAS, TUESDAY, NOVEMBER 6, 1917

Forty head choice fall yearling and spring boars and gilts, five yearling gilts, two tried sows, nineteen spring gilts, two yearling boars and twelve spring boars, sired by Broadus Expansion, Miami Chief and Ware's Blue Valley, out of choice big-type dams. Send for catalog.

M. C. POLLARD - - - CARBONDALE, KANSAS

BERRY'S IMMUNED SPOTTED POLANDS

March pigs, weight 150 to 160 pounds, price $35; pairs, $70; April pigs, $30; May, $26. Sired by Spotted Mike 81038, a 600-pound yearling. Lots of spots, bone, and good backs. Write me your wants. Can furnish pairs, not related.

E. C. BERRY, ROUTE 3, HARRIS, MISSOURI

Spotted Poland Chinas

Thirty spring boars, thirty spring gilts. Sired by Billie Sunday, Cainville Giant and Perfect Judge. Sows by Brandywine, Budweiser, Old Clipper and Spotted Giant. Priced to sell.

J. O. RILEY & SON - CAINSVILLE, MO.

DEMING RANCH QUALITY

Big-Type Poland China Hogs.

Fifty March boars for sale. All immuned. Bred sow sale February 18. Send for catalog.

H. O. Sheldon, Herd Manager
OSWEGO, KANSAS.

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. **CHAS. E. GREENE, Peabody, Kan.**

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

CEDAR ROW STOCK FARM

A. S. Alexander, Prop. Burlington, Kansas

SPOTTED Poland Chinas

Two hundred fall pigs in pairs and trios, not related, sired by two state fair winners. Price, $25 each. Also a few choice spring boars and gilts. All immuned. Write your wants.

E. R. McKEEFER & SON, Osslan, Indiana

The Lone Cedar Polands

Last Lot of Meyers' Orange Pigs. I will have either sex, some extra fine gilts. Cholera immune for life.

A. A. MEYER - McLOUTH, KANSAS

OLD ORIGINAL SPOTTED POLANDS

March and April pigs for quick sale.

H. A. or PAUL H. MATTOX, Route 2, Burlington, Kan.

McGATH'S BIG ORPHAN

Grand champion Topeka and Hutchinson fairs, 1917. Thirty-five boar pigs by the grand champion for sale. Write for prices.

Bert E. Hodson, Ashland, Kan.

FAIRVIEW POLAND CHINAS.

Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.

P. L. WARE & SON - PAOLA, KANSAS

SPOTTED POLAND CHINAS

Baby pigs, either sex. Priced right. Papers furnished.

B. A. SHEHI, WESTMORELAND, KANSAS

POLAND CHINA BOARS

Fifteen spring boars sired by Sir Dudley, Eclipse Model and Exile. Price, $30 to $45. Write at once.

C. B. PALMER

ROUTE 5 MARION, KANSAS

Langford's Spotted Polands.—Last call for early spring boars. Yours for good hogs—

T. T. Langford & Sons, Jamesport, Missouri.

POLAND CHINA HOGS

150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.

V. O. JOHNSON - AULNE, KANSAS

POLAND CHINAS

For Sale—Ten fall yearling gilts, bred to Dalebanks Hadley and King Jumbo; twenty-five spring boars ready for service; twenty-five spring gilts open. One hundred and fifty head registered hogs in my herd. Write today what you want.

E. L. BARRIER - EUREKA, KANSAS

Henry's Big Type Polands

March and April pigs, sired by Big Wonder, first in class at Topeka; Mammoth Orange and King Price Wonder. Immune.

JOHN D. HENRY, LECOMPTON, KANSAS

White Oak Park Polands

Outstanding herd boar prospects by 1,100-pound Missouri Jumbo 210461 and 1,000-pound Long Big Joe 227387, twelve-inch bone. Dams popular big-type breeding. If you want boars that will mature to 1,000 to 1,100-pound hogs, I have them, big high-quality fellows. Fall boars farrowed August and September, spring boars February and March. Will record in buyer's name. All immune.

Henry Koch, Edina, Missouri

GREEN WOOD FARM POLANDS

Spring boars, very best big-type breeding, sired by Big Wonder, my 900-pound boar, and Orange Wonder, an Iowa bred boar, out of big sows. Farmer prices.

M. F. RICKERT - SEWARD, KANSAS

Faulkners Famous Spotted Polands

Late summer and fall pigs for sale. Buy them from the Fountain Head. Annual brood sow sale February 13. Ask for catalog.

H. L. FAULKNER, Box K, Jamesport, Mo.

HOLSTEIN CATTLE. **HOLSTEIN CATTLE.**

WEDNESDAY, NOV. 7

IS THE DAY SET FOR THE DISPERSAL OF

H. V. NEEDHAMS & SON'S HIGH-GRADE HOLSTEIN-FRIESIAN HERD, AT TONGANOXIE, KANSAS

Seventy-Five Head of Choice Holsteins

Twenty-five large producing cows 4 to 7 years old, eight to twelve fresh by sale date, balance giving large flow of milk.

Twenty-five large well marked 2-year-old springers.

Twenty large well marked long yearlings.

Five large well marked short yearlings.

This is the oldest established herd in Leavenworth County. Always the best of pure-bred sires at head of herd. If you are wanting high grade Holsteins, you cannot afford to miss this sale. For further particulars address

H. V. NEEDHAM & SONS, Owners OR W. J. O'BRIEN SALE MANAGER

O'BRIEN AND McCULLOUGH, AUCTIONEERS

OUR HERD SIRE

Sir Johanna De Kol 19th 64143, Weight 2,500 Pounds

A young sire who already has several 30-pound daughters to his credit and many good ones to be tested yet. His sire, Sir Johanna De Kol, with 66 A. R. O. daughters. He is a half brother to Johanna De Kol Van Beers, the $7,000 cow whose two sons were sold for $45,000. He is a full brother to Cedar Lawn De Kol Johanna, a two-year-old who held the world's record for some time. We offer this bull's service to a few good cows at our approval. Service fee, $50. We have several young bulls ready for service. Price, $150 each. Our herd consists of eighty-five head registered Holstein-Friesian tuberculin tested and free from contagious abortion. We are breeders, not dealers.

STANDARD DAIRY COMPANY, WICHITA, KANSAS

156 - HOLSTEINS AT AUCTION - 156

On Wednesday, November 7, 1917
AT CAMERON, MISSOURI

This offering consists of twenty-five head of registered Holstein cows and heifers; six registered bulls; 125 head of high grade Holstein cows and heifers (milkers and springers). Cattle are all tuberculin tested. Cameron is located 55 miles northeast of Kansas City, 35 miles east of St. Joseph. This is a high class lot of cattle and is bound to please you. Sale will be held rain or shine.

E. L. ENSIGN **W. H. ZIMMERMAN**

Auctioneer, T. E. Deem

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM

is offering twenty-five pure-bred heifer calves from six weeks to eight months old; also a choice lot of yearlings, bred heifers and young cows, all with top-noteh breeding and at prices that cannot be equalled elsewhere; grade cows and heifers. BUY YOUR NEXT PURE-BRED BULL FROM US. For description and prices, wire, write, or call.

T. R. MAURER & COMPANY - - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER

Way Side Stock Farm - Whitewater, Wis.

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FARM AND HERD.

T. M. Ewing, of Independence, Kansas, owner of Cedarlane Holstein Herd, one of the famous herds in Kansas, reports his Holsteins making a good record this year. Mr. Ewing has built up a herd backed by high records and the result is a great lot of heavy producers in Cedarlane herd that are constant profit producers.

D. C. Van Nice, of Richland, Kansas, has decided to disperse his entire herd of Polled Durham cattle November 8. Mr. Van Nice is one of the oldest Polled Durham breeders in Kansas and has built up one of the best herds of that popular breed of cattle now assembled. A number of the noted sires of the breed have been used in this herd, among them Belvidere, the many times champion Roan Hero. A large part of the cattle that will go in this sale are grandsons and granddaughters of this famous bull.

One of the successful Holstein sales of the season was held by the Nebraska Holstein breeders at South Omaha, Nebraska, on October 16. The average on the entire offering was $245. The top price for bulls was $1,050. The top for females was $460.

H. V. Needham & Son, of Tonganoxie, Kansas, have announced November 7 as the date of their Holstein sale. On that date they will offer seventy-five head of choice Holsteins. Many of the cows are in milk and a large number will be fresh by sale day.

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FRENCH LIVE STOCK DEPLETED

Nation Faces The Problem of a Rapidly Vanishing Meat Supply

By FRED B. PITNEY

THE French people are intensely democratic. Like the people of the United States, they prize their independence and chafe under government dictation of how they shall eat and live. They have out of their own scant supplies been most liberal in feeding war refugees. The figures and facts here presented show that they now face a dire shortage of food. From sheer necessity they have slaughtered and consumed great numbers of the farm animals. Their herds of breeding animals are rapidly disappearing. Farmers of this country have a wonderful opportunity in helping to make up the deficiency during the war and in preparing to supply the foundation stock to reconstruct the live stock business of France after the war ends.—G. C. W.

THE FRENCH government is very bureaucratic, but the French people do not like to be overgoverned. They object seriously to anything that savors to them of meddling in a man's private affairs. For this reason it has been extremely difficult to get a workable income tax law in France. The people immediately rose against the proposal to give the government the right to examine their books and find out if they told the truth about their incomes, or find out what their incomes were, if they failed to make a return. So a scheme was figured out for taxing a man on seven times his rent, if he made no income tax return, or one the government thought too low.

Saying how much or what a man shall eat is, also, getting pretty close to private affairs, and therefore, the French government, knowing intimately the people it has to deal with, is slow—s-l-o-w—in coming to such measures, even in face of the only too evident food shortage in the country. There have been efforts at price fixing, but they have not worked satisfactorily, one reason being that they have not been rational but local. Paris, for example, has tried fixing the price of butter, but it has been found that the result has been to drive butter away from Paris to localities where it could be sold for what the market would pay.

NATIONAL PRICE FIXING TO BE TRIED

A scheme of national price fixing is to be tried now with beans and potatoes. Both of these crops are far below the requirements of the country. I have seen many days when potatoes could not be bought in Paris, and it was a common thing last winter to have to run half over the city to find a market where green vegetables could be bought. The national price fixing scheme for beans and potatoes will divide the country into districts and fix the price for each district, with a penalty for sending either commodity out of the district without permission.

So far, meat has withstood all efforts to control its consumption—there has been no attempt to control its price—and yet it is vitally necessary either to control the consumption of meat in France or to increase the supply. Otherwise, the end of the war will see the country so reduced in its herds that it will take many years to bring them back again to the point where France will be once more self-sustaining.

SUPPLY MUST BE INCREASED

Of course the thing to do is to increase the supply. When a country has had its bread stuffs out down to the extent to which France has suffered, the people naturally fall back to meat. One might think they would fall back on vegetables, but the same reasons that have deprived them of grains have deprived them of vegetables. There have not been the hands to cultivate the ground. They could no more raise vegetables than wheat. And they have fallen back on beef, mutton and pork. The herds existed and they have been eaten up. The people had to have something to eat.

To what extent the herds have disappeared is shown by the cutting down of the meat ration of the soldiers at the front. At the beginning of the war they were allowed one pound of meat a day. Twenty per cent has now been cut from that allowance. And I will point out again that only dire necessity will countenance reducing the food allowance of soldiers at the front.

MEAT SHORTAGE SERIOUS

Civilians, naturally, were the first to suffer, when meat became scarce. The price went soaring. Retail prices to consumers doubled and trebled. The poor cut down in quantity, one understands, and the very poor went without entirely. But those who could pay could have meat, if they were willing to give the price.

The time came, however, when there had to be an attempt to control the consumption. The army requires 36,000 tons of meat a month, or 432,000 tons a year. France's herds suffered enormously at the very beginning of the war. A total of approximately 2,500,000 cattle, sheep and hogs from the French herds were seized by Germany in the invaded provinces. Coming immediately on top of this loss France found herself compelled to find food for some millions of Belgian and French refugees. This had to be done at once and the herds remaining had to be slaughtered without stopping to ask questions about the future. One does not say to a starving man, "What will I do tomorrow, if I give you this crust of bread to-day?"

England, therefore, undertook to supply France with 250,000 tons of meat a year, and this supply was kept up at the rate of about 20,000 tons a month until February of this year. At that time the English supply stopped. England was having then all she could do to feed her own people on reduced rations.

Thus since February, France has had to supply from her resources 432,000 tons of meat a year to her armies. 1,428,000 tons for the civilian population and another 350,000 tons for refugees, making a total of 2,000,000 tons of meat a year demanded by France.

HERDS DEPLETED

What are the herds she has to do this with? At the beginning of 1914 her cattle herds comprised 14,787,710 head; sheep 16,131,390 and hogs 7,035,850. By the end of 1914, after five months of war, her cattle were reduced to 12,668,243, her sheep to 14,038,361 and hogs to 5,925,291. Today her cattle herds are cut down more than twenty per cent, while her sheep number no more than 10,000,000 and her hogs 4,000,000—a loss of nearly fifty per cent of her hogs and three-eights of her sheep on top of the loss of twenty per cent of her cattle.

Cattle feed is short in France and the cattle are poor and under weight. More of them have to be killed in proportion to supply the needed quantity of meat. Milk cows have been killed and the shortage of proper feed has reduced both the quantity and quality of milk. Why, I have seen the time when it has been next to impossible to get milk for my little baby in Paris. I have gone from store to store, begging some one to sell me as little as two cents worth of milk for my baby.

CRYING NEED FOR MEAT

The government is trying to conserve the meat supply and save the herds now, by limiting the use of meat to one meal a day. The endeavor is made to accomplish this purpose by forbidding the sale of meat after 1 p. m. and ordering the butcher shops closed at that hour, while hotels and restaurants can serve meat only with the noonday meal. But this measure has had little effect on the use of meat as it serves only against the restaurants.

Housekeepers can buy all the meat they want before 1 o'clock, and they do it, as there is no restriction in the amount that can be bought. Moreover, in the restaurants one can eat all the meat one wants at midday, and thus make up for having none at night, and, this, also, is the practice.

There is only one real solution of the problem. France must have more meat. Her herds are disappearing rapidly. They are today far below the danger point. Soon they will have to be reconstituted entirely. Meat, meat, meat and again meat is a pressing need for France.



IMPROVEMENT IN QUALITY OF CATTLE GROWN A FACTOR IN INCREASING PRODUCTION.—ILLUSTRATION IS OF PASTURE SCENE ON J. C. HOPPER RANCH IN NESS COUNTY

We would urge upon those having calves the importance of protecting them against blackleg. It does not take many losses in these days of high-priced stock to count up rapidly. It may not in all cases be necessary to vaccinate against blackleg, as infection may not be present, but it is not safe to run the risk of losing calves when it is so easy to render them immune to the disease. The germ-free and the serum and pellet vaccine developed at the Kansas Experiment Station are a little more expensive than the old kind of vaccine, but are the best and safest to use in the long run. Use the germ-free vaccine on well herds and the serum and pellet on herds where infection exists.

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IF YOUR SUBSCRIPTION HAS EXPIRED TURN TO PAGE 11





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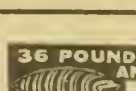

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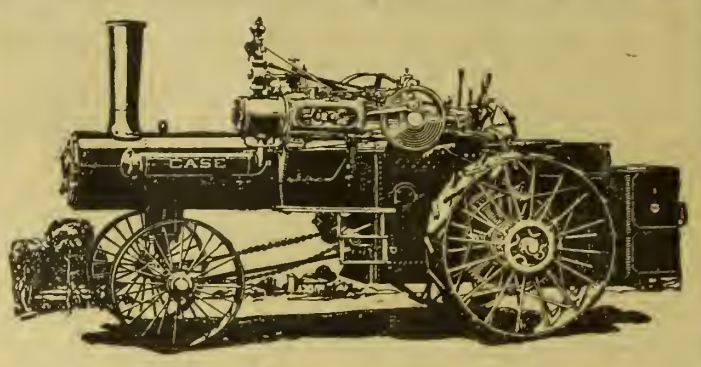

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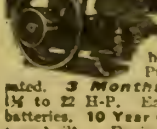

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HOG PRICES OF FUTURE

Uncertainty as to the future is the big factor in keeping hogmen from making plans to increase pork production. This fact was apparent in the discussions which took place during the meeting at Manhattan last week. Mr. Hoover, the food administrator, seems to recognize the position of the hogmen, and on another page of this issue, in presenting the need for greatly increased pork production, he says that he fully realizes the deterrent effects of a lack of confidence in the stability of market prices and pledges himself to use the full power of the food administration, through its influence on the purchase of pork and its products for exportation, to maintain prices in a ratio to feed costs that will not only prevent loss but give proper remuneration to the grower.

The promise made by Mr. Hoover is fair enough, but the pork men are anxious to see results at once. There were those present at the hogmen's meeting at Manhattan who had been feeding two-dollar corn to hogs for the past few weeks, and now the market has been hammered down from the high level of a few weeks ago so that their hogs will not bring any more than they would have brought before they had put the additional corn into them. If the unusually high prices of a few weeks ago were not warranted, purchasers of pork products have suffered in consequence, and someone has obtained large excess profits. Farmers have little faith in the packers, and at the meeting referred to they openly denounced their apparent control of prices. Farmers are also suspicious of the food administration. It was blazoned forth in big headlines all over the country a few weeks ago that hogs would be put down to ten dollars a hundred. Patrick Cudahy, one of the big packers, frankly admitted that "the talk of ten-dollar hogs given out by the Food Arministration may cause farmers to become panicky and result in a drop to that figure in case immature hogs are rushed to market in large numbers." Mr. Hoover sent telegrams all over the Middle West emphatically denying the statements credited to the Food Administration, and in the article on page four of this issue he again goes on record in promising to do his best to guarantee prices that will not result in loss to the producer.

In spite of the telegrams and the promises made, there is a feeling of uneasiness throughout the pork-producing section of the country and this can only be allayed by some very definite statements as to the program of the Food Administration. The food control law does not authorize the direct fixing of prices on pork as it did on wheat and coal. It provides, however, for the licensing of all concerns having to do with the manufacture, storage, and distribution of staple foods. Through this licensing power the Food Administration can control the business of the packers, for example, in such a manner as to insure their paying for hogs on the basis of production costs.

Enough information is now available to justify the Food Administration in announcing a ratio between pork and corn prices, as suggested in the resolutions adopted by hogmen at Omaha and Waterloo. To be just, the price of pork should of course be based on the price of corn at the time it was consumed by the hogs. The resolution adopted at Manhattan does not suggest any ratio between corn and pork, but specifically asks that any control of pork prices definitely take into consideration the cost of getting the hog to the packers. Mr. Hoover has now positively pledged himself to this plan of procedure. We would urge a careful reading of his article in this issue. On the same page will be found a copy of the Manhattan resolutions.

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BANKER LIBELS FARMER

A Chicago banker, F. B. Hurlbert, grossly libels the farmer's attitude in the present crisis in the statement he made recently through a Chicago paper. He said: "The one weak spot in the situation is the attitude of farmers; they will neither buy Liberty Bonds, pay taxes, sell their produce, or fight." He goes on and attempts to show that farmers have profited more than other classes, pay less taxes, and are disposed to shirk their just burdens all along the line. He closes as follows: "It is about time the farmer should appreciate his position in the country and help to do his part in a war as much for his benefit as for those who are putting up the money and doing the fighting for him."

Anyone who would take the trouble to investigate would find out how little this banker senses the true situation out in the open country. We had this particular criticism in mind last week when we commented on the fact that while farmers might not be making as much noise from the platforms as some other classes, no one could doubt their loyalty. They are furnishing their full quota of fighting men and working overtime to produce the necessary food products. All over Kansas the farm boys and farm hands have offered their services in the ranks. The selective draft has taken large numbers of men from the farms, and few have sought or obtained exemptions because of their occupation. Never has it been so difficult to get out a wheat crop, and the fear is expressed that our acreage may be much below the amount asked by the Government because of the serious labor shortage. We could fill this paper with individual instances of curtailed farm operations, reduced wheat acreages, closing out of farm stock at a sacrifice, and of women working in the fields in order to take care of farm crops. From one end of the state to the other there are now hundreds of acres of feed crops standing in the fields because there is no labor to put them in the shock or silo.

Even granting that farmers as a class may have been a little slow in sensing the fact that we are at war with a relentless power and can only hope to win by great sacrifices of men and money, such utterances as those of Mr. Hurlbert only serve to array class against class and instead of helping us to realize more fully the part we should take, merely arouse resentment and anger. As one farm paper editor said, "If this banker will come out to any cross roads and make his charges in person, he may take home with him some proof of the willingness of farmers to attend to the last duty he mentions."

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RED CROSS SAVES LIVES

The boy who goes to war today faces torpedoes, bombs, liquid fire, deadly gases, quick-firers and siege guns. Never before have the means of dealing death been so numerous or so ingenious, or so terrible.

Yet he has a better chance of coming back home, safe and sound, than he would have had in any great war that has been fought. Base hospitals, as they have been evolved in the present war, together with superior methods of surgery, are responsible for that.

Roger Babson, the statistician, is quoted as saying that fourteen out of fifteen men have been safe hitherto in the great war—and the losses at first were vastly greater than the losses now. He continues:

"Under present conditions, where man power is being saved, not more than one in thirty is killed. Only one man in 500 loses a limb, a chance no greater than in hazardous conditions at home."

A. Andre Tardieu, French High Commissioner to the United States, has given out figures showing that the percentage of casualties in proportion to the mobilized strength of France has fallen from 2.39 for the first six months of 1915 to 1.28 in the last six months of 1916.

How does it happen that soldiers today are safer than ever before?

The answer, as suggested above, is that the nations have learned how to take care of their soldiers. Camp sanitation, scientific rationing, business organization of the supply service—these things count, but the big vital factor in saving husbands and sons for the women who wait at home is the efficiency of the medical service.

The second answer, also, is the Red Cross. As Lord Wantage, father of the British Red Cross movement, said: "However well organized an army medical service may be, it never has been, and never will be, able to cope adequately with the sudden emergencies of war on a large scale, and voluntary organizations, unimpeded by official restrictions, are alone capable of giving auxiliary relief and of providing extra comforts and luxuries with the requisite promptitude aud rapidity."

That is why, when America entered the war, the first organized forces of the United States to go abroad were Red Cross base hospital units which had been mustered into the United States Army Medical Corps. That is why right now you would find American doctors and nurses desperately hard at work behind the lines in France, trying to keep British and French soldiers from slipping out of the "wounded" into the "death" lists. Because of the Red Cross they are ready, just as soon as they are needed, to perform the same service for American boys.

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STEEL AND FARM MACHINERY

Price fixing is not to stop with the placing of a government price on wheat. A long list of products has been given out which are to come under food administration regulation the first of November. Announcement was made recently that steel and copper had definitely come under price-fixing regulations. Wheat growers have made the legitimate demand that since a government price has been fixed on wheat, prices on all industrial products should be fixed in the same ratio as the wheat price. The cost of many of these products enters into the cost of wheat-growing. The government announced a cut in the price of steel bars from $110 a ton to $58, and on steel plates from $220 a ton to $65 a ton. The steel corporation has undoubtedly been making huge profits and this cut in prices is welcomed by those who must buy those things into which steel enters.

We fear, however, that there will be no immediate reduction in the price of farm machinery. Farm implement companies, many of them, have been using steel on mill contracts made before the prices reached the high level, and these contracts call for prices no higher than the government price just announced. Manufacturers of tractors and other farm implements maintain that their present prices are based on costs for material below the prices now fixed by the government, and they cannot reduce their prices unless the government still further cuts the price of steel. The fixing of the government price thus leaves the situation in so far as farm machinery is concerned, about as it was. It is more a matter of getting sufficient material at any price, due to the enormous demand for steel and steel products.

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A dairy survey of Shawnee County is being made by the farm bureau and much interest on the part of dairymen is reported by W. W. Wright, assistant county agricultural agent. Plans have been made for co-operative buying of cottonseed meal and a price of $50.95 a ton for 41 per cent meal has been obtained. This price is $12 lower than the regular wholesale quotation. So far orders for twenty tons have been received.

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Wartime gardens have been a success this year in very many cases. Some have grown to weeds and have been a liability rather than an asset, but nothing has turned people's attention to the value of garden produce like the conditions this year. Let's plan for more and better gardens next year.

SUCCESSOR TO DOCTOR WATERS

People of Kansas are vitally concerned in the selection of a successor to Dr. H. J. Waters, who has resigned as president of the Agricultural College. It is one of the big jobs of the state, and the Board of Administration, of which Governor Capper is a member, cannot spend too much painstaking effort in weighing from every point of view the qualifications of the men who may be considered for the place. It probably would be easy to employ a president for the Kansas State Agricultural College if a man should be selected from among those who actively seek to succeed Doctor Waters. Such men as are big enough for the task will have to be sought out, and the board cannot too soon realize the necessity of systematically beginning their search for the right man.

We feel that there should be no undue delay in selecting a president for the college, but on the other hand the job of picking out a man big enough to take up the duties and obligations President Waters lays down, able to inspire the fullest confidence of the strong faculty men of the institution, and carry on its splendid work without any slipping, is a task that should not be lightly undertaken.

The Board of Administration cannot escape the burden of responsibility placed upon them by the people of the state, and if they select a man who does not measure up to the requirements of the job of being president of the greatest agricultural college in the world, they will be held to the strictest accountability. We feel that it is our right and privilege to point out to the Governor and the Board the importance of the task before them.

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ARMY REJECTS FOR FARM SERVICE

Women as guardians of the home do not look with much favor upon the proposed plan of recruiting farm labor from the ranks of those rejected for army service. The farm man has from the start insisted that it takes longer to make a trained agricultural laborer than a trained soldier. They would rather the Government would take the untrained man of the city and teach him to use a pick and shovel in the concentration camp than to try to make a satisfactory farm hand out of him. Farmers have had plenty of grief as a result of trying to use men absolutely ignorant of farm work. Many would rather cut down their farm operations than to operate a kindergarten for making efficient laborers out of the kind of men it is proposed to send to them.

The women even more strenuously object, but for entirely different reasons. The suggestion has been made that many of those physically unfit for the army are still able to work on the farms. This subject was taken up by Mrs. Frank Pomeroy, State Grange chaplain, from the platform of the People's Forum at the Topeka Free Fair. She reminded her audience that the conditions of the farm make it necessary to take in the farmhand as a member of the family. He cannot be sent to a restaurant for his meals or to the lodging house for the night. He must eat and sleep in the home. She said that the reasons given for the failure of many to make good under the scrutiny of the army surgeons are but natural consequences of their evil moral habits. The women will never consent to take moral degenerates into their homes. They would suggest rather that the Government put these rejected men into army camps, take from them the things that have made them unfit as soldiers, and remake them physically. Women generally will applaud these sentiments as expressed by Mrs. Pomeroy.

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One way to increase poultry production is to banish the chicken mites from infested hen roosts.

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A food pledge card in the window is the sign of a patriotic home.

INCREASE STOCK PRODUCTION

Meat and Live Stock Products Vital Concern of Food Administration

By HERBERT HOOVER

INCREASED live stock production is a sound national policy. If we take the long view of the world's agriculture after peace we must assume that Europe, with her herds and flocks greatly diminished and the necessity to allow the herd to recuperate, will demand during this period of recuperation the importation of animal products upon an even larger scale than during the period of the war. During the war period some measure of supply will be obtained by slaughtering the herds, but this is burning the candle at both ends.

It must be obvious that after peace, with diminished animal herds, Europe will have less use for fodder grains; that she will have a larger acreage available for planting bread grains, and that instead of so largely importing bread grains, as has been her habit prior to the war, she will import less. Our American farmers would be wise, therefore, to realize that for a considerable period after the war there will be a very poor export market for American bread grains, whereas there will be a wide demand for animal products. Consequently if the animals be increased, there will be a large demand for fodder grains within our own country. In other words, the outlook of our farmers needs to be turned toward animals and their feed grains, not only now but for many years after the war.

In the Food Administration we have discussed these problems at great length with many representative animal producers and agriculturists of the United States. We have often met the statement that in order to induce our farmers to undertake this changed strategy in production, we must secure for him some positive definite guaranty of a profit. But if I were a farmer it seems to me with the above facts so well founded—so evidently in the farmer's best interest—before me, I should, of my own volition, undertake such a policy even were there no patriotic call. Beyond this, however, it is now vital for every farmer in the United States who can to take unto himself an additional five or ten hogs, a few sheep, or a few calves, in the national interest. It is a necessity for winning the war. And I can not but believe that every farmer in the United States has the patriotism to answer this call of his nation in the hour of our allies' need.

HOGMEN TO BE PROTECTED

I realize that under certain conditions a lack of confidence in the stability of market prices may act as a deterrent to increased production. And further that this may sometimes come from a failure to glimpse an opportunity before one. I therefore wish to make this positive statement; that, so far as the United States Food Administration is able, through its influence on the purchase of pork and its products for exportation, it will do all within its power to see that prices of pork are maintained in a ratio to feed prices that will cover not only costs of production, but proper remuneration to the producer.

By a system of license control of manufacturers and distributors the Food Administration will further help the producers. This system will tend toward the abolition of speculation, the punishment of profiteering, and the assurance that the consumer receives the product at a fair ratio of the producer's price, and that, vice versa, the producer receives a fair interpretation of the consumer's payment. All of these measures, I believe, offer a new hope for agriculture.

While we give these important assurances, I do not believe that they are, in fact, necessary in the stimulation of our production to that point which is now fundamentally necessary for our national preservation. The American farmer has too often demonstrated his courage and resolution in national service to admit any charge that democracy breeds a materialism that requires money guarantees to secure his patriotism. He wants a square deal in giving his services, and, with every power we have, we intend to see that he gets it.

WHY WORLD'S HERDS ARE DECREASING

The next problem confronting the Food Administration is that of food animals, and I wish to review the present situation both in Europe and in the United States. I may say at once that I regard it with even more concern than the bread question.

The general policy of European nations is to reduce their herds by slaughter of their animals to an extent far beyond their annual production. It is obvious that the number of their animals which it is necessary to support by imported fodder requires shipping for their support far in excess of the tonnage that would be required to import equal amounts of animal products. Furthermore, the production of fodder grains in Europe displaces, to a considerable extent, their possible production of bread grains. Beyond this, the diversion of millions of men from production to war and the decrease in fertilizers all contribute to a reduction in production of animal foods. All together from the viewpoint of our allies who observe the constant shortening of shipping, a most likely policy is to eat their animals and thus have room to produce more bread grains at home and to increase their imports of meat products from abroad. By so doing they can make better use of the shipping facilities.

Table I indicates the results of the most recent survey of this situation:

TABLE I.

	Decrease, western allies	Decrease in other countries, including enemies	Total net decrease
Cattle. ...	8,420,000	26,750,000	28,080,000
Sheep	17,500,000	34,000,000	54,500,000
Hogs	7,100,000	31,600,000	32,425,000
Total ..	33,020.000	92,350,000	115,005.000

This encroachment into the herd, for reasons stated, will go on with increasing rapidity as long as the war lasts. Prior to the war our western allies have always imported a considerable amount of animal products. Some person might assume that this encroachment upon the herds would satisfy the total imports. Such is not the case. It becomes a modification of both factors. For instance, Europeans have always relied, to a considerable degree, upon the United States for pork products, and if they slaughtered the larger portion of their hogs they could still not supply their demands for fats. More especially is this true because the imports of fat products of one kind or another from the neutral countries surrounding Germany to the allies are constantly diminishing from one political reason after another.

ALLIES' BEEF SITUATION

In the matter of beef, it appears to me that the allies can, by sufficient encroachment into the breeding herds, support themselves without any consequential expansion of imports from the United states during the period that the slaughter is carried on, but there are limits to even this. Europe, so far as it is able, must preserve its milk herd, for the vital existence of a nation depends upon its supply of fresh milk. In any event, the large amount of roughage in every country makes this possible to some degree without the use of concentrates. So on the beef side it is impossible and undesirable to slaughter to an extent that encroaches upon the milk herd, for when that point is reached all further supplies of beef must be imported.

It is useless to slaughter beef in such an emergency under, say, two years of age, and the encroachment into the cattle herds of one ally is limited practically to the killing of mostly male animals above two years of age and of the useless milk animals. If the war continues long enough this point of slaughter will be reached amongst others; and the time will come when we will be called upon to find large quantities of beef before the war is over, although for the next few months the demand for beef may not be so heavy upon us.

HOG PROBLEM IS GRAVEST

The pork problem is one not only of the deepest concern, but as our hogs lend themselves to rapid increase, it is a matter for hope of rapid solution. Table II presents statistics that are illuminating as to our hog supplies:

TABLE II

	Three-year pre-war average	Fiscal year 1916-17
Hog population January 1.	61,600,000	67,450,000
Number hogs slaughtered.	53,204,000	64,798,000
Percent hogs slaughtered.	86.3	96.1
Average live weight in pounds	219.21	211.25
Exports of pork products in pounds...	992,885,300	1,501,271,000
Domestic consumption, pounds per capita.	72.08	75.77

If the figures in Table II be insufficient evidence, a mere glance at the prices of pork products today is proof that we are slaughtering, consuming at home, and exporting more pork products than we are producing. It is interesting to note that we have increased our pork consumption despite high prices.

TWO WAYS TO SOLVE HOG PROBLEM

If we are to maintain our supplies to the allies, we have only one of two courses, or a combination of both: First, we must reduce our consumption of pork products to the pre-war normal or better; and, second, we must increase our production. If we discontinue exports, we will move the German line from France to the Atlantic seaboard.

Pork products have an influence in this present world situation wider than one would ordinarily attribute to them. The human body must have a certain amount of daily intake of fat. Whether this fat is by means of dairy products, by vegetable oil, or by pork products becomes a secondary question in time of complete national stress, because pork products to soms degree will substitute for the other fats.

Increased production in pork fats can be accomplished with a great deal more rapidity than increased production of dairy products and on a much more widely extended scale. An increase in pork fats can also be made more rapidly than an increase in vegetable fats. It appears to me, therefore, that we must concentrate on the increase in the production of hogs if we are to answer the world's craving for fats. Fortunately our situation during the coming year lends itself to this end.

AMERICA HAS BIG CORN CROP ON HAND

Due to the blessings of the Almighty and the energy of our farmers we have grown one of the largest corn crops in our history. We also have abundant crops of oats, barley, kafir, soy beans, velvet beans, cottonseed and peanut meal and we will have a larger supply of mill feed than normal. Not all of these are hog feed, but they will enter the general feeding question by adding to the general pool of feed.

If we aggregate all of the feeding stuffs, and if we subtract the amount of fodder grains which we can expect to export in view of the present shipping outlook, we will find one astounding fact which should give American farmers pause: We have today somewhere near the equivalent of 1,000,000,000 bushels of feeds more than last year. This is an increase of nearly 25 per cent —for which we [illegible] number of animals to [illegible] begin to increase them at once. In other words, as our animals have not kept pace with our increase in concentrates, we have much more feed this year than we have animals to eat it. Therefore, if farmers are to find markets for feed, it must be to a great extent through an increase in animals.

The monetary interpretation of this situation must be that we will have a low range of prices for feeding stuffs and, in view of the European situation and our own shortage in hogs, we will have a high average price for pork products. Therefore, it must be to the vital advantage of every farmer to raise hogs.

NEED PORK TO WIN WAR

PLANS for increasing pork production must be made quickly. It is now the season for breeding sows for spring litters. The uncertainty as to the price of corn and the price that may be expected for hogs when they are ready for market is causing many to hold back. A positive, clear-cut statement from the Food Administration as to its policy on price control would relieve this uncertainty and serve to stimulate the desired increase in pork production.

Kansas has been asked to increase its pork production by 25 per cent, following a careful canvass of the pork situation over the whole country made by the Federal Department of Agriculture. This message came from George M. Rommel, of the Federal Bureau of Animal Industry, at the meeting of hogmen held in Manhattan October 24. Mr. Rommel gave some figures similar to those in Table II on this page as having a bearing on the situation: Estimated hogs on farms September 1, 1916, 65 million; September 1, 1917, 60 million; decrease, 5 million. Actual hogs slaughtered under federal inspection during the fiscal year 1916, 40,482,000. In the year 1917, 40,210,000—a decrease of 220,000. Estimated total number slaughtered in 1916, 67,470,000; in 1917, 67,020,000—a decrease of 450,000.

Mr. Rommel presented the following figures on the increase in feed crops over 1916: Oats, 281 million bushels; rye, 50 million bushels; corn, an estimated yield of 3,210,000,000 bushels, or a probable increase of from 500 to 750 million bushels. From 75 to 80 per cent of our corn is normally fed to live stock, and this portion of the crop largely determines the price. With this great increase in the feeding grains, it would seem that not in years has there been greater need of feeding more of the crop to live stock.

On the basis of this need of feeding more corn and the unusually heavy demand for pork products, the Government makes the suggestion that Kansas should breed 25 per cent more sows this fall. The following resolutions were passed by the farmers present:

"Whereas there is a shortage of at least 25 per cent of the number of hogs and a further decrease of at least 10 per cent in the weight of hogs marketed in Kansas as compared with normal conditions, and

"Whereas there is a feeling of uncertainty among the breeders and feeders of hogs as to the stability of hog values, and

"Whereas the United States Government has stated that there must be an increase of 25 per cent in the production of hogs in Kansas in order that our armies and those of our allies may be properly nourished.

"Be it resolved that the hog men assembled are in favor of meeting the ideas of the Government in regard to increased production;

"That if it is necessary to fix prices of hogs in order to win the war, all factors entering into the cost of production be similarly controlled and that the price of hog products be fixed in proportion to the cost of hogs to the packers;

"That action be taken to prevent violent fluctuation in the market price of hogs, due to speculation on grain and provisions;

"That as the breeding season is upon us, we request the food administrator to announce as soon as possible the action which he proposes to take in regard to allied and Government purchases of pork products;

"That the hog producers of Kansas are willing to abide by any action which the Government may take in order to win the war."

DIMINISHING WOOL CLIPS

Some of the other animal questions I might touch on briefly as well, although the same line of argument applies all along. Suppose we take the case of sheep. Our sheep have been diminishing steadily since the war began. We produced in 1916 only 35 per cent of the wool that we used. In providing uniforms for millions and millions of men the world is using more wool than ever before in its history. We have never seen such a price of wool as it exists to-day. There is practically famine in wool at the present moment. There is every reason in outlook and in profit for the increase of our sheep.

There is very little possibility of such increase on our western ranges for many reasons. There is, however, the general fact to consider that through the Middle, Southern, and Eastern States anywhere from 3 to 20 sheep could be added to almost every 160-acre farm. They would feed upon material that would otherwise go to waste, and in the aggregate would furnish the United States with the greatest flock of sheep in the world. Aside from a feeling of insecurity, the greatest deterrent to this undertaking by millions of farmers lies in the mass of dogs that our people insist on maintaining as "the friends of man," which are, in fact, the destroyers of the clothing intended for his back.

Now, what I have said relates mainly to the immediate prospect and our immediate necessities. We may summarize that we need to increase every type of our principle food animals—our cattle, our hogs, and our sheep.

HORRORS OF WAR AND BACKWASH OF BATTLE

From two and a half years of contact with the German Army I have come out of this horror with the complete conviction that autocracy is a political faith and a system that directly endangers and jeopardizes the future of our race—that threatens our very independence. It has, however, been able to command a complete inspriation of devotion and self-sacrifice in its people to the interest of their nation. The German farmer, in the name of the fatherland, supports a nation of two-thirds as large as ours and threatens to subject the world from an area as large as Texas.

I am convinced that we will find this same devotion a direct reply to the German farmer—by the voluntary service of the American producer. This is democracy, and will be its answer to autocracy.

There is a human side to all of this. I have spent two and a half years in Europe in intimate contact with the backwash of war. During this time I have been faced with the responsibility of furnishing daily the food of 7,000,000 women and children among a population of 10,000,000, and the food of these is to-day solely assured by the American farmer. During this time, however, the gradual diversion and destruction of men and ships amongst our other allies from the support of another 100,000,000 women and children has thrown them wholly a state of the dependency upon the American farmer for their daily food. Their husbands, brothers, and fathers are defending our liberty as surely as our own boys in France.

The production of more fats is to-day a critical necessity for the preservation of these people and the maintenance of their constancy in the war. Every pound of fat is as sure of service as every bullet, and every hog is of greater value to the winning of this war than a shell.

My vision of war is not of an academic problem to be solved by discussion and guaranties of profits; to me it is a vision of brave, dying men and suffering women and children for service on whose behalf the greater exertion of the American farmer comes as a direct necessity and a direct plea. The American farmer who sees war as I see it needs no inducement and no inspriation but the thought that every spade full of earth turned and every animal reared is lessening human suffering and guaranteeing the liberty of the world.

Frostbitten Corn

W. G. G. asks if corn that has been frostbitten is all right to feed cattle. He says he has heard that cattle do not do well on frostbitten corn.

The inquiry is not very specific as to whether the grain or the whole plant is to be fed to the cattle. Of course corn that has been frosted before it has reached maturity does not have the feeding value of corn that has fully matured. The grain of such corn is apt to be light and chaffy, or what is commonly known as "soft." It does not contain the feed value of fully matured hard corn. Neither the fodder nor the ears of such corn are dangerous to feed to cattle after being frosted. Of course in beginning to feed cattle soft corn it is always in order to get them accustomed to the grain gradually, especially if they have been on a feed of old or well matured corn. If this frosted corn has been put in the silo it can be fed as safely as any other silage, but of course its feeding value will depend upon the stage of maturity which it had reached when hit by the frost.



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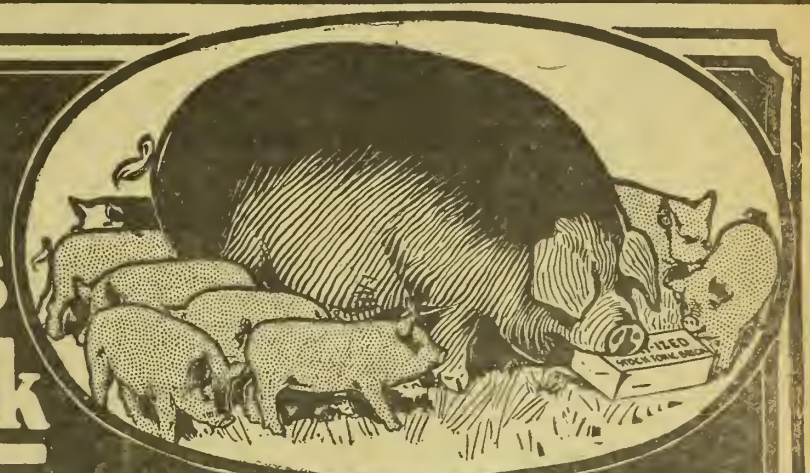

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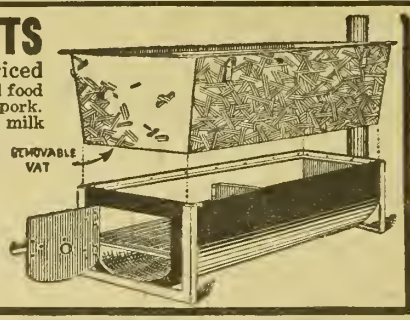

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KANSAS FARMER DAIRY CLUB

How Much Grain to Feed

HOW much and what kind of grain to feed is the question you are all asking. You want to make your cow as profitable as possible, and when feed is high in price you feel that you must figure closely or the feed bill will eat up all profits. We must never forget, however, that the cow always takes enough from what she is fed for her own body maintenance. No matter how cheap or how expensive feed may be, you have this charge to meet before any of the expense you put into feed can be considered as going into the production of milk.

Last week we illustrated the limitations of a rough feed like prairie hay as a milk cow ration. Since the nutrients are supplied most cheaply in hay and fodder, we always aim to feed as much as we can of these rough feeds. Prairie hay, however, simply does not have enough protein in it to make milk, and if used as a roughage some grain mixture very rich in protein must be fed to properly balance it. Cane hay, millet hay, kafir fodder, corn fodder, and other feeds of this kind are in the same class as prairie hay. They are all low in protein, and while they are cheap feeds, and can be used as a part at least of the roughage, or bulky portion of the ration, are not milk-making feeds when fed alone.

We might try feeding the cow on alfalfa hay alone. In studying the digestible nutrients found in alfalfa hay, we figure out that twenty-five pounds contains 2.65 pounds protein, 9.75 pounds of carbohydrates, and .225 pound of fat. This is a pound more protein than is needed for the twenty pounds of milk, and there is not enough corbohydrates and fat. It would be a good ration for making milk because the excess of protein could be used to make up for the lack of the other nutrients. But protein feeds are always higher in price than feeds containing small amounts of protein, and it would not be very economical to use expensive protein in the place of carbohydrates and fats, which are so much cheaper in such feeds as corn fodder or other forage of that kind. So we will not want to feed the cow on alfalfa alone, because at present prices it is not economical.

Since roughage is the cheapest source of the nutrients needed for making milk, we should give our cows all the rough feed they will eat. It is important that it be as palatable as possible, for they will eat more of a feed they like and digest it better than a feed that is not eaten with a relish. If the rough feed we give our milk cows is alfalfa or clover, both of which are rich in protein, and silage, the roughage part of the ration will be well balanced for milk. Last week we figured out the nutrients contained in twelve pounds of alfalfa and forty pounds of average corn silage. This ration is enough for eighteen to twenty pounds of milk daily. It will be found that in actual practice the average cow giving this quantity of milk will not require any grain or mill feed when fed about these quantities of alfalfa and silage.

Many of you, however, have cows that have a capacity for considerably more than twenty pounds of milk a day. The cow cannot eat and digest more of the alfalfa and silage, so if you are to get the extra milk and keep the cows from running down and getting thin, you must feed some grain or combinations of grain and mill feed to supply the nutrients needed for the extra milk. Suppose you have a thirty-pound cow. The alfalfa and silage will furnish enough of the nutrients for about twenty pounds of milk, so you will have to provide for the ten additional pounds by giving her some grain mixture. This grain mixture should be properly balanced for making milk without waste of any of the nutrients. If we give the cow corn alone, she would have more fat-making material than she needs and would probably waste the surplus or put it on her own back. Some combination of grains and the mill feed, such as oil meal, cottonseed meal, and bran, must be fed in order to have a balanced ration for making milk. The following mixtures are fairly well balanced for milk production: Corn and cob meal, 200 pounds; bran, 100 pounds; and cottonseed meal, 100 pounds; or corn and cob meal, 150 pounds; oats, 100 pounds; linseed oil meal, 200 pounds; or corn chop, 170 pounds; bran, 100 pounds; cottonseed meal, 100 pounds. Smaller quantities than these can be mixed in the same proportion. It saves labor to mix feeds together for future feeding and this can be most conveniently done by spreading out the different kinds on a clean floor in thin layers, one on top of another. Then with a scoop shovel turn the pile over two or three times so as to get it thoroughly mixed, finally shoveling it into a tight bin or box where it can be kept covered.

For a cow giving thirty pounds of milk daily and having twelve or fifteen pounds of alfalfa and all the silage she will eat, five or six pounds daily of one of these grain mixtures should be sufficient.

You may wonder how you can keep your records, putting down in each column the amount of each feed given when several grains are mixed together as suggested. Of course you can figure this out, but it will most likely come out in fractions and make it difficult to add the columns. The easiest way is to write down each day the number of pounds of the mixture you feed, making a note at the bottom of the record telling exactly what the mixture is. After adding the number of pounds of the mixture fed at the end of the month, you can separate it into the different feeds and calculate how much each one has cost. For instance, if your mixture happened to be corn three parts, bran two parts, and cottonseed meal one part, the amount of corn would be three-sixths, or one-half, of the total; the bran two-sixths, or one-third; and the cottonseed meal one-sixth.

If you have any special questions to ask about what to feed or how to combine your feeds, do not hesitate to write and ask for help. Unless you take advantage of every opportunity possible to learn more about dairy work, and especially feeding, you are losing part of the value of being a member of the Dairy Club.

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All good dairymen consider it very important to have cows with good square



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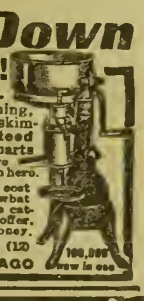

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udders, having four good-sized, well-placed teats. Like begets like, and it is a good rule in breeding to pay considerable attention to the form of the udder and teats of the milk cows. In spite of our efforts to breed them out, heifers will frequently be dropped having extra or rudimentary teats. Sometimes heifers will be born with two teats welded together. These might as well be veated, for they are not only apt to reprodnce the same defect in their offspring, but there is no way of treating this defect so as to make them satisfactory as milk cows.

Not infrequently there will be small rudimentary teats on the sides of the regular teats. If nothing is done to remedy this condition, these little teats will develop and be a great inconvenience in milking. Sometimes they even give milk, and cows having such teats cannot be milked in a cleanly manner. They can be easily removed when the calves are young. Simply clip them off with a pair of sharp shears and apply caustic potash to the wound. The potash comes in sticks and should not be handled with the bare hands. It will burn the fresh wound and stop any bleeding which may occur. The wound will soon heal up and cause no trouble. These little rudimentary teats are found on the rear of the udders also and between the regular teats. While they are not such an inconvenience in these locations, they might just as well be removed in the same way while the heifers are young. These rudimentary teats are of no use, and all dairymen like to see a cow with a smooth udder free from such blemishes.

Examine your heifer calves while they are young and note whether they have any of these little udder defects which can be so easily remedied.

Records Must Be In by Tenth

Do not forget that according to the rules of the Dairy Club, copies of the completed feed and milk records for each month must be sent to KANSAS FARMER and to your bank not later than the tenth of the following month. Promptness in sending in reports is one of the points on which your standing in the contest depends. Be sure to get your October records to this office by November. 10. Make three copies of your milk and your feed record, keep one copy of each for your own file, send one to your banker, and one to KANSAS FARMER, addressing Kansas Farmer Dairy Club, in care of KANSAS FARMER, Topeka, Kansas.

Frequency of Milking

Ordinarily we milk cows only twice a day. They will give a little more milk if they are milked three or four times a day, but not enough more as a rule to pay for the extra work. If you have a very heavy milker, a cow giving fifty or sixty pounds of milk daily, it will probably be a good plan to milk her three times a day at least for a short time while she is fresh. Some of the Dairy Club members are now milking three times a day, and a few of last year's members milked three times a day for a while. When cows are being tested for advanced registry, it is nearly always customary to milk them three or four times a day, because their owners are anxious to get the last drop of milk possible during this test period. It is not very convenient to milk cows three times a day, because they must be milked in the middle of the day and quite early in the morning and late at night in order to divide up the intervals as evenly as possible.

Buttermilk is a dairy by-product which deserves to be more widely used in this section of the country. It is healthful and very easily digested. Southern cities consume almost as much buttermilk as sweet milk. It is a cooling drink and especially popular in summer when milk is hard to keep sweet. The nutritive value of buttermilk is considerable, an ordinary glassful yielding about as much nourishment as two ounces of bread. As a cheap source of protein it is especially deserving of notice.

Curing Warts on Calves

Sometimes calves are badly affected with warts. They do not seem to do much harm, but are unsightly and can be cured without any great difficulty. Sometimes simply twisting them off with the fingers or cutting them with a pair of shears and painting the roots with iodine, will cure them. If this fails, grease the hair around the wart and burn it by swabbing with either nitric or sulphuric acid, using a feather to apply it. Two or three applications may be necessary. After the wart is killed use lard or carbolated vaseline on the scar to heal it up. Great care must be exercised in handling the acid, as it will burn the clothing or the skin.

A milder treatment is to paint the wart with a mixture of one part salycilic acid and seven parts collodian. After two or three days peel off the scab and treat it again. Continue this treatment until the wart is gone.



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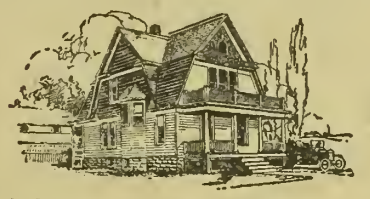

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Diversified Farm Safe

WHILE much of the figuring being done on the cost of wheat production is based on exclusive wheat farming, the man who has kept farm accounts with different crops knows that it is not safe to depend entirely on any one crop. The cost of wheat production over a period of years is almost certain to be higher if wheat is the only crop grown. We have in mind a good farmer of Pawnee County, one of the big wheat counties of the state, who has for a period of ten years averaged eighteen bushels of wheat to the acre. He is not an exclusive wheat farmer, however. In fact he is more of a live stock farmer than a wheat farmer, but wheat as he has grown it has always been a profitable crop.

We give below a letter from H. B. Harmon, of Morris County, which bears out the general statement that diversified farming is far safer than exclusive wheat farming. He says: "I submit some figures on the cost of raising wheat. Plowing, $2 an acre — tractors received $2.25 an acre this fall—double disking, $1 an acre; single harrowing behind disk, 25 cents an acre; double harrowing crosswise with four-horse team, man riding the harrow, 50 cents an acre; one and one-fourth bushels of wheat at $2 a bushel, $2.50; drilling with hire of drill, 50 cents an acre; cutting, $1 an acre; board of man and four horses, 30 cents an acre; three pounds twine at 21 cents, 63 cents an acre; cost of shocking with board of hands, 50 cents an acre; stacking, 80 cents an acre; threshing sixteen bushels at seven cents a bushel, $1.12 an acre; four men to pitch bundles, four men with teams to deliver grain to elevator, with board of all hands, easily adds $1 more per acre. These items total $12.10.

"I figure $1.75 a bushel as about what we will get for wheat next year. We got an average of $1.95 this fall at the elevator. Figuring sixteen bushels per acre at $1.75 makes $28 an acre. We give one-third for rent on the land we farm in wheat, leaving us $18.66 an acre. Deducting the cost — $12.10 — leaves a profit of $6.56.

"Some years under certain conditions yields are much larger and with present prices profits are large, but there is another side to wheat farming. Sometimes yields are far below sixteen bushels and sometimes they are failures. In my thirty-six years of farming in Kansas I have planted two wheat crops that did not pay expenses for every one that has more than paid expenses, and I claim to be a good and fairly successful farmer. Most of what I have made financially has been done here in Morris County with cattle, hogs, corn, and alfalfa. On our quarter-section farm where we live we have seventy acres in alfalfa, twelve acres of bromus inermis in pasture, and fifty acres prairie pasture.

"I have not figured anything on the money we have invested in horses, harness, and tools, in estimating the cost of wheat production."

Community Fair in Southwest

Out in Southwest Kansas at the little town of Rolla, in Morton County, there was recently held an agricultural and community fair of unusual interest. This little town, which is hardly four years old and as yet not incorporated, does a business that would do credit to a town of fifteen hundred or two thousand people in the eastern part of the state. Although the fair was held in the busiest season of the year when binders were running day and night in order to save the cane, kafir, and other feed crops which the frost had matured, the people of the community took the time to put on a display of their choicest agricultural products and to help with the program. Fine exhibits of broom corn, Indian corn, milo, pumpkins, squashes, and watermelons were made, and a genuine interest was taken in examining and admiring these many products. Many a spectator was heard to remark that they would do even better yet next year.

Watermelons were a free attraction at this event, this being in the district of Kansas where melons are grown in large quantities for seed. On Saturday, the second day, a typical community program was given. Henry L. Carey, of Dodge City, gave an eloquent patriotic address from the subject, "Why We Are at War," ending with a plea for investment in Liberty Loan bonds. Emergency Demonstration Agent R. F. Hagans gave a practical talk on dairying as a branch of farm business that should be greatly developed in this section. Representative Thompson of Morton County dwelt upon the early history of this part of the state, and spoke of the great possibilities for the future.

Hints for Boy Trappers

There will be plenty of money to be made during the coming fur season. The commoner animals will be in good demand—those that are to be found in practically every rural community. Muskrats promise to "soar," for the word has gone out that the Government is in the market for a single order of a half million skins for coats to be worn by aviators. With this enormous order and the demands of fashion—muskrat will be worn as usual—there is no telling just how much pelt-hunters will get for their catch.

Fur firms are preparing for one of their very best seasons. Undoubtedly they will pay out ten or fifteen million dollars for raw furs, and a large amount of this money will go directly into the hands of those who take the smaller animals. It is well known that most of the skunk, raccoon, opossum, mink and muskrat are caught by amateur trappers; the boys who spend but their spare time after fur. Judging from this it is safe to predict that many who have never made a set before will have considerable money to show for the time spent.

In the first place, one ought to locate his trapping grounds as early as possible—weeks before a trap is put out. Just before cold weather when we have heavy frosts is best for locating dens and runways, for the animals are very active at this period of the year storing up food and preparing their winter quarters. However, notwithstanding the fact that prices will be high, I do not advocate the taking of furs before they are of good quality. To do so means a loss to the trappers each year of over a million dollars—and the estimate is conservative, too.

Wild life, as a rule, prefers dark places, and for this reason I advise the beginner at least to get a small flashlight, something he can carry handily and will stand the hard usage the flash will get on the "line." With this it is a good idea to explore all overhanging banks, burrows and similar places, for



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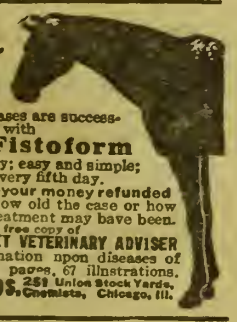

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by so doing the novice can learn more in a few hours than during months by guesswork. For instance, if there is any doubt about whether a den is occupied by skunk or not, he needs but to throw the rays as far into the hole as possible and if there are long black, white, or black and white hairs to be seen, a set may be made with a knowledge that it will get fur.

There are several things that must be taken into consideration when selecting a grounds. In the first place, if the trapper has but a few hours a day at his disposal, his line must not be too far from home. Of course, many times the pelt hunter can use a bicycle, horse or boat in visiting the sets, so when this is the case it is obvious that distance does not enter into the selection of the grounds so much as when the traveling must be done on foot.

The beginner generally wants to attempt too much. It is better to use but a few traps and place them carefully, looking after them in the same manner, than several dozens which can only be arranged and attended to in a slipshod way.—GEORGE J. THIESSEN.

Vessels for Curing Meat

The best vessel for curing meat is a large stone jar. However, a stone jar holding twenty or thirty gallons is expensive; when full of meat it is heavy to handle, and there is danger of breakage. A clean hardwood barrel is also a suitable vessel. If a barrel made for this purpose cannot be obtained, a molasses or syrup barrel or even a kerosene barrel that has been burned out and used for water for some time will answer. It must of course be clean and tight enough to prevent leaking.

Unless meat spoils in it, a barrel may be used again and again. It should be thoroughly scalded out each time before meat is packed in it.

Manure Wheat Lightly

The amount of manure that it is safe to apply to the wheat field is considerably less than that for the alfalfa field.

Heavy applications cause the wheat to lodge and burn, and in this way decrease the yield. Prof. R. I. Throckmorton, of the Agricultural College, advises that the surface dressing on the wheat field be not more than six or eight tons to the acre, in the eastern part of the state, and much less for the western.

The manure spreader is the best means of supplying the manure. If it is allowed to remain in bunches, these will tend to smother the plant. Under no circumstances should it be hauled to the field and piled up to be scattered at some future time. By this practice a large amount of the fertility will leach out, and an excessive amount of nitrogen will be deposited in local areas, causing the crop to lodge readily.

All manure that has been formed during the summer months should be applied to the alfalfa fields this fall, or to the wheat fields as soon as the fall growth has ceased. At the present prices of wheat and alfalfa we can not afford to allow this by-product of the farm to be wasted.

Storing Garden Vegetables

In order to realize on the effort put into growing the various vegetables, they must be so stored as to be saved in good condition for use through the winter.

Root crops such as parsnips and salsify are improved in quality by freezing and for this reason frequently are left in the rows. It is difficult, however, to get them out for use in the winter. A better practice is to dig and pile them, and cover with several inches of earth to prevent alternate freezing and thawing.

Carrots, turnips, and beets must not be allowed to dry out, as this greatly reduces their edibility. They should be removed from the ground before freezing and stored in a dry place. Pits or other types of common storage may be successfully used for these vegetables.

Cabbage for winter use should be pulled late in the fall. The roots and outer leaves should be left on for a protection. The cabbages are piled in layers with the roots pointing upward, and the mound thus formed is covered with eight or ten inches of earth. The sides of the mound should slope to furnish drainage. A shallow trench around the pile to carry off the surface water affords additional protection.

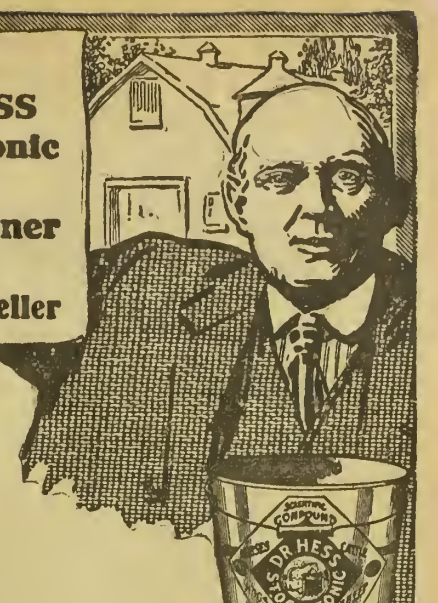
Onions should be stored away from other vegetables, as the strong odor will permeate surrounding objects. After being cured they may be stored in bins or caves that are free from dampness.

My Stock Tonic is never peddled.

25-lb. Pail, $2.00; 100-lb. Drum, $6.50.

Why Pay the Peddler Twice My Price?

Dr. HESS Stock Tonic is a Conditioner and Worm Expeller



Keep Your Animals in Condition

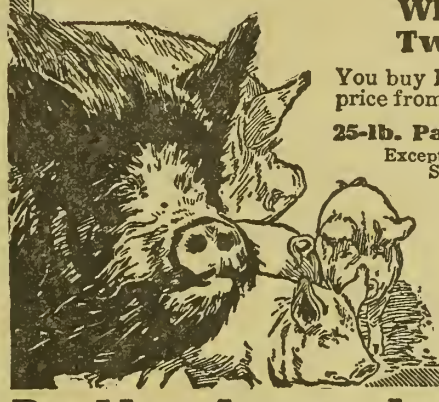
Now is when your stock need special attention because the change from pasture to dry feed is one of the most critical periods of the whole year.

You can lose more pounds of summer gain through November neglect than you can get back all winter. Keep up the good condition—keep up the summer thrift—keep out the worms.

Dr. Hess Stock Tonic

Drives Out the Worms. Makes Stock Healthy

Keep the animals' systems right and you need have little fear of disease. Stock Tonic tones the stomach and the digestive organs, gives better action to the bowels, improves the blood, purges of worms, and gives real life and vigor. The *Nux Vomica* in it aids digestion. *Quassia* is a true tonic and a worm expeller. The *Sulphate of Iron* is a blood builder and worm expeller. There is *Epsom Salts* for a laxative, and *Nitrate of Potash* to act on the kidneys.



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Send for Price List and free subscription to our monthly magazine "The Trappers' Exchange"—greatest trappers' magazine published. Traps Guns, Ammunition, etc., sold at factory cost. Biggs baits are guaranteed to increase your catch or money back. Write today.

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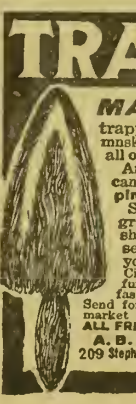

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120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FOR SALE — FINE GUERNSEY MALE calf, five weeks old. Can be registered. M. Culp, Scottsville, Kansas.

REGISTERED HOLSTEIN BULL READY for service. Four of his dams averaged 106 pounds milk in one day and 34 pounds butter in seven days officially. $125. Wisconsin Live Stock Association, Appleton, Wis.

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FOR SALE — ONE-YEAR-OLD REGISTERED Guernsey bull, sires five nearest dams average 684 pounds fat one year. Dam's grandsire Imp. King of the May. Very large, black nose, a great bull for a grade herd. Also a few high grades 15-16ths and better. Bull calves, same sire as above. John Perroud, Humboldt, Kan.

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TREE PLANT THIS FALL. NEVER A better time. Save money and get our terms. Write today for fruit book and information about growing fruits. Buy direct—it pays. Headquarters for well selected seeds. Box No. R, Wichita Nurseries & Seed House, Wichita, Kansas.

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LUMBER, POSTS, MILLWORK, WHOLESALE prices. Inspect before paying. Buy now. Prices advance December 1. Quick, freight prepaid estimates on your carpenter's bill of material. Price-lists, catalog free. Keystone Lumber Company, Tacoma, Washington.

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TAKEN UP — BY W. A. McREYNOLDS, of Scott City, Scott County, Kansas, on the 14th day of June, 1917, one black mare, weight 800 pounds; no marks or brands. Appraised at $80. John L. Whitson, County Clerk.

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PURE-BRED WHITE WYANDOTTE cockerels, $1.50 each now. Well marked. Mrs. C. C. Kagarice, Darlow, Kansas.

STANDARD BRED BRONZE TURKEY hens, $3.50; toms, $7. Satisfaction guaranteed. Virgil Taylor, Holton, Kansas.

BUFF ORPINGTONS — KANSAS FREE Fair winners. Young stock for sale. A. Bassett, 355 Shawnee, Topeka, Kansas.

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WILKEN'S WHITE ROCKS — COCKERels for sale from high scoring birds. Price, $2.50 each. Louis Wilken, Route 1, Columbus, Neb.

"RINGLET BARRED ROCK COCKERels" carrying blood line of Madison Square Garden prize winners, $2, $3 and $5 each. Chas. E. Strobel, Lohman, Missouri.

BARRED ROCK COCKERELS—PEN AVeraging 175 eggs, 1916. 1917 seven months 1917 strong birds, first and third Topeka Fair. Reasonable. Need room. Farnsworth, 224 Tyler, Topeka.

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TURKEYS, DUCKS, GEESE FOR HOLIdays. Write for cash offers. Coops loaned free. Ship direct. The Copes, Topeka.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

A Commonplace Life

"A common place life," we say as we sigh,
But why should we sigh as we say?
The commonplace sun in the commonplace sky
Makes up the commonplace day.
The moon and stars are commonplace things,
And the flower that blooms and the bird that sings,
But dark were the world and sad our lot
If the flowers failed and the sun shone not,
And God, who studies each separate soul,
Out of commonplace lives makes His beautiful whole. —Selected.

Potatoes Save Bread

Potatoes are plentiful this year in almost every community. They are less concentrated than wheat, since they contain a large proportion of water—70 per cent. Wheat can be preserved and shipped more satisfactorily.

Though first of all a vegetable, if palatably prepared and served with a well-flavored gravy or with butter, they decrease the amount of bread eaten. For many people potatoes take the place of bread entirely at the dinner meal.

Dry Bread Made Appetizing

Waste no dry bread. A single slice is valuable and every bit thrown away means greater hunger in Europe. Here are practical ways to use dry bread and thereby keep in the food saving campaign, as urged by the United States Food Administration:

Cut it in thin slices and toast it. Crisp toast is appetizing with almost any breakfast drink.

Cut dry portions of loaves into cubes about three-fourths of an inch square, put in a shallow pan and toast in the oven to a golden brown. Serve for use in soup. If preferred the bread may be buttered, cut in strips instead of cubes, toasted, and eaten with soup.

Revive the old-fashioned dish of bread and milk—an excellent use for dry bread.

Make into bread pudding, using raisins liberally to give flavor and make the dish more attractive and nourishing. Instead of using raisins, jelly may be spread on the pudding after baking, and a meringue made by adding sugar to the beaten whites of eggs in the proportion of one tablespoonful of sugar to one egg white placed on top of the whole and browned in the oven. The red jelly and the white meringue helps to make an attractive dish and the tart jelly gives an appetizing flavor.

Or break up the dry bread into small pieces and crush with a rolling pin, saving the bread crumbs for future use in the place of flour or to sprinkle as buttered crumbs over the top of scalloped dishes. A covered glass jar is a convenient receptacle for storing bread crumbs.

Not one apple, windfall or hand-picked, should be allowed to go to waste this year. The windfalls may be used for jelly and fruit butters or for cider vinegar. Apples combine well with almost any other fruit for jelly or butter.

Beating cakes incloses bubbles of air, which is one of the secrets of light cakes. Stirring stirs them out.

Wonderful Egg Producer

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit maker, write E. J. Reefer, poultry expert, 4638 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1 (prepaid). So confident is Mr. Reefer of the results that a million dollar bank guarantees if you are not absolutely satisfied your dollar will be returned on request and the "More Eggs" costs you nothing. Send a dollar today or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—(Adv.)

Six emergency home demonstration agents have been placed in Kansas counties: Miss Juanita Sutcliff in Cowley County, Miss Ellen Nelson in Seward, Miss Mollie Lindsey in Ness, Miss Maud Coe in McPherson, Miss Ellen Batchelor in Wyandotte, and Miss Bertha Boyd in Stevens. Miss Elsie Baird has been selected for Anderson County, Miss Avis Talcott for Atchison, and Miss Edna Danner for Marshall. Several other counties have asked for home demonstration agents through the division of extension of the Agricultural College, and these will be appointed as soon as the county organizations can be completed and capable women found.

Apple Sauce Cake

½ cupful fat
1 cupful raisins, chopped and floured
1½ teaspoonfuls cinnamon
1 teaspoonful soda
2 cupfuls flour
1 cupful sugar
½ teaspoonful nutmeg
1 cupful unsweetened appled (cooked)
Pinch of salt

Cream the fat and add the sugar; mix well. Add raisins and apples and then the flour, which is sifted with the soda, salt, and spices.

Peanut Soup

A delicious and nourishing soup may be made from skim milk and peanut butter as follows, says the United States Department of Agriculture:

Heat one pint of milk until lukewarm. Add two rounded tablespoonfuls of peanut butter mixed to a smooth paste with a little of the milk. Salt to taste. Thicken with one teaspoonful of butter or savory fat mixed with one tablespoonful of flour. Bring almost to the boiling point and serve.

Prepare the land now for shrubbery or flower beds next spring.



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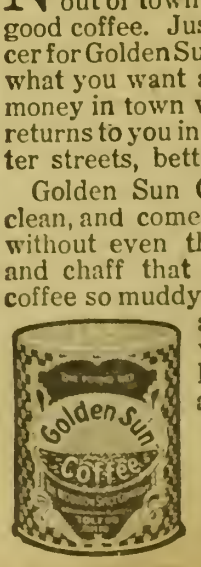
Golden Sun Coffee

NO need to send your money out of town when you want good coffee. Just ask your grocer for Golden Sun. He gives you what you want and keeps your money in town where part of it returns to you in the form of better streets, better schools, etc.

Golden Sun Coffee is made clean, and comes to you clean, without even the natural dust and chaff that make ordinary coffee so muddy and bitter. Try a pound. You will like its delightful aroma and flavor.



The Woolson Spice Co.
Toledo, Ohio

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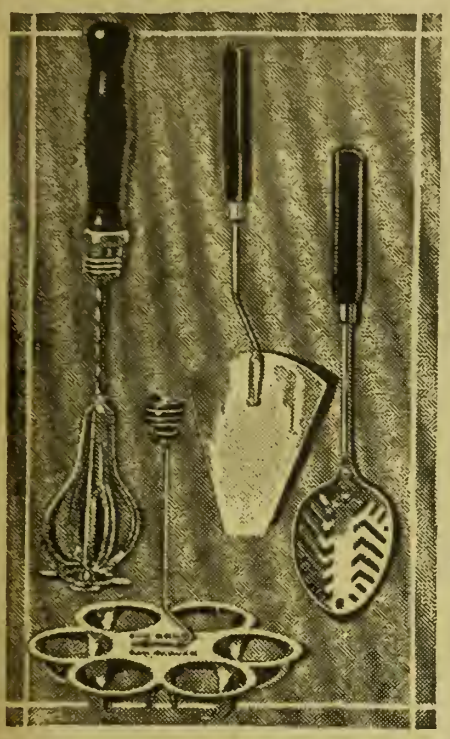

Four-Piece Kitchen Set Free

Premium No. 4

Special Limited Offer

This set is built to satisfy the housewife and it has satisfied thousands of them. Every article is a necessity in the kitchen and you can't get too many of them. After you have used this set you will wonder how you ever got along without it. It consists of the following useful articles:

- One Hand Automatic Dover Egg Beater
- Zig-Zag Mixer and Batter Spoon
- Egg Boiler and Egg Server
- Flexible Cake Turner and Chopping Knife.

Kansas Farmer will be glad to make you a present of one of these sets with your renewal subscription. Send it today.

Special Offer.

This useful Kitchen Set given free with one year's subscription to Kansas Farmer, as long as they last. Our supply is limited. Ask for Premium No. 4 when you order.

Kansas Farmer one year and Butcher Set for $1.00.

Our New Three-Piece Butchering Set FREE

PREMIUM NO. 1



CONTAINS ONE EACH

Skinning Knife Sticking Knife (Double Edge) Butcher Knife

All with six-inch high grade blades, carefully tempered, ground and polished. BEECH or MAPLE HANDLES and EXTRA LARGE-HEADED BRASS RIVETS. Fully warranted.

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Auto Gloves FREE

PREMIUM NO. 3



These fine Auto Gloves, gauntlet style, made from auto top material, just the thing for auto driving or any outdoor work, are offered free to Kansas Farmer subscribers. It is a great opportunity to get a pair of good gloves absolutely free.

Special Offer.

Send us $1.00 and we will credit your subscription to Kansas Farmer for one year and send you one pair of Auto Gloves absolutely free. Ask for Premium No. 3.

ROCK-A-BYE BABY SWING

KANSAS FARMER THREE YEARS AND ROCK-A-BYE BABY SWING

$2.00

It is easy to take care of baby with this Swing.



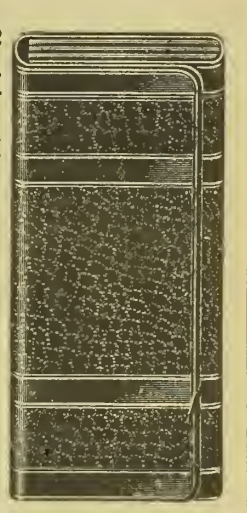
Take Good Care of the Baby.

This Rock-a-Bye Baby Swing is made of the best materials and is conveniently supplied with hook so that it can be hung in any room in the house, or outdoors.

SPECIAL OFFER.—Send us $2.00 and we will credit your subscription to Kansas Farmer for three years and send you one of these Rock-a-Bye Swings absolutely free, express prepaid. Ask for Premium No. 6.

Seven-in-One Pocket Book

PREMIUM NO. 7



Inside there are two cases for money, tickets, cards, or anything you want to carry, also a blank identification card or pass case, and one large compartment just the right size for bills. Besides these features there is a postage stamp holder, and another place for a key, coins, spectacles, etc. A real leather Pocketbook.

Special Offer.

This handy Leather Pocketbook given free with one year's subscription to Kansas Farmer. Send $1.00 and ask for Premium No. 7.

War Map F R E E

PREMIUM NO. 2

This War Map will show you just where the battles are being fiught and enable you to trace accurately just what ground is being gained or lost by our soldiers and allies who are fighting in France. It is a six-page Map suitable to hang on the wall, the size of each page being 28 by 36 inches.

Six Big Pages

In addition to the maps of the eastern and western battle fronts, it also contains a map of Kansas and a map of the United States, together with illustrations of the various new war devices and explanations of them.

Handy Index

The War Front Maps show towns, villages, roads, railroads, and all points mentioned in newspaper accounts. It is completely indexed so that places on the map can be readily found.

Special Offer.

This large, complete War Map given free with one year's subscription to Kansas Farmer. Renew today while we have a supply of this popular War Map on hand. Ask for Premium No. 2.

Send $1.00 for Kansas Farmer one year and this big War Map.

Special Magazine Bargains

Offer No. 9

KANSAS FARMER	$1.00	Both $1.25
McCall's Magazine	.75	
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KANSAS FARMER	$1.00	Both $1.50
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KANSAS FARMER	$1.00	All three, $1.25
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12 GRAFTED APPLE TREES F-R-E-E

Given with Kansas Farmer

This collection of Twelve Grafted Apple Trees which we want to send you, consists of three trees each, of four varieties of proven merit. They are hardy, will thrive anywhere, and provide a nice succession of quality fruit, including

THREE GENUINE DELICIOUS, THREE STAYMAN WINESAP, THREE JONATHAN AND THREE WEALTHY.

These Trees are genuine grafted stock, guaranteed true to name, sound and healthy. We have arranged with one of the largest nurseries in the country for a supply of these grafted trees, and we want to send you a se tof twelve. Whether your place is large or small, these twelve trees will find a place, and add to its beauty and value.

Special Offer.

If you will send us $1.00, we will enter or renew your subscription to Kansas Farmer for one year and send you the twelve Apple Trees postpaid. As the demand for these trees is enormous, you should take advantage of this offer at once. We reserve the right to refund money after the supply is exhausted. Ask for Premium No. 5.

USE THIS COUPON.

KANSAS FARMER, Topeka, Kansas.

Gentlemen: Enclosed please find $.....

for which please renew my subscription for.....

years. Please send me.....

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NAME..... R. F. D.....

TOWN..... State.....

HOLSTEIN CATTLE SALE

At Farm Near Junction City, Kan.

Thursday, November 15, 1917



FORTY-SEVEN HEAD OF HIGH-GRADE HOLSTEIN COWS AND HEIFERS

Consisting of twenty-three head of five-year-old cows; six head six-year-old; eighteen head of heifers coming two years old, and one registered herd bull. All the cows and all the heifers old enough to breed or bred. All tuberculin tested.

We are leaving the farm and selling all our dairy herd. A number of the cows are pure-bred but cannot be registered. We have been eleven years building up this herd and most all the offering were raised on this farm.

If you want good, useful, producing cows, come to this sale. Farm is known as the John K. Wright farm, one mile east of town. Every animal will be sold and nothing reserved.

COMPTON & THOMAN

JUNCTION CITY, KANSAS

AUCTIONEERS—COL. CURPHY, COL. WEBSTER.

MYERS' POLAND CHINAS

Gardner, Kans., Wednesday, Nov. 7

52 Head Spring and Fall Boars and Gilts

Twenty choice Spring Boars, twenty toppy Spring Gilts, sired by GIANT JOE, KING GIANT by King of Wonders, MODEL BIG BOB, MASTER ORPHAN, WEDD'S LONG KING, and ECLIPSE MODEL. The dams of these are sired by Wedd's Long King, King of Wonders, Caverly's Big Defender and Big Bob Wonder. Ten Fall Gilts, big and smooth, sired by Giant King, will be sold with breeding privileges to Giant Joe.

One sired by GIANT JOE out of Queen of Wonders, the top sow in the Wilver Dell herd sale. The other by GIANT BEN, the noted Pfander boar, out of Big Bob's Wonder by Big Bob.

ARRANGE TO ATTEND THIS SALE.

When writing for catalog, please mention Kansas Farmer. O. W. Devine representing Kansas Farmer.

H. E. MYERS, GARDNER, KANSAS

COL. J. C. PRICE, AUCTIONEER

HOLSTEIN CATTLE. *HOLSTEIN CATTLE.*

OUR HERD SIRE

Sir Johanna De Kol 19th 64143, Weight 2,500 Pounds

A young sire who already has several 30-pound daughters to his credit and many good ones to be tested yet. His sire, Sir Johanna De Kol, with 66 A. R. O. daughters. He is a half brother to Johanna De Kol Van Beers, the $7,000 cow whose two sons were sold for $45,000. He is a full brother to Cedar Lawn De Kol Johanna, a two-year-old who held the world's record for some time. We offer this bull's service to a few good cows at our approval. Service fee, $50. We have several young bulls ready for service. Price, $150 each. Our herd consists of eighty-five head registered Holstein-Friesian tuberculin tested and free from contagious abortion. We are breeders, not dealers.

STANDARD DAIRY COMPANY, WICHITA, KANSAS

156 - HOLSTEINS AT AUCTION - 156

On Wednesday, November 7, 1917
AT CAMERON, MISSOURI

This offering consists of twenty-five head of registered Holstein cows and heifers; six registered bulls; 125 head of high grade Holstein cows and heifers (milkers and springers). Cattle are all tuberculin tested. Cameron is located 55 miles northeast of Kansas City, 35 miles east of St. Joseph. This is a high class lot of eattle and is bound to please you. Sale will be held rain or shine.

E. L. ENSIGN **W. H. ZIMMERMAN**

Auctioneer, T. E. Deem

Spotted Poland Chinas

Thirty spring boars, thirty spring gilts. Sired by Billie Sunday, Cainville Giant and Perfect Judge. Sows by Brandywine, Budweiser, Old Clipper and Spotted Giant. Priced to sell.

J. O. RILEY & SON - CAINSVILLE, MO.

DEMING RANCH QUALITY

Big-Type Poland China Hogs.

Fifty March boars for sale. All immuned. Bred sow sale February 18. Send for catalog.

H. O. Sheldon, Herd Manager
OSWEGO, KANSAS.

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

CEDAR ROW STOCK FARM

A. S. Alexander, Prop. Burlington, Kansas

The Lone Cedar Polands

Last Lot of Meyers' Orange Pigs. I will have either sex, some extra fine gilts. Cholera immune for life.

A. A. MEYER - McLOUTH, KANSAS

OLD ORIGINAL SPOTTED POLANDS

March and April pigs for quick sale.

H. A. or PAUL H. MATTOX, Route 2, Burlington, Kan.

McGATH'S BIG ORPHAN

Grand champion Topeka and Hutchinson fairs, 1917. Thirty-five hoar pigs by the grand champion for sale. Write for prices.

Bert E. Hodson, Ashland, Kan.

Big Smooth Polands. — Have bred registered Polands 18 years. Black Orange and Smooth Gold Dust head herd. Everything immuned. Josias Lambert, Smith Center, Kan.

POLAND CHINA HOGS 150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.

V. O. JOHNSON - AULNE, KANSAS

FAIRVIEW POLAND CHINAS.

Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.

P. L. WARE & SON - PAOLA, KANSAS

LANGFORD'S SPOTTED POLANDS

Extra good spring boars. Fall pigs ready to ship.

T. T. LANGFORD & SONS, Jamesport, Mo.

POLAND CHINAS

25 SPRING BOARS, READY FOR SERVICE.
25 SPRING GILTS, OPEN.

One hundred and fifty head registered hogs in my herd. Write today what you want.

E. L. BARRIER - EUREKA, KANSAS

POLAND CHINA BOARS

Fifteen spring boars sired by Sir Dudley, Eclipse Model and Exile. Price, $30 to $45. Write at once.

C. B. PALMER

ROUTE 5 MARION, KANSAS

Henry's Big Type Polands

March and April pigs, sired by Big Wonder, first in class at Topeka; Mammoth Orange and King Price Wonder. Immune.

JOHN D. HENRY, LECOMPTON, KANSAS

White Oak Park Polands

Outstanding herd boar prospects by 1,100-pound Missouri Jumbo 210461 and 1,000-pound Long Big Joe 227387, twelve-inch bone. Dams popular big-type breeding. If you want boars that will mature to 1,000 to 1,100-pound hogs, I have them, big high-quality fellows. Fall boars farrowed August and September, spring boars February and March. Will record in buyer's name. All immune.

Henry Koch, Edina, Missouri

GREEN WOOD FARM POLANDS

Spring hoars, very best big-type breeding, sired by Big Wonder, my 900-pound boar, and Orange Wonder, an Iowa bred boar, out of big sows. Farmer prices.

M. F. RICKERT - SEWARD, KANSAS

Faulkners Famous Spotted Polands

Late summer and fall pigs for sale. Buy them from the Fountain Head. Annual brood sow sale February 13. Ask for catalog.

H. L. FAULKNER, Box K, Jamesport, Mo.

HOLSTEIN CATTLE.

CHOICE HOLSTEIN CALVES

Twelve heifers and two bulls, 15-16ths pure, beautifully marked, five weeks old, from heavy milkers, at $20 each. Safe delivery and satisfaction guaranteed.

FERNWOOD FARM, WAUWATOSA, WIS.

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM is offering twenty-five pure-bred heifer calves from six weeks to eight months old; also a choice lot of yearlings, bred heifers and young cows, all with top-notch breeding and at prices that cannot be equalled elsewhere; grade cows and heifers. BUY YOUR NEXT PURE-BRED BULL FROM US. For description and prices, wire, write, or call.

T. K. MAURER & COMPANY - - - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER

Way Side Stock Farm - Whitewater, Wis.

FRIESIAN PARK FARM HOLSTEINS

I am offering six registered Holstein bulls, all sired by Sir Johanna Bonheur Ormsby. He is sired by a son of Johanna Bonheur and his dam is a daughter of Pietertje Maid Ormsby. Both of his granddams are among the leading cows of the Holstein breed. These bulls will all be from 13 to 15 months old and ready for service by December 1. They are evenly marked and a good husky well grown bunch and priced to sell. $100 each while they last, if taken by December 1. Address

C. G. KEYS

RICHLAND CENTER - - WISCONSIN

Do You Want Holsteins ?

To make room for my recently purchased registered cows, will sell my entire herd of grade Holstein cows and heifers, consisting of twenty high grade young cows either fresh or due this fall or winter; fifteen 2-year-old past heifers due in December; and thirty yearlings from 12 to 20 months old. Will quote close prices on this stuff if moved within the next thirty days.

JOHN W. MAGEE

CHANUTE - - - KANSAS

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

HOLSTEIN COWS

For Sale—Twenty head of registered cows, yearlings and calves, also twelve young high grade cows and heifers. All bred to a bull whose three nearest dams averaged over 35 pounds butter in seven days. One herd sire and four young bulls by Sunflower Sir Mutual 78654.

CHAS. V. SASS

1013 North Fifth St., Kansas City, Kansas

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bon Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

The Cedarlane Holstein Herd

For Sale — Registered cows, bred heifers, serviceable bulls, bull calves. Also my 3-year-old herd bull.

T. M. EWING, INDEPENDENCE, KANSAS

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

Braeburn Holsteins Bull Calves, a few Always A. R. O. females to make room.

H. B. COWLES, 608 Kan. Ave., Topeka, Kan.

PERCHERON STALLIONS

FOR SALE THIS FALL AT REDUCED PRICES

Two yearling colts; two 2-year-old colts; two 3-year-old colts; two 4-year-old colts, and one herd stallion. All sound and registered in Perchcron Society of America. Blacks and bays. If sold this fall I will cut the prices. Also five registered Shorthorn bulls, reds and roans. Come and see me.

J. C. PARKS - - - - HAMILTON, KANSAS

MODERN HEREFORDS

HAZFORD PLACE

Home of the Grand Champion BOCALDO 6TH, assisted by CALDO 2D, PUBLICAN 4TH AND BEAU BALTIMORE.

All our show cattle our own breeding. Inspection of farm and breeding herd invited. A few choice young bulls reserved to head high-class pure-bred herds now ready for inspection and sale.

William Condell, Herdsman. ROBT. H. HAZLETT, EL DORADO, KANSAS

AYRSHIRE CATTLE.



The high price of feed discourages some farmers and dairymen—but not those who own—

AYRSHIRES

Because AYRSHIRES are hardy, vigorous, good foragers, big producers and PROFITABLE despite the present price of feed. Particularly adapted to the needs of dairymen. Send for information and list of breeders to

AYRSHIRE BREEDERS' ASSOCIATION
C. M. WINSLOW, Sec'y. - 33 Park St., Brandon, Vt.

MULEFOOT HOGS.

KNOX MULEFOOT HOGS

Orders booked for fall pigs. A few choice May pigs, either sex, not related. Write for price and booklet.

S. M. Knox, Humboldt, Kansas

Breeders' Directory

ANGUS CATTLE.
D. J. White, Clements, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

SHEEP.



200 — RAMS — 200
REGISTERED SHROPSHIRES
Our flock wes awarded 20 prizes at 1917 Iowa State Fair. Weight and wool always win. Rams and ewes for sale. C. W. & Frank Chandler, Kellerton, Ia.

HORSES AND MULES.

PERCHERONS—BELGIANS—SHIRES



2, 3, 4 and 5-yr. stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
FRED CHANDLER, R. 7, Charlton, Ia. Above Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes.
Illinois Horse Co., Good Blk., Des Moines, Ia.

Barn Full of Percheron Stallions and Mares. Twenty-five mature and aged jacks. Priced to sell. AL. E. SMITH. Lawrence, Kansas.

DUROC JERSEYS.

CRYSTAL SPRING DUROCS
Twelve head of Duroc Jersey spring boars, no better breeding anywhere, seven of them sired by Kern's Sensation, grand champion of Iowa and Nebraska this year. Priced reasonable.
ARTHUR A. PATTERSON, Ellsworth, Kan.

DUROC BOARS

Thirty-five spring boars by G. M.'s Crimson Wonder, Crimson Wonder Again Jr., Critic D. and Great Wonder, out of my best herd sows. Priced to sell. Come and see my herd.

G. M. Shepherd, Lyons, Kansas

IMMUNED DUROCS
With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

MARSH CREEK DUROC HERD
Fall pigs by Highland Cherry King 204165 out of tried sows, big type. Ready to ship December 1.
R. P. WELLS - - FORMOSA, KANSAS

DUROC PIGS, REGISTERED, $11.00

Either sex. Large type, best breeding.
W. J. BARNES, Route 5, Oswego, Kansas.

DUROC JERSEYS

TAYLOR'S DUROCS

For Sale—One Missouri State Fair prize winning boar. Seven yearling boars sired by champion boars that are real herd headers. Fifty spring boars that are fine prospects. Write for prices or come and see my herd.

Chas. L. Taylor - Olean, Mo.

HARRISON'S DUROCS
Pure-bred Duroc boars.
W. J. HARRISON - AXTELL, KANSAS

Immune Duroc Boars on Approval

Pedigreed Duroc boars with size, length and bone. Immune and guaranteed breeders. Shipped to you before you pay for them.
F. C. CROCKER, BOX K, FILLEY, NEB.

FORTY DUROC JERSEY BOARS
Cholera Immuned. Sired by Gold Medal 176231, Taylor's Model Chief 126455. Extra strong breeding boars. Close prices to close them out. Over ten years nothing but prize winning bred sires used. Baby pigs ready to wean at prices to move them, as we have more than we have accommodations for.
W. R. HUSTON - AMERICUS, KANSAS

ROYAL GRAND WONDER
First prize junior year boar at Kansas State Fair, heads my herd. Some splendid March boars of noted blood lines. Ready for service. Bred sow sale February 14.
B. R. ANDERSON
Route 7 McPherson, Kansas

IMMUNED DUROCS

A few good boars by Rhuben's Wonder and Colonel's Wonder by Crimson Wonder Again Jr. HOMER DRAKE, Sterling, Kan.

Jones Sells On Approval

Large-type spring boars and gilts of fashionable blood lines at reasonable prices. Herd immuned.

W. W. Jones, Clay Center, Kan.

MAPLEWOOD DUROCS

Seventeen yearling and early spring boars, ready for service, as good as we ever grow. Twenty-five gilts, open. Three bred gilts due to farrow this month and early in November. Prices reasonable. Write us your order at once and get first choice.
MOTT & SEABORN, HERINGTON, KAN.

DUROC JERSEY PIGS
August and September farrow.
CHESTER McWILSON - RICE, KANSAS

SHORTHORN CATTLE.

ABBOTSFORD SHORTHORNS

Two choice bulls and ten extra good heifers for sale. Priced to sell. The kind that always please.
D. BALLANTYNE & SON, Herington, Kan.

SHADY LAWN SHORTHORNS

At head of herd, Kansas Archer 440809 by Mistletoe Archer. For sale, fifteen choice young bulls from spring calves to yearlings. Come and see our herd.
F. H. HULL & SONS - EUREKA, KANSAS

SHORTHORN CATTLE

A few Scotch bulls for sale of breeding age. Red and roans. Write or come and see my herd.
O. A. HOMAN & SON, PEABODY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS
Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Pearl Herd Shorthorns

Vallant 346162 and Marengo's Pearl 391-962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

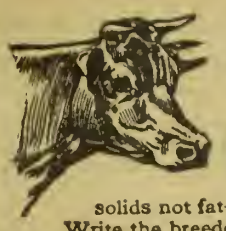
Can ship on Rock Island, Union Pacific or Santa Fe Railway.
C. W. TAYLOR - ABILENE, KANSAS

Cedar Heights Shorthorns

For Sale—Three red bulls, 12 months old. A few cows and heifers. Priced reasonable. Come and see my herd.
HARRY T. FORBES
Route 8 Topeka, Kansas

Charles V. Sass, of Kansas City, Kansas, owns one of the good herds of Holsteins. Mr. Sass has been breeding Holsteins for twenty-seven years. The foundation stock of this herd was the best that could be purchased at that time and all foundation stock was selected with a view to building up a heavy producing herd. All of the bulls used in this herd were backed by records and the result is a herd of the producing kind.

Jerseys for Net Profits



You're in the dairy business for profit—the *net* profit that your herd has made you at the end of the year will determine the size of your bank account. Jerseys yield the largest returns from every ounce of feed—proved by tests at two great expositions. Jersey milk averages 5.3% butter fat, 9.1% solids not fat—highest of all breeds. Buy a Jersey bull. Write the breeders advertised below for prices, pedigrees, etc.



The American Jersey Cattle Club, 375 West 23rd Street, New York City

120 JERSEY COWS AND HEIFERS

Pure-bred and high-grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. Berry & Son
JEWELL CITY - - - - KANSAS

IDYLWILD STOCK FARM

For Sale—Bull calf dropped March 3, 1917; dam, Pet of Clover Hill F's 2d 227416; sire, Jacoba's Prize Premier 137930. Price, $50.00.

C. F. Blake, Glasco, Kan.

LONGVIEW JERSEYS

(Register of Merit Herd)

Bull calves sired by champion bulls out of Register of Merit dams, for sale at all times.

Longview Farm
LEE'S SUMMIT - - - MISSOURI

Registered Jerseys

Cows, Heifers and Calves. Good breeding, good individuals. Must reduce herd. Price reasonable.
C. F. Pfeutze, Rte. 4, Manhattan, Kan.

Catalogs Are Ready

For the following Jersey Sales to be held under my management:
Lochrie & McCoy, Carl Junction, Mo., Sept. 27; Oklahoma Breeders' Sale, Oklahoma, Okla., Sept. 29; Redmon & Sons, Tipton, Mo., Oct. 1; Geo. W. Hagan, Bec's Summit, Mo., Oct. 31. Write today and ask to be placed on my mailing list. Address
B. C. SETTLES, Sales Mgr., Palmyra, Mo.

REGISTERED JERSEY BULLS

BUTTER-BRED, FROM HIGH-PRODUCING COWS.
Photo furnished.

Maxwell's Jersey Dairy
ROUTE 2 TOPEKA, KANSAS

LOMAX JERSEYS

A Herd of Producers, Backed by Records. Popular blood lines. Choice individuals. We invite inspection of our herd at all times.

Write us your wants.

Dr. J. H. Lomax
STATION B - - ST. JOSEPH, MO.

J. B. PORTER & SON

MAYETTA, KANSAS
BREEDERS OF HIGH-CLASS JERSEYS. STOCK FOR SALE AT ALL TIMES.
WRITE US YOUR WANTS.

GUERNSEY CATTLE.

GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

GALLOWAY CATTLE.

GALLOWAYS

About 70 registered Galloway cows, heifers and calves. A very choice lot with the best blood lines of the breed represented. A low price on the bunch for a quick sale. Investigate.

G. E. CLARK
205 W. 21st St., Topeka, Kansas

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
B. E. FRIZELL, Frizell, Pawnee Co., Kansas

HEREFORD CATTLE.

Greenwood Hereford Farm

Prince Rupert Herefords

One carload yearling bulls; fifty head bull calves. Will price single lot or carload.

W. J. Brown, Fall River, Kan.

IDEAL HEREFORDS

For Sale—Ten to twenty cows bred, some now calving, also some yearling heifers and choice young bulls from six to twenty months old. Blood of Prince Rupert 52d, Generous and Don Perfect. Outstanding good cattle. Priced right.

J. H. Keith, Coffeyville, Kansas

BERKSHIRE HOGS.

BERKSHIRE HERD BOARS
For quick sale—Two choice Berkshire herd boars, three winter boars and five spring boars, all choice.
E. D. KING - BURLINGTON, KANSAS

Compton & Thoman, of Junction City, Kansas, have announced November 15 for a dispersion sale of their entire dairy herd of Holstein cattle. They have been eleven years building up this herd of high class dairy cattle. Most all the cattle have been raised on this farm. Forty-seven head of high class dairy cattle will be offered, including twenty-three head of five-year-old cows and six head of six-year-olds and eighteen head of coming two-year-old heifers that are a promising lot. All the cows and heifers will be bred to a registered Holstein bull.

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Clinton County Chesters

Booking orders for spring pigs of National Swine Show blood lines. Fall and spring pigs at bargain prices.
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Fall pigs for sale, farrowed October 1, sired by Wm. A. 3d descendants of Prince Wildwood and from grand champion sows at Washington County Fair. Crated for shipment at $18 each. Also May 1 gilts of good bone, length and quality, at $35 each.
C. E. ROSE - MORROWVILLE, KANSAS
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SAPPHIRE (BLUE) HOGS

SAPPHIRE (BLUE) HOGS
The quickest pork producer known. Breeding stock for sale. L. E. JOHNSON, Waldron, Harper County, Kansas.

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HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
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OLSON HAMPSHIRES.



For Sale—One spring yearling and one fall yearling boar, 8 spring boars, 40 head spring gilts, either bred or open. All immuned and registered to purchaser. Write or come and see our herd. Farm 12 mi. S. of Salina.
OLSON BROS - - ASSARIA, KANSAS

DISPERSION SALE OF

DOUBLE STANDARD POLLED DURHAM CATTLE

AT

RICHLAND, KANS., THURSDAY, NOV. 8



ROAN HERO X, SIRE AND GRAND SIRE OF A LARGE PART OF OUR OFFERING

FORTY-SEVEN HEAD OF DOUBLE STANDARD POLLED DURHAMS

Consisting of eight bulls, four of serviceable age; twenty-nine cows and heifers, eleven cows have calves at foot. The herd bulls used in my herd last few years were Belvidere X, Roan Hero X, and Chief X by True Sultan X. My herd cows are such cows as Golden Lady X by Golden Knight X, Nora Clay 5th X by Tippicanoe 53d X, Scottish Beauty X by Acacia Victor X. All a well bred lot and useful cattle for farmers and breeders to buy. Catalogs are ready to mail out. Write for catalog and come to sale.

D. C. VAN NICE - - - - RICHLAND, KANSAS

Sixteen Miles Southeast of Topeka, on Missouri Pacific Railway.

G. E. Cox & Son Angus Sale

Forty-eight Head Registered Angus Cows and Heifers
Fifteen Yearling and Two-year-old Bulls
One Herd Bull

At Farm Near Elk City, Kansas, Nov. 23, 1917





We are leaving the farm and will sell our entire herd of registered Angus cattle that we have been years building up. They represent all the leading families, such as Blackbirds, Ericas, Prides and Prince Itos. A number of the cows have calves at foot and all are bred to our great herd bull, Rosebud Crown by Blackbird Crown by Prince Ito 2d.

This is not a reduction sale, but a closing out sale. Every animal will be sold with a very liberal guarantee. Catalogs are ready to mail. Write today to

G. E. COX & SON, - - Elk City, Kansas

O. W. Devine represents Kansas Farmer at this sale.

Auctioneers—Col. Cooper, Col. Sheets.

Kansas Herd Chester Whites

FIRST ON BOAR PIGS, BOTH STATE FAIRS. YOUNG BOARS FOR SALE

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GREAT SALE OF REGISTERED HOLSTEINS

TWO DAYS SALE

Albechar Holstein Farm, December 3-4, 1917

Will offer for sale 125 head of pure-bred, registered Holstein cows and heifers and a few young bulls



These cows are blue ribbon animals, prize winners at the big shows this year, of the very highest breeding and individuality. There will be a large number of A. R. O. cows in this sale bred and in calf to some of the best bulls of the Holstein breed. All animals tuberculin tested and guaranteed free from tuberculosis and other contagious diseases. Write for catalog containing full descriptions and four generation pedigree of each animal.

Robinson & Shultz, Owners
Independence - - - - - - Kansas

Closing Out Auction Sale of Jacks & Jennets



Prairie View Stock Farm

Sale will be held in Lawson, Mo., on Milwaukee and Santa Fe Railroads, 38 Miles Northeast of Kansas City, Mo.

WEDNESDAY, NOVEMBER 28th, 1917

15 Jacks and 25 Jennets

All black with white points; all well bred and registered: Mammoth blood. The good, big bodied big bone, big kind, with quality and size. Sale will be held under shelter with comfortable seats, etc. Address BOEN & MONSEES, Lawson, Mo., for catalog. Come to the sale. We will try to make it pleasant and profitable for you.

Respectfully,

ED. BOEN & L. M. MONSEES

SUNRISE HEREFORDS AT AUCTION

Manhattan, Kansas, November 23, 1917

EIGHT BULLS AND FIFTY COWS AND HEIFERS.

Many of the cows have calves at foot and are bred to either Beau Blanchard 15th 565343 or Vic Paragon 509602, two of the good bulls used in the herd. About one-half the offering are daughters of Ohio Donald 290050 and great granddaughters of Prince Rupert 79539. Many of the cows are daughters of the best bulls of the country.

The bulls are a useful lot sired by such bulls as Laredo Boy, Dandy Maple Lad 34th, Beau Gondolus 7th, Fairview Byron 2d, Vic Paragon and other good bulls.

Write today for a catalog and plan to attend. Sale will be held under cover on the farm, which adjoins the farm of the Kansas State Agricultural College.

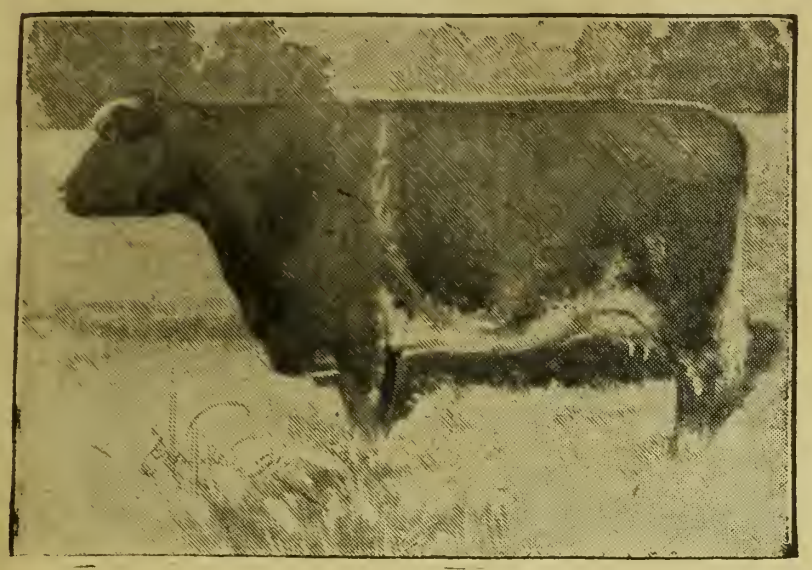
W. H. RHODES - - - MANHATTAN, KANSAS

SALE OF PARK PLACE SHORTHORNS

AT FARM NEAR

AUGUSTA, KANSAS, FRIDAY, NOVEMBER 9, 1917

Under Cover Rain or Shine. 50 - Head of Straight Scotch Cattle - 50



10 - BULLS - 10

Including one imported herd bull, Newton Friar, a Marr Flora by Violet's Victory, a Duthie bred bull, and a prize winner. This bull was the sire of the two highest priced animals sold in the sale at London, Ontario, last March.

Also several grandsons of Avondale, being all good individuals and real herd bull prospects. One Orange Blossom by Cumberland bull, one from Golden Fairy Duthie family, and one Campbell Ury.

40 - FEMALES - 40

Fifteen cows heavy in calf or calf at foot, bred to my herd bulls.

Ten heifers safe in calf, eight bred to Imp. Bapton Corporal.

Fifteen open heifers, all bred right and every one a good one.

Included in the offering are five Lavenders, five Village Girls, Duchess of Glosters, Missies, Princess Royals, Rosemarys, Nonpareils, Secrets, Campbell Blooms, Victorias, and others of noted families.

Special Santa Fe train leaves Union Station for farm on morning of sale, returning in evening. For catalog address

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AUCTIONEERS—CAREY M. JONES, FRED REPPERT, ED F. HERRIFF, BOYD NEWCOM

HEREFORD CATTLE SALE - 110 HEAD - AT HUTCHINSON, KANSAS, MONDAY, NOVEMBER 19, 1917



SEVENTY-FIVE HAND-PICKED COWS AND HEIFERS

Big, roomy, prolific cows of the choicest breeding, including about **twenty 2 and 3-year-old daughters of Generous 5th**, bred to **Lawrence Fairfax** and **Imported Shucknall Monarch; thirty of same age sired by Gladwyns, College Count and Beau Donald 33d**, bred to **Generous 5th, the show bull Sampson, Lawrence Fairfax and Shucknall Monarch.** Others range four to seven years old and are safely bred to our herd bulls.

We consider this the most valuable lot of young females we ever offered and, being mated to such good bulls, believe they present the best investments to be offered in any sale.

WRITE FOR OUR ILLUSTRATED SALE CATALOG AND MENTION THIS PAPER.

REPPERT & MILLER, AUCTIONEERS O. W. DEVINE, KANSAS FARMER REPRESENTATIVE

THIRTY-FIVE TOP BULLS

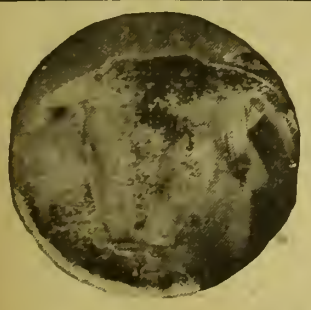
Mostly sired by Generous 5th by Old Generous, out of dams of Rich Anxiety breeding. Others by College Count, Gladwyne, Marion, Beau Donald 33d. Extra heavy-boned well-grown husky fellows. The best bunch we ever raised.

HERD BULLS of great character and substance a plenty, including the show and breeding bull

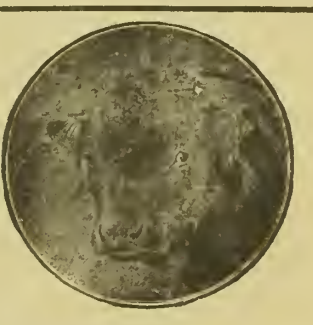
SAMPSON 437001

Besides the thirty-five head catalogued, we have two carloads of yearlings of like breeding and character for private sale, making this the best opportunity of the fall for bull buyers.

W. I. BOWMAN & CO., NESS CITY, KANSAS



75 Head Hereford Cattle



I will sell at the Star Breeding Farm, near Elk City, Kan., on

Thursday, November 22, 1917

50 HEREFORD COWS AND HEIFERS

Twelve cows have calves at foot and all are bred to drop calves early in the spring.

Fifteen yearling bulls that are promising herd headers and are very desirable breeding.

The cows represent the most popular families of Hereford cattle, including a number of my show herd.

I have 175 head of Herefords on my farm and am selling some of my best cattle to reduce my herd. Catalogs are ready to mail. Send for on etoday and arrange to attend my sale.

Auctioneer—Col. Fred Reppert.

SAMUEL DRYBREAD, ELK CITY, KANSAS

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Only to See Her Face Again
When You and I Were Young, Maggie

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My Country, 'Tis of Thee (America)
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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 45. TOPEKA, KANSAS, NOVEMBER 10, 1917. Established 1863. $1 a Year

FINANCING CROP SELLING

Most Successful Method Forming Non-Stock or Limited Dividend Companies

By R. C. GANO

DIFFERENCES in method of financing are the outstanding features which divide farmers' co-operative associations into three classes. They might be classified with something else than finance as a basis—but the financial classification is the one that appeals to practical business men and that will be distinctly remembered as the dividing line, after other distinctions have been forgotten.

ORDINARY STOCK COMPANY

Of the three types of organization, that which is nothing more nor less than an ordinary stock company is the most familiar. For a number of years, before states began to pass co-operative laws, the group of farmers who wished to incorporate for marketing purposes had no alternative but to do so under the regular stock corporation laws. Consequently, practically all of the older elevator companies, fruit marketing associations, etc., started out as stock corporations.

Back in 1907, for instance, if a hundred or so grain growers wished to form an elevator company they would form a stock company, issue shares of a par value of $25 each, each man take a limited number of shares; and when sufficient capital was paid in they would begin doing business, in exactly the same way that a line elevator company did business—the only difference being that the farmers themselves would own the elevator and would get the profits from handling their grain in the shape of dividends on their stock. The co-operative companies also succeeded in securing better market prices for the grain. There were cases in which the companies paid dividends of from 10 to 100 per cent on the capital invested.

The one feature about these companies which insured their success was the fact that each member was a stockholder and that no member could hold above a certain amount of stock. This insured a fairly equitable division of profits (in the form of dividends) though not an ideal one. For the man with only one share of stock may have given more business to the elevator than another who held ten shares. Yet the latter's profits would be ten times as large.

LIMITED DIVIDEND STOCK COMPANIES

Such objections explain the demand for a type of organization which should pay only the legal rate of interest on capital invested and should apportion remaining profits back to the members according to patronage. The first states to pass laws authorizing co-operative associations which should distribute earnings "wholly or in part" according to business transacted with the various members, did so only after hard political fights with the private interests naturally opposed to the farmers taking a hand in distribution.

There are still many states which have no co-operative laws and where farmers' marketing organizations, though merely ordinary stock companies, are in a thriving condition. Most of the states where the co-operative idea is strongly intrenched, however, now have co-operative laws. But in most cases they provide for capital stock companies which shall pay limited annual dividends. Consequently there is no problem of initial financing, any more than in the first case. The members buy stock, and the money paid in is used to finance operations. The salutary detail is that at the end of the year the stock receives only a 5 or 6 per cent dividend, and the rest of the earnings are pro-rated back to the members in proportion to the value of the produce they sold through the organization.

The writer's random guess would be that two-thirds of the farmers' co-operative associations in the United States are of this second type, today. Many of the states of the Central West permit only this type, under their co-operative laws, and even in the states where a third type, yet to be described, are authorized, the second type are apt to be more numerous than the third.

ORGANIZATION WITHOUT CAPITAL STOCK

It is possible that the co-operative laws of three or four states leave loopholes which would permit the incorporation of a farmers' association having no capital stock whatever. But only in two states, California and Florida, have non-capital stock, non-profit marketing associations become really numerous, under laws which were especially framed to meet their needs and foster their growth.

These associations without capital stock are by far the most interesting of all, first because of the simple fact that they are "something new under the sun" and secondly because they at once raise in one's mind the question: "If they have no capital, where do they get the money with which to begin operations?"

The answer to this question is various, for as the law does not provide for the financing, it is up to the associations to devise their own methods. However, it has not proved a difficult matter. It can be done, and is being done—and it ties up funds to a less degree, ordinarily, than when money is put into capital stock.

The financing methods are in vogue in the California Walnut Growers' Association are clean-cut and typical of organizations formed under the Calfiornia non-capital stock corporation law. Let us suppose that walnut growers in a given district wish to co-operate and affiliate with the central exchange, which now has about twenty-two local associations as members. The ordinary procedure is to hold a meeting where figures are submitted, showing an assessment of perhaps $3 per acre will provide enough money to build a packing house. This is paid in, after which a charter is applied for under the co-operative law. Officers and directors are elected, and a manager is hired, who superintends the building of the packing house. At this stage it is recognized as a going concern and is in a position to borrow money to begin operations, on a corporation note. Money to the amount of $5,000 or so is borrowed from a bank, and the members proceed to deliver their crops to the packing house.

ASSOCIATION BEARS CREDIT BURDEN

The grower is paid 80 per cent of the ruling wholesale price when his nuts are delivered to the packing house. When their sale is completed and the price (100 per cent) comes back to the buyer, the central exchange at Los Angeles keeps 10 per cent of it and remits 90 per cent to the local association, which, having paid out 80 per cent for the nuts, is 10 per cent to the good. The brief lapse of time while the nuts are being sold is bridged over by the amount borrowed from the bank.

Both central and local associations thus operate on a margin of 10 per cent, which is always much more than sufficient. When it begins to pile up, extra dividends are paid out of it back to the growers, and at the end of the season a final dividend squares up the entire operation, the grower then having received all of the 100 per cent for his nuts except what was required for the actual operation of the local and central exchange and the payment of interest on the borrowed money.

The grower has to wait for a small part of his money, it is true, but what he thus waits for is all that is tied up. In the main the operations are self-sustaining, and to the extent that they are not they are conducted on borrowed money. That the corporation can readily borrow money and pay the farmer 80 per cent cash largely solves the farmer's credit problem. He doesn't need personal credit, because his association bears the burden, at least during the selling season. And so successful has the association been that it has many times actually happened that the 80 per cent cash payment to the member is in itself a better price than the non-member grower can secure through his individual efforts.

The locals within the California Fruit Growers' Exchange, if non-capital stock corporations, follow much the same procedure, from beginning to end. The growers have the choice always of either waiting for their money until the sale is complete or financing cash on delivery payments by borrowing from the banks. The banks have learned that there are no safer corporations with which to do business than the growers' associations, and even go out of their way to encourage their patronage.

Not all of the locals are non-stock associations, however. Some were founded before the co-operative law was passed, and have never reorganized.

It is also true that in California some of the newer organizations, whether in the citrus or other industries, choose to incorporate as stock companies paying limited dividends and thus solve at the start the problem of financing. In the case of the raisin industry, this policy was practically necessary. This industry was organized very quickly, at a critical time, when an enormous surplus threatened to upset the market completely and knock the bottom out of profits for several years. There was no organization in the industry and no machinery for handling the crop was owned by the growers. Capital was the first need. The Associated Raisin Company guarantees members a certain minimum price for their raisins, takes itself a fixed profit, out of which it pays expenses and whatever dividend on capital is possible, and pro-rates back to the growers any margin above that fixed per cent, which it is possible to secure from the sale of the crop. That the plan solved the special critical situation is evidenced by the present prosperity of the industry and by the fact that practically every raisin grower in California is now a member of the company.

The new Peach Growers, Inc., of California, also is a capital stock corporation, following a plan very similar to that of the Associated Raisin Company.

But no capital stock farmers' association in existence has yet achieved anything like the proportions of the California Fruit Growers' Exchange. The fact that the greatest organization of all is non-capital stock should lead farmers to give this type the most careful study.



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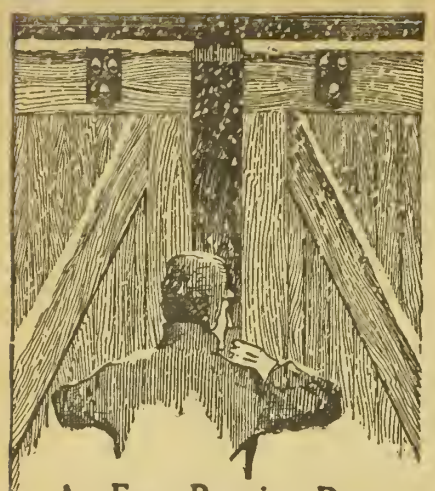

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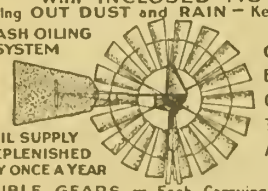

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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

ON EVERY farm there accumulates in the form of discarded and worn-out machinery, a lot of old iron and steel. The United States Geological Survey, Department of the Interior, calls the attention of farmers to the fact that even at the recently fixed prices of iron and steel it should be possible for most farmers to reap an overlooked profit through the sale of the old iron and steel scattered about their premises; that the saving of such old scrap metal will help to meet the present serious deficiency in the supply of iron and steel; that the use of the old metal will accomplish savings in coke, which is now to be had only at unprecedented prices; that the delivery of the old iron and steel at foundries far from iron mines and big steel centers will correspondingly relieve the excessive strain on the mines, some of the furnaces, and the railway and boat traffic in the coke and iron producing districts. The farmer who turns in his junk while the present prices prevail is likely not only to make a clear profit over the cost of hauling and freight, but, through increasing the iron and steel supply, he is contributing to the successful prosecution of the war.

Iron and steel are needed and must be had for innumerable things—for guns, shells, ships, bridges, buildings, docks, automobiles, aeroplanes, rails, cars, engines, pipe, oil-well casings, etc., and for export to the Allies, Italy in particular being badly in need of steel for all purposes. This is the main fact.

In the greater part of the United States little attention is given to saving the old metal scattered about the industrial plants of the farmers, where abandoned binders, plows, mowers, rakes, ec., decorate the fence corners and roadsides, and discarded stoves, pumps, pipe and small utensils rust about the barns and sheds. A considerable part of this junk is already on wheels with tongue and whiffletree attached, ready, in fact, to be "walked on its own legs" to the freight station.

According to the census returns, there were in 1910 about $1,265,000,000 worth of agricultural machinery alone on the 6,361,502 American farms. Farm implements, not including stoves, chains, tools, etc., valued at about $165,000,000, are sold annually. A considerable part of the cost of manufacturing this farm machinery lies in the metals used, and the metals include not only iron and steel of various grades and values, but occasional small parts of brass or copper. Most binders and mowers have one or more bearings lined with babbitt metal containing tin now worth about 60 cents and lead worth 10 cents a pound. On the whole, excluding the metals used in railroad construction and transportation, or in city engineering and building, by far the greater part of all the iron and steel produced in this country in normal years is shipped out to the farm. It has been roughly estimated that three-fourths of this metal stays on the farm.

Size Tractor for Average Farm

The man farming a quarter section only is apt to buy a tractor too large for his needs. It is the experience of W. H. Sanders, instructor in farm motors at the Agricultural College, that the man who is farming on a small scale and who invests in a tractor too large for his needs often finds that he is not getting the returns expected from so large an investment. He blames the tractor and complains that it is not a success.

In a diversified farming district a tractor developing five to eight horsepower on the drawbar will do all the necessary work on a 160-acre farm. In the season of the year when work is heavy a small tractor run night and day, provided the soil is in favorable condition, will yield greater returns for the money invested than a larger machine run on a single shift. The farmer could operate the machine eight hours and the hired man another eight, thus utilizing all the daylight hours.

Mr. Sanders suggests that if there is no hired man in this time of war, it would not be at all amiss for the young woman of the household to learn to take her turn at the machine. In this way the work of plowing, reaping, or planting need not extend over many days.

When there is more work than can be done by one small machine it is often advisable to own two small tractors rather than one large one. When the power is not all needed there is no expense to the upkeep of the second machine and the excess power is not being wasted.

Home-Made Gaskets

Some of the paper gaskets used under transmission and differential covers, between carbureter flanges and in many other places often are of complicated pattern, says a writer in the current issue of American Motorist. When, as it sometimes happens to the amateur repair man, the original gasket breaks, a very satisfactory job can always be made with the aid of a machinist's hammer, a little shellac, and a piece of stout paper. The first operation is to clean with gasoline the surface upon which the gasket is to go; next cut the paper as nearly as possible to shape. Fasten in place with shellac and let it dry, which requires only a few minutes. Now, with a hammer, tap along the edges until the edge breaks through the paper. When you come to rounded corners, or to screw and bolt holes, use the round or peening end of the hammer. When even paper or shellac is lacking, a piece of cord laid under a transmission or differential cover, etc., will make a grease and oil-tight joint.

Legal Point for Motorist

Probably more serious accidents occur among motorists at railroad crossings than at any other points in the highways, hardly a day passing that does not see two or three accidents of this kind chronicled in the press, writes Leslie Childs, legal editor of American Motorist, in the current issue of that magazine. These accidents have become so frequent and so serious that they furnish a most potential argument in favor of the abolishment or grade crossings. In the light of all this, it behooves the motorist to know just what is expected of him by the law at points of this kind.

From the cases reviewed, it would seem that the courts have placed the duty to stop, look and listen at railroad crossings squarely upon the motorist. He cannot hope to recover for injury received at points of this kind unless he can show entire freedom from contributory negligence.

And in exercising the required care he must of necessity take into consideration the physical surroundings of the particular place, such as trees, houses, etc., that may obstruct his view. If the surroundings demand it, he must not only stop, look and listen, but should get out of his machine and walk ahead to make certain the way is clear. Unless he takes these precautions the probabilities are he will not be free from an imputation of negligence that will seriously interfere with his right of recovery in case of accident.

Tractor Demonstration

At a meeting of the National Tractor Demonstration Committee it was decided to have one big national tractor demonstration in 1918, incorporating tests on fuel consumption in plowing, disking, and other kinds of field work, and tests on different types of traction wheels, wheel equipment, and on tractive efficiency. Also to include tests of running wheels in furrow, on unplowed ground, and on plowed ground, tests on steering mechanism, and tests on belt work.

This demonstration is planned to give those interested more detailed information as to fuel, traction, and power. At least one ten-hour plowing run will be held during the demonstration.

It was further decided that the committee may sanction not more than five other demonstrations, at points to be decided upon later, which would be conducted along the lines of the previous demonstration but not include any tests.

In view of the probable shortage of farm labor next spring, now is a timely occasion to rig up several three and four-horse eveners to be used on the farm implements. One man with a four-horse team will do almost as much work in preparing the spring seed bed as two men each using a two-horse team.

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HOG PRODUCTION CONFERENCES

Farmers of Kansas who grow hogs as a part of their business are being asked to attend a series of conferences in different sections of the state. At a state meeting of hog growers held in Manhattan, October 24, the producers pledged themselves to abide by any action which the government might take in order to win the war. They also earnestly petitioned the Food Administration to take definite action to prevent the violent fluctuations in the market price of hogs due to speculation in grain and provisions. All over the country hog growers have been insisting that such action be taken in order to relieve the uncertainty which exists among men who produce pork. The telegram printed on this page is a response to this request of pork producers.

Kansas has been asked to increase its pork production by 25 per cent. The hog meetings being held are for the purpose of discussing plans for meeting the suggestion of the Department of Agriculture on this point. During the week just past some eight or nine meetings have been held. Prof. W. A. Cochel, head of the animal husbandry department of the college, is attending as many of these conferences as possible. It is earnestly hoped that hog breeders and hog growers from the various communities will respond to this call and meet for the purpose of discussing this question. Not only will the serious need of increased pork production as related to the carrying on of the war be discussed, but the details of eliminating unnecessary risk and costs in pork production will be taken up. If we are to do our part, it will be necessary to act quickly, since plans must be made at once for breeding the sows and handling the pigs next season.

These are meetings of the greatest importance, and we trust that those of our readers in the communities where they are being held will not only plan to be present but give as much publicity as possible to this program of increased pork production and urge the attendance at these conferences of all their neighbors interested in hogs. The schedule for next week is as follows: Cottonwood Falls, Concordia, and Hackney, Tuesday, November 13, 2 P. M.; Abilene, November 15, 2 P. M.; Marion, November 16, 2 P. M.; McPherson, Wellington, and Belleville, November 17, 2 P. M.; Minneapolis, November 20, 2 P. M.

STACK YOUR FODDER

Old habits are hard to overcome. Corn and kafir fodder have so long been regarded as low-priced feeds that it is hard to realize what such forage now represents in money value. Added to this is the shortage of labor which makes it extremely difficult to save and store these feeds so as to preserve them in the best manner possible. Even these low-grade forage crops are too valuable under present conditions to leave out in the field. As soon as corn fodder, kafir fodder, or other feed is dry enough to keep, its value will be greatly conserved by hauling it to a convenient stack yard and putting it up in good big ricks or stacks covered with something that will turn water.

Feed left in the field in shocks during winter suffers material losses. Its feeding value is lessened by actual loss of food material due to leaching and drying, it becomes less palatable and rats and mice destroy considerable quantities. In the case of kafir, birds will get much of the grain that is exposed and in all cases more or less sand and dirt will be blown into the shocks. All of these combine to make feed stored in well put up stacks more valuable than feed left in shocks. Furthermore, the stacked feed is more convenient to use and can be kept longer than shocked feed.

The Food Control Act authorizes the President to purchase, store, and to sell for cash at reasonable prices, wheat, flour, meal, beans, and potatoes. Under the provisions of the act no other food products can be definitely priced. Price control over other foodstuffs can only be brought about by the license provision of the act, which applies only to those concerns whose business amounts to $100,000 a year or more. The licensing provision went into operation on the first of November. One section of the act authorizes the President to prescribe regulations for the issuing of licenses and requirements for systems of accounts and auditing of accounts to be kept by licensed concerns. Authority is given to stop any unjust, discriminatory, or wasteful practice. This power is sufficient to prevent packers from gouging pork producers by unfair control of prices.

Owing to the abnormally dry season in West Texas and New Mexico, many high-class breeding cows are being forced on the market where they can only be used as canners. As a result of this forced marketing we will lose some of our best beef stock at a most critical time. Many of these cattle could be roughed through on the stalk fields and straw stacks of the Central West. The United States Department of Agriculture has placed a force of men in the Southwest for the purpose of saving as many of these cattle for breeding purposes as possible. They are listing all breeding cattle that are to be sold, and anyone wishing to purchase some of this good stock can get full information from T. Pryse Metcalf, agent of the United States Department of Agriculture, now stationed at Amarillo, Texas.

The work of H. B. Walker, drainage and irrigation engineer of the Agricultural College, who has become well known over the state through his practical assistance in working out drainage and irrigation problems, has been placed in charge of J. B. Marcellus, of Kansas City, Missouri. Mr. Marcellus is a graduate of Kansas University and has had fifteen years of experience in practical engineering, including drainage and irrigation work, in the West and Middle West.

Mr. Walker has received a captain's commission in the officers' reserve corps and has been assigned to active duty.

Farmers' beef clubs have been operated in many communities successfully. Sixteen families in a club which runs sixteen weeks makes the best combination. A club in each community will make fresh beef available at reasonable prices. Each family draws by lot, and in turn furnishes a beef animal. An animal is killed every week and cut into sixteen cuts, each of which is taken by each member in turn.

Definite Hog Price Statement

THE Food Administration is determined to give the hog producers a fair deal. While not authorized by the Food Control Bill to place a definite guaranteed price on park, through its power to control the operations of packing houses, the price of pork can be held stable and at a level which will insure the producer against loss. The following telegram from the Food Administration gives absolute assurance that packers are not to be allowed to follow their usual tactics in the matter of pork prices:

"Joseph P. Cotton, chief of the U. S. Food Administration, today issued the following statement relative to the prices of hogs:

"The main purposes of the Food Administration as to hogs are four: To see that the producer at all times can count on a fair price for his hogs so that it will be profitable to him, to see that the farmer increases the number of hogs bred, to limit the profit of the packer and the middleman, and to eliminate speculation.

"All these purposes are necessary because we must have more hogs, so that the ultimate consumer shall at all times get an adequate supply of hogs at the lowest feasible price.

"We shall establish rigid control of the packer. Fair prices to the farmer for his hogs, we believe, will be brought about by the full control which the Food Administration has over the buying of the Allies, our army and navy, the Red Cross, the Belgian Relief and the neutrals, which together constitute a considerable factor in the market.

"The first step is to stop the sudden break in prices paid for hogs at the central markets. Those prices must become stable so that the farmer knows where he stands, and will feel justified in increasing hogs for next winter. The prices so far as we can affect them will not go below a minimum of about $15.50 per hundredweight for the average of the packers' droves on the Chicago market until further notice.

"We have had, and shall have, the advice of a board composed of practical hog growers and experts. That board advises that the best yardstick with which to measure the cost of production of the hog is the cost of corn. That board further advises that the ratio of corn price to hog price on the average over a series of years has been about twelve to one, or a little less. In the past, when the ratio has gone lower than twelve to one, the stock of hogs in the country has decreased. When it was higher than twelve, the hogs have increased. That board has given its judgment that to bring the stock of hogs back to normal under present conditions the ratio should be about thirteen. Therefore, as to the hogs farrowed next spring, we will try to stabilize the price so that the farmer can count on getting for each hundred pounds of hog ready for market, thirteen times the average cost per bushel of the corn fed into the hogs.

"Let there be no misunderstanding of this statement. It is not a guarantee backed by money. It is not a promise by the packers. It is a statement of the intention and policy of the Food Administration, which means to do justice to the farmer."

A FOOD TRAINING CAMP

The International Live Stock Exposition has been designated as a food training camp. This is an apt term. Never before was there such need for a marshaling of the nation's resources in animal husbandry. The great purpose of stimulating the production of American farms to the maximum limit will fail if the live stick industry is allowed to wane. A better type of farm live stock is absolutely essential to the highest returns from the soil. Never before was there such need for discarding the unprofitable types of farm animals. To waste expensive feeds on inferior stock is not only an economic crime, but absolute treason. The nation needs the highest returns that can be obtained from every acre of productive land. There is, therefore, a patriotic as well as economic reason for making the coming International Live Stock Exposition a record breaker in point of service to the nation's greatest industry. To lessen efforts in promoting our live stock shows would be to weaken in the face of the greatest task that has ever confronted the tiller of the soil. Such weakening would invite failure. This is the year, above all years, when the husbandman wants the best that these great educational expositions can give.

The International Live Stock Exposition, which will be held during the first week in December, will this year emphasize its mission. The problem of the moment is more food and in no other way can the lesson be more convincingly taught.

STORING SEED CORN

To keep seed corn in the best possible condition for planting next spring it should be dried thoroughly and kept dry through the winter. This year it is especially important that seed corn be dried out before cold weather, as the crop matured late and contained a great deal of water.

The ears selected for seed should be hung up as soon as picked in a dry, well ventilated place. A cellar, barn, or bin in which grain is stored is unsuitable because the seed is likely to collect moisture in any of these.

A convenient way of hanging seed corn is by simply using some binding twine and stringing fifteen to twenty ears together. A seed corn tree, consisting of a standard with nails driven into it upon which the ears are impaled, may be used. A still more simple way of storing seed ears is to hang them up in gunny sacks, placing not more than half a bushel in a sack so that it will have opportunity to dry out.

As much of this year's crop did not mature early enough to make good seed, there is likely to be a shortage of seed corn next spring.

The splendid results of spreading straw on wheat have been most apparent during the past two or three years. The best time to spread is immediately after seeding, but it can be done almost any time this fall. A coat of straw serves as a protection to the young wheat plants and keeps the soil from drifting or blowing. If you have any sandy or light land in wheat, by all means give it a coat of straw as soon as possible. With a good straw spreader you can spread a load in ten minutes.

The Government is gradually but surely eliminating middlemen who render no real or necessary service. This seems to be a fixed policy. Now Government horse buyers are buying horses direct from the farmers instead of permitting dealers to make handsome commissions by doing this work. We just learned recently that experienced hay buyers are buying alfalfa and prairie hay direct from farmers in any quantity they may wish to sell. They are even buying loose hay and taking over the job of baling, hauling, and loading cars.

FEDERAL GRAIN STANDARDS ACT

Secretary D. F. Houston Defends Act in Letter to Kansas Farmer

WHEAT growers have found a great deal of fault with the new Grain Standards Act. As it has been interpreted and administered by local dealers it has been most unsatisfactory to farmers. Some have denounced the act as strictly in the interests of the millers. There have been reports of an alleged agitation looking to the suspension during the period of the war of the enforcement of the Grain Standards Act and the grading system established under that act. After a conference between officials of the Food Administration Grain Corporation and the Department of Agriculture, the following announcement was made:

All purchases of wheat over which the United States Food Administration Grain Corporation has control will be made according to the grades of the official grain standards of the United States from No. 1 to No. 3, and below No. 3 after examination of actual samples of the wheat. The enforcement of the Grain Standards Act will not be suspended by the Government, but on the contrary the United States Food Administration Grain Corporation and the United States Department of Agriculture will co-operate in carrying out its provisions so as to obtain the most beneficial results to all concerned. It appears that confusion has arisen on account of the unfamiliarity of many persons in the grain trade with the new standards and also on account of unwarranted practices that have arisen recently, such as the arbitrary assignment of a lower numerical grade to wheat by reason of the presence of dockage, notwithstanding the fact that dockage does not properly enter into the assignment of the numerical grade. Every effort will be made to eliminate these abuses, to bring about the just application of the official standards and to establish fair dealings. It must be remembered that the Food Administration Grain Corporation is compelled to buy within the limits of fixed prices, and that the Department of Agriculture must see that the standards are correctly applied. Co-operation of producers, the grain trade, and the milling interests, with the Food Administration and the Department of Agriculture is required in handling the situation which has arisen as a result of the war crisis.

In view of the complaints that have been made, a letter written to W. F. Brown, of Meade County, Kansas, by Secretary Houston, will be of interest to grain growers. The letter was written in reply to a protest against the act sent to Congressman Jouett Shouse.

"You do not specifically protest against any particular provision or provisions of the act," said Secretary Houston, "nor do you complain against the official grain standards of the United States established thereunder.

"It is believed that the real cause of any complaint which you may have is not occasioned by the requirements of the United States Grain Standards Act, nor the standards fixed and established thereunder, but is due primarily to a misunderstanding on the part of farmers and country grain dealers as to the requirements of the act and the federal standards for wheat; incorrect and arbitrary application of the federal standards on the part of country buyers, and dissatisfaction on the part of growers with the actual price fixed and paid for the delivery of wheat at terminal markets.

NO MANDATORY ASSESSMENT

"It has been brought to the attention of the United States Department of Agriculture from several sources that, in certain parts of the country where this year's crop of wheat is now being moved, the country grain dealers are assessing the farmers a discount against all wheat purchases, contending that such assessment is mandatory by reason of the official grain standards of the United States for wheat under the United States Grain Standards Act. Apparently the contention on the part of the country grain dealers is based upon the item 'dockage' contained in the official standards. From information received by the Department it appears, however, that the discount is an actual and arbitrary assessment in the interest of the buyers, and is neither on the basis of the official standards nor required nor contemplated by the act or the regulations thereunder.

"The primary purposes in the establishment of the official grain standards of the United States were to provide a basis whereby parties to transactions involving the purchase and sale of grain shipped and delivered for shipment in interstate and foreign commerce might, through being able to obtain a correct application of such standards, arrive at the actual value and make settlement accordingly. These standards for wheat do not provide for any arbitrary assessment for dockage. They do provide for the determination of the amount of sand, dirt, weed seeds, weed stems, and certain other matter called 'dockage,' which actually may be present in a lot of wheat, the amount of which, if equal to or in excess of one-half of one per cent by weight, is to be stated in terms of the actual percentage as a part of the grade designation of the wheat. This is called the dockage system of grading and has been used for many years in the Northwestern States prior to the adoption of the official standards. The transactions in question appear to be purely local, not involving interstate commerce, and are perhaps conducted in a way not within the prohibitions of the act. Nevertheless, the Department is investigating the matter, and will be glad to have any facts which may be of value. It will do everything in its power to bring about the discontinuance of misrepresentations based on the act or the standards thereunder.

OPINION REGARDING DOCKAGE

"It must be borne in mind that with the establishment of fixed prices to be paid for wheat, competitive buying has been practically eliminated. This injects a feature unprecedented in the history of grain marketing. This fact, together with the fact that the federal standards for wheat are comparatively new, having been in effect only a few weeks, constitutes the cause of the agitation and confusion. It is believed that under existing conditions, no matter what standards or methods of grain grading were used, the same difficulties would be met. For your further information, the opinion of the Department regarding 'dockage' in wheat is set forth as follows:

"The official grain standards of the United States for wheat, in force and effect for hard red winter wheat, soft red winter wheat, common white wheat, and white club wheat, on and after July 1, 1917, and, for all other wheat, on and after August 1, 1917, as set forth in Service and Regulatory Announcements, Markets No. 22, include, in part, an item for dockage. This item is found under Section 3 as follows:

"'Section 3. Dockage.—Dockage includes sand, dirt, weed seeds, weed stems, chaff, straw, grain other than wheat, and any other foreign material which can be removed readily from the wheat by the use of appropriate sieves, cleaning devices, or other practical means suited to separate the foreign material present; also, undeveloped, shriveled, and small pieces of wheat kernels necessarily removed in properly separating the foreign material. The quantity of dockage shall be calculated in terms of percentage based on the total weight of the grain including the dockage. The percentage of dockage so calculated shall be stated in terms of whole per centum and half per centum. A fraction of a per centum when equal to or greater than a half shall be treated as half, and when less than a half shall be disregarded. The percentage of dockage so determined and stated shall be added to the grade designation.'

"The purpose of the item above described is threefold: first, to define dockage; second, to prescribe how dockage shall be calculated; third, that whenever dockage is found in wheat, the amount thereof shall be stated and made a part of the grade designation for the wheat.

"The Department's interest in the question of dockage is primarily directed to the enforcement of a correct determination of dockage under the official grain standards of the United States for wheat, and to obtaining compliance with the provisions of the act which require the use of those standards and the grades thereof.

"For example, in the case of a country dealer who ships his wheat in interstate commerce to a terminal market, where inspectors licensed under the Grain Standards Act are located, pursuant to a sale subject to an inspection by such inspectors, let it be assumed that a particular car of wheat contains 2 per cent of dockage. The licensed inspector who inspects and grades this particular car of wheat is required by the act and the rules and regulations of the Secretary of Agriculture thereunder to determine the dockage in accordance with the official standards; to calculate the dockage as provided for in the official standards; and to show, as a part of the grade designation for the wheat on the certificate of grade issued by him, the amount of dockage (2 per cent) which he finds in the wheat.

"For the purpose of obtaining a uniform application of the standards with respect to dockage, there will appear in the Service and Regulatory Announcement now in course of publication, a detailed description of the method recommended by the Department for the determination of dockage, which method is used in all offices of federal grain supervision, in connection with the handling of appeals and disputes taken or referred to the Secretary of Agriculture and all supervisional activities of such offices. Licensed inspectors in determining dockage in wheat in accordance with the official standards necessarily will use methods which will give results similar to the results obtained by the use of the method recommended by the Department.

"In many instances the material determined to be dockage may contain undeveloped, shriveled, and small pieces of wheat kernels necessarily removed in properly separating the foreign material. In such instances the dockage may have a considerable commercial value.

"Assuming that the licensed inspector properly performs his duty, that there is no appeal, and that the parties interested comply with the requirements of Sections 4 and 5 of the act, the manner in which dockage, determined and stated in accordance with the official grain standards of the United States for wheat, is to be assessed against the seller is a matter to be determined by the parties to the transaction.

"There are several methods used in various sections of the country as a basis of settlement for wheat in which dockage may be found: the price to be paid may be for the net weight contained in the lot or parcel—that is, the gross weight of the wheat minus dockage; or it may be a certain price per bushel for the gross weight of wheat less a fixed discount for each one per cent of dockage contained therein; or it may be a certain price for the net weight (the grass weight of the wheat minus the dockage) upon condition that the dockage is to be disposed of by the buyer at the market price and the proceeds turned over to the seller, in whole or in part, according to whether there is an agreement which may allow the buyer a certain percentage for services performed by him in cleaning the wheat.

"There is nothing in the act which would prevent the parties from using any of these methods. However, this Department does not feel that it should at this time discuss the relative merits of these methods or express any preference among them. In any methods which the parties may see fit to adopt, it is the opinion of the Department that any value which the dockage may possess should be paid for in some manner."



HOGS cannot be economically grown without pasture. The forehanded pork producer who is now breeding his sows for the spring litters is maturing plans to use pasture to the limit in carrying the pigs through the summer. Where there is no alfalfa, rape, oats, Sudan grass, or other spring crops can be grown and pastured with the sows and litters.

Silage as Roughage

Every year there are those who express disappointment as a result of feeding silage to their stock for the first time. Silage is essentially a roughage feed and should always be considered as such. Dry fodder of corn, kafir, or cane will keep cattle in stocker condition. The silo cannot change these corn or kafir stalks into concentrated feed. It simply preserves them in a much more palatable form. The stock will eat a larger proportion of the crop in the form of silage and, due to its succulent condition, a larger amount of the nutrients will be digested.

Good, rich silage will put cattle in better condition than dry fodder, and almost double the number of cattle can be fed from an acre of the crop when preserved as silage as when fed in the dry form. It must not be expected, however, that silage will take the place of grain. Some people seem greatly disappointed because they cannot fatten hogs on silage. The hog is not a ruminant, and therefore cannot be expected to handle large quantities of bulky material as does a cow or sheep. Hogs will pick the corn out of silage and eat some of the finer parts, but silage alone would hardly be a maintenance ration for them. There will not be more than three or four pounds of corn in a ton of average silage—that made from a crop yielding twenty-five or thirty bushels to the acre. Thirty-five or forty pounds of silage daily is about the limit for a cow or a steer. The amount of grain they will get in this quantity is very small.

If you filled a silo with the crop in the proper condition and have the stock to eat the silage, you are almost sure to find it a profitable investment, but do not expect the impossible. You cannot take out of the silo more than you put into it.

If we are to supply our allies with the necessary food and are to reduce our own prices of foodstuffs during the coming winter, it can only be accomplished by the utmost self-denial and service on the part of all our people through the elimination of waste and by rigid economy in the use of food.—PRESIDENT WILSON.

Feed the cull potatoes to the hogs. Cook the potatoes thoroughly and mix with corn meal, shorts, or bran. Skim milk is a good addition.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

A POTTAWATOMIE County reader puts up a hard problem, and yet not a hard one if the people concerned would diligently practice the Golden Rule. She says: "Every year a neighbor's chickens eat from one to two acres of our wheat. The chickens of another neighbor also eat some wheat and also corn, and when the corn is in the shock their pigs come to the shocks and help themselves. These neighbors seem to feel insulted when we remonstrate with them."

There is no law requiring that chickens be kept in confinement on the farm. The legal fence is not a poultry-tight fence, nor even a hog-tight fence, but hogs are not permitted by law to run at large unless a majority of the voters of a township vote to be exempted from the operation of the law. Of course any damage done by animals at large contrary to law can be collected through civil suit. In our judgment this method of settling difficulties between neighbors should always be a last resort. Such lawsuits often engender hatred that is passed on to the next generation.

There is no questioning the reality of the damage done a wheat field by a big flock of poultry. If the field happens to be just across the road, the chickens will most certainly go to it unless there is a supply of green feed closer to their quarters. People whose buildings are so located that their chickens graze down and damage a neighbor's crop, are under a moral obligation to prevent the damage or in some way make amends for it. In the case of hogs, the obligation is legal as well as moral.

A quarrel between neighbors is a most unhappy and unfortunate occurrence, but, as we said in the beginning, the problem presented by our reader is not difficult of solution if only all the parties concerned will strive earnestly to apply the principle of the Golden Rule. Try putting yourself in your neighbor's place. The damage done by your chickens might seem a lot more real if you could in imagination reverse the situation and make a serious attempt to put yourself in the other fellow's place.

Fall Plowing

An Eastern Kansas reader asks if it will pay to make a special effort to plow as much land this fall as possible.

As a general proposition we believe that every acre possible should be plowed this fall. There are a number of good reasons for pushing the plowing of land that is to be planted to corn, kafir, and other rowed crops. It will aid to a large extent in the distribution of labor. As the securing of farm laborers promises to be a serious problem next spring, the more work done this fall the less there will be to do in the rush spring season when every day's delay in the planting of the crop means a loss in dollars and cents. If left rough, fall plowed ground will catch snow and in this way conserve moisture.

Prof. L. E. Call points out that deep plowing should be done in the fall so that the alternate freezing and thawing may place the soil in good tilth and the loose soil will settle before spring planting. Fall plowing of alfalfa or sod ground destroys many of the grasshoppers, chinch bugs, and corn ear worms, and gives the vegetable matter turned under time to decay during the warmer days of winter and early spring. Oats can be sown from a week to ten days earlier if the ground is plowed in the fall.

Because of the danger from blowing, fall listing should be resorted to in Central and Western Kansas rather than plowing. There is less danger of listed ground blowing than corn or kafir ground from which the stalks have been removed. Another reason for listing is that the listed ground catches and holds the snow.

Save Kafir Seed Now

Nothing is of greater importance to the success of the kafir and the grain sorghum crops than good seed. There is only one safe way to get this good seed and that is to select it now from the field. Seed of kafir, milo, feterita, and cane, is certain to be scarce next season. These crops, because of the late, cool spring and the midsummer drouth which retarded growth, matured in only a few localities. In many scattered fields throughout the state, however, ripe grain was produced in fertile or well watered areas where growing conditions were more favorable than for the field as a whole.

C. C. Cunningham, who is in charge of the co-operative experiments over the state, urges that all of the grain that matured be held for seed purposes if possible in order to insure the planting of a normal acreage of sorghums in 1918.

"Farmers who secured well matured crops of reasonably pure kafir, milo, feterita, and cane, should make a special effort to save the grain for seed," said Mr. Cunningham. "They should have no difficulty in disposing of it for more than market prices. They will not only obtain a profit for themselves, but may render their community a service in supplying a much needed product.

"Much of the kafir and other grain sorghums suitable for seed will likely be utilized for feed during the winter. It would be well for those who have no seed to make arrangements with some neighbor who has seed to select heads from the field, shock, or stack, before threshing time. Where the seed is selected in this way the ripest heads can be obtained, thus insuring a better quality of seed than could otherwise be obtained. This is important this season, since most sorghum crops contain a considerable per cent of immature heads.

"The heads should not be threshed until planting time, since the seed will keep in much better condition when in the head. A convenient way to store seed heads is to sack them in loosely woven gunny sacks after they become thoroughly dry and suspend the sacks from the roof in the barn, granary, or corn crib, with wire, where they will be out of reach of rats and mice."



THE championship prize in the three-day butterfat contest conducted at the Kansas Free Fair is the silver loving cup offered by the Kansas Farmer Company. Money prizes are offered for the largest production made by mature cows of the different dairy breeds and for cows under three years of age. Grade cows also have a classification. The cup here shown goes to the cow, any age or breed, making the largest production of butterfat in the three days of the test. Last year it was won by the United States Indian School at Genoa, Nebraska, which institution has held it for the past year. It was competed for again this year, and was won by the Galloway-Messer Farm of Waterloo, Iowa, on the record made by the Holstein heifer Eudora Pontiac Colantha. The winner's name and record has been engraved on the cut and the Galloway-Messer Farm will hold it until next fall. Only by winning it three years in succession can an exhibitor claim it permanently.

Building New House Now

J. R. L., Douglas County, wrote us that after reading the article in KANSAS FARMER on The Farmhouse Improved, he wondered what we would advise him to do about building the new house which they had planned for so long and had hoped to build the coming winter. In view of the war conditions they are hesitating about starting on this project.

This is rather a puzzling question, and one on which we cannot advise other than in a general way without knowing more about the particulars. We presume many who had planned to build have a feeling that perhaps if they wait materials and labor will be cheaper. We know building material has advanced in price, and that means that it will cost more money to build now than a year or two ago. We believe, however, that if our correspondent is able to build and really needs the new home, it would be better to go ahead and build as originally planned than to wait in the hope that building conditions will be better in a year or two.

In studying over this question we took time to consult with the manager of one of the big retail lumber and manufacturing concerns of the country, and he pointed out that the price of lumber has advanced only about 25 to 40 per cent during the period in which prices received for farm products have advanced 100 per cent. Of course metal products and plumbing supplies have advanced more, due to the great need of such material for war purposes. This idea of comparing the percentage advance of lumber and mill work with the percentage advance in the prices received for farm products is rather suggestive. We have become so accustomed to use the dollar as a unit of measure for value that we have to think this thing through to see just what it means. It is what we sell on the farm that brings the money used to buy the material for a new house or other things needed, and measured in this way the increase in the price of lumber is not necessarily a good reason for putting off building the new house because the material is going to cost more than it would a year ago.

The tremendous demand for lumber in building the government cantonments has entered into the problem. The government's order amounted to about 576 million feet, but we have been informed that as a result of an agreement between the advisory board working under Secretary Baker's direction and three of the big national lumber organizations, the government contract was at a price per thousand somewhat less than what dealers were getting for the same class of lumber in the vicinity of the various cantonments. All export demand for lumber has ceased for the period of the war, but with the destruction taking place there is sure to be a big export business in lumber as soon as the war is over.

We would advise those who have been hesitating about building to consult freely with their local dealers and concerns handling such mill products as are used. In our judgment there can be little hope of saving money by waiting, and sometimes putting up necessary farm buildings is a measure of economy. This is especially true when it is a matter of protecting high-priced farm products from loss due to exposure.

Cow Fails to Breed

C. M. S., Edwards County, writes that he has a registered Jersey cow five years old that has not freshened for eighteen months. She comes in heat regularly every eighteen to twenty-four days and has been repeatedly bred, but fails to get with calf. A veterinarian has examined her and attempted to open the uterus, but without success. He could not enter the neck of the uterus more than about two inches, it appearing to be grown together from that point on.

Dr. R. R. Dykstra, of the Kansas Agricultural College, has replied to this inquiry, and what he says is of interest to many who have had similar experiences with sterile or apparently sterile cows. He says:

"I question very much whether your cow is sterile as a result of closure of the nect of the uteurs. You state that you are unable to open up the uterus, and this is as it should be, because in the cow the neck of the uterus is a tortuous passage which in a state of health is closed so that a finger cannot be introduced through it. While no opening can be detected by the finger, still in practically all cases there is an opening which may be no larger than one-thirty-second of an inch in diameter. This small opening is plenty large for impregnation to take place.

"On the other hand, investigations have demonstrated that in most conditions sterility is due to diseased ovaries. There are numerous such diseases, and a competent graduate veterinarian can usually make a diagnosis and in many cases treat it successfully. In addition to diseased ovaries there may be a diseased condition of the uterus itself, or a diseased condition of the tubes leading from the ovaries to the uterus, any of which would be sufficient to induce sterility. I am bringing out the foregoing points in order that you may understand that in my opinion it is practically a waste of time to attempt to open a cow, because in a state of health that is practically a physical impossibility. A thorough examination should be made of the ovaries, the body of the uterus or the tubes leading from the uterus to the ovaries, in order to determine the presence or absence of a diseased condition. After such a diseased condition has been found, then specific treatment may be instituted, the nature of the treatment depending upon the nature of the disease. In about 50 per cent of the cases of sterility, treatment is of no avail. In the remaining 50 per cent, intelligent treatment is promptly followed by conception. Kindly write again if we can be of more service to you."

Cane—a Sure Feed Crop

J. E. Payne, of Oklahoma, writes that he has been watching sure-feed crops in the West for twenty-two years, and has noticed that many varieties of sweet sorghums have made fodder every year, and have made seed when some of our other sure-feed crops made only fodder.

"In traveling over Oklahoma and Kansas this year," says Mr. Payne, "I have found cane making good crops of feed. In some places it has made heavy crops of fodder with very little rainfall.

"Sumac cane, usually called Redtop, has made heavy crops of good feed, and has been successfully used in making silage. As people realize the need of keeping cattle in Western Oklahoma, sweet sorghum, or cane, will become still more popular.

"Those who have well matured cane seed this year should hold it, as there will be a heavy demand for good seed next year."

Threshing Beans

Some of the people who have raised crops of beans this year are wondering how they are going to get them threshed. Regular bean threshers are the most satisfactory for threshing beans, but they are not necessarily the only machine that will do the work. Unless there are rather extensive fields of beans, it is better to use the common type of thresher. However, in using it the concaves should be removed and the cylinder run much slower than ordinarily.

It is not necessary that even a thresher be used for separating the beans from the pods. By putting the beans in a wagon box they can be tramped out very easily by walking over them and using a cement tamper, or they can be flailed, or if one has a rather large, clean floor, they can be scattered over the floor and a light roller dragged back and forth over them. To separate the beans from the straw one simply shakes the vines or straw with a fork; then the beans are winnowed in a strong current of wind, or run through a fanning mill.

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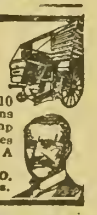

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KANSAS FARMER DAIRY CLUB

Your Part in Club Contest

JOSH BILLINGS, who often said wise things in a comical way, once said to a young man: "Consider the postage stamp, my son; its usefulness consists in its ability to stick to one thing until it gets there." We are anxious that the boys and girls who are starting out to keep a year's record of their cow's milk production and the cost of her feed shall stick to it until they "get there."

We wonder if you remember on just what things the contest depends. The total butter fat production of your cow for the year counts from nothing to thirty points; profit over cost of feed and interest on your note, from nothing to thirty points; accuracy in keeping records, promptness in sending them in, and the story of your work at the end of the year, twenty points, and the quality of your product, which will depend on the way you care for your milk, twenty points. In other words, of the one hundred points used as the basis of awards in the contest, sixty depend largely on your cow, and forty depend altogether on yourself. The person winning first place in the contest will not necessarily be the one owning the highest producing cow. It would be impossible for the cow to win the contest alone unless her owner also did his part. Make your cow do her best, but do not be satisfied until you have done your best, too.

Conspicuously posted in the center of the display made at the National Dairy Show by a large pure-bred dairy farm of Wisconsin was the following placard: "No swearing allowed. These are contented cows." The manager of this farm explained that it is a most stringent rule on all the farms which this company operates that harsh language or unkindness is absolutely forbidden. A cow is most responsive to gentle treatment. If you are mean to her, she will pay you back, perhaps by a kick, but most surely by not doing her best at the pail. Keep your cows perfectly contented and they will give more milk.

Sells Calf for Good Price

My cow was fresh October 1 and my calf is a fine heifer. I am going to sell it at one month old to T. M. Maurer for one hundred dollars. I bought my cow of T. M. Maurer, of Emporia, Kansas. I like the Dairy Club.—NELL RODERICK, Emporia.

NOTE.—Nell paid $165 for her registered Holstein cow last June.

Sign Your Records

Be sure to sign your name on the blank line at the top of your milk and feed records, following the words, "Name of Contestant." Several records have come to us lately with no name on them and the only thing to show whose they were was the name on the outside of the envelope or sometimes only the name of the cow on the record.

Cow Cured of Lump

John R. Moellmann, of Olpe, writes that the lump on his cow's flank which he wrote us about some time ago had to be opened before it could be cured. While this was being treated she got quite thin and decreased in her milk. He commenced to feed her bran as soon as he was able to get it and she gave a little more milk, but not as much as when she first freshened. She did not seem to like alfalfa and finally got so she would not touch it at all. "What feed do you think will bring her back to her full flow of milk?" asks John in his letter. "The pastures are turning brown and we will soon put the cows on sweet clover pasture. Cherry is putting on a little flesh at present, but does not give as much milk as she should."

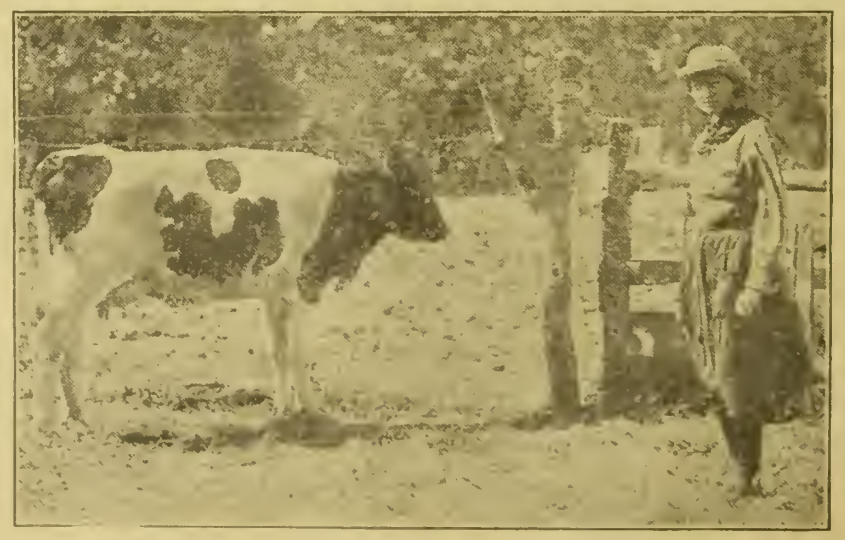
We were very sorry that John could not be with us when we drove around Emporia recently visiting the boys and girls of the club in that part of the county. In the afternoon after we had made the visits we talked about feeding dairy cows and other things of interest for almost two hours in the office of the county agent. We are glad to learn that John has got his cow cured of the lump he wrote us about in a previous letter. It seems rather surprising that she does not like alfalfa. She probably will get used to it after the pasture is gone. Sweet clover makes a fine pasture for milk cows, and she probably will do well on it. Cows have to learn to like sweet clover also, and a good many people think they will not eat it at all, but this is a mistake.

This heifer probably got quite thin while she was being doctored for the lump and she will not get to doing her best until she gets in better condition. It is always hard to get cows back to full production after something of this kind has happened which cuts them down in milk. She ought to have some grain feed, and the bran and oats combination suggested to Harold Laird will be a good one for her. There is not quite so much need for the oil meal, because the sweet clover is rich in protein like alfalfa.

R. O. Smith, county agricultural agent, addressed the Wilson County Bankers' Association on the dairy needs of the county and obtained the co-operation of the association to the extent of bringing in dairy stock. Mr. Smith has been asked to make a trip for the purpose of locating three carloads of high grade and registered Jersey cows to be shipped into the county by the association for sale to farmers desiring them.

Without more meat and fat from America than the Allies have received in the past three years, they cannot remain in fighting trim.

Proper nourishment and clean surroundings are helpful in combating animal diseases. Feeding balanced rations will take care of the nourishment factor, but clean and sanitary surroundings are as essential as proper nourishment. Drainage of quarters, ventilation, keeping sheds and stalls free from manure, dust and other rubbish, a liberal use of lime and other disinfectants, and eternal war on parasites will reduce the veterinary bill to the minimum.



ESTHER NICKLIN, EMPORIA, AND HER TWO-YEAR-OLD HEIFER.—THIS HEIFER HAS JUST FRESHENED.—NOTICE HER FINE UDDER

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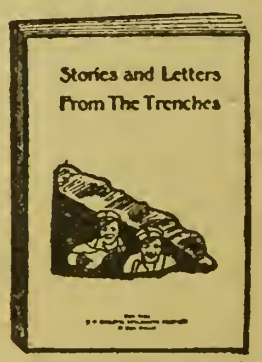

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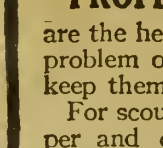

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The pocket gopher is the most destructive single enemy of alfalfa, destroying a tenth of the whole crop every year. They are now active in storing food for winter, and there is no better time for poisoning and trapping them. The Agricultural College at Manhattan manufactures a poison, the use of which appears to be the best means so far found for the destruction of gophers. It can be obtained at cost of preparation from the zoological department.

The kafir belt has produced more than 100,000,000 bushels of kafir this year, distributed as follows: Kansas, 36¾ million; Oklahoma, 32½; Texas, 25½; New Mexico, 4½, and Colorado, 1¾ million bushels. This was produced on a little less than 5,000,000 acres.



Hoover Consults Meat Producers

THE origin of the ten-dollar-hog stories has been traced. We did not believe they came from the Food Administration, and expressed our opinion to that effect at the hogmen's conference in Manhattan. Pro-German and anti-war propagandists are responsible for the statement that the United States Food Administration favored ten-dollar hogs, according to a telegram recently received by Dr. H. J. Waters, food administrator for Kansas, from Herbert Hoover.

The Food Administration will not fix the price at which the farmer will sell his stock, but it does have the duty of directing export purchases and will use that power to make prices stable and remunerative to the farmers.

The telegram from Mr. Hoover was in response to a message containing the resolutions unanimously adopted by the Kansas conference on hog production. These resolutions pledged support to the Government but urged that if fixing of hog prices were necessary all factors entering into the cost of production be controlled, and the price of hog products be fixed in proportion to the cost of hogs to the packers. The hog raisers also asked that action be taken to prevent violent fluctuation in the market prices of hogs.

Mr. Hoover's message follows:

"This department has repeatedly stated that it has no intention to fix the price at which the farmer sells his stock. The Food Administration does, however, have the duty of directing export purchases of beef and pork products and we propose to use that power to stabilize the prices and to support remunerative prices to the farmer.

"I have appointed a committee of important hogmen to advise J. P. Cotton, the head of our meat division, on this and other marketing matters in connection with the regulation of the packing industry. I have also asked another committee to advise us from time to time as to the cost of production of hogs in order that we may clearly demonstrate to the American consumer the increased cost of production and the necessity for increased products over pre-war normals. I have also asked a representative committee of cattle raisers to sit as an advisory committee to Mr. Cotton's meat division in problems affecting their industry in relation to marketing and regulation of the packing industry. All of this has been conceived in an effort to protect and stimulate the live stock industry.

"I wish to call your attention to certain propaganda in the country stimulated by pro-German and anti-war sources intended to discourage and mislead the live stock grower whose increased activity is vital to our national cause. For instance, a statement that the Food Administration favors ten-dollar hogs has been widely circulated by insidious means in many states. We have given every publicity to the absurdity of such statements but it seems impossible to catch up with these rumors and deliberate disturbances to the public mind. It must be obvious to any thinking man that even if we had the power to do such a thing, it would be grievously unfair to the farmer and the height of folly from the point of view of national interest. This sort of rumor is not only promulgated in connection with food matters, but in an attempt to defeat other governmental activities such as the assembling of the army and national finance. I believe these vicious attempts to destroy our national efficiency in war are responsible for the unrest of which you speak.

"The profits of the meat packers are to be limited and their business rigidly controlled. The limitation of profits will be announced before November 1. I believe it sound business for every farmer to increase hog production for 1918 as much as possible. I am sure that the nation needs that increase to help win the war."

Breed Plenty of Sows

We believe there are the best of reasons for breeding all the good brood sows that can be handled this fall on farms where corn is grown. The world is in need of pork. There has been enough marketing of unfinished hogs and brood sows to indicate that there is a considerable tendency to cut down on hog production, or at least take no extra chances. When everybody shows a disposition to do a certain thing in crop or live stock production, many a long-headed farmer plans to do just the opposite thing with a reasonable assurance that it will pay.

Whatever happens, the present indications are that it will pay to produce pork for next year's market. In addition to the operation of natural influences, the Food Administration has announced that it will use all its powers to insure the pork producer against possible loss. The real hogman, the one who studies out all the little economies of the business, is now maturing plans to use forage crops to the limit in growing out the pigs from this fall's breeding. It will take some grain to carry these pigs through the summer, but by having plenty of alfalfa pasture or growing rape, oats, Sudan grass, or other annual forage crops, it will not take any great amount of grain to bring them up to the final fattening period.

The bred sows can be almost entirely maintained the coming winter on alfalfa hay. It is astonishing how much alfalfa hay a big brood so wwill eat, and there is no method of feeding that insures stronger, more vigorous pigs than that of using alfalfa to the limit for maintaining the sows through the winter. The pigs from alfalfa-fed sows will be as lively as crickets and have the appetites of wolves.

Badly as we need pork now, the world will make even greater demands if the war continues another year. There seems to be every reason for trying to increase our pork production.

Co-Operate in Marketing Hogs

Assembling hogs in small lots and holding them in local stock yards until a carload is gathered is a wasteful practice and prevents producers from receiving maximum returns for their stock. It often takes a local buyer four or five days to assemble a carload. The yards are not usually well adapted to handling and feeding hogs, and while being held they make no gain, as a rule, and not infrequently actually lose weight. The buyer must figure on a wide margin to protect himself against loss.

Local buyers could specify certain days on which they would receive hogs, but by far the better plan is for the farmers of a community to club together and market their hogs co-operatively. There are many of these co-operative live stock marketing associations being successfully conducted. When properly handled, they save the margin lost through the individual selling of small lots.

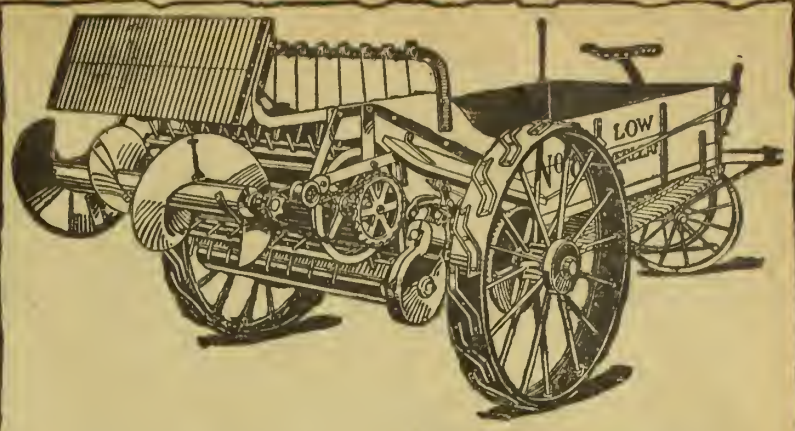
Winter Shelter for Colts

Colts and horses suffer less from cold than cattle, but colts especially should not be compelled to expose themselves to severe weather and storms, neither should they be housed in unclean, poorly lighted, or poorly ventilated barns or sheds.

In a colt-growing experiment conducted by the animal husbandry department of the Kansas Experiment Station, twenty colts were provided with a shed open to the south. The results obtained show that such protection is sufficient for this locality.

The sheds were kept clean and well bedded. The colts were allowed to come and go as they pleased. It was observed that they remained in the open a large portion of the time, seeking shelter only in times of storm and severest weather.

Potatoes add succulence to the dairy ration. Where corn silage is not available and there are plenty of small potatoes, a peck a day will give a marked increase in milk flow. They should be introduced into the ration gradually, and should be run through a root cutter to avoid the possibility of choking the animal.



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The brood sow and her litter should have plenty of exercise, but the pigs should be protected from cold rains.



Importance of Organization

SHOULD farmers organize, and why? The reasons for organization are aptly summarized in the following statement of A. J. Meyer, director of the extension service, Missouri College of Agriculture, in which he points out clearly and concisely the aims that communities should have when organization is attempted:

"All men grow in vision and capacity to accomplish worth-while things under the stimulus of close association and interchange of ideas with their fellow men. The farmer is no exception to this rule. So in those communities where farm folks are organized, or where they associate closely and sympathetically, we find the best roads, superior schools, active rural churches, more young people on the farm, less tenantry and a more wholesome rural life in its every detail.

"From an economic standpoint the importance of organization among farm people lies in the fact that it tends to bring all the agricultural practices of a community up to the standard of the best practices of the individual. It has a leveling influence, but fortunately the leveling is accomplished never by reducing the proficiency of the best farmers, but always by raising the standard of the less efficient. Organization is a mighty factor in bringing about maximum efficiency. It makes for the permanency of our American agriculture.

"The ends of democracy are just a little better served when the people of the rural communities are able to make their influence felt in deciding the great public questions of the day. In a republic where 50 per cent of the population is rural, the farmer is entitled to considerable say in matters of state and national concern. Through organization he will make himself heard and the nation will be better for it."

Briefly, according to Mr. Meyer, organization increases the efficiency of farmers in farm practice. It establishes social, educational, and religious standards which will make the country a more desirable place in which to live. It secures proper recognition in municipal, state and national affairs affecting the interest of farmers. It establishes relations with the business world which will enable farmers to market their products so as to secure maximum rates for their time, labor and investment.

There can be no legitimate reasons or arguments against organizations that have these purposes in view.

Help Boys Keep Clean

Here is an appeal both to your patriotism and your state pride. It is an appeal that should come closer to the heart of every Kansan than any other that has been made for any other purpose connected with the war, and this is because it effects the moral and physical welfare of those Kansas boys now in training at Camp Funston, and in particular, the boys of the 353d Infantry. This appeal is made by the regimental officers of the 353d Infantry to raise the sum of $50,000 as a regimental fund for the moral and physical comfort of the boys of this command.

This regiment, above all others in the entire army, is unique in the fact that it is absolutely representative of every walk in life and industry that is to be found in Kansas, and also in the fact that every county, bar none, has a representative in this regiment.

The record of the 353d Infantry for physical fitness, for eagerness to learn and willingness to serve, surprised even seasoned army officers, and in return for the kind of service these boys are giving, the officers are trying to give something equally as good.

The Government clothes, houses and feeds its troops, but there are a million and a half of them, and one regiment is as another regiment. The Y. M. C. A. and the Knights of Columbus try to remedy this deficiency of special attention by seeking in every way to make the life of a soldier happy and easier and more moral, but there is a limit to their efforts. Therefore, each regiment seeks in its own way to safeguard its morals and increase the physical and moral efficiency of its men; this is most generally done by the raising and maintenance of a regimental fund.

The purpose of this regimental fund is to furnish a recreation hall, equip athletic teams, provide musical entertainments, and maintain reading rooms for the troops. After ten hours of intensive physical and military drill, a soldier wants recreation, and if he cannot get the right kind, he will get the wrong kind. The 353d Infantry wants the right kind. Its war strength is 3,700 men. The people of Kansas are asked to contribute $10 for each man in the regiment. The men themselves have promised to give $3 apiece as a starter, which will make a total, if the people of Kansas come across, of almost $50,000.

It is proposed to spend this money first by erecting a recreation hall wherein will be found reading and rest rooms, a basketball court, concert stage, facilities for writing letters and an old-fashioned fireplace. There will be a rest room for ladies; there will be nooks and corners where the friends and home folks that come down to see the boys can see them with some pleasure and privacy instead of having to stand around in the wind and dust as now. There will also be provision to eat Sunday dinner together. Such a recreation hall will, therefore, serve both Kansas and the regiment and make for both in body and spirit. And when the 353d Infantry goes across, the buildings will still remain for those subsequent Kansas troops that will take its place. Thus the buildings will always remain in the cantonment for the use of Kansas men, and as a monument to Kansas people and their generosity. The balance of the $50,000 will be used always, here and abroad, for promoting those amusements and pleasures that the Government cannot provide and the boys themselves cannot find.

This is not a charity, nor even a benevolent enterprise that is to be administered for a distant people in a distant land. It is a necessity that helps my boy, your boy, and every boy drawn from Kansas to serve his country. We could not subscribe to a more worthy cause nor one that comes closer to the homes of Kansas.

Your check may be mailed to the editor of KANSAS FARMER, in care of the 353d Infantry fund, or to the commanding officer, Col. James H. Reeves, 353d Infantry, Camp Funston, Kansas. The fund must be in by November 20, so that on Christmas the regiment can hold open house to the people of the state.

Select Traps Carefully

Boys who decide to try making some money trapping the small fur-bearing animals this winter must lay in a stock of the necessary traps.

The Victor and Triumph are probably the choice of traps for the beginner, inasmuch as they are quite inexpensive and answer his every purpose with entire satisfaction. Of course the genuine Newhouse has no rival, but it costs more than the average young pelt-hunter cares to pay. The manufacturers of the first named have placed a double-jawed product on the market in two sizes—I understand they correspond to the Number 1 and the Number 1½—that ought to meet with a great sale, for not only do they grip high but take two holds as well. Once an animal is fairly caught there is little chance of it getting away either by gnawing or twisting out.

The Jump traps will be found handy also, since they are lighter than the Newhouse styles, have no protruding springs and can be set in smaller places. Naturally they are easier to conceal. There is one slight disadvantage and that is they are slightly harder to set in cold weather when the fingers are numb.

The Stop Thief and Tree traps are good also and are used quite extensively by those who seek to take the skunk without odor. I might add that the traps are humane, killing the fur-bearers almost instantly when the proper sizes are employed.

New traps ought to be tested before they are put out. To do this use a small stick wrapped with cloth and spring each one, noting the action and the weight necessary to cause the trap

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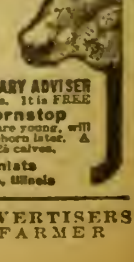
Lump Jaw



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to snap. If this is too much—that is, if the trap works hard—it may be adjusted by filing the trigger. If the action is too "soft" and springs too easy, bend the trigger-holder slightly toward the pan. Traps that will not work ought to be discarded, for it does not pay to run the chances of losing a single fur when they are worth so much.

If there are several pelt hunters in the same community and the "lines" cross or are near to each other, it is best to mark the traps so that they may be identified. Do this with a file or steel punch on the metal just beneath the pans.

The experienced pelt hunter will insist that his traps be colored before they are used. One of the best ways is to wire the bunch together and place them for a week or ten days in mud, which will give the desired dead, black color. Some prefer to rust their traps slightly and then stain with a dye made from boiling bark or walnut husks in water. Either way can be employed.

For snow sets, traps may be whitened with a "paint" made from lime and water. After this is dry it must be handled carefully, otherwise it will rub off. —GEORGE J. THIESSEN.

New Road Law in Operation

Kansas will not lag behind in getting her share of the federal appropriation for road work the present year if present plans are carried out. A big start has already been made on the five-year campaign for 365-day roads in the state, and it is only the beginning, according to a statement prepared by J. Frank Smith, president of the Kansas Good Roads Association, and used in his addresses the past week at Winfield and other points over the state. The new Kansas road law is but six months old, but the good roads boosters have not been idle and are organizing everywhere to take advantage of its provisions.

Here are the programs already in operation, or mapped out in a long list of counties, according to the data gathered by President Smith:

Cloud — Brick petition across county east and west on the White Way and a concrete petition across the county on the Midland Trail.

Shawnee County—Two petitions filed, one for a brick road from Topeka to the Douglas County line, and also a concrete petition from Topeka over another route to the Douglas County line. A move is under way to build a paved road from Dover to Topeka, a distance of twenty miles. Also a petition will soon be started for a paved road across Shawnee County north and south on the Capital City Highway.

Jackson—Getting ready to circulate a petition for a paved road across that county on the Capital City Highway, with every prospect of success.

Saline — Petitions being prepared to pave the Golden Belt across that county and also to pave the Meridian Road. The program is to build about twenty miles each year until both roads are built.

Reno—Circulating petitions asking the county commissioners to call an election and let the people vote on the question of issuing bonds to build 154 miles of brick road.

Allen—Promoting campaign to vote county bonds to build at least 150 miles of 365-day roads. The state engineer has been asked to help them lay out the system. They hope to get the matter to a vote before spring.

Butler—Petition is being circulated for a brick road from El Dorado to Augusta.

Douglas—Petition for a concrete road has been signed up across the county on the Midland Trail.

Cherokee — Several sections of gravel road have been petitioned for. One from Columbus to the county line south, about fifteen miles, has been granted.

Crawford—Building gravel road under the new law and planning to build many miles of brick road.

Sedgwick—Plans are under consideration to start campaign to build a county system of 200 miles to include the Meridian and the Fort Scott-Wichita and Cannon Ball routes across the county. Petition for a paved road has been granted from Wichita to the county line east.

Morris—Petitions have been circulated for paved roads across that county.

Leavenworth—Petitions are in circulation to cover the Midland Trail in that county.

Wyandotte—Farmers have petitioned for several sections of road in that county.

Dickinson — Petition signed up for paved road across corner on Old Trails road.

Mitchell—Petition for a concrete road has been filed for twelve miles from Beloit to Simpson, on the county line east, and a petition is in circulation for a brick road west from Beloit to the county line, a distance of twenty-four miles.

Brown—Petitions are either in circulation or are being prepared for two roads across the county—one on the Ocean-to-Ocean Highway and one on the King of Trails.

Bourbon—County has built about seventy-five miles of rock road, about twenty-five under the new law. Roads are being oiled to maintain them.

Barton—Farmers have signed up for a brick road across the county on the old Santa Fe Trail, except through one township. This is expected to be completed within a few days.

Clay—Petition has been filed for a brick road from Clay Center north to the county line, a distance of about fifteen miles.

Washington—Planning to start a five-year building program for a complete county system.

Ford—Plans under way to pave the old Santa Fe Trail across the county.

Labette — Commissioners and citizens have gotten together on a program of building about thirty miles of first class gravel roads each year until the entire county system is improved.

Johnson, Miami and Linn — In these counties petitions are in circulation under the new law to grade, build all culverts and bridges, and put the Kansas City-Fort Scott Short Line in first class condition and oil. This route runs from Overland Park through Louisburg to Fulton.

Harvey—Petition signed and filed with county board for paved road from Newton to city cemetery.

Wilson—Petitions have been signed for gravel road north and northwest from Fredonia.

Lyon — Plans are under consideration to start campaign for county system 150 miles improved roads to include both old and new Santa Fe Trails.

McPherson—Plans are under consideration to start a campaign to pave Meridian and Ocean-to-Ocean highways across that county.

If all these projects can be started before next spring it will be a wonderful showing for Kansas. Practically all of these roads are on the marked highways, where the federal aid will be applied to pay 15 per cent of the cost. If the present activities can be kept going on it is believed that before the end of the five years fully 5,000 miles will be financed, which will include a half dozen trails across the state, two or three east and west, and several north and south. It must be remembered that to date Kansas has but 1,100 miles of improved roads and all of that is oiled earth or sand-clay except 390 miles. It must also be remembered that up to six months ago only two or three counties had ever started a campaign for paved roads.

Alfalfa Burning Spontaneously

C. A. Jacobson, chemist of the Nevada Experiment Station, Box 672, Reno, Nevada, is undertaking to ascertain the extent, causes, and possible prevention of alfalfa hay fires in stacks or barns. In order that his results may be of value to the farmers he must get into communication with as many people as possible who have suffered hay losses by fire. To get this information quickly he offers 25 cents in stamps to all who send him the name and address of the person who has had fifty tons or more of hay burn during the past twelve months, or who may have hay losses by fire during the coming year, provided such name has not been previously reported. Also report any hay worthless for feeding.



Everybody naturally wants to hear the best music

If you had your choice of attending two concerts—the greatest artists in all the world appearing at one, some little-known artists at the other—which would you choose? You would quickly decide to hear the renowned artists who are famous for their superb interpretations. And this is exactly the reason why the Victrola is the instrument for your home.

The greatest artists of all the world make records for the Victrola exclusively: Caruso, Alda, Braslau, Calvé, Culp, de Gogorza, De Luca, Elman, Farrar, Gadski, Galli-Curci, Garrison, Gluck, Hempel, Homer, Journet, Kline, Kreisler, Marsh, Martinelli, McCormack, Melba, Paderewski, Powell, Ruffo, Schumann-Heink, Scotti, Sembrich, Tetrazzini, Whitehill, Williams, Witherspoon, Zimbalist.

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BURNS 50 HOURS ON ONE GALLON

common kerosene (coal oil), no odor, smoke or noise, simple, clean, won't explode. Over three million people already enjoying this powerful, white, steady light, nearest to sunlight. Won Gold Medal at Panama Exposition. Greatest invention of the age. Guaranteed.

$1000 Reward will be given to the person who shows us an oil lamp equal to the new Aladdin in every way (details of offer given in our circular). We want one user in each locality to whom we can refer customers. To that person we have a special introductory offer to make, under which one lamp is given free. Write quick for our 10-Day Free Trial Offer and learn how to get one free, all charges prepaid.

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Our trial delivery plan makes it easy. No previous experience necessary. Practically every farm home and small town home will buy after trying. One farmer who had never sold anything in his life before writes: "I sold 51 the first seven days." Christensen, Wis., says: "Have never seen an article that sells so easily." Norring, Ia., says: "92% of homes visited bought." Phillips, O., says: "Every customer becomes a friend and booster." Kemerling, Minn., says: "No flowery talk necessary. Sells itself." Thousands who are coining money endorse the ALADDIN just as strongly. NO MONEY REQUIRED. We furnish stock to get started. Sample sent prepaid for 10 days' free trial and given absolutely without cost when you become a distributor. Ask for our distributor's plan. State occupation, age, whether you have rig or auto; whether you can work spare time or steady; when can start; townships most convenient for you to work in.

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Classified Advertising

HELP WANTED.

FARMERS—MEN-WOMEN 18 OR OVER. Become U. S. Government clerks. $100 month. Easy, pleasant work. Thirty days vacation with pay. List positions free. Write Franklin Institute, Dept. J-82, Rochester, N. Y.

REAL ESTATE.

GOOD CROPS, 177-ACRE CREEK FARM, $3,000, good terms; others. McGrath, Mountain View, Mo.

I HAVE FOR SALE SIX SPECIALLY fine improved farms near Humboldt, Neb., Richardson County. Prices reasonable. J. S. Davis, Humboldt, Neb.

COLORADO NEEDS 10,000 GENERAL farmers, dairymen, stock, poultry and hog raisers; good markets, fine climate, schools, churches. Agricultural and industrial map free. Write State Board of Immigration, 22 Capitol Building, Denver, Colorado.

YOUR CHANCE IS IN CANADA.—RICH lands and business opportunities offer you independence. Farm lands, $11 to $30 acre; irrigated lands, $35 to $50; twenty years to pay; $2,000 loan on improvements, or ready made farms. Loan of live stock; taxes average under 20 cents an acre; no taxes on improvements, personal property, or live stock. Good markets, churches, schools, roads, telephones; excellent climate — crops and live stock prove it. Special homeseekers' fare certificates. Write for free booklets. Allan Cameron, General Superintendent Land Branch, Canadian Pacific Ry., 234 Ninth Ave., Calgary, Alberta.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

FOR SALE — FINE GUERNSEY MALE calf, five weeks old. Can be registered. M. Culp, Scottsville, Kansas.

REGISTERED HOLSTEIN BULL READY for service. Four of his dams averaged 106 pounds milk in one day and 34 pounds butter in seven days officially. $125. Wisconsin Live Stock Association, Appleton, Wis.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked. $23, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

FOR SALE — ONE-YEAR-OLD REGISTERED Guernsey bull, sires five nearest dams average 684 pounds fat one year. Dam's grandsire Imp. King of the May. Very large, black nose, a great bull for a grade herd. Also a few high grades 15-16ths and better. Bull calves, same sire as above. John Perrenoud, Humboldt, Kan.

DOGS.

COLLIE PUPS—U. A. GORE, SEWARD, Kansas.

COLLIE PUPS FROM GENUINE STOCK, dogs that drive from the heel. E. L. Dolan, Route 2, Platte City, Missouri.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

FOR SALE — HIGH CLASS FOX AND coon hounds. The kind that can deliver the goods. Bred right and broken right. If you want a good one, write me. Price reasonable. A. F. Sampey, 317 E. Mt. Vernon St., Springfield, Missouri.

TREES, SEEDS AND PLANTS.

WE ARE BUYERS OF FIELD SEEDS—Clover, English bluegrass, cane, millet, kafir, also pop corn. Write and send samples. Mitchelhill Seed Company, St. Joseph, Mo.

FOR SALE—ONE CAR PURE TURKEY seed wheat, $2.25 per bushel. Alfalfa seed, $8 per bushel, f. o. b. Grantville, Kansas. S. E. Wilson.

NEW CROP PEAS FOR TABLE USE—Whippoorwills, per pound, 8c; blackeyes, 11c; creams, 12c. Express prepaid in 50-pound lots Oklahoma and Kansas points. Terms are cash with order. No parcel post or C. O. D. business accepted. Reference, Merchants & Planters Bank. J. W. Rhone, Winnsboro, Texas.

HOGS.

CHESTER WHITES — MAY PIGS AT farmers' prices. Gust Claussen, Bunker Hill, Kansas.

TANNING.

LET US TAN YOUR HIDE: COW, HORSE or calf skins for coat or robe. Catalog on request. The Crosby Frisian Fur Co., Rochester, N. Y.

MISCELLANEOUS.

THIRTY DIFFERENT MAGAZINES, late issues, value $3, yours for 25c prepaid. Eastern Bureau, New Egypt, N. J.

HORSES AND MULES.

SHETLAND PONIES. CHARLES CLEMmons, Coffeyville, Kansas.

POULTRY.

PURE BOURBON RED TURKEYS, ROSE Comb Red cockerels. Lily Robb, Neal, Kan.

BLACK LANGSHAN COCKERELS, $2.50. Frank Leedom, Bridgeport, Oklahoma.

WHITE ROCKS, SIZE AND QUALITY. Prices reasonable. G. M. Kretz, Clifton, Kansas.

ROSE COMB WHITE WYANDOTTE cockerels, $2. A. H. Fry, Paxico, Kansas.

SINGLE COMB RHODE ISLAND REDS—We are offering some very fine cockerels for sale. D. H. Welch, Macksville, Kansas.

SINGLE COMB BUFF LEGHORN COCKerels, 1.50. Free from black or white. Alf Johnson, Leonardville, Kan.

STANDARD BRED BRONZE TURKEY hens, $3.50; toms, $7. Satisfaction guaranteed. Virgil Taylor, Holton, Kansas.

BUFF ORPINGTONS — KANSAS FREE Fair winners. Young stock for sale. A. Bassett, 355 Shawnee, Topeka, Kansas.

PURE-BRED SINGLE COMB WHITE Leghorn cockerels, one dollar each. Kate Skelley, Delia, Kansas.

FINE TOULOUSE GEESE AND PEARL Guineas for sale. Emma Ahlstedt, Roxbury, Kansas.

COCKERELS FOR SALE — ANCONAS and Blue Andalusians, $1.25 each. John Smutny, Irving, Kansas.

CHAMPION DARK CORNISH COCKERels, $3 each. O. E. Dawkins, R. F. D. 9, Ottawa, Kansas.

FOR SALE—PURE-BRED SINGLE COMB White Leghorns, sons of five prize winning birds, $2 if taken now. J. K. Searles, Atchison, Kansas.

WHITE WYANDOTTES — FANCY BRED cockerels, $1.50 each. Also pure Barred Rock cockerels and pullets. I. B. Pixley, Wamego, Kansas.

BARRED ROCK COCKERELS—PEN AVeraging 175 eggs, 1916. 120 seven months 1917 strong birds, first and third Topeka Fair. Reasonable. Need room. Farnsworth, 224 Tyler, Topeka.

POULTRY WANTED.

THANKSGIVING TURKEYS, DUCKS, geese wanted. Coops and cash offers free. The Copes, Topeka.

WANTED

WANTED — TO BUY HAY, SORGHUM, Johnson grass, oat straw, alfalfa prairie hay, maise heads, ear corn, oats, cane and Sudan seed. State number of cars you have and price wanted f.o.b. your station. B. E. Miller, Carlton, Texas.

THE STRAY LIST.

TAKEN UP—BY W. A. McREYNOLDS, of Scott City, Scott County, Kansas, on the 15th day of June, 1917, one black mare, weight 800 pounds; no marks or brands. Appraised at $60. John L. Whitson, County Clerk.

TAKEN UP—BY J. C. HALLISTER, OF Cunningham, Rural Township, Kingman County, Kansas, on September 25, 1917, one horse pony about three years old, color bright bay, weight about 600 pounds; no marks or brands. Appraised at $15. W. E. Hart, County Clerk.

Soap from Scraps of Fat

The art of making laundry soap from scraps of fat was better known to our mothers and grandmothers than to the present generation of housewives. The following suggestions may be new to some of our readers:

When the fat used for "deep frying" has become unfit for additional fryings, add it to the other bits of fat which cannot be used for food and make soap.

Keep a kettle or saucepan on the back of the stove and put in all the waste scraps of fat which have accumulated during the day. To purify the fat, add a potato sliced thinly (to expose as much surface as possible) and cook very slowly until the potato slices are crisp and brown; strain the fat through several thicknesses of cheesecloth.

This method of purifying the fat at short intervals instead of waiting until enough has accumulated to make soap will keep it from becoming rancid and having a brown color. This is what sometimes causes clothes washed with home-made soap to have a strong odor.

When enough fat has been saved, make a solution of concentrated lye or "potash" following the directions given on the can. Melt the fat, add the solution, and stir until smooth and somewhat thickened. Put the mixture into shallow pans or boxes lined with greased paper or old pieces of cloth and store in a dry place to harden.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

Thy love shall chant its own beatitudes
After its own self-working.
A child's kiss
Set on the sighing lips shall make thee glad;
A poor man served by thee shall make thee rich;
A sick man helped by thee shall make thee strong;
Thou shalt be served thyself by every sense
Of service which thou renderest.
—E. B. Browning.

Corn Is King

The "stranger" in the Blue Ridge leaned on the rail fence talking to a long, rangy mountaineer. His eyes wandered over the poor little hill farm. You know the kind—a perpendicular field of rocks and stumps and spindly corn, that is cut at the top of the hill and then picked up at the bottom. "How much corn do you raise?" asked the "stranger."

"Enough to do me," was the answer. The answer was ultimate; the mountaineer had solved his problem. Enough corn to "do him."

Corn is king in America today. There is enough corn to "do us," more than three billion bushels. Yet Europe starves while we sit in the midst of this golden plenty.

We have thirty bushels apiece and eat duing the year less than a bushel apiece.

Four-fifths of all the farmers in America grow corn.

One-third of all the land under cultivation is in corn.

Then what is our answer to our allies?

We will double the amount of corn meal we eat. Yes, treble the amount we eat, and release the wheat for you.

Let this be your answer to the plea of heroic France for bread. Let this be our answer to the men who have held the line against our common enemy for three years. Let this be our answer to the women who have stood back of those men and held the second line. Let this be our answer to the little ones who stretch their feeble arms to us crying for bread.

Demand for Trained Nurses

"Girls who have recently graduated from high school as well as women of more mature years can aid materially in the preparedness program by entering a hospital training school for nurses," says C. Frances Cameron, head nurse of the Minnesota Public Health Association.

"Many young women," adds Miss Cameron, "were disappointed to learn that the Red Cross could not send them abroad as nurses' aids. Graduate nurses, however, are being sent over in great numbers. To fill the ranks left vacant and to accommodate the ever-increasing demand for private and public nurses the enrollment in the various hospitals will have to be greatly increased.

"The three years training required by the hospitals is strenuous, but graduation opens many opportunities—private or public nursing, and even matrimony. The pay for private nursing is from $25 to $35 a week; for public nursing from $75 to $125 a month. In the last year there has been a shortage of nurses in all fields. At least two factors are going to make the demand for nurses even greater. First, the war; second, the modern development of preventive and social work."

Let's Stand By Our Boys

Some of us—perhaps all of us at times—get tired of hearing so much about food conservation in our kitchens. To those of us who live on the farm and produce most of our own food, with a surplus for others, it seems rather hard to be told what we should and should not eat. We feel that the fruits of our labor are first of all our own, and are perhaps somewhat inclined to resent the suggestion that we get along with less of some foods than usual and substitute others which we may not like as well.

The trouble is not that we are intentionally unpatriotic or selfish; it is only that we do not realize the need. The war seems far away and unreal. Our army is to us as yet an impersonal thing, not a company of our own and our neighbor's boys who need us to stand back of them and give every assistance in our power.

The time is coming to many of us—to some of us very soon—when we will feel the need; when some of our own shall be facing the dangers of war, and we at home would gladly give all we possess to insure their safety or add to their comfort. And if our own boys are spared and those of our neighbors go in their stead, shall we not in our gratitude that we are not called upon to make the supreme sacrifice willingly make the small ones asked of us?

It will take some time to collect and ship supplies, and when this crop is gone we must wait for another to grow. Let us begin in time to save the food produced this year.

Beyond Kindness

When men and women die, and are beyond all earthly troubles and crises, then the rule is: "Speak no evil of the dead." But is it not worse to speak evil of them while they are alive, while the evil word can wound or injure them? Why wait to be kind and merciful until it is no use whatever?—RALPH L. CROSMAN, Colorado Agricultural College.

To Set Colors

To set reds and pinks, soak in a strong solution of salt and water for one hour. To set greens, mauves and purples, wash thoroughly in one gallon of water in which an ounce of alum has been dissolved.

To set blues, browns, tans and lavenders, soak several hours in one gallon of water in which one ounce of sugar of lead has been dissolved.

To set blacks, grays, and buffs, use one tablespoonful of black pepper to a gallon of water.—BERYL DIXON, Colorado Agricultural College.

Chicken Pie

Dress, clean, and cut up a chicken. Cover with boiling water, and cook slowly until tender. Remove from bones. Reduce stock to about two pints. Thicken four cups of stock with flour and fat blended together. Pour as much of this as is needed over the chicken, using the remainder for gravy. Place the mixture in baking dish and drop from spoon on top a batter made from the following ingredients:

1 egg
2 tablespoonfuls shortening
1 cup sweet milk
1 teaspoonful salt
2½ cupfuls flour—scant
2 teaspoonfuls baking powder

Bake until crust is done.

Oatmeal Muffins

Stir one cupful of rolled oats and one tablespoonful of fat into one cupful of hot milk. Boil one minute, then allow to stand until luke-warm. Soften one yeast cake in one-fourth cupful of luke-warm water and add one tablespoonful of sugar. Combine the two mixtures. Add one cupful of flour and one teaspoonful of salt and beat thoroughly. The batter should be stiff as for drop biscuit. Cover and set to rise until light—about an hour. Fill well-greased muffin pan two-thirds full. Let rise until light, then bake twenty-five minutes in a moderately hot oven.

Potato Biscuit

1 cupful mashed potatoes
1 cupful flour
4 teaspoonfuls baking powder
½ teaspoonful salt
1 tablespoonful butter
1 tablespoonful lard
Milk, about ½ cupful.

Sift the dry ingredients. Add these to the potatoes, mixing with a knife. Work the fat into this mixture lightly. Add gradually enough milk to make a soft dough. Toss the dough onto a floured board, pat and roll it lightly to one-half inch in thickness. Cut it into shapes with a biscuit cutter. Place the biscuits on greased pans and bake twelve to fifteen minutes in a hot oven. This is a good way to use left-over potato.



Preparing Poultry for Show

MANY of those having pure-bred poultry will make exhibits at the poultry shows the coming season, some perhaps for the first time. It is important that the birds shown be in the best of condition to make a favorable impression.

Feeding has much to do with the condition of the birds, points out N. L. Harris, superintendent of the Agricultural College poultry farm. As the birds are expected to present an attractive appearance they should not be overfat. Special care should be taken that combs do not become frosted or any of the main tail or wing feathers broken.

It is also important that the birds should be "coop broken"; that is, when the judge approaches they should be so tame that they will make a favorable impression. This is only possible where they are cooped and handled daily for at least two weeks prior to the show.

Two days before the show all white birds should be washed. This is a somewhat particular process and should be undertaken only by an experienced hand. It is better that the birds should not be washed at all than that the work be poorly done. The beak, legs and toes of all varieties may well be anointed with sweet oil. To be most effective the oil should be rubbed in thoroughly. No excess of oil should be allowed to remain on the surface to accumulate dust and dirt.

When first entered and once or twice during the show the comb, wattles, and face may be anointed with a small amount of oil of sassafras. As much care should be given birds after they enter the show room as possible. They should be fed on some green food, such as cabbages or apples, and given an ample supply of fresh water. They should be given a ration composed largely of oats, bran, and cracked corn.

Sour Milk Makes Eggs

Here is an old Scotch recipe for raising a big, husky youngster: "Gie the wain his parriteh an dinna spair the soordook can," which translated means: "Give the lad his porridge—oatmeal—and don't spare the sour milk can." Mercy on us! I'd hate to be the poor little Scotch boy; but as a ration for a laying hen it can't be beat.

Give her plenty of oats, bran, shorts, ground corn, and any grain obtainable, and don't spare the sour milk can. Nothing is better than sour milk as an egg producer, a tonic, or an appetizer.

You can't make cement without sand, neither can a hen build an egg without the necessary material; corn and kafir for the yolk, milk and beef scraps for the white, lime and oyster shell for the shell. Don't be stingy about the feed for your egg-machines with eggs selling at 47 cents a dozen and going higher before the winter is over. Of course Biddy doesn't care about being served with the finest of wheat. She will eat cheaper grain provided it contains enough nourishment to keep her factory working.

Town-lot chicken raisers have sprung up all over the country. They hold forth enthusiastically over the number of eggs they will have to use and to sell. "The hens will live on the table scraps and the eggs will be clear profit."

Well, table scraps are all right if they are all right; that is, if they are fresh, containing no tainted meat or excess of salt. Fresh table scraps, supplemented by some grain and plenty of grit, will make Biddy sing. And remember just because she is in narrow confined quarters she needs a greater variety of food and a little more care than where she has free range in the open and can hustle for herself.—MRS. N. L. HARRIS.

This is the time of the year when the hens need feeds from which to make a winter coat. Many hens, and especially those that have been laying heavily for the past few months, are in a nearly naked state due to the molt which has been postponed till the cold weather has set in. There is no feed that is available that will help to put on a good coat of feathers quicker than oil meal. It furnishes the necessary oil which is lacking in the hen that has just passed through the strain of heavy egg production. Sunflower seed is excellent for this purpose, especially for birds intended for the winter shows, but they are difficult to get as well as being very high in price.

Poultry Club Leader

For three years poultry clubs have been promoted over the state under the general leadership of Otis E. Hall, state club leader in the extension division of the Agricultural College. There are now 398 boys and girls enrolled in state poultry clubs.

The members of these clubs will be glad to learn that E. H. Wiegand, a poultry specialist, has been appointed to actively co-operate with them in their club work. Mr. Wiegand is a graduate of the Missouri College of Agriculture who has had a wide experience in the handling of poultry under middle western and western conditions and understands fully both the breeding and the business methods necessary to successful poultry production.

He will devote his whole time to the poultry club work.

Pumpkins for Chickens

We have received several inquiries concerning the value of pumpkins for poultry and whether they should be fed raw or cooked and given in a mash.

N. L. Harris, superintendent of the Agricultural College poultry plant, furnishes the following information:

"Pumpkins as a poultry feed are of little value when fed raw. As a rule hens will not eat them in the raw state. If they are cooked and made into a mash with bran and shorts they are relished by the poultry and add variety to the ration. Frozen pumpkins are not to be recommended."

Our entire demand thus far this fall has been for cockerels of the egg strain. The orders usually read: "Send as well marked a bird as possible, but give first attention to egg production." Most people have found that eggs are always saleable, but that fancy feathers are in much less demand.

Pamphlet on Paint

A booklet called "The Farmer's Paint Book," which will be of particular interest to our readers, has just been issued by the Harrisons, Inc., Philadelphia, Pa. It goes into detail relative to everything worth knowing about paint. Just a few of the subjects covered are: How to find amount of paint needed for any job; the cause of blistering paint; how to keep brushes in good shape; don'ts for home painters; how to paint around glass; how to grain; how to select paint, and complete information on how to paint everything paintable—in fact many things heretofore not thought paintable.

Every person interested in paint and its uses should write for this book.

Wonderful Egg Producer

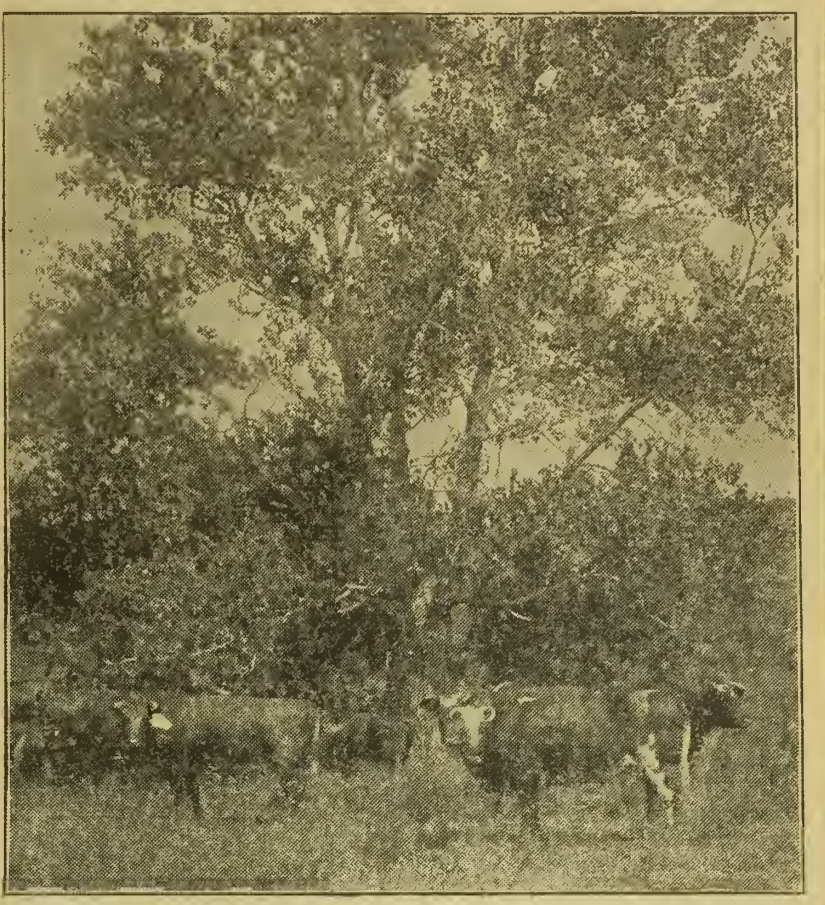
Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit maker, write E. J. Reefer, poultry expert, 4638 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1 (prepaid). So confident is Mr. Reefer of the results that a million dollar bank guarantees if you are not absolutely satisfied your dollar will be returned on request and the "More Eggs" costs you nothing. Send a dollar today or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—(Adv.)

50 SHORTHORNS AT AUCTION

AT OUR SALE BARN IN

PLEASANT HILL, MO., THURSDAY, NOV. 15, 1917

Twenty-Five Cows with Calves at Foot.
Ten Three-Year-Old Heifers with Their First Calves at Foot.



All the other sows are bred for early spring calves. One-third of these cattle are Scotch bred; others Scotch topped.

Nearly all calves are by Robin Magnet 372683, a pure Scotch bull, which will also sell. He is a sire that can be used on any good herd. A proven breeder with twenty of his calves to show the type of Shorthorns he sires. For catalog address

W. A. FORSYTHE & SONS, PLEASANT HILL, MISSOURI

Don't wait for catalog, but come to sale. We guarantee a useful lot of cattle.

Twilight Animal Stories

Bumper The White Rabbit

By George Ethelbert Walsh

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STORY II—WHY BUMPER WAS LEFT AT HOME

BUMPER woke up the next morning so hungry that he couldn't think of any of the million questions to ask until he'd finished eating his breakfast. Besides a cabbage, there were some carrots and beet tops the old woman had fished out of a grocer's back yard, and Bumper had to jump lively to get his share. Jimsy and Wheedles were already on their second carrot when he opened his eyes.

"You'll never catch up with me!" said Jimsy, greedily. "I'm one carrot ahead of you."

"And I'm one and a half," mumbled Wheedles, with his mouth full.

"I don't care. Sleep is better for you than so much eating. I had a longer nap, and such beautiful dreams! Oh, I do hope some of them will come true."

"Tell us about them," said Jimsy, forgetting to eat. "I never have dreams."

"Neither do I," complained Wheedles. "You must tell us about your dreams."

"As soon as I finish my breakfast I will," replied Bumper. "Yes, they were beautiful dreams! I thought I was in a big place filled with crisp lettuce and golden carrots, and a girl with red hair picked me up in her arms and carried me away."

Bumper stopped talking while his brothers looked in amazement at him. They had heard the day before his story of the red-haired girl who wanted to buy him, and they were interested. But while they stopped and waited for him to proceed, Bumper chewed away at his carrot until it was all gone. Then, picking up a second one, he said: "Now I'm up with you. I'm on my second carrot. Tomorrow morning I'll tell you the rest of the dream."

Jimsy and Wheedles were greatly surprised and angered at the trick Bumper had played upon them, and they immediately began eating their carrots again as fast as they could.

They were in the midst of their breakfast when the old woman came in the back yard with her basket. All the rabbits set up a commotion then, for they knew she would choose some of them to take away and sell. There were two reasons why they all wanted to be chosen.

One was they liked the change from their narrow quarters to the street corner and the sights of the city. Another was they all hoped some day to be sold and taken away to a big house where they would be petted and fed until their little stomachs would nearly burst open. They were a little crowded in their home, and new baby rabbits were coming all the time so that if some of them weren't sold they'd soon be walking all over each other.

"Now, which ones shall I take today?" the old woman mumbled, smiling upon all of them.

They all bobbed their heads and blinked their pink eyes, and Jimsy jumped over Bumper's back and hopped right into the woman's hands.

"Well, Jimsy," she said, "you seem very anxious to go, so I'll take you for one."

Wheedles tried the same trick, but it didn't work the second time. "No, Wheedles, you've got a cold," she said, pushing him back. "People don't want to buy rabbits that have colds."

Bumper had no cold, and he decided to try his luck, but Topsy, a big rabbit, got in his way, and nearly bowled him over. Bumper squealed, and the old woman pushed Topsy away.

"No, you can't go for being so rough," she scolded. "Poor little Bumper, did Topsy hurt you?"

Bumper was sure then that she intended to take him along with Jimsy; but no! she put him down gently, and selected three others. Bumper's disappointment was so great that a tear came into one of his pink eyes.

It was mother who consoled him when the old woman had filled her basket and left the yard. "Never mind, dear, your time will come. You're younger than Jimsy."

"But why should I always be left at home?" complained Bumper.

"It's the place for little rabbits," was the reply. "There's no place so safe and comfortable."

"But you always told us some day we'd find a better home, with plenty to eat, and nothing to do," whimpered Bumper, who felt quite cross. "Why did you tell us that?"

Mother rabbit looked quite perplexed for a moment. "I think, dear," she said finally, "you ask more questions than any child I ever had."

Bumper's eyes shone with amusement. "I have a million more of them to ask, mother. I dreamt of them last night."

"Then," laughing at him, "find the answers to them in your dreams tonight."

The next day Bumper had his turn, and then again the following day, but each time he returned home unsold. Jimsy was bought by a little boy, and triumphantly carried off, and Wheedles was captured by a girl. Even Topsy, who was big and clumsy, found a purchaser, and disappeared from the back yard. On returning home the fourth time, Bumper was in a disappointed mood and felt very unhappy.

"Why is it, mother," he asked, "that no one buys me? Am I so homely that no one wants me?"

"What a question to ask, dear!" smiled mother rabbit. Then, patting him on the head, she added: "Bend down your ears, and I'll whisper a secret in them."

Bumper squatted down, and pulled both long ears toward his mother so he wouldn't miss a word.

"It isn't good for little rabbits to hear what I'm going to tell you," she whispered. "It often makes them proud and vain; but I suppose you will know it some day."

Mother rabbit sighed, as if the secret was hard to tell, and not very pleasant to hear. Mothers are very queer sometimes, even rabbit mothers.

"It's because you're so beautiful, dear!" she whispered finally. "You're whiter than any of my children, and you have the softest fur, and the pinkest eyes. Now do you understand?"

No, Bumper didn't understand a bit. He was more perplexed than ever. If he was handsomer than other white rabbits, then why didn't people buy him first? Why did they look at him, and return him to the basket, and say:

"I guess I'll take the other one."

(Continued on Next Page.)

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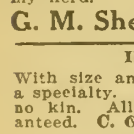
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

SHEEP.



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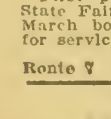

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TWILIGHT ANIMAL STORIES

"It must be people don't know how pretty I am," he said finally. "What can I do to make them see?"

Mother rabbit laughed until her fat sides wobbled like a fur muff filled with playful kittens. "Dear, dear," she exclaimed, with tears in her eyes. "I thought you would understand. It's because the people don't have the money to give."

"Why don't they?" he asked, a little peeved. "Don't they have all the money they want?"

"No, dear, not all of them. Some are nearly as poor as we are, and they have to be careful of the pennies. That's why they don't buy you. The old woman asks too much for you."

This didn't improve Bumper's temper any; but right away he thought of the little girl with the red hair. "Do you think she has plenty of money?" he asked. "She was beautifully dressed, and had a rose in her hair."

"I don't know. Some people put all their money on their backs, and starve their stomachs. It may be this girl was that kind."

Bumper was sure she was wrong, for the red-haired girl didn't look starved; but she didn't have any of her birthday money left, and she confessed she'd spent it all for cakes and candies. Bumper wondered if she'd had anything to eat since, or if she was saving up her money to buy him.

That night he had another dream in which the red-haired girl appeared; but in the morning the old woman took him out of the box, and said: "It's your turn, Bumper. I must sell you today. I need the money badly."

FARM AND HERD NEWS NOTES

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CLAIM SALE DATES.

Jacks and Jennets.
Nov. 28—Ed Boen and L. M. Monsees, Lawson, Missouri.

Angus Cattle.
Nov. 23—G. E. Cox & Son, Elk City, Kan.

Holsteins.
Nov. 20—H. B. Browning, Linwood, Kan.
Dec. 3-4—Robinson & Shultz, Independence, Kan.
Dec. 6—E. S. Engle & Son, Abilene, Kansas.

Jersey Cattle.
Nov. 12—Will Morton, Taylor, Mo.; B. C. Settles, Palmyra, Mo., sales manager.

Herefords.
Nov. 19—W. I. Bowman & Co., Ness City, Kansas. Sale at State Fair Grounds, Hutchinson.
No. 22—Sam Drybread, Elk City, Kansas.
Nov. 23—W. H. Rhodes, Manhattan, Kansas.

Shorthorn Cattle.
Dec. 6—Fremont Leidy, Leon, Kan.

Poland Chinas.
Feb. 6—H. B. Walter, Effingham, Kan.
Dec. 5—U. S. Byrne, Saxton, Missouri.
Jan. 29—Head & Moore, St. Joseph, Mo.
Feb. 18—Deming Ranch, Oswego, Kansas.
Feb. 19—Fred B. Caldwell, Howard, Kansas.
Feb. 20—B. E. Hodson, Ashland, Kansas; sale at Wichita.
Feb. 21—E. J. Erhart & Son, Ness City, Kansas; sale at Hutchinson.
Feb. 22—F. Olivier & Son, Danville, Kansas.

Poland Chinas.
Feb. 23—V. O. Johnson, Aulne, Kan.
Feb. 28—Clarence Dean. Sale at Dearborn, Mo.

Chester White Hogs.
Nov. 20—W. W. Waltmire & Son, Pecullar, Missouri.

Duroes.
Feb. 14—B. R. Anderson, McPherson, Kan.
Feb. 27—R. W. Murphy, Dearborn, Mo.

E. E. Engle & Son, of Abilene, Kansas, owners of the famous Sand Spring herd of Holsteins, report their herd doing well. They have announced a public sale for December 6 and will catalog a very fine offering to be sold on that date.

Inquiries for catalogs indicate that the Hereford sale to be held by W. I. Bowman & Company, at Hutchinson, Kansas, November 19, will be one of the sale events of the season. They have decided to hold the sale at the stock yards instead of at the fair grounds, as first announced.

A meeting of the Kansas Holstein-Friesian Association was held at Nortonville, Kansas, October 31. The meeting was well attended and the program carried out in the afternoon was of more than usual interest to Holstein breeders. A Kansas Holstein Breeders' Sale Association was organized with the following members of the Association as sale managers: F. J. Searle, Oskaloosa; Ben Schneider, Nortonville; and H. Mott, Herington. The new sale association is already arranging for a big Holstein sale to be held at the Topeka fair grounds during the last week in March, 1918. The cattle that will go in this sale will be selected from the herds of the members of the Kansas Holstein-Friesian Association. Every animal will be carefully inspected by the sale managers and only animals accepted by the managers will be entered in the sale offering, and they expect to offer the best lot of Holsteins ever sold in Kansas. The members of the Association were entertained at a banquet by the Nortonville Commercial Club on Wednesday evening, October 31.

C. G. Keys, of Richland Center, Wisconsin, owner of Friesian Park Farm Holstein herd, reports his herd making a good record this year. Mr. Keys owns one of the good producing herds and a feature of his herd at this time is the choice lot of young stock by Sir Johanna Bonheur Ormsby, a grandson of Johanna Bonheur.

Henry Murr, of Tonganoxie, Kansas, the well known breeder of pure-bred Chester White hogs, reports his herd doing well. Mr. Murr keeps his herd immune and avoids all risk of cholera. His herd is made up of representatives of the best blood lines of the breed. The great boar, Don Ben 2d, champion at the Kansas State Fair and that has been in service in this herd, is one of the outstanding sires of the breed. A feature of the herd at this time is the very fine lot of spring pigs, including some outstanding boars.

W. A. Forsythe & Son, of Pleasant Hill, Missouri, have announced a sale of Shorthorn cattle to be held November 15. They will catalog sixty head of Scotch and Scotch-topped cattle for this sale. The offering will include twenty-five cows with calves at foot and all re-bred to a pure Scotch bull; ten three-year-old heifers with first calves, and a number of cows and heifers bred to calve in the spring. The herd bull, Robin Magnet, will go in this sale.

J. W. Magee, of Chanute, Kansas, recently purchased a choice lot of record bred registered Holstein cows and expects to close out his high class herd of grade Holstein cows and heifers.

Chester McWilson, of Rice, Kansas, owner of a very high class herd of Duroes, reports his herd doing well. A feature of his herd at this time is a very fine lot of August and September pigs by Illustrator 2d, one of the good boars now in service.

Ed Boen, of Lawson, Missouri, and L. M. Monsees, of Smithton, Missouri, have announced November 28 for a joint jack and jennet sale to be held at Lawson, Missouri. This is a closing out auction of fifteen high class jacks and twenty-five jennets of the real big mammoth breeding.

B. R. Anderson, of McPherson, Kansas, announces February 14, 1918, for a bred sow sale. On this date Mr. Anderson will offer fifty head of choice Duroc gilts bred to his first prize boar at the Kansas State Fair, 1917, Royal Grand Wonder, by Great Wonder out of the great brood sow, Ione 2d by Grand Model. Royal Grand Wonder is one of the best Duroc boars heading herds in Kansas. The herd of sows are of popular blood lines, Pathfinder and B. & C.'s Col. Two sows in the herd have farrowed and raised nineteen pigs each in two litters this year, and one sow on the farm has farrowed and raised twenty pigs in two litters this year. Mr. Anderson has now on hand over 100 head of fall pigs coming along nicely. A feature of the Anderson herd at this time is a choice lot of big, husky spring boars that are grandsons of Cherry Chief, Pathfinder, and King Colonel.

Olson Bros., of Assaria, Kansas, have made a great success breeding Hampshire hogs. They have over 100 head in the herd. At the head of this herd are two boars of note, Kansas Top by Messenger Boy and out of Longview Maid 3d. Kansas Top is assisted by Olson's Model, bred by W. F. Davis, of St. Joseph, Missouri, a splendid yearling hog with proper marking. The herd sows are a well bred lot and several tracing direct to old Pat Maloy, one of the greatest sires of the breed. A feature of the herd at this time is fifty early spring gilts bred for early spring farrow, all immune.

C. E. Rose, of Morrowville, Kansas, has developed one of the good herds of Chester White hogs in Kansas. His herd is made up of descendants of Prince Wildwood and other noted boars of the breed. This year Mr. Rose showed his herd at the Washington County Fair, winning two firsts, one second and one grand championship in a very strong Chester White show. Next year he expects to be at the State Fair with his show herd. A feature of the young stock in the herd at this time is the large number of choice fall pigs.

S. E. Walt, of Cloverdale Farm, Blue Mound, Kansas, reports his herd of big-type Polands doing well. Cloverdale herd of big-type Polands is one of the noted herds in Kansas and is the result of carefully selected breeding stock and years of scientific breeding. The blood lines of this herd are the very best of the breed and the entire herd at this time is made up of descendants of the greatest boars of the breed. Black Orange 226415 an dCharter Monarch 235921, now in use in this herd, are among the breed's best sires. Black Orange is by Mouw's Black Orange and out of Long King Giantess. Charter Monarch is by Wonder Chief and his dam is Lady Monarch 534626. The herd sows of Cloverdale herd are a choice lot and a feature of the herd at this time is the very fine lot of young stock out of the 1,000-pound herd boars and out of dams weighing from 700 to 800 pounds.

H. B. Browning, of Linwood, Kansas, owner of one of the heaviest producing herds of Holsteins in Kansas, has announced a dispersion sale of his entire herd. The sale will be held at Linwood November 20. Mr. Browning has been years in building up this great herd that now numbers 150 head, descendants of such bulls as Sir Johanna Aggie Lad 3d, a grandson of the famous Sarcastic Lad, world's fair champion and sire of twenty-two A. R. O. daughters. Colantha Korndyke 7th, Baron Korndyke Butter Boy and Josephine Pontiac Homestead, a grandson of Canary Paul Fobes Homestead, sire of fifteen A. R. O. daughters. Every bull used in this herd since its foundation was selected for his record breeding and this entire herd has been carefully bred for producers under Mr. Browning's personal supervision.

Ben Schneider, of Nortonville, Kansas, is numbered among the progressive and successful farmers in that section of the state. His farm consists of 320 acres of fertile land and during the thirty-seven years that he has lived on this farm he has never had a crop failure. His success is due largely to the good lot of dairy cows that he has kept on the farm for many years. During the past ten years he has built up a choice herd of registered Holsteins. He started this herd with one pure-bred cow for which he paid $200. In six years he sold offspring from this cow for $1,375. By careful management and constantly building up the land, Mr. Schneider has been able to increase his acreage yield of grain each year. All of his crops are fed on the farm and his systematic process of putting back all fertilizer from dairy barns and feed lots is demonstrating what can be done with a good dairy herd and the right system of farming.

By furnishing plenty of meat and fat to the Allies, the great American hog can fight quite as formidably as his wild boar ancestry.

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Thursday, November 15, 1917



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We are leaving the farm and selling all our dairy herd. A number of the cows are pure-bred but cannot be registered. We have been eleven years building up this herd and most all the offering were raised on this farm.

If you want good, useful, producing cows, come to this sale. Farm is known as the John K. Wright farm, one mile east of town. Every animal will be sold and nothing reserved.

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JUNCTION CITY, KANSAS

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THURSDAY, DEC. 6, 1917



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OSWEGO, KANSAS.

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

CEDAR ROW STOCK FARM

A. S. Alexander, Prop. Burlington, Kansas

The Lone Cedar Polands

Last Lot of Meyers' Orange Pigs. I will have either sex, some extra fine gilts. Cholera immune for life.

A. A. MEYER - McLOUTH, KANSAS

OLD ORIGINAL SPOTTED POLANDS

March and April pigs for quick sale.

H. A. or PAUL H. MATTOX, Route 2, Burlington, Kan.

Big Smooth Polands. — Have bred registered Polands 18 years. Black Orange and Smooth Gold Dust head herd. Everything immuned. Josias Lambert, Smith Center, Kan.

POLAND CHINA HOGS 150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.

V. O. JOHNSON - AULNE, KANSAS

FAIRVIEW POLAND CHINAS.

Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.

P. L. WARE & SON - PAOLA, KANSAS

LANGFORD'S SPOTTED POLANDS

Extra good spring boars. Fall pigs ready to ship.

T. T. LANGFORD & SONS, Jamesport, Mo.

POLAND CHINAS

25 SPRING BOARS, READY FOR SERVICE.
25 SPRING GILTS, OPEN.

One hundred and fifty head registered hogs in my herd. Write today what you want.

E. L. BARRIER - EUREKA, KANSAS

Henry's Big Type Polands

March and April pigs, sired by Big Wonder, first in class at Topeka; Mammoth Orange and King Price Wonder. Immune.

JOHN D. HENRY, LECOMPTON, KANSAS

White Oak Park Polands

Outstanding herd boar prospects by 1,100-pound Missouri Jumbo 210461 and 1,000-pound Long Big Joe 227387, twelve-inch bone. Dams popular big-type breeding. If you want boars that will mature to 1,000 to 1,100-pound hogs, I have them, big high-quality fellows. Fall boars farrowed August and September, spring boars February and March. Will record in buyer's name. All immune.

Henry Koch, Edina, Missouri

Faulkners Famous Spotted Polands

Late summer and fall pigs for sale. Buy them from the Fountain Head. Annual brood sow sale February 13. Ask for catalog.

H. L. FAULKNER, Box K, Jamesport, Mo.

HEREFORD CATTLE.

Greenwood Hereford Farm

Prince Rupert Herefords

One carload yearling bulls; fifty head bull calves. Will price single lot or carload.

W. J. Brown, Fall River, Kan.

IDEAL HEREFORDS

For Sale—Ten to twenty cows bred, some now calving, also some yearling heifers and choice young bulls from six to twenty months old. Blood of Prince Rupert 52d, Generous and Don Perfect. Outstanding good cattle. Priced right.

J. H. Keith, Coffeyville, Kansas

HOLSTEIN CATTLE.

CHOICE HOLSTEIN CALVES

Twelve heifers and two bulls, 15-16ths pure, beautifully marked, five weeks old, from heavy milkers, at $20 each. Safe delivery and satisfaction guaranteed.

FERNWOOD FARM, WAUWATOSA, WIS.

Please Mention Kansas Farmer When Writing to Advertisers.

FRIESIAN PARK FARM HOLSTEINS

I am offering six registered Holstein bulls, all sired by Sir Johanna Bonheur Ormsby. He is sired by a son of Johanna Bonheur and his dam is a daughter of Pietertje Maid Ormsby. Both of his granddams are among the leading cows of the Holstein breed. These bulls will all be from 13 to 15 months old and ready for service by December 1. They are evenly marked and a good husky well grown bunch and priced to sell. $100 each while they last, if taken by December 1. Address

C. G. KEYS

RICHLAND CENTER - - WISCONSIN

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

HOLSTEIN CALVES, 15-16ths pure, six weeks old, the cream of Wis., $25 each. Registered bull calves, $45, crated for shipment. Edgewood Farms, Whitewater, Wisconsin.

Braeburn Holsteins Senior herd bull, Walker Copia Champion, dam and sire's dam held world's records. Service bulls, bull calves.

H. B. COWLES, 608 Kan. Av., Topeka, Kan.

HOLSTEIN HEIFERS

Just fresh and springing. Also calves.

C. F. PFUETZE, Rte. 4, Manhattan, Kansas

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

HOLSTEIN COWS

For Sale—Twenty head of registered cows, yearlings and calves; also twelve young high grade cows and heifers. All bred to a bull whose three nearest dams averaged near 26 pounds butter in seven days. One herd bull and four young bulls by Sunflower Sir Mutual 78654.

CHAS. V. SASS

1013 North Fifth St., Kansas City, Kansas

The Cedarlane Holstein Herd

For Sale — Registered cows, bred heifers, serviceable bulls, bull calves. Also my 3-year-old herd bull.

T. M. EWING, INDEPENDENCE, KANSAS

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. B. BENTLEY, MANHATTAN, KANSAS

GALLOWAY CATTLE.

GALLOWAYS

About 70 registered Galloway cows, heifers and calves. A very choice lot with the best blood lines of the breed represented. A low price on the bunch for a quick sale. Investigate.

G. E. CLARK

205 W. 21st St., Topeka, Kansas

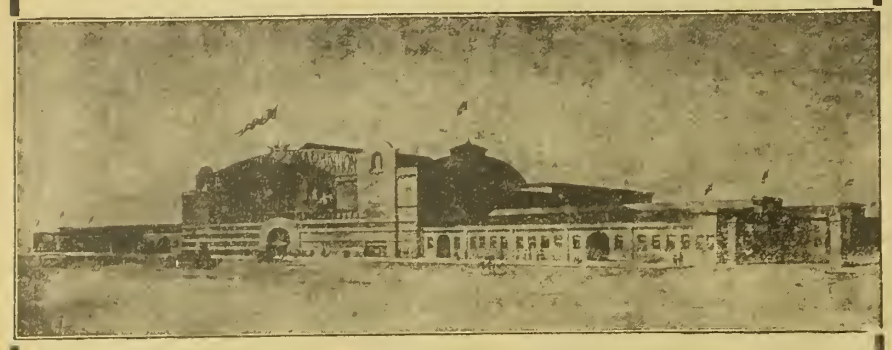
GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

International Live Stock Show
December 1 to 8
Union Stock Yards
CHICAGO

A Food Production Camp in the Service of the United States



Daily Sales of Pure-bred Live Stock

RED POLLED SALE
Wednesday, December 5th, 10:00 A. M.
For particulars write H. A. Martin, Gotham, Wis.

GALLOWAY SALE
Thursday, December 6th, 9:00 A. M.
For catalog write R. W. Brown, Carrollton, Mo.

ABERDEEN-ANGUS SALE
Wednesday, December 5th, 1:00 P. M.
For particulars write Chas. Gray, Union Stock Yards, Chicago.

SHORTHORN SALE
Thursday, December 6th, 1:00 P. M.
For catalog write F. W. Harding, Union Stock Yards, Chicago.

HEREFORD SALE
Friday, December 7th, 1:00 P. M.
For catalog write R. J. Kinzer, 1012 Baltimore Ave., Kansas City, Mo.

A Season of Instruction in the Art of Breeding and Feeding of Live Stock Economically
ANSWER THE NATION'S CALL
And Put Into Practice the Lessons This Exposition Teaches.

Brilliant Evening Shows and A TRIP TO CHICAGO

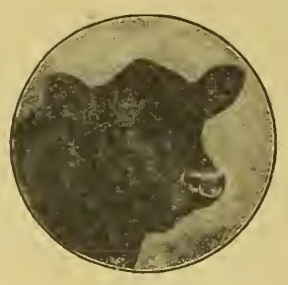
LOWEST RATES ON ALL RAILROADS.

G. E. Cox & Son Angus Sale

Forty-eight Head Registered Angus Cows and Heifers
Fifteen Yearling and Two-year-old Bulls
One Herd Bull

At Farm Near Elk City, Kansas, Nov. 23, 1917





We are leaving the farm and will sell our entire herd of registered Angus cattle that we have been years building up. They represent all the leading families, such as Blackbirds, Ericas, Prides and Prince Itos. A number of the cows have calves at foot and all are bred to our great herd bull, Rosebud Crown by Blackbird Crown by Prince Ito 2d.

This is not a reduction sale, but a closing out sale. Every animal will be sold with a very liberal guarantee. Catalogs are ready to mail. Write today to

G. E. COX & SON, - - Elk City, Kansas

O. W. Devine represents Kansas Farmer at this sale.
Auctioneers—Col. Cooper, Col. Sheets.

Kansas Herd Chester Whites

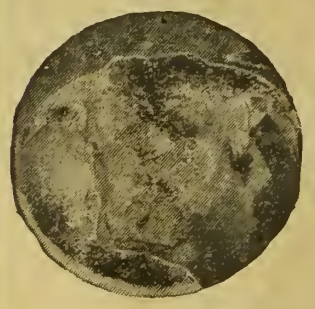
FIRST ON BOAR PIGS, BOTH STATE FAIRS. YOUNG BOARS FOR SALE

ARTHUR MOSSE, ROUTE 10, LEAVENWORTH, KAN.

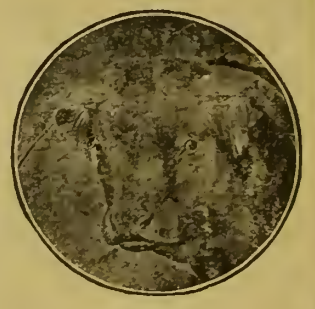
75 Head Hereford Cattle

I will sell at the Star Breeding Farm, near Elk City, Kan., on

THURSDAY, NOVEMBER 22



- 50 - HEREFORD COWS AND HEIFERS



Twelve cows have calves at foot and all are bred to drop calves early in the spring.

Fifteen yearling bulls that are promising herd headers and are very desirable breeding.

The cows represent the most popular families of Hereford cattle, including a number of my show herd.

I have 175 head of Herefords on my farm and am selling some of my best cattle to reduce my herd. Catalogs are ready to mail. Send for one today and arrange to attend my sale.

SAMUEL DRYBREAD, Elk City, Kansas
Auctioneer—Col. Fred Reppert.

Closing Out Auction Sale of Jacks & Jennets



Prairie View Stock Farm

Sale will be held in Lawson, Mo., on Milwaukee and Santa Fe Railroads, 38 Miles Northeast of Kansas City, Mo.

WEDNESDAY, NOVEMBER 28th, 1917

15 Jacks and 25 Jennets All black with white points; all well bred and registered: Mammoth blood. The good, big bodied big bone, big kind, with quality and size. Sale will be held under shelter with comfortable seats, etc. Address BOEN & MONSEES, Lawson, Mo., for catalog. Come to the sale. We will try to make it pleasant and profitable for you. Respectfully,

ED. BOEN & L. M. MONSEES

SUNRISE HEREFORDS AT AUCTION

Manhattan, Kansas, November 23, 1917

EIGHT BULLS AND FIFTY COWS AND HEIFERS.

Many of the cows have calves at foot and are bred to either Beau Blanchard 15th 565343 or Vic Paragon 509602, two of the good bulls used in the herd. About one-half the offering are daughters of Ohio Donald 290050 and great granddaughters of Prince Rupert 79539. Many of the cows are daughters of the best bulls of the country.

The bulls are a useful lot sired by such bulls as Laredo Boy, Domino, Maple Lad 34th, Beau Gondolus 7th, Fairview Byron 2d, Vic Paragon, and other good bulls.

Write today for a catalog and plan to attend. Sale will be held under cover on the farm, which adjoins the farm of the Kansas State Agricultural College.

W. H. RHODES - - - MANHATTAN, KANSAS

MULEFOOT HOGS.

KNOX MULEFOOT HOGS
Orders booked for fall pigs. A few choice May pigs, either sex, not related. Write for price and booklet.
S. M. Knox, Humboldt, Kansas

SAPPHIRE (BLUE) HOGS

SAPPHIRE (BLUE) HOGS
The quickest pork producer known. Breeding stock for sale. L. E. JOHNSON, Waldron, Harper County, Kansas.

AUCTIONEERS.

Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere. Write for date. CLAY CENTER, KANSAS

Live Stock and Real Estate Auctioneer.
Fifteen years experience. Write for terms.
Thos. Darcey, Hutchinson, Kansas.

T. T. Langford & Sons, of Jamesport, Mo., report their herd of big Spotted Polands doing well. This firm has succeeded in building up a very fine herd of Spotted Polands with size and quality. This year they raised the finest lot of spring pigs in the history of their herd and they now report a large number of very fine fall pigs.

BERKSHIRE HOGS.

BERKSHIRE HERD BOARS
For quick sale—Two choice Berkshire herd boars, three winter boars and five spring boars, all choice.
E. D. KING - BURLINGTON, KANSAS

GUERNSEY CATTLE.

GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 11 miles from K. C.

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS
Best breeding, best type. Stock for sale.
GEO. W. ELA, Valley Falls, Kansas

OLSON HAMPSHIRES.



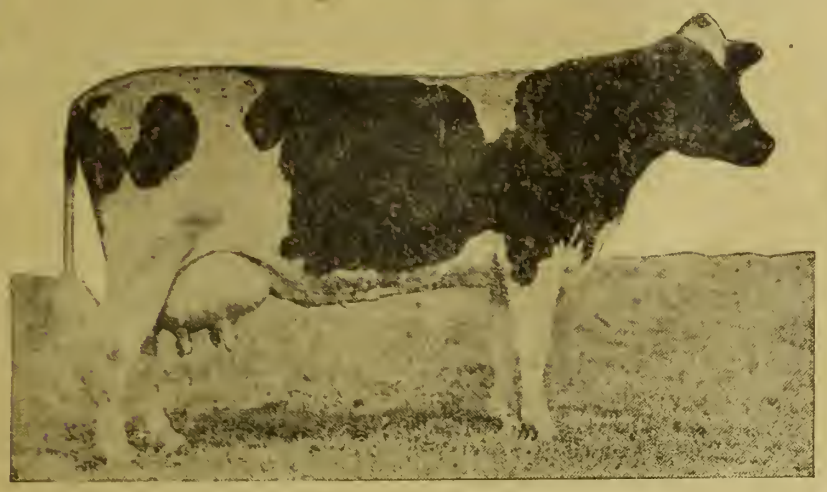
For Sale—One spring yearling and one fall yearling boar, 8 spring boars, 40 head spring gilts, either bred or open. All immuned and registered to purchaser. Write or come and see our herd. Farm 12 mi S of Salina.
OLSON BROS - - ASSARIA, KANSAS

H. B. Browning's Holstein Dispersion Sale

TUESDAY, NOVEMBER 20, 1917

FARM KNOWN AS COL. HARRIS FARM, LINWOOD, KANSAS

150 - High Class Cows and Heifers - 150





Descendants of such bulls as Sir Johanna Aggie Lad 3d, a grandson of the world's champion Sarcastic Lad, sire of 22 A. R. O. daughters; Colantha Korndyke 7th, Baron Korndyke Butter Boy and Josephine Pontiac Homestead, a grandson of Canary Paul Fobes Homestead, sire of 15 A. R. O. daughters. All of these bulls backed by a long line of the breed's best records.

The offering will consist of 80 head of cows, 60 head from 3 to 5 years old, 30 head of 2-year-old heifers, 20 head of yearling heifers, 20 heifer calves 8 months and under. One high grade bull 10 months old, also two registered cows and two registered heifers and our herd bull, Josephine Pontiac Homestead.

This herd is practically all our own raising and has been carefully bred for producers under my personal supervision. There are thirty springers in the offering that will freshen in 60 days or less. Entire herd tuberculin tested. Will also sell one Sharples milking machine used only three months. Sale under cover.

Farm on Union Pacific Railway, or take Kaw Valley Interurban from Kansas City or Lawrence every hour. Get off at Flag Stop 30. Barns 200 yards south.

AUCTIONEERS—JAS. T. McCULLOCH, P. M. GROSS.

H. B. BROWNING, LINWOOD, KANSAS

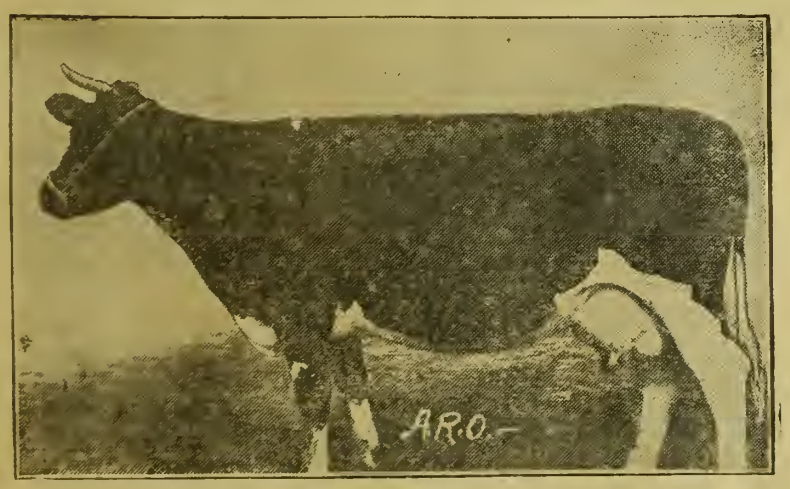
GREAT SALE OF

Registered Holsteins

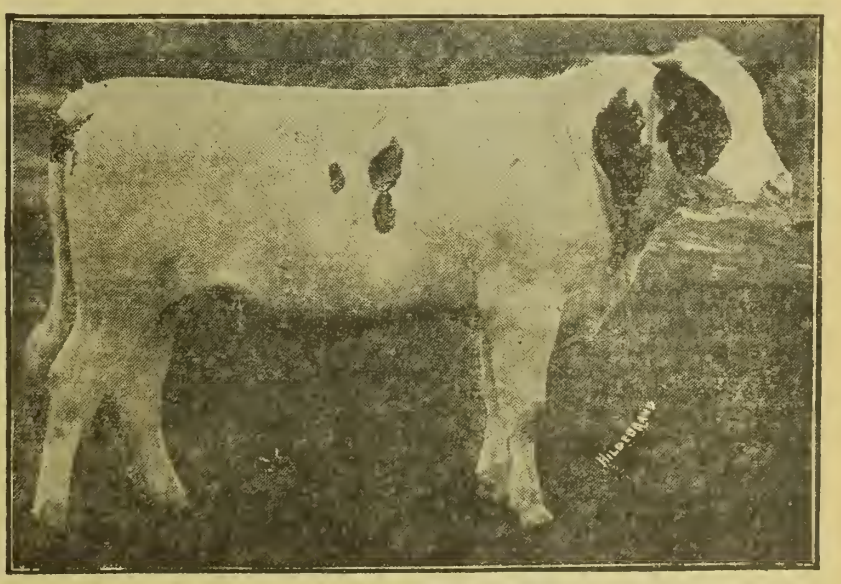
TWO DAYS SALE

Albechar Holstein Farm December 3 and 4, 1917

Will offer for sale 125 head of pure-bred, registered Holstein cows and heifers and a few young bulls



These cows are blue ribbon animals, prize winners at the big shows this year, of the very highest breeding and individuality. There will be a large number of A. R. O. cows in this sale bred and in calf to some of the best bulls of the Holstein breed. All animals tuberculin tested and guaranteed free from tuberculosis and other contagious diseases. Write for catalog containing full descriptions and four generation pedigree of each animal.



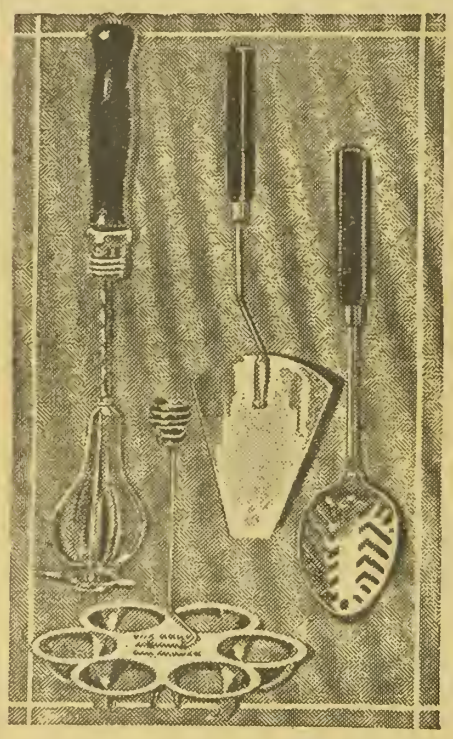
SIR JULIAN GRACE DE KOL

Robinson & Shultz, Owners, **Indepencence, Kansas**

Special Subscription Bargains

Offers on This Page Not Good After November 15, 1917

Any subscriber to Kansas Farmer is entitled to any article described on this page. All that is necessary is to renew your subscription to Kansas Farmer one year or more



Four-Piece Kitchen Set Free

Premium No. 4

Special Limited Offer

This set is built to satisfy the housewife and it has satisfied thousands of them. Every article is a necessity in the kitchen and you can't get too many of them. After you have used this set you will wonder how you ever got along without it. It consists of the following useful articles:

One Hand Automatic Dover Egg Beater
Zig-Zag Mixer and Batter Spoon
Egg Boiler and Egg Server
Flexible Cake Turner and Chopping Knife.

Kansas Farmer will be glad to make you a present of one of these sets with your renewal subscription. Send it today.

Special Offer.

This useful Kitchen Set given free with one year's subscription to Kansas Farmer, as long as they last. Our supply is limited. Ask for Premium No. 4 when you order.

Kansas Farmer one year and Kitchen Set for $1.00.

Our New Three-Piece Butchering Set FREE

PREMIUM NO. 1



CONTAINS ONE EACH

Skinning Knife **Sticking Knife** (Double Edge) **Butcher Knife**

All with six-inch high grade blades, carefully tempered, ground and polished. BEECH or MAPLE HANDLES and EXTRA LARGE-HEADED BRASS RIVETS. Fully warranted.

Special Offer.

This valuable Butchering Set of best steel given free with one year's subscription to Kansas Farmer. Send $1.15 for your renewal and get the Butchering Set by return mail. If you choose this premium offer, ask for Premium No. 1.

Auto Gloves FREE

PREMIUM NO. 3



These fine Auto Gloves, gauntlet style, made from auto top material, just the thing for auto driving or any outdoor work, are offered free to Kansas Farmer subscribers. It is a great opportunity to get a pair of good gloves absolutely free.

Special Offer.

Send us $1.00 and we will credit your subscription to Kansas Farmer for one year and send you one pair of Auto Gloves absolutely free. Ask for Premium No. 3.

ROCK-A-BYE BABY SWING

KANSAS FARMER THREE YEARS AND ROCK-A-BYE BABY SWING

$2.00

It is easy to take care of baby with this Swing.



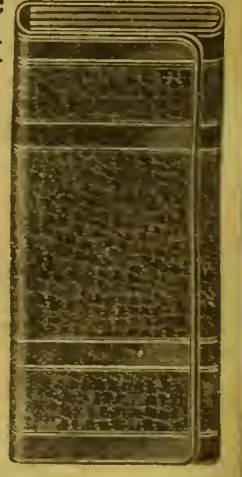
Take Good Care of the Baby.

This Rock-a-Bye Baby Swing is made of the best materials and is conveniently supplied with hook so that it can be hung in any room in the house, or outdoors.

SPECIAL OFFER.—Send us $2.00 and we will credit your subscription to Kansas Farmer for three years and send you one of these Rock-a-Bye Swings absolutely free, express prepaid. Ask for Premium No. 6.

Seven-in-One Pocket Book

PREMIUM NO. 7



Inside there are two cases for money, tickets, cards, or anything you want to carry, also a blank identification card or pass case, and one large compartment just the right size for bills. Besides these features there is a postage stamp holder, and another place for a key, coins, spectacles, etc. A real leather Pocketbook.

Special Offer.

This handy Leather Pocketbook given free with one year's subscription to Kansas Farmer. Send $1.00 and ask for Premium No. 7.

War Map F R E E

PREMIUM NO. 2

This War Map will show you just where the battles are being fought and enable you to trace accurately just what ground is being gained or lost by our soldiers and allies who are fighting in France. It is a six-page Map suitable to hang on the wall, the size of each page being 28 by 36 inches.

Six Big Pages

In addition to the maps of the eastern and western battle fronts, it also contains a map of Kansas and a map of the United States, together with illustrations of the various new war devices and explanations of them.

Handy Index

The War Front Maps show towns, villages, roads, railroads, and all points mentioned in newspaper accounts. It is completely indexed so that places on the map can be readily found.

Special Offer.

This large, complete War Map given free with one year's subscription to Kansas Farmer. Renew today while we have a supply of this popular War Map on hand. Ask for Premium No. 2.

Send $1.00 for Kansas Farmer one year and this big War Map.

Special Magazine Bargains

Offer No. 9

KANSAS FARMER	$1.00	Both
McCall's Magazine	.75	$1.25
Regular price	$1.75	

Offer No. 10

KANSAS FARMER	$1.00	Both
Metropolitan Magazine	1.50	$1.50
Regular price	$2.50	

Offer No. 11

KANSAS FARMER	$1.00	
Woman's World	.50	All three,
Green's American Fruit Grower	.50	$1.25
Regular price	$2.00	

Offer No. 12

KANSAS FARMER	$1.00	Both
Today's Housewife	.75	$1.25
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Offer No. 13

KANSAS FARMER	$1.00	
McCall's Magazine	.75	All three,
Metropolitan Magazine	1.50	$2.00
Regular price	$3.25	

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KANSAS FARMER	$1.00	
McCall's Magazine	.75	All three,
Woman's World	.50	$1.50
Regular price	$2.25	

Offer No. 15

KANSAS FARMER	$1.00	
People's Home Journal	.75	
McCall's Magazine	.75	All four,
Woman's World	.50	$1.75
Regular price	$3.00	

Offer No. 16

KANSAS FARMER	$1.00	
Everyweek	1.00	All three,
McCall's Magazine	.75	$1.75
Regular price	$2.75	

12 GRAFTED APPLE TREES F-R-E-E

Given with Kansas Farmer

This collection of Twelve Grafted Apple Trees which we want to send you, consists of three trees each, of four varieties of proven merit. They are hardy, will thrive anywhere, and provide a nice succession of quality fruit, including

THREE GENUINE DELICIOUS, THREE STAYMAN WINESAP, THREE JONATHAN AND THREE WEALTHY.

These Trees are genuine grafted stock, guaranteed true to name, sound and healthy. We have arranged with one of the largest nurseries in the country for a supply of these grafted trees, and we want to send you a set of twelve. Whether your place is large or small, these twelve trees will find a place, and add to its beauty and value.

Special Offer.

If you will send us $1.00, we will enter or renew your subscription to Kansas Farmer for one year and send you the twelve Apple Trees postpaid. As the demand for these trees is enormous, you should take advantage of this offer at once. We reserve the right to refund money after the supply is exhausted. Ask for Premium No. 5.

USE THIS COUPON.

KANSAS FARMER, Topeka, Kansas.

Gentlemen: Enclosed please find $.....

for which please renew my subscription for.....

years. Please send me.....

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NAME..... R. F. D.....

TOWN..... State.....

If You Will Send Us $2.00, We Will Credit Your Subscription to Kansas Farmer For Three Years and Include Any One of the Special Offers on This Page

KAF

KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 46. TOPEKA, KANSAS, NOVEMBER 17, 1917. Established 1863. $1 a Year

DEVELOPING THE DAIRY HERD

Success in Dairying Depends Upon Milk Production—By H. Clyde Fisher

WHAT may some day be one of the great dairy herds of the West is being developed in Riley County, Kansas, in the fertile Kaw River valley. The farm contains some of the rich land of the Ashland bottoms and runs back on the rocky hills. It furnishes ideal conditions for developing the dairy business.

On this farm official tests are made and systematic production records kept and filed. Cost accounts are worked out along the lines advised by the department of farm management in the Kansas State Agricultural College. The owners are succeeding in their efforts to build up a high-producing, profitable herd because they realize that cows must pay for equipment rather than equipment pay for cows.

The story of what has been accomplished and the methods followed will be a source of instruction and inspiration to many KANSAS FARMER readers. A few years ago John Linn & Son decided to start a dairy farm. The father liked to work with cows and the son James had taken a course in dairy husbandry at the Agricultural College. Realizing that success in the dairy industry depends primarily upon milk production and not upon equipment, they set about to secure a desirable type of dairy cow as the first step in working out their plans. The Ayrshire breed was selected.

Not having the capital necessary to purchase a herd of pure-breds outright, the Linns did the next best thing and bought the best pure-bred sire that could be secured. This was College Marquis 2d, the first Ayrshire bull sold in Kansas. His dam held a record of 17,000 pounds of milk a year and a butter record of 685 pounds. The bull was used on grade Shorthorn cows and the daughters he sired made milk records of 10,000 pounds a year. He was crossed upon his daughters with success.

Believing it was time to further improve the blood and producing qualities of their herd, the Linns sold the old sire and purchased Elizabeth's Good Gift, a young Ayrshire bull whose dam and sire had enviable records. With the advice and personal supervision of O. E. Reed, professor of dairy husbandry at the Agricultural College, fifteen registered Ayrshire cows were bought from Wisconsin dairymen. This stock forms the basis of the present dairy herd at Lindale. There are now twenty-five registered females on the farm besides twelve grade cows.

At present twenty-seven cows are being milked. All of these are tested once a month by a man sent out from the college. Of the fifteen pure-breds upon test, ten are producing more than fifty pounds of milk a day and ten of the twelve grades are maintaining this average. Some of the cows are milked three times a day, while others are milked only twice.

The cows are fed a liberal ration, properly balanced for milk production. They are given as much alfalfa hay as they will eat. Then they are fed from thirty-five to forty-five pounds of silage, according to the fatness of the cow. What is commonly known as a four-two-one grain ration is given each cow in proportion to her milk production. Ordinarily one pound of grain is fed for every four pounds of milk produced which tests 4 per cent. The four-two-one ration consists of four parts corn, two of bran, and one of linseed oil meal.

No manure is wasted at Lindale farm. It is thrown directly into a spreader and is hauled out and put upon the crop fields.

It is estimated by the Linns that about 100 acres of ground is taken up in the support of their present milking herd. They figure that twenty acres of alfalfa is required to supply the hay the cows eat. Sweet sorghum or cane is grown for silage because in average years this will produce more feed value to the acre than corn silage. Experiments have shown that as a milk-producing feed the silage made from well matured sweet sorghum is so close to corn silage in value that it becomes a matter of growing the crop that will yield the largest tonnage to the acre. It takes twenty acres of cane to fill the silos and from 600 to 1,000 bushels of corn is necessary to run through the year. Thirty acres of hilly dry pasture is used. It was upon this upland native pasture that the grade cows made their first records.

An attempt is being made at Lindale to find grasses which will make ideal pasture on the richer land. There is too much danger from bloat to pasture alfalfa. A field has been sown recently as an experiment. The seed sown consisted mostly of bromus inermis and orchard grass. A little timothy, alfalfa, and white clover was used in order to give greater variety.

One interesting feature of this dairy farm is the method of disposing of grade bull calves. This is always a problem to the dairymen. A neighbor interested in beef production buys the calves shortly after they are dropped. He pays eight dollars a head. Because of their near beef conformation and desirable red and white color, these calves are fed and sold on the market at a profit. Of course all grade heifers, pure-bred heifers and bulls are kept for breeding and production purposes.

The reason for the success of this dairy lies in the fact that it is run on a business basis. There is no guesswork or groping in the dark. Every step is taken in the light of production and cost accounting records. Then, too, it is backed by judicious advertising. This is necessary because as the business develops there will be surplus stock. This fall the Linns published a pamphlet giving the records and pedigrees of most of their cows. In this little book they make the statement, "What we have done with these grade Ayrshires, any Kansas farmer can do."



GROUP OF TYPICAL AYRSHIRE COWS AND HEIFERS—SHOWN AT TOPEKA AND HUTCHINSON BY WILLIAM GALLOWAY

Large Wheat Acreage

L. A. Keeler, of Woodson County, writes that there is a large acreage of wheat in his section, but much of it is not up yet owing to lack of moisture. Stock water is also scarce. There is plenty of rough feed to carry stock through the winter, but very little of the kafir seed matured. Grain and feed of all kinds are high in price.



FIRST HERD BULL COLLEGE MARQUIS 2D



PURE-BRED DAUGHTERS OF COLLEGE MARQUIS 2D



REGISTERED AYRSHIRE COW ON LINDALE FARM





The Pilot Carbide Lighting and Cooking Plant

Supplies this Double Service at Low Cost

A complete Pilot installation includes the plant which sets behind the scenes-a handsome bronze or brass light fixture for each room in the house-a gas range for the kitchen-and big ball lights for porches, barns and the yard. All lights are equipped to turn on without matches, while the gas range is operated exactly as are similar ranges in city homes everywhere.

This is unquestionably the most desirable, practical and economical lighting and cooking service available for country home use-a claim amply attested by the fact that the Carbide Plant always has and still does out-sell all rival "light systems" after fifteen years of strenuous competition.

Write for list of installations which you can inspect in your own neighborhood.

The Oxweld Acetylene Company

Newark Chicago Los Angeles

2

J. L. Dodge writes:
"My Pilot plant is giving perfect service after ten years' constant use without repairs."

160 ACRE FARMS IN WESTERN CANADA FREE

Canadian Farmers Profit From Wheat

The war's devastation of European crops has caused an unusual demand for grain from the American Continent. The people of the world must be fed and wheat over $2 a bushel offers great profits to the farmer. Canada's invitation is therefore especially attractive. She wants settlers to make money and happy, prosperous homes for themselves by helping her raise immense wheat crops.



You can get a Homestead of 160 acres FREE and other lands at remarkably low prices. During many years Canadian wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to acre. Wonderful crops also of **Oats, Barley and Flax.**

Mixed farming as profitable an industry as grain raising. The excellent grasses full of nutrition are the only food required for beef or dairy purposes. Good schools, churches, markets convenient, climate excellent.

There is now an extra demand for farm laborers to replace the many young men who have volunteered for service in war. The government is urging farmers to put extra acreage into grain. Write for literature and particulars as to reduced railway rates to Supt. of Immigration, Ottawa, Canada, or

GEO. A. COOK

2012 Main St., Kansas City, Mo. Canadian Gov't Agt.



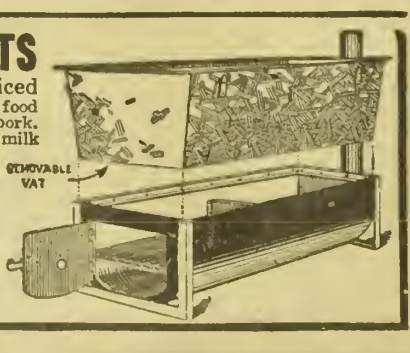
INCREASE PORK PROFITS

GET the full food value out of high-priced grain—cook it before feeding to hogs. Cooked food is easier to digest—every particle is turned into pork. Cook up millstuffs and waste from kitchen and milk room. Turn them into high grade food. Get a

Columbian Feed Cooker

at once. With it you can produce more pork with less grain—increase your profits and help win the war. It is also handy for scalding hogs, rendering lard, making soap, heating water, etc. Made of range steel and galvanized metal. **Write For Circular and Special Delivered Price.** Sold by dealers everywhere. Also hog troughs, feeders, waterers, smoke houses, etc.

COLUMBIAN STEEL TANK CO.,
1605 West 12th Street, Kansas City, Mo.



Big Profits Bale Straw Now

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ADMIRAL HAY PRESS CO., Box 56 Kansas City, Mo.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

FULLY as much machinery rusts and rots out through poor housing facilities as is worn out through hard use. This is the conclusion arrived at by W. E. Grimes, assistant professor of farm management in the Kansas Agricultural College, who has made a careful study of the machinery question.

"Where it is at all possible the machinery should be housed through the winter months at least," says Mr. Grimes. "Where it is impossible to house all the machinery, the wooden parts should be removed and put in shelter. The working parts which are likely to rust if exposed to the weather, can be protected to some extent by a coat of axle grease or heavy oil.

"Care of harness is important. The life of a set of harness usually can be doubled by taking good care of it and oiling the leather parts once or twice a year."

During the winter months the farm work is not rushing, and it is an advantage to overhaul all machinery and repair or replace all broken parts. A forge, anvil, and small set of tools will be found very convenient and profitable for this kind of work.

During the harvest or the cropping season machinery often gets out of repair, and is put away in that condition. Unless the machinery is overhauled during the winter the parts will not be repaired, as a rule, until the machine is needed to care for the next crop. If it is necessary to stop and repair the machine at that time valuable time is lost, when a day in the field might mean the saving of several hundred dollars' worth of crops.

The care of farm machinery is particularly important at present, as farm labor will be exceptionally scarce next season on account of war conditions and new machinery costs much more than it did a few years ago.

Cold Weather Hints

If a water-cooled engine is not carefully guarded in cold weather and the water is allowed to freeze, pipes or radiators will break or a water jacket will crack. To prevent such damage, the safest plan is to drain the water from all parts of the system when the car is left for the night or for a long time during the day. The engine may then be allowed to run a few minutes to make sure that all the water has been removed.

If the car is used a great deal in cold weather, it may be advisable to use a non-freezing solution. A mixture containing 20 per cent of denatured alcohol will freeze at 10 degrees above zero; a 30 per cent solution will freeze at 5 below zero; 40 per cent at 20 below, and 50 per cent at 35 below.

Automobile Graveyards

"Did you ever wonder what becomes of all the old and worn-out automobiles?" asks a writer in the current issue of American Motorist.

"Quite recently I had occasion to look into the matter," the writer continues, "and I was surprised at some of the facts which came to light.

"The quantities of used or second-hand cars annually disposed of have brought forth the 'auto wrecker' and built up his business. To him come the maim, the halt and the blind in the shape of cars ruined by collision, fire, joy-riders and long service, but he does nothing in the way of rebuilding or selling the cars which come to him. All are demolished utterly, and their various parts are scattered to the four winds of heaven, so to speak, and put to unguessed uses.

"Of course, the price paid for these autos varies considerably—from $150 for a so-called collision car to $65 up to $125 for fire ruins and worn-outs. Engines are the principal source of revenue, and a six-cylinder bronze engine, when overhauled and repaired, will bring as high as $250 from ranchers and others, who use them as power plants for irrigation, pumping, etc.

"Springs, axles, bearings, windshields, lamps, radiators, tops, etc., are purchased mostly by garage repairmen and auto owners for repair parts.

"Really, about the only thing in an automobile that goes to waste in one of these graveyards is the woodwork of the bodies. There seems to have been found as yet no use to which it can be put, and as its unwieldy shape makes it impracticable to work up into kindling wood for sale, it is broken up and burned in any way possible to get rid of it.

"I did a little figuring on this matter and while the items listed are approximate, of course, you will note that I have not used the highest quoted prices."

Purchase of collision car	$125.00	
Rebuilt engine sold for		$100.00
Rebuilt magneto sold for		30.00
Aluminum, 310 pounds, at 38c		117.80
Bronze, 110 pounds, at 18c		19.80
Rubber, 200 pounds, at 8c		16.00
Cast iron		1.00
Hair		1.00
Top, windshield, lamps, radiator, etc.		25.00
		$310.60
Less cost of car	$125.00	
Demolition cost	25.00	
		150.00
Net profit		$160.60

On the Sherman Ranch in Ellsworth County 7,000 acres have been sown to wheat. Tractors are used extensively on this ranch. It would be impossible to handle such an acreage without them.

Tractor in Winter

Fall and winter is a good time to repair the farm tractor and put it in first class condition for the next season. W. H. Sanders, instructor in farm motors at the Agricultural College, suggests that this season might well be used in teaching different members of the family to use the tractors. Not the least important winter use of the tractor should be the teaching of the farmer's sons and daughters the details of operation and repair.

Many farm girls could and should learn to run the tractor, as they will have to take the places of their brothers who are being called to the army. There is no better time than right now, when most work is slack, for the farm tractor owner to give members of his family the necessary practice in repairing, handling, and caring for the tractor.

The tractor needs housing in winter just as much as a horse. It is too valuable a piece of machinery to leave out in the weather. All bright parts should be greased, or preferably painted with some good lead paint. Parts will eventually rust somewhat under grease, but paint is a more permanent protection.

It is a good idea to wipe off all oil and dirt that has accumulated and repaint all parts originally covered with paint. A heavy coat of paint will not only improve its appearance but will also lengthen the life of the tractor, especially if it stands out much of the time. A thorough overhauling of the tractor in winter will save much valuable time when work starts in the spring.

If horses are scarce on the farm the tractor may be used for hauling grain, hay, or hogs, for hauling supplies to the farm, for sawing wood, grinding grain, or doing other belt work. On the road more care is necessary in winter than in summer. Hard frozen ground will cause more jarring of the machinery, and breakage is more likely to occur because cold iron breaks more easily than warm iron. For this reason the lugs should be taken off and the wheels left bare, or else smaller or flat lugs used instead to reduce the jarring to a minimum. This will make it necessary to haul smaller loads than could be hauled ordinarily because of the greater liability of the drive wheels slipping.

"Farmhouses" is the title of a pamphlet just published by the National Lumber Manufacturers' Association. This bulletin is by W. A. Etherton, formerly professor of rural architecture at the Kansas Agricultural College. It is an abridgement of his pamphlet, 'The Farmhouse Improved," to which we have referred several times and from which we have quoted. The small pamphlet just published is full of practical information on the subject of house building. Those of our readers interested in building houses should write to the National Lumber Manufacturers' Association, Chicago, for a free copy of this bulletin.

Every man who shoulders a gun risks his all. How much are you sacrificing to back him up?

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KANSAS FARMER

THE FARM PAPER OF KANSAS

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SCHOOL EXHIBITS AT FAIRS

The rural school is making great strides these days. We attended the Lyon County Farm Products Show recently and were very much impressed with the part taken in this show by the schools of the county. The Chamber of Commerce auditorium was devoted entirely to exhibits from the rural districts and these exhibits were not exclusively drawing work, writing, problems in arithmetic, or the many other things of that sort so necessary in school work. There were instead displays of home industries prepared by the school children under the direction of their teachers and with the co-operation of the parents. There were both farm and food products. There was hardly an exhibit that did not have loaves of bread, butter, pies, cookies, cakes, canned fruit and vegetables, and other products of the home kitchen. There were samples of sewing work, knitting and crocheting. Some had fine collections of the tree leaves of the districts, weed seeds, and samples of agricultural plants. There were models of all kinds of farm equipment most ingeniously made by the boys from stalks of corn, kafir, spools, pieces of tin, and other convenient material. Some had worked out a full set of models for a thoroughly-equipped up-to-date farm, including the necessary buildings, silos, wind mills, hay racks, hay loaders, and stacking machinery. Others had made models of all kinds of household equipment, such as chairs, tables, and beds, and the doing of all of this great variety of work was considered not as a task, but a privilege given as a reward for school work well done.

Forty-five single-room rural schools took part in this fair and in addition there were eight teachers represented from schools having more than one room. In the group there were eight standard schools. There were some conspicuous examples of enterprise on the part of pupils and teachers. Lucile Brodie, a teacher whose board was not disposed to grant the necessary holiday, came in in the forenoon, worked hard in getting the exhibit in place, and went back to her school and taught in the afternoon. We noticed one exhibit which occupied only a comparatively small space as compared with the others and on inquiry found this was made by Clara Williams, a thirteen-year-old girl attending a school with an enrollment of sixteen, all but herself being boys and the teacher also a man. She came in alone, brought some of her sewing work including a doll dress, some table mats and some doilies, and some squashes and other agricultural products. She was assigned her space, watched some of the teachers and pupils arranging exhibits, and after getting a few ideas in this way went out to a store, purchased some crepe paper for a background, and put up her material.

In the Dairy Club department of this issue we are telling of the school winning the first prize, the interesting thing to Dairy Club members being that Frank and Elsie Davies, both Dairy Club members, did their share of the work in making the exhibit a success. School District No. 14, taught by Miss India Holman, won second place, the score being only one point lower than that of the school winning first. School District No. 65, taught by Pearl Gilman, won third place. There were twenty-three prizes in all, all of them being equipment suitable for use in preparing hot lunches at the school.

Miss Holman, who called at the KANSAS FARMER office during the meeting of the State Teachers' Association, tells us that she has already worked out plans for preparing hot lunches in her school. They had a small amount of money left from the proceeds of a school entertainment which would be used as far as it would go in providing supplies. Then the parents in the district had become so interested that offers had been made to donate food products from the home stores. The girls in the eighth grade class are to prepare these hot school lunches under the supervision of the teacher, using the stove and other equipment won at the fair.

This idea of the hot school lunch is a splendid one and we are glad to learn that it is being worked out in such a fine way by the rural schools of Lyon County. The part taken in the Emporia Fair by the schools was one of the strong features, and the county superintendent, Mrs. Nettie Cartmel, Prof. C. R. Phipps of the Normal, C. A. Boyle, county club leader, and others helping to make this enterprise a success are to be especially commended. They all stated that they expect to do a great deal better next year.

SHAWNEE HOGMEN CONFER

Over seventy farmers attended the hog conference held in Wakarusa, Shawnee County, last week. The purposes of these meetings that are being held over the hog-growing sections of the state are to study the pork production question and especially to talk over the probable results of the Government action in formulating its policy to be followed in protecting the pork producer against loss. Professor Cochel, who had recently been in conference with Mr. Cotton, the head of the meat division of the Food Administration, explained in considerable detail the situation as regards the hog shortage which exists and the great surplus of feed grains produced this year. The serious need of greatly increased pork production as a means of supplying our armies and our allies with pork products was also presented.

Most of the men who were present are growing hogs, and those who spoke on the possibility of increasing pork production seemed to have a feeling of assurance that the packer would be so controlled that he could not manipulate prices to the detriment of the man who had got a lot of hogs ready for market on high-priced corn. The general sentiment of the meeting was very different from that of the Manhattan conference held a few weeks ago where hogmen quite generally expressed their feeling of uncertainty as to what was the best course to follow. To express it in colloquial terms, they were very much "up in the air," and seemed disposed to play safe by selling their corn instead of making plans for increased production.

Men who know the hog production business present at the Wakarusa meeting, which is the only one of the conferences we have so far attended, seemed to be of the opinion that the ratio of thirteen bushels of corn to a hundred pounds of pork offers a splendid opportunity for growers of hogs to produce at a profit. In view of the fact that the product is so closely related to the war problem, it would seem the part of patriotism to plan to put more weight on many of the stock hogs now on hand and being fed instead of trying to get them off to market carrying the minimum amount of corn. This sentiment is undoubtedly being reflected in the strong demand for stock hogs which has set in since the positive announcement of the Food Administration. We hear of pigs bringing as high as $18 a hundred at farm sales. If the same spirit prevails in the other meetings held over sections of the state where there is plenty of feed for hogs, there can be little doubt that Kansas will meet the request of the Government for a 25 per cent increase in the pork put on the market next year.

FARMERS IN WAR FINANCE

The Government finds it necessary to borrow enormous sums of money to finance the war. We have been told that farmers have not been buying Liberty Bonds very freely. It may be that as individuals farmers have not been buying bonds very freely, but the country banks have taken them to the fullest extent of their ability, and where is the country bank whose stockholders are not drawn to a considerable extent from the ranks of the most successful farmers? The banks get the credit for subscribing for the bonds, but the farmers furnish much of the cash. In this way they are furnishing a larger share of the money necessary to finance the war than they are ordinarily given credit for.

Lending money to our Government is a real duty, but it is only one of the many acts of patriotism which must be performed, and those who boast of their patriotism solely from the standpoint of heavy investment in Government bonds have not as yet experienced that deep feeling which leads to supreme sacrificial acts in support of our cause. There are no safer investments in the world than government bonds. City people probably have taken them more heavily in proportion to their wealth because they are accustomed to such transactions and because in a most systematic way the importance of meeting the demands of the Government for money has been presented to them one by one at their places of business. Such campaigns are impossible in the country. It is also true that many city purchasers of bonds are subscribing for them with the idea of turning them later, for there are no securities more liquid than government bonds.

The supreme sacrifice is that made by the men who enlist and offer their lives, and it requires even greater courage and fortitude on the part of the mothers and fathers of these boys to send them out from the homes with cheerful, smiling faces which cover heavy hearts. In Kansas we know that farmer boys are doing more than their part in making up our quota of fighting men. The trouble has not been to get them to go, but to get enough of them to claim their exemption rights and help keep up the production of food material. As we meet the people of the open country from day to day, we are becoming more confirmed in our belief that as a class farmers are keeping their heads and performing their duties to the Government with less outward demonstrations and evidences of hysteria than any other class.

LICENSING SYSTEM IN OPERATION

Now that the licensing system is in operation, we may begin to see more of the results of food control operations. This system of controlling the big business of the country went into effect November 1. It does not apply directly to farmers or farmers' organizations, these being excepted in the bill. It is directed chiefly at wasteful and unfair practices in the handling of food products between the producer and the consumer. One of the fundamental purposes of the rules and of the entire system of licensing is to get the largest possible share of the consumer's dollar to the producer.

Eliminating unjustifiable sales from one wholesaler to another, stopping speculation in "futures," and having butter, cheese, eggs and poultry handled in the most direct route from producer to consumer, are the chief objects at which the new produce rules of the Food Administration's licensing system are aimed.

With such practices stopped or diminished, the producer is expected to benefit in several indirect ways. One is a greater public demand as the result of reasonable prices to the consumer made possible by a less expensive distributing system. Another benefit will be the confidence of the producer himself resulting from the fact that his products are being handled in a distributing system under Government supervision.

HOG CONFERENCES CONTINUE

The series of conferences to discuss means of increasing pork production and other subjects of interest to hog growers, mentioned in our last issue, will be continued next week. Professor Cochel and others of the animal husbandry and extension departments will attend the conferences. Meetings are scheduled as follows: Minneapolis, November 20, 2 P. M.; Salina and Hamilton, November 22, 2 P. M.; Clay Center and Mound City, November 23, 2 P. M.; and Washington, Paola, and Garnett, November 24, 2 P. M.

PLAYING TO THE GALLERIES

We have little patience or sympathy with that form of demagogism which siezes upon the present crisis to arouse class against class in seeking personal popularity either for political or business reasons. There are certain to be misunderstandings and misconceptions of the motives back of the acts of different classes of our people. This is true at all times, and it is true in a magnified sense when people are wrought up and irritated by the strain of the war situation.

Farmers as a class have just cause to be suspicious of some of the things done by what we commonly speak of as the big interests. We must admit, however, that there are striking instances of splendid sacrificial service on the part of many of the men whom we have been accustomed to class as belonging to the predatory interests. These men at times have failed to comprehend the viewpoint of the farmer, but it is more from lack of opportunity to see things as they are than through malice. Many of our people seriously misunderstand the position of the farmer in his relation to the war, and do not sense the problems with which he has to contend. It does not help matters, however, for the spokesmen or leaders of any class to denounce in general terms the acts of antagonistic groups of our people. Such utterances are usually phrased to appeal to the prejudices of the unthinking, arousing resentment and anger, and only serve to increase the misunderstandings and make it more difficult to bring about harmonious action in the great crisis now confronting our country.

The true patriot will use his utmost endeavors to bring about in a quiet way more perfect understanding between our various interests. If he finds that because of lack of opportunity people with whom he is most closely in touch have failed to see both sides of a question and are becoming bitter and biased in their views, he will try to use his influence to bring about a clearer appreciation of the situation viewed from all angles. It is sometimes necessary to stand squarely for our rights, defending them with vigor, but it is not necessary to make such gallery plays as are being made by men of the type of the Chicago banker to whom we have referred in connection with his ignorant denunciation of the farmer, or on the other hand by those who seek to make capital by appealing to the natural prejudices and suspicions of farmers against classes having opposing interests.

There has never been a time in the history of this country when it has been so necessary that we should strive to get together in united support of the big things for which we stand as a nation. Everything must be subordinated to the winning of the war in the shortest possible time. The demagogue has no place in our war program. Just now when the contest that has been going on between two ideas since the beginning of history has drawn this country into what seems to be the final struggle as the great champion of the rights of humanity and the universal brotherhood of man, demagogues of the type referred to above should be classed as disloyal to their country and to the cause of humanity.

From what we can learn of the purposes of the Food Administration, they have no intention to fix the price at which the farmer must sell his stock. In order to stimulate increased production they have, however, determined to use every power given them to maintain prices at a profitable level. They have the duty of directing all export purchases of beef and pork products, and propose to use this power to stabilize prices so that the farmer will not suffer loss as a result of speculation. Their action will also serve to protect the consumer. The headquarters of the meat division, which is headed by Mr. Cotton, will be at Chicago.

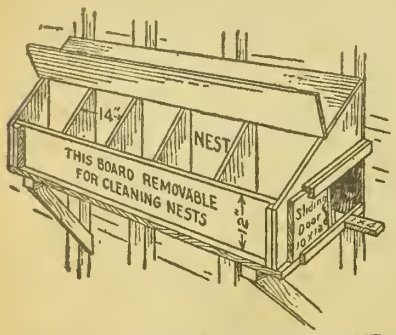
HENS NEED GOOD HOUSE

Many Flocks Are Unprofitable Because of Poor Housing

THE REAL poultryman has had his flock properly housed for the winter for some time. It is not too late yet however to make preparations for giving the hens a chance by building a good house for them before the winter sets in. The statement is made in Circular 61 just issued by the Kansas Experiment Station that, many farm flocks do not give good returns because of poor housing facilities. This does not mean that an expensive house with elaborate fixtures is necessary. It does mean that a building of adequate size with good ventilation and protection from the weather is essential. Only a few fixtures are required.

Some Kansas chicken houses are entirely satisfactory; others are too small; some do not have enough ventilation; others are too open, or have cracks on all sides, permitting drafts to blow on the fowls. The problem may be to improve the house which is in use, or it may be to build an entirely new one. Some Kansas farm chicken houses which have given poor results have been remodeled at small cost and are now giving good results.

In this circular which was prepared by Ross M. Sherwood a number of houses and floor plans are illustrated, showing various plans of building, arrangements of fixtures, and systems of ventilating. Details of construction and bills of lumber are omitted, because it is doubtful whether any one would wish to build a house of the exact size or plan of any of those shown. Suggestions may be secured from the various illustrations for planning a building to meet the needs of the individual.

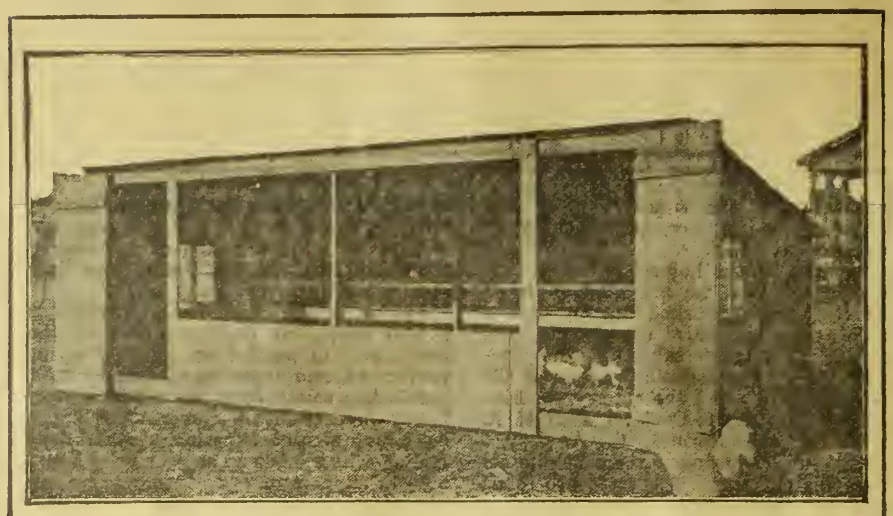


CONVENIENT NEST BOX ARRANGEMENT

The ideal location for a chicken house is on a southern or eastern slope, near an orchard or wood lot, so that the chickens may have shade. On a southern or eastern slope snow thaws more readily, and the ground dries and warms much more quickly than on a northern or western slope. The house should not be located too near the base of the slope, because of the damp air currents found there. Small portable houses may be moved to an orchard or grain field where insect life or waste grain is available. Chickens do well in such places, save waste feed, and protect crops from insect pests.

Farmers in the western part of the state have reported saving part of an alfalfa crop during grasshopper years by hauling portable houses full of chickens to the alfalfa field and allowing the chickens to subsist on grasshoppers and alfalfa.

The size of the house is governed largely by the breed of fowls, the amount of protection provided outside the chicken house, and the section of the state in which the farm is located. The farmers of Kansas who get the most winter eggs provide a scratching room where the hens are given grain feed in a deep litter of straw or similar material. The fowls are kept in this room whenever the weather is not satisfactory for them to run at large. This scratching room should allow from three to five square feet of floor space for each hen. Heavy breeds, and fowls confined a great part of the time, require the larger space, while those which range most of the time may have the smaller floor space. Crowding of fowls does not give satisfactory results. Another room may be used for roosting, or a dropping board may be placed in the scratching room about thirty inches above the floor, and the perches placed six or eight inches above it. This is an economical plan, because it eliminates the necessity of providing a separate roosting room.



SHED ROOF CHICKEN HOUSE HAVING GOOD LIGHT AND VENTILATION

There is no best method of providing ventilation. The two methods most common in Kansas are the curtain front and the open front. The open front is giving excellent results in some sections of the state, but many people find it desirable to have curtains that may be placed over most of the openings during bad weather. It has been found that a house closed on three sides and curtained tightly on the south does not provide enough fresh air. To remedy this, a narrow opening is often provided along the south side of the house just under the rafters. This causes a greater circulation of air than the curtained openings alone, yet does not allow the wind to blow on the fowls. The large curtained openings should be from thirty to thirty-six inches from the floor, so that the wind will not blow on the fowls when the curtains are raised. During the summer months other openings are necessary to make the building cool enough so that the fowls will roost there. These should be so located at the back of the house that drafts will not blow on the fowls during the night. These openings should be closed tightly during the winter months.

Floors of portable houses are necessarily made of wood. For permanent houses, however, concrete and building-tile floors are coming rapidly into favor. Such floors are easily cleaned, rat-proof, long-lived, and practically as cheap as board floors. If properly constructed and well littered with straw, they are not cold or damp. If concrete floors are built, the moisture may be kept down by the use of a coarse rock floor foundation, placing the concrete on this layer of broken rock.

Poultry-house fixtures should be simple, few in number, and easily removed. They usually consist of a perch, with or without a dropping board, nests, a feeding shelf, and a broody coop.

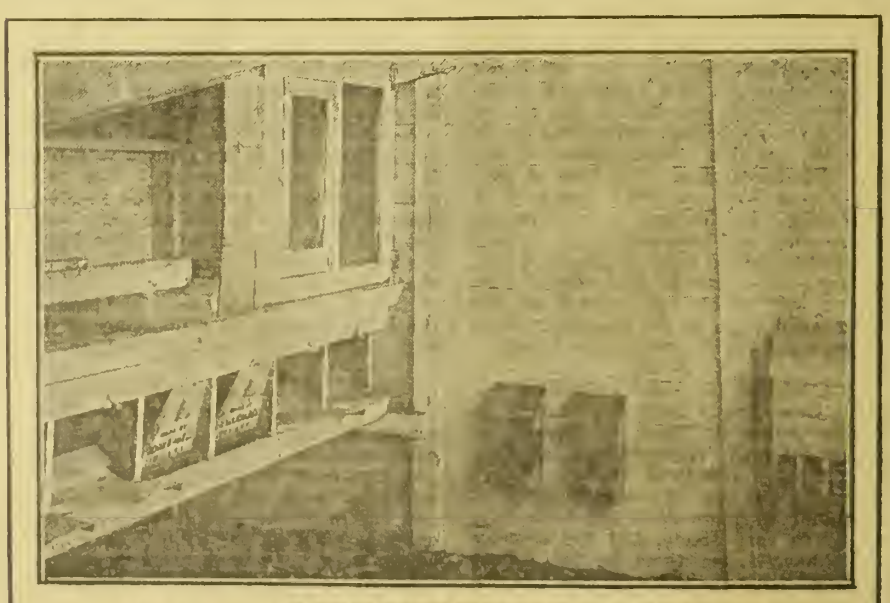
The perches should provide six to eight inches of room for each fowl, and be fourteen inches apart. Overcrowding will very likely result in an epidemic of colds or roup. All perches should be on the same level, to avoid the crowding that results from the effort of all to roost on the top perch. The most common material used for perches is two-inch by three-inch lumber. This may be placed on edge and the upper edges rounded to avoid bruising the feet.

If it is desired to place nests under the perches or provide more space for scratching, a dropping board should be used. This should be made of good matched material, so that there will be a minimum of cracks for harboring mites. It should be removable, so that the ends may be easily sprayed.

A nest should be roomy, easily cleaned and sprayed, dark, and conveniently located. For most fowls a nest fourteen inches square and six inches deep is a good size. There should be one nest for every five hens in a farm flock of ordinary size. Hens are quite likely to roost on the edges of the nests during the molting season, owing to the fact that their bodies are tender from the growing feathers and they try to escape the crowded perch. It is a great advantage to be able to close the nests at the time of the evening feeding. This may be accomplished by means of a slide door.

A feeding shelf may be constructed to keep the feed hopper and water pan up out of the way of the floor litter as it is scratched about by the flock. A dry-mash hopper and grain bin are very useful in the chicken house. The bin makes it possible to have a supply of grain near at hand.

The circular from which the above extracts are made can be obtained free by addressing the Kansas Experiment Station, Manhattan, Kansas.



FEED HOPPERS AND OTHER INSIDE EQUIPMENT OF POULTRY HOUSE

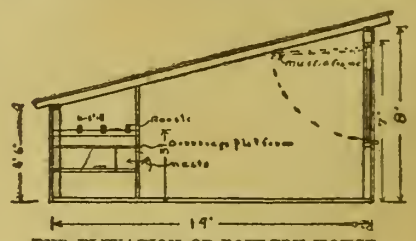
Discuss Poultry Problems

At the invitation of the United States Food Administrator, representative members of the poultry and egg industry convened in Washington recently to discuss the proposed government license plan and to formulate means of reducing waste and encouraging production.

In addressing the conference, Mr. Hoover pointed out the necessity for eliminating speculation and for making the course of food products from producer to consumer as direct as possible. Attractive prices to the producer, he explained, are necessary to secure large production; and yet the price-level of food products to the consumer must be kept as low as war conditions will permit.

Licensing commercial handlers of poultry and eggs, as explained by food administration officials, is a plan of registration compelling the man who would otherwise indulge in doubtful practices to do the thing to which the honest man gladly subscribes. It places a limitation on profits and also enables the Government to keep an accurate check on stocks of food in all parts of the country.

Delegates to the conference agreed, after informal discussion, that stocks of poultry, especially young stock, on farms are somewhat below normal due largely to the period of cold wet weather during the brooding season last spring. As a means of encouraging greater production in his locality, one dealer has been selling, at cost, pullets received from farmers having an excess to others who desire them. Others have made house-to-house canvasses pointing out the merits of better breeding stock and offering feeding suggestions.



END ELEVATION OF POULTRY HOUSE

These efforts are in harmony with the policy of the food administration to encourage a large production of poultry and eggs in the effort to conserve our supply of beef, pork and mutton. In the opinion of federal authorities there will be a ready market for all poultry products next year and probably for several years to come.

The high price of other meats has increased the consumption of poultry and eggs on farms to the extent that the reduction in poultry receipts this fall has been apparent at nearly all receiving centers.

Co-operative Egg Marketing

Kansas farmers can make the egg business more profitable by forming associations of ten members and shipping their eggs to markets that pay a higher price than the local market will offer, says N. L. Harris, superintendent of the Kansas Agricultural College poultry farm.

In an association of ten farmers who crate and ship their eggs twice a week there would be no extra expense except the cost of shipping, which would not be more than one cent a dozen, and the farmer could get from three to five cents more for his eggs.

One member of the association should keep himself posted in regard to the egg markets in surrounding towns and cities. Good markets can be found readily within a radius of fifty miles from the shipping point at hotels, cafes, restaurants, and grocery stores in the larger towns or cities. These places are glad to buy fresh eggs from the association, and will pay a good price for them. Merchants are especially eager to buy infertile eggs direct from the farmer and are willing to pay a premium for them because they do not spoil easily and there is little loss in handling them.

"Keep out all the culls and small eggs," advised Mr. Harris, "and above all, separate the white eggs from the brown ones. When the merchant opens a crate of eggs and finds them all white or all brown to the bottom of the crate, he is pleased because he knows that when he puts that crate on display it will be attractive to the customer."

BROOD SOW MANAGEMENT

Successful Pork Production Depends on Selection and Care of Sows

A RATIO of thirteen bushels of corn to the hundred pounds of pork offers sufficient margin to insure fair profits in producing hogs for market. There should be a ready response to the recent action of the Food Administration in guaranteeing fair pork prices for the future. Hogmen can now mix patriotism with fair profits and meet the need for increased supplies of pork. There is no questioning the determination of the meat division of the Food Administration to protect the producer from unjust and discriminatory practices on the part of the packer.

While the average in pork production may call for twelve or thirteen bushels of corn to the hundred pounds of product, the most efficient hogmen can do better. To do better than the average simply requires better methods than those practiced by the average pork producer. In a recent Department of Agriculture bulletin by George M. Rommel and F. P. Ashbrook, of the animal husbandry division, it is stated that no branch of live stock farming gives better results than the raising of well-bred hogs when conducted with a reasonable amount of intelligence. Hogs require less labor, less equipment, less capital, and make greater gains per hundred pounds of concentrates fed than any other farm animal. They reproduce faster and in greater numbers and return the money invested more quickly than any other farm animals excepting perhaps poultry.

This pamphlet on swine management is a practical and complete treatise on the subject of growing pork by the most approved and profitable methods. In what follows regarding some of the important points of this business we draw on this source of information.

The first place in hog raising in the United States is easily with the corn-growing sections, where corn is the first grain thought of when the fattening of hogs is considered. It is, however, fallacious to argue that hog-raising will not give profitable returns outside of the corn belt. The corn belt has great advantages for economical pork production, but it also has its disadvantages. The cheapness and abundance of corn in this section have often led farmers to use it as the exclusive grain feed. Breeding stock so fed does not thrive well and is not so prolific as when given a varied ration, and when used for fattening, an exclusive corn diet is not generally profitable. The work of the agricultural colleges and experiment stations during recent years has done much to show breeders and feeders the undesirability of this practice, and the increased price of corn has forced farmers to economize in its use as much as possible.

The few states comprising the corn belt are the source of supply for a great amount of swine products, especially hams and bacon, that are consumed in other portions of the country. Yet the advantages of these corn-belt states are little, if at all, superior to those of many others outside of that district.

NUMBER OF HOGS TO RAISE

The number of hogs for a farm must be determined by a study of local conditions and the type of farming. The maximum number of hogs per acre is found on farms chiefly or wholly devoted to the raising of that class of stock; as, for example, in the state of Iowa, where it is quite common to see farms averaging a number of hogs to the acre, although the average for the entire state is one hog to every three acres of improved farm land. Under ordinary conditions hogs return the largest profit when raised to utilize waste products, and when kept for this purpose alone the number will depend upon the quantity of waste products to be consumed. Skim milk from dairy herds; shattered grain from grain fields; unmarketable products from the truck farm; undigested grain in the droppings of fattening steers; and many other minor wastes on the average farm are examples of foodstuffs which would be wasted were it not for their utilization by the thrifty farmer for the production of pork. In order to utilize some of these products, it is necessary to have a number of pigs on hand for a relatively short time on account of the perishable nature of these feeds. The rest of the year the fattening pigs and the breeding stock must be maintained upon feed raised expressly for their consumption, and while they are not kept at a loss during this time, still the greatest profit is derived when they are eating their cheap feed in the form of waste products, and the number of hogs which can utilize the waste to the best advantage should be the limiting factor in determining the number of hogs to the farm. On farms in the corn belt where hogs are raised simply to market the corn crop on the hoof, the number is controlled by the amount of corn which can profitably be raised to fatten them.

SELECTION OF BREEDING STOCK

In getting into hogs it is important to start right. The right kind of foundation stock must be selected or the results may be far from satisfactory. In feeding hogs for the market, as also with any other class of meat animals, larger returns are obtainable when the stock is as nearly uniform as possible, and as it is very profitable for each farmer to breed his own feeders, particular attention should be given to the selection of the original breeding stock. Uniformity is of primary importance, for to have a uniform crop of pigs there must be uniformity in the breeding herd, and to obtain this must be one of the first considerations in selecting the orginal herd.

The females of the herd must be obtained by purchasing bred sows or gilts safely in pig to a boar of recognized worth. As it is often difficult to obtain a sow which has shown herself to be a good breeder by the previous litters she has produced, it is advisable for economy's sake to purchase bred gilts. These should be about twelve months old, being bred after the age of eight months, and if possible all should be in pig to the same boar. Here is the first opportunity to practice selection for uniformity; whether pure-bred or not, the sows should be similar in color, marking, type, and conformation. The type of the sows selected should be the one which the market demands. While there is some variation between the different breeds, it is largely a matter of characteristics, as a good individual, no matter what breed it represents, if properly fed and managed will make economical gains.

QUALITIES OF GOOD BROOD SOW

In conformation a brood sow should show first of all femininty. This is well marked in the hog if a close observation is made, and is characterized by quality and refinement in all parts of the body. The bristles are finer and less erect than those of the boar, giving the sow a smoother appearance. The forehead is smoother, the neck much thinner, and a little longer in proportion to the rest of the body. The shoulders are not as heavy, although they must not be narrow, for such a condition is an indication of lack of constitution. By no means accept any breeding animal that is narrow-chested, for it is a sure indication of lack of vitality and consequently of breeding ability. Ample capacity in the middle should be provided by well-sprung ribs and long, deep sides. Many judges of hogs regard good, roomy sows as being especially high in fecundity, and this characteristic is certainly no detriment to their conformation, provided it is combined with quality.

A sow should show the type demanded in a market animal; namely, a strong, wide, deeply-fleshed back; smoothly covered shoulders; plump, well-rounded hams, and a trim, neat underline. A wide, well-developed pelvic cavity will insure easy parturition, and the udder should be evenly and well developed and have at least twelve teats. Her legs should be strong and well placed, have good clean bone, and strong, straight pasterns. It is not of as great importance to have perfect feet and legs in a sow as in a male, but she should show no weakness at this point. A sow should have scale and size, combined with quality. Strong, clean, hard bone, trim joints, neat ears, fine glossy bristles, and freedom from folds and wrinkles in the skin, are all indications of quality. A large, raw-boned sow, having plenty of capacity and size, but lacking in femininty and quality, is one of the poorest investments a breeder can make, for her pigs will be slow to develop, hard to fatten, and lacking both in numbers and in uniformity. Quality combined with femininty and scale in a sow of the accepted market type will, as a rule, insure a profitable breeding animal, and a lack of any one of these factors is apt to result in failure.

UNIFORMITY IN HERD IMPORTANT

If possible, the first purchase of sows should be made from one herd, for in this manner it is easier to get uniformity. Uniformity goes deeper than the mere visible type or conformation; it is determined by past ancestry and is controlled by the characteristics contained in the germplasm. The germplasm is continuous, extending from individual to individual, and any member of the chain shows in its visible conformation only a few of the possible combinations. In other words, a sow may not produce offspring similar in type to herself, unless her ancestors were of the same type. By selecting the sows from one herd it is not only possible to choose animals similar in visible type, but they are apt to be similar in dormant characteristics as well. In buying such animals the farmer is not purchasing separate individuals to form so many breeding units, but rather kindred individuals, all parts of a single established line or type which will blend together to form a single breeding unit.

At best, it is impossible to choose sows that will produce true to type, for as yet no line of breeding is absolutely pure, but by selecting the sows in this manner the chances for uniformity are immeasurably increased. Some mistakes are bound to be made and their correction will be difficult, but by keeping records of the breeding stock and their produce, it will be possible to dispose of undesirable individuals as their poor reproductive ability becomes known. One ideal must always be uppermost in the breeder's mind, and the stock must constantly approach nearer to that one ideal in order to make any real progress. It is relatively easy to produce hogs, but to produce uniform hogs, hogs that will build up and advance the breed, requires time and constant effort.

AGE TO BREED SOWS

The age at which a young sow is first bred will depend upon her development, but it is seldom advisable to breed her before she is eight months old. A very young sow seldom produces a large litter. Another objection to early breeding is that a young sow has not the strength to stand the strain of nursing a litter of pigs, and her growth may be checked to such a degree that she never fully develops.

A sow farrows 112 to 115 days from the date of conception. By keeping a careful service record, the breeder is therefore able to determine accurately when to expect the pigs and to make his arrangements accordingly.



START HOG BUSINESS WITH BRED GILTS OF CORRECT TYPE

The sow needs a rest before she is bred again, and the time for this is between weaning and breeding periods. Intelligent feeding will bring the sow from a thin condition into a good, strong, vigorous condition in a short time. When this is done she will be in proper condition to assume her duty when breeding time arrives. If the sow is bred in a thin, run-down condition, she must resume work immediately, and she will naturally be weak and subject to the inroads of disease. A little cold contracted in this condition may cause death, while a strong, healthy sow will resist such attacks. It is the general belief that sows in good vigorous breeding condition conceive more readily, thus shortening the farrowing period for the herd.

There is no good reason why a sow should not produce two litters a year when properly handled. To accomplish this the sow should be bred to farrow, say, for example, in March, and bred again to farrow the early part of September. A sow bred about November 15 will farrow about March 6 to 9. The pigs should nurse eight weeks. The sow should be rebred by May 20 so as to farrow on or after September 8. The chances for profitably rearing two crops of pigs from a sow annually are undoubtedly far better in regions of mild climate and short winters than where the winters are long and severe.

CARE DURING PREGNANCY

During pregnancy two facts must be borne in mind. The first is that the sow is doing double duty. Not only is she keeping up her own bodily functions, but the development of the litter is an increasing drain on her system. Feeding at this time should be liberal, although it need not be so heavy as after the pigs are farrowed. A very fat sow is apt to be clumsy with her pigs, and sometimes these are lacking in vitality. On the other hand a very thin sow will either not do justice to her pigs or will become a mere wreck herself during the time she is nursing her litter, and the chances are that both these things will happen. The necessity of exercise must not be overlooked under any circumstances. This may be provided by a large lot or even by driving the hogs slowly for a short distance each day.

In the second place, the main demands upon the sow are those for the building of new tissue. Therefore, the kind of feed is important. The nitrogenous or protein-bearing feeds are needed at this time, such as tankage, bran, oil meal, peas, beans, oats, and barley. The clovers, alfalfa, peas, beans, vetches, etc., are also of much value to the brood sows. Special emphasis should be laid on the condition of the bowels during pregnancy and particularly at farrowing, the special danger to be avoided being constipation. The grain ration should be given as slop, and toward the close of gestation oil meal or a small amount of flaxseed meal should be introduced into the ration.

During the winter more care will be needed to keep the sow in good condition on account of the absence of pasture. Not only does the hog's system crave green feed, but more or less bulk is demanded. To offset the lack of green feed nothing surpasses roots. These may be sliced or pulped and mixed with the grain, or may be given whole as a noon feed. However, care must be used in feeding roots, as they are laxative in effect and if fed in excessive amounts may bring about profuse action of the bowels. Some eastern farmers recommend the use of clover or alfalfa hay, sheaf oats, or corn fodder, to supply the bulky requirement of the ration. Charcoal, ashes, lime, and salt, should be accessible at all times. During the entire period care should be taken to keep the system well toned. The sow should become accustomed to being handled and should look upon her attendant as a friend.

The brood sows may run together up to within two weeks of farrowing time; then it is well to separate them, placing each sow by herself in a yard with a small house, which should be dry, airy and clean. A great deal of exercise will now be necessary. The feed should be reduced somewhat, and if there is any tendency to constipation, a slight change of feed may be necessary.

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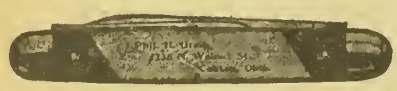

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Protect Trees from Rabbits

Unless young apple trees are protected from rabbits and mice during the winter, they are likely to be seriously injured.

Any covering that extends from the ground up to the first branches will serve for protection. Such material as cornstalks, paper, rags, wire screens, or manufactured covering may be used. If a close-fitting material like paper or wood veneer is used, one should remove it in the spring to prevent injurious insects and mice from collecting about the trunk of the tree. Wire protectors may be left on for several years. A mulch of weeds or grass should never be piled around young trees in winter.

KANSAS FARMER DAIRY CLUB

Dairy Club Show

THE Lyon County section of the Kansas Farmer Dairy Club is the first to receive consideration in a public show. The Lyon County Farm Products Show which was held in Emporia November 1, 2, and 3, brought out a great variety of farm products. Among these were all kinds of club exhibits, but the part that will interest the readers of this department most will be the showing made by the boys and girls with their cows and calves.

As you will remember, there were over two carloads of dairy cattle distributed to club members in Lyon County last summer. F. C. Newman, of the Citizens National Bank, had in mind a dairy cattle show at the time these heifers were distributed among Dairy Club members. In the Farm Products Show cash prizes



FLOYD GERARDY'S HEIFER, WINNER OF FIRST PRIZE AT EMPORIA DAIRY CLUB SHOW

to the amount of $51.50 were offered club members. First came eight prizes ranging from $7 on down to 50 cents for cows judged strictly from the standpoint of dairy type. This means that the judges picked out the very best cow without reference to whether she was giving milk at the time or not. Four prizes were offered for the cows giving the most milk on Friday, the second day of the show, and four for the cows giving the most butter fat on the same day. The cows were kept in the sheds at the Welfare Association and the weighing of the milk and testing it for butter fat was in charge of M. P. Roske, instructor in agriculture at the State Normal School. Then there were prizes for the best calf from club members' cows under two months of age and for the best calf over two months of age.

Nowhere near all the club members in the county competed for these prizes. It is quite a job to bring a milk cow and her calf fifteen or twenty miles to take part in such a show. It is not very good for their production records either. The club members who went to the trouble of bringing their cows and calves to this show are to be especially commended for their enterprise. But you are anxious to hear who won the prizes. The following letter from Floyd Gerardy tells about one club member's winnings:

"I thought I would write and tell you what my cow did for me at the fair at Emporia. On November 2 they judged the dairy cows and to my surprise my cow was winner of the first prize, which was $7 for the best dairy type. She also won first prize of $3 for the most milk given on that day, and second for butter fat in the milk. This prize was $2. The sum of the prize money was $12, which I deposited as payment on my note."

In judging the cows by type, Melvern Lee won second; Alphonso Arndt, third; Bob Austenfelt, fourth; Lloyd Dreasher, fifth; Warren Wright, sixth; Fred Greenlee, seventh, and Merrill Greenlee, eighth. Eleven competed in the milk and butter fat contest. Melvern Lee got second; Harold Laird, third; Merrill Greenlee, fourth, and Lloyd Dreasher, fifth. In the butter fat contest, Melvern Lee got first; Floyd Gerardy, second; Harold Laird, third; Lloyd Dreasher, fourth, and Merrill Greenlee, fifth. The picture of Floyd Gerardy's heifer shown on this page was taken at the show by the editor of KANSAS FARMER, who was present on the day of the milk tests.

A nice lot of calves was shown also. They looked even better than the heifers. Lloyd Drensher had the best calf over two months old, and Frank Davies was second. The best calf under two months of age was shown by Bob Austenfelt; second, Harold Laird.

While there were no girls in the winnings with cows or calves, we discovered while studying the school exhibits, there being over fifty districts represented, that in the exhibit of District No. 3 there were some fine-looking apple pies and some cake and bread made by Elsie Davies, whom we recognized at once as one of our club members. We learned afterward that Elsie was up early Thursday morning and baked these exhibits so as to have them perfectly fresh. Elsie's brother, Frank, also had some of his work in this exhibit, and we were very much gratified to find when the judges got through grading the different exhibits that the blue ribbon was given to District No. 3. The prize was a two-burner blue flame oil stove with an eight-quart aluminum combination cooker. This may seem a little aside from the Dairy Club work, but we feel sure all the club members will be proud to know that the school where two of our members attend did so well in this school district contest. The pupils of Number 3 will not have to eat any cold lunches this winter, for with the little stove, under the direction of their teacher, Miss Verna Hill, they will be able to have hot soup, cocoa, or other warm dishes.

Water for Dairy Cows

Did you ever try measuring the amount of water your cow drinks in a day? If you have ever had to carry water to her, you probably thought she drank at least a barrel. Cows giving milk need a great deal more water than dry cows. Cutting down the supply of water will reduce the milk more quickly than cutting down the feed. If there is a supply of good fresh water where the cow can get to it there is not much danger of her failing to get enough during ordinary weather, but during the cold winter months when the water in the tank is often coated with ice that must be chopped open so the cows can drink, a heavy milking cow will not drink enough. You have probably seen cows trying to drink ice water and have noticed how they would take a few swallows and then stretch their mouths as though something was hurting them. If you want your cow to do her best, be sure she has all the good fresh water she wants and in the winter time do not compel her to drink ice water.

Professor Eckles, of the Missouri Experiment Station, found by experimenting that a cow giving twenty-seven pounds of milk a day drinks about seventy-seven pounds of water. The same cow when dry drank only fifteen pounds. One cow while producing a hundred pounds of milk a day during the test period actually drank 250 pounds of water a day. That is just about a barrel of water. Big Holstein cows on dry feed have been known to drink as much as 300 pounds of water when giving a hundred pounds of milk a day. If you feed silage they will not need so much water. Forty pounds of average silage will contain about thirty pounds of water.

From Professor Eckles' experiments it has been figured out that the cow needs about two and a half pounds of water for every pound of milk she gives. Water is a part of your ration that costs no money, so you can afford to give the cow all she will drink. During the winter weather be sure she gets water no colder than it is when pumped fresh from the well. Just as surely as you compel her to drink ice water she will fall off in milk.

Heifer Doing Well

Esther Nicklin, of Emporia, whose picture with her cow, Bluebell, was in KANSAS FARMER recently, writes the following letter with her report:

"I am sorry I did not send my report in sooner, but I have been away and my folks would rather I would send it in myself. My heifer is doing nicely. She is growing some, too. I give her quite a lot of feed now, more than I did last month. Two weeks ago Saturday I paid $8.59 on my note at the bank."

According to figures secured from reliable sources by the U. S. Food Administration, the average consumption of meat by the civil population in Germany is one-half pound per week per person, distributed through a rigid system of food cards. Other staple food products are likewise restricted.

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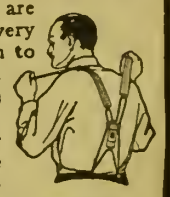

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Treating Caked Udder and Garget

EVERY dairyman has had experience with caked udders. At calving time there is nearly always more or less inflammation of the udder. When this inflammation becomes severe the udder hardens and "cakes."

Injuries to the teats may cause inflammation, as also exposure of the cow in cold, stormy weather. Garget is a form of inflammation caused by the entrance into the udder of specific germs.

In a recent circular of the Illinois Experiment Station by R. S. Hulce and W. B. Nevens, the following treatment is suggested for caked udder and garget:

"In ordinary cases of caked udder, milking several times a day, followed by thorough rubbing and massaging of the udder with the hands proves effective. In severe cases, where the milk is thick or stringy or very small in amount, more vigorous measures are necessary. The udder should be bathed with hot water for twenty to thirty minutes three or more times a day and thoroughly dried. Then some ointment, such as one of the following mixtures, should be applied:

"No. 1.—Gum camphor, two tablespoonfuls; melted lard, one teacupful; extract of belladonna, one fluid ounce.

"No. 2.—Fluid extract of poke root, one part; fluid extract of belladonna, one part; turpentine, one part; melted lard, sweet oil, or cottonseed oil, five parts.

"The udder should be kept warm by means of a blanket suspended under it, holes being cut for the teats if the udder is large and pendulous. In cold weather it may be necessary to blanket the cow to keep her warm.

"The ration during this period should be laxative in nature and small in amount. If the bowels are not moving freely, a drench prepared by dissolving in two or three pints of warm water one and a half pounds of Epsom salts, depending on the size of the animal, should be given. In addition one ounce of saltpeter administered twice daily for two or three days in the drinking water or as a drench is also beneficial. A physic which will act sooner than Epsom salts alone may be compounded as follows:

"Epsom salts, one pound; common salt, one-half pound; powdered ginger, one tablespoonful, or blackstrap molasses, one cupful.

"When certain bacteria gain entrance to the udder, inflammation sets in, with the result that the tissues swell and become hard. The milk flow from the quarters affected is reduced and may be a thick, bloody, or a watery fluid. In mild cases the presence of the disease is not readily detected. When udder infection is suspected, the first two streams of milk which are drawn from each teat should be milked through a fine wire gauze strainer. Thick milk, indicating the presence of infection, can thus be readily seen. Such milk should not be allowed to fall on the floor of the stalls, as it may be a means of conveying the disease to other cows, since garget is regarded as infectious.

To aid in preventing the spread of the disease it is well to milk the infected cows last, after which the hands of the milker should be thoroughly washed; and if a milking machine is used, the teat cups should be thoroughly disinfected. The cows' teats may also be treated after each milking with a disinfectant solution applied by holding a panful of the solution under the udder so that the teats are immersed for a few minutes. The general treatment recommended for caked udder should also be applied, except that no camphor should be used in the salve.

"The causes of sore teats are numerous, one of the most frequent being chapping in cold weather. Vaseline, oxide of zinc, or other good salve should be applied after each milking until the soreness disappears. When teats are torn, a powder composed of one part calomel, ont part subnitrate of bismuth, and six parts of boric acid may be dusted into the sores to prevent infection and hasten healing."

Dairy Exports

Exports of condensed milk which for a three-year period before the war averaged 17,792,579 pounds annually, have increased to 259,102,213 pounds for the fiscal year ending June 30, 1917.

Cheese exports which for the three pre-war years averaged 3,788,065 pounds reached 66,087,213 pounds for the last fiscal year, a seventeenfold increase.

Exports of butter which for the three years previous to the war were 4,457,144 pounds, increased in 1917 to 26,835,092 pounds.

The ravages of war now call for a prompt increase of dairy cattle in those countries able to raise them. The world's total number of cattle has already decreased more than 28,000,000. In England, France and Germany, the herds are being deliberately sacrificed to supply the immediate necessity for meat. Judging from all indications, the sacrifice of dairy animals will be even greater as the war continues.—U. S. Food Administration.

Milking Machine Saves Labor

Because of the scarcity of farm labor and the difficulty of obtaining good hand milkers, farmers are looking with greater favor on the milking machine. The improved machines have been given thorough trials at several of the experiment stations, and have been operated successfully by numerous practical dairy farmers during the last few years. Simplicity has been given due consideration in the improvement of machines, and farmers that can successfully operate the farm machinery need have no fear of operating the milking machine. Cleaner milk will be produced under ordinary farm conditions with the milker than by hand milking, provided the machine is thoroughly cleaned and the rubber tubing kept in an antiseptic solution. Because of the first cost it was not usually considered economical to have a milking machine where less than twenty to thirty cows were kept. Under present labor conditions the farmer with a smaller herd might profitably install a mechanical milker, thereby saving time and lightening his labor materially. Some farmers with small herds have found that they could increase the number of cows maintained on their farm after installing the milking machine by reducing the time taken to care for each cow.—H. C. NEVIUS, Colorado Agricultural College.

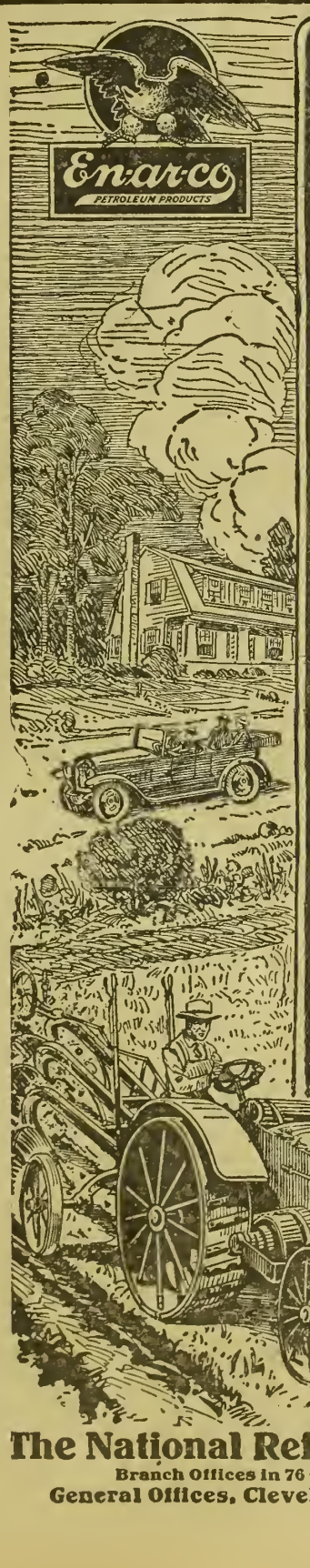
Keeping Qualities of Silage

Someone asks how long silage will keep. If properly made and stored in an absolutely air-tight silo, it will keep for several years at least. We have seen silage fed that was three or four years old, and the cattle seemed to eat it with as keen a relish as when it was first made.

What spoilage occurs takes place in the first two or three weeks following filling, and this is only on top unless the silo has leaky places which permit air to enter. Some silage will always spoil on top because there is no practical way of keeping the air from getting to it. The action of the oxygen combining with the green material causes decay. This rotten layer on top finally forms an air-tight seal just as a layer of paraffin seals a jar of some household product. If the top layer dries out too much, the air may get through it and attack silage below. Very seldom, however, does the spoiled silage on top exceed two feet in depth, and it should not be over a foot.

When ready to begin feeding from a silo, haul off this rotten, spoiled material on top. It is not fit for feed and may injure animals if they are given a chance to get to it. If the silage is not to be used for some time, be sure the layer on top is solid enough to prevent the air getting down deeply into the silage. Sometimes it may be necessary to wet it down a few times in order to prevent its drying out too much on top. Spreading about half a barrel of salt over the top is a good way to reduce the amount of spoiled feed.

The high price of feed for hogs emphasizes the desirability of breeding sows to a pure-bred boar. The pure-bred boar will aid in securing quick maturity of the pigs, greater economy of gain and more certainty of breeding true to type.



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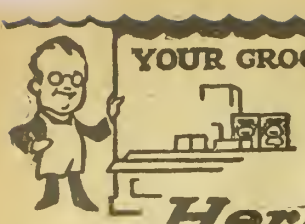

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Reduce Losses From Cholera

EVERY year cholera takes an enormous toll from the pork production business. Although it can not be completely eradicated from the United States under present conditions, losses from the disease can be materially reduced by education and organization of hog raisers in the application of proper sanitary measures and the proper treatment of hogs with anti-hog-cholera serum. This has been shown by the results obtained by the Bureau of Animal Industry of the United States Department of Agriculture, in experimental work in hog cholera control carried on in a number of counties during the past four years. The work and its results are described in Department Bulletin 584, "The Control of Hog Cholera," recently published by the department. In a number of Kansas counties this work has been effectively organized, the federal department having the active co-operation of the State Live Stock Sanitary Commission and the Agricultural College.

One of the important results is the fact that the work, while effective in reducing the disease, was not repressive while in progress on the hog-raising industry. On the contrary the industry thrived in the experimental counties to a greater degree than in adjacent counties in which no control work was under way.

Actual statistics were taken in the experimental counties and careful estimates were made in the adjacent counties. These show that in one group of three counties where the control work has been under way four years, the percentage of loss from hog cholera has remained constantly from one-fourth to two-fifths the percentage of loss in the fifteen surrounding counties. In another group of experimental counties the average percentage of loss as compared with that in eighteen surrounding counties was reduced from approximately nine-tenths in 1913 to less than one-third in 1914 and to about one-sixteenth in 1915.

The men who have supervised the control work of the department reach the conclusion that while the cradication of hog cholera can not be expected for a considerable time, the material reduction by the use of serum of the enormous losses which annually are caused by the disease is entirely practicable. The essentials for success in combating the disease, they point out, are interest on the part of hog raisers and knowledge of the disease; organization which will facilitate exchange of information as to outbreaks, and secure assistance; serum at reasonable prices and easy of access; and the available service in the community of persons skilled in administering serum.

War Demand for Horses

Since the beginning of the war approximately a million horses have been exported from the United States. This is a large number when considered in the aggregate, but when compared with the total horse population it has not been particularly large—2½ per cent of the whole or one out of every forty horses.

The United States Government has not made heavy purchases to date and the latest information from the quartermaster general's office states that only horses from six to ten years old weighing from 950 to 1,350 pounds are being purchased.

Dr. C. W. McCampbell, secretary of the Kansas Live Stock Registry Board, says that the British demand a neater, smoother, better made, better gaited and sounder horse than the French and have been willing to pay more for their horses. Most of the horses taken have weighed less than 1,400 pounds—a type for which there is very little commercial demand. Marketmen express the opinion that this class of horses should be selling for $50 per head less were it not for the war demand.

In general the kind of horses that are being taken for war purposes are as follows:

French Cavalry—Mare or gelding five to nine years old, weighing from 900 to 1,150 pounds, and bringing at point of inspection $90 to $115.

French Light Cavalry—Mare or gelding five to nine years old, weigbing from 1,080 to 1,275 pounds, and bringing $125.

French Heavy Artillery—Mare or gelding weighing from 1,280 to 1,500 pounds and bringing $140.

British Cavalry—Mare or gelding five to ten years old, weighing from 1,050 to 1,150 pounds, and bringing $130 to $150.

British Light Artillery—Mare or gelding five to ten years old, weighing from 1,250 to 1,450 pounds, and bringing $140 to $175.

British Heavy Artillery—Mare or gelding five to ten years old, weighing 1,500 pounds or more, and costing $175 to $200.

Baby Beef Clubs

Seven county baby beef clubs began work November 1 in Chase, Lyon, Franklin, Pawnee, Jackson, Doniphan, and Wyandotte counties. These clubs are being conducted co-operatively by the farm bureaus, the division of extension of the Agricultural College, and the United States Department of Agriculture, and the work will be supervised by the county agricultural agents and Paul Imel, pig and baby beef club specialist.

Boys and girls twelve to eighteen years old, inclusive, are eligible to membership in these clubs. Two girls are enrolled at the present time. These club members will start their work with calves of good beef stock, either grade or pure-bred, six to eight months old, and will feed them until May 1, keeping accurate records of the feed consumed and the cost of the feed. Monthly records must be sent to the boys' and girls' club department at the Agricultural College.

The points on which the winners in the baby beef clubs will be determined are net profit over and above cost of calf and feed, 50 per cent; record and story, 25 per cent; and training of calf for show purposes, 25 per cent. The yearlings will be weighed at the end of the contest, May 1. Valuations will be placed according to gains made. Those that have gained 400 pounds will be valued on a basis of the top market price for baby beef, and in computing the value of gained weight above 400 pounds one cent will be added to the top market quotation. One cent a pound will be deducted from the valuation for the difference between the gained weight and 400 pounds. That is, if 425 pounds have been gained, 400 pounds will be figured at 12 cents a pound or at the top quotation whatever that may be, and the extra twenty-five pounds will be figured at 13 cents, or one cent a pound higher. If the animal has gained only 375 pounds, 25 cents will be deducted from the total valuation.

Boys and girls interested in joining a baby beef club can get rules governing these clubs from Mr. Imel at the Agricultural College.

Successful community marketing of live stock is made possible only by the production of high class animals, advertising, fair dealing, and unselfish effort.

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A FARMING community that knows hog cholera, the ways in which it is spread, and the best methods of combating it.

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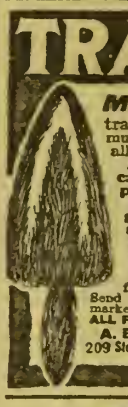

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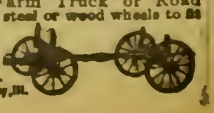

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Care of Horse's Teeth

Horse teeth should be examined every two years for such irregularities as sharp points and edges, elongated molars, decayed condition, and abscesses, advises Dr. R. R. Dykstra, of the veterinary department, Kansas Agricultural College.

Sharp points and edges are caused by the fact that the upper and lower grinding teeth in the mouth of the horse do not hit squarely, pointed out Doctor Dykstra. Because of the construction of the mouth, the inside edges of the lower molars and the outside edges of the upper molars do not strike anything when the horse chews, and consequently do not wear. The lateral motion of the jaw when chewing is not sufficient to allow uniform wear on the edges of the molars, so sharp points and edges result.

All decayed teeth or abscessed teeth should be removed as soon as discovered. When a tooth is removed, the corresponding tooth on the opposite jaw will grow far enough into the empty space to hit the gum. If the teeth are examined and filed every two years the elongated molars and sharp edges will cause no trouble.

The teeth may be examined by putting the hand into the mouth when it is held open by an instrument intended for that purpose. The animal cannot masticate its food properly when the teeth are subject to any of the irregularities mentioned.

Locating Trap Lines

The skunk is the first of the smaller fur-bearers to get good quality fur. It is followed by the raccoon, mink and opossum. The muskrat does not prime until late in winter and spring, although most of the pelts are taken earlier when the animals are active. During cold weather when the streams are frozen, muskrats do not move about freely.

So far as possible, it is best to take the fur-bearers according to the time of the year they get good fur. It pays in dollars and cents.

Briefly, I will discuss the most likely places for the various animals. The skunk prefers rough ground, as a rule covered with weeds or brush. Along old hedge fences are excellent places to look for signs, and abandoned cellars, etc., must not be passed by. Remember, the nearness of human habitation does not seem to disturb the skunk when it makes its burrow.

The raccoon likes woods, and is not found far from water, as a rule. The opossum likes timber also, and it has been said that the deeper it is the more opossums there are.

Along small creeks are best for taking the mink, as they are most numerous where they are offered concealment both for their dens and in the search of food. The large open streams afford them but little protection, as a rule. Under old bridges, around roots of trees, and similar spots ought not be overlooked.

The home of the muskrat is on water and it is never found far from it. The animals are most numerous along shallow streams, swamps, lakes, ponds and marshes.

If one will remember these few directions when trying to discover places for traps, he will have but little trouble in locating his line without unnecessary work.—GEORGE J. THIESSEN.

Meal from New Corn

Why eat last year's corn while harvesting this year's? Why lose the very best there is in corn by not using it when it is fresh, clean, and sweet? These queries, by the United States Department of Agriculture, are directed at those who have always eaten old degermed corn, and have never known the delicious nut-like flavor of new corn meal.

In these modern days the real flavor of new corn meal is too often only a memory of the settlers. Modern methods of handling corn used for human food are responsible for our being satisfied with an inferior article.

For less than $5 a hand mill and sieves capable of making excellent meal can be bought, and for less than $25 may be purchased a mill large enough for a community. It can be installed to be run by water, wind, gasoline, or other local power.

Instead of merely eating more corn as a necessary war measure, we Americans might exercise the privilege of eating better corn. Instead of degerming corn to prevent its spoilage, and instead of bleaching and scouring it to remove odors and impurities, it might better be eaten while it is still fresh, pure, and sweet. To have this privilege the meal must be ground locally from new corn. Yet practically all of the commercial meal of the northern and western states during the fall months when this new corn is readily available is the product of old degermed commercial corn. In November some of the crop is dry enough to leave the farms, and the meal from this corn does not get back to the farmers until December or later.

Squirrels, coons, dogs, and other animals relish new corn and even refuse to eat old corn unless compelled by hunger. Rats and mice usually eat only the germ—the richest and best part of the kernel—and leave the rest. This germ, highest in flavor and food value, is not available to man in the ordinary corn meal of commerce. In that form one is likely to get stale corn, from which rats and mice have previously eaten the choicest part, and degerminating machines have removed the rest to prevent further spoiling. "Why," asks a specialist, "should we make our corn products so poor that they can not spoil? Why pay the freight both ways, and several commissions, only to get corn meal with three per cent of its oil removed, when home grinding would give a more wholesome and palatable product at less cost?"

The excellence of this new corn meal has long been—but wrongly—ascribed to water-power and burr-stone grinding. The method of grinding has nothing to do with it. The meal is good because it is fresh and from the new whole grain. It merely happens that in parts of the South where the people know and appreciate the good quality of this fresh, sweet meal, it is ground largely in the water-wheel mills using the old-fashioned millstones. As soon as the corn is ripe it is dried in the sun and then used while it is fresh and clean. In the commercial meals the germs have been removed because the oil they contain is likely to become rancid after storage, and this tends to spoil the whole product.

We are being urged to eat more corn, because of starving nations and a world scarcity of wheat; yet Americans are eating less corn than they ate years ago. Corn-producing countries are the ones that should eat it, because it is at its best when it has not been transported long distances. For all of these reasons, the United States Department of Agriculture suggests that American families return to the simple-life ideal and make their own corn meal and hominy at home during the fall and winter months.

Select More Seed Corn

Here are five good reasons for selecting and saving double the usual amount of seed corn in the localities where the corn crop has matured in good condition.

First-class seed corn is scarce almost every spring.

Extended plantings and replantings practically exhausted the hold-over supply last June.

In some sections this year's crop has been destroyed by excessive dry weather or early frosts. In these sections the wise plan is to now arrange to secure seed from localities possessing similar climatic conditions.

In the localities favored with a crop this year, next year's crop may be destroyed, and there should now be selected a supply of locally adapted seed for 1918 and a hold-over supply for the 1919 planting.

Hail storms, floods, and other weather conditions yearly destroy millions of acres of young corn, making second and third plantings necessary. Seed corn dealers who provide ample supplies of seed of early maturing varieties render valuable service by prompt deliveries for these emergency plantings.

The same reasons apply with equal force to the selection of kafir, milo and feterita seed.

Does Silo Need Roof?

J. R. S., Chautauqua County, asks if a silo needs a roof. His silo was built late and filled as soon as possible after completion. He is wondering whether he should make plans to put a roof over it.

A roof is not essential to the keeping qualities of the silage. A good many silos are left without roofs. The roof keeps out the storms of winter and makes it much more comfortable to handle the silage in bad weather. In the open silo silage freezes quite badly during the winter weather. In a silo with a good roof there will be very little freezing of silage where the doors are all kept closed in cold weather. The ordinary rainfall of Eastern Kansas is not heavy enough to spoil silage where the silo is left open, but on the whole it is desirable to roof any type of silo. It is a permanent improvement and the expense of the roof is fully warranted. One objection often made to the roofing of silos is that it is difficult to fill them absolutely full because there is no room for men to work under the roof. There are now silo roofs on the market which can be opened up and returned to place after the silage has fully settled.

There were in the United States on January 1, 1917, 48½ million sheep, and a human population running well over 100 million, as compared with 52½ million sheep and a human population of 90 million in 1910, and with 64 million sheep and a human population of around 75 million in 1903. These figures make evident a material shortage in sheep, and while present prices are indicative of this shortage as well as an increased demand, an ordinary-sized flock of sheep can be handled to excellent advantage on the average farm, and the profits therefrom are worth careful consideration at this time. This is one means of increasing the income from the average farm and at the same time increasing the fertility of the land.

Buy Good Rubber Footwear for Your Growing Boys

They are anxious to do a man's work. Give their feet the comfort and protection a worker's feet ought to have.

Get them "Ball-Band" Rubber Footwear. Vacuum cured, practically one solid piece. It keeps their feet warm and dry and gives the greatest number of days wear at the lowest cost per days wear.

Worn by nine and one-half million people. Sold by 55,000 dealers. These are big figures, but they are true. Quality made this possible. Look for the Red Ball Trade Mark and be sure you are getting the genuine "Ball-Band."

Write for Free Booklet, "More Days Wear"

It describes the different kinds of "Ball-Band" Rubber Footwear and shows pictures of it.

MISHAWAKA WOOLEN MFG. CO., 316 Water Street, Mishawaka, Indiana

"The House That Pays Millions for Quality"



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Send for Price List and See!

"Biggs at Kansas City" wants all the furs you have this season and **will pay you the price to get them.** Over 35 years of honest and square dealing stand back of every Biggs transaction. Hundreds of thousands of trappers in all parts of North America look to Biggs for highest prices all the time. We are paying **more** this year because of the tremendous demand. Ready cash waiting for your furs.

Others May Advertise High Prices—BIGGS PAYS THEM

We do just as we advertise, pay you more for your furs and give you quickest returns. Depend on Biggs—the oldest and largest Hide and Fur House in the entire Southwest. Biggs will treat you right so that you'll be our friend and booster thereafter. **Send for Price List today.**

FREE Write today for Free copy of "The Trapper's Exchange"—greatest monthly magazine for trappers published. Full of trapping secrets sent in by successful trappers from everywhere. Interesting and instructive. **Write Today** for this big magazine, also **FREE** catalog of Trappers' Supplies at factory cost—Guns, Amunition, Animal Baits, Traps. Write to Biggs first.

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Fur Shipments Held Separate

Biggs originated the "Hold Separate" plan. In shipping furs to us, simply put in a notice in the package, saying "Hold Separate" and we will do so until you receive our check. If not satisfied, return check, and we will return your furs without delay.

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SHIP to the most reliable fur and hide house in Kansas. Liberal Grading and Highest Prices for your Furs. Full, correct weights and top of the market for your hides. Quickest returns. Over a quarter of a century in this business in Kansas. No matter where you have been shipping your furs or what prices you have been getting—send us what you have and let us prove to you how much better you can do in dealing with us.

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Write us at once for price list and free catalog of trappers' supplies. We can outfit you complete and save you money on what you need.

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164 styles, highest quality fence. Order direct at wire mill prices. Shipped from Kansas, Indiana, Nebraska, Texas, Colorado or California. Catalog Free. Write today. Geo. E. Long,
OTTAWA MFG. CO., 111 King St., Ottawa, Kans.



The New Hired Hand!

—the farmer needs good help in the fields. His wife needs good help in the kitchen. Her important duty is to make the best bakings. Her most important helper is Baking Powder.

If she tries Calumet she'll stick to it. Its dependability and uniform quality means good-bye to bake-day failures.

The farmer's wife wants the *most* of the *best* for her money. That's why most of them use Calumet. It's pure in the can and pure in the baking.

Received Highest Awards

New Cook Book Free — See Slip in Pound Can.

Classified Advertising

HELP WANTED.

WANTED—A MARRIED MAN FOR GENeral farm work. J. E. Rudolph, Route 4, Wakefield, Kansas.

FARMERS—MEN-WOMEN 18 OR OVER. Become U. S. Government clerks. $100 month. Easy, pleasant work. Thirty days vacation with pay. List positions free. Write Franklin Institute, Dept. J-82, Rochester, N. Y.

REAL ESTATE.

WANTED—TO HEAR FROM OWNER OF good farm for sale. State cash price, full particulars. D. F. Bush, Minneapolis, Minn.

COLORADO NEEDS 10,000 GENERAL farmers, dairymen, stock, poultry and hog raisers; good markets, fine climate, schools, churches. Agricultural and industrial map free. Write State Board of Immigration, 22 Capitol Building, Denver, Colorado.

YOUR CHANCE IS IN CANADA.—RICH lands and business opportunities offer you independence. Farm lands, $11 to $30 acre; irrigated lands, $35 to $50; twenty years to pay; $2,000 loan on improvements, or ready made farms. Loan of live stock; taxes average under 20 cents an acre; no taxes on improvements, personal property, or live stock. Good markets, churches, schools, roads, telephones; excellent climate — crops and live stock prove it. Special homeseekers' fare certificates. Write for free booklets. Allan Cameron, General Superintendent Land Branch, Canadian Pacific Ry., 234 Ninth Ave., Calgary, Alberta.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

J. F. GIVEN, OF WAVERLY, KANSAS, will sell November 20 at 1 o'clock, twenty-three head of two-year-old Holsteins bred to begin to freshen about March 1.

FOR SALE — THREE REGISTERED Guernsey calves, born in July. Two heifers and a bull, not related. Price of three, $375. R. C. Krueger, Burlington, Kansas.

HIGHLY BRED HOLSTEIN CALVES; either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked. $23, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

FOR SALE — ONE-YEAR-OLD REGISTered Guernsey bull, sires five nearest dams average 684 pounds fat one year. Dam's grandsire Imp. King of the May. Very large, black nose, a great bull for a grade herd. Also a few high grades 15-16ths and better. Bull calves, same sire as above. John Perrenoud, Humboldt, Kan.

DOGS.

COLLIE PUPS—U. A. GORE, SEWARD, Kansas.

FOR SALE—GREYHOUND PUPS, FOUR months old. Prices right. Lewis Schulz, Canton, Kansas.

COLLIE PUPS FROM GENUINE STOCK, dogs that drive from the heel. E. L. Dolan, Route 2, Platte City, Missouri.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

TREES, SEEDS AND PLANTS.

FOR SALE—ONE CAR PURE TURKEY seed wheat, $2.25 per bushel. Alfalfa seed, $8 per bushel, f. o. b. Graatville, Kansas. S. E. Wilson.

HOGS.

CHESTER WHITES — MAY PIGS AT farmers' prices. Gust Claussen, Bunker Hill, Kansas.

AUTO TIRES.

TIRES — FORD, $6.50; OTHER SIZES equally low. Wear like iron. Booklet free. Economy Tire Co., Kansas City, Mo.

WANTED

WANTED — TO BUY HAY, SORGHUM, Johnson grass, oat straw, alfalfa prairie hay, maize heads, ear corn, oats, cane and Sudan seed. State number of cars you have and price wanted f.o.b. your station. B. E. Miller, Carlton, Texas.

SHEEP

FOR SALE—600 GOOD WESTERN EWES now being bred with pure-bred Shropshire bucks. Will sell all or part. Ship over Santa Fe or M. P. P. Price $10. Homer Harsh, Argonia, Kansas.

SULPHUR FERTILIZER

SULPHUR PHOSPHATE ROCK GROUND proves wonderful new, cheap, rich fertilizer. Experiments prove an increase acreage yield almost one-third. Is cheap and easily applied. Company has large mine. Send for literature and experimental fertilizer reports. Scott Co., Houston, Texas.

THE STRAY LIST.

TAKEN UP—BY J. C. HALLISTER, OF Cunningham, Rural Township, Kingman County, Kansas, on September 25, 1917, one horse pony about three years old, color bright bay, weight about 600 pounds; no marks or brands. Appraised at $15. W. E. Hart, County Clerk.

TANNING.

LET US TAN YOUR HIDE: COW, HORSE or calf skins for coat or robe. Catalog on request. The Crosby Frisian Fur Co., Rochester, N. Y.

HORSES AND MULES.

SHETLAND PONIES. CHARLES CLEMmons, Coffeyville, Kansas.

Real Estate For Sale

10,000 ACRES of good grazing land, well watered, for $3 to $5. All crops good. No drouth, no hot winds. Grass for cattle and corn for hogs. Best country in the world to live and make money.

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Best Bargain in S. E. Kansas

360 Acres, 160 acres fine wheat, corn and alfalfa land. Rich creek bottom soil. Balance pasture. $5,000 worth improvements. Splendid oil prospects. A snap. For quick sale, $45 per a. **M. T. Spong, Fredonia, Kan.**

GREATEST BARGAIN IN EASTERN KANSAS

160-Acre Dairy Farm, 5 mi. from Topeka (a city of 50,000 people), only $12,000. Half cash.

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160 ACRES

Two miles No. 1 town, all tillable land; 30 acres wheat; 50 acres native bluestem meadow; 20 acres bluegrass pasture; remainder in cultivation; family orchard; 7-room house; barn; cribs; well; cistern. Bargain, $80 per acre.

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28 ACRES adjoining city McAlester, 6 blks. street car, 1 mi. P. O.; 20 a. splendid dry bottom, 10 a. cult., bal. pasture. Fair imp. $75 per a. Terms.

SOUTHERN REALTY CO., McAlester, Okla.

SUMNER COUNTY produces the big crops, corn, wheat and alfalfa. Improved farms only $40 to $75 per a. Owner's price my price. Write for list. **Wm. Hembrow, Caldwell, Kas.**



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

The common problem, yours, mine, every one's
Is—not to fancy what were fair in life
Provided it could be; but finding first
What may be, then find how to make it fair
Up to our means, a very different thing!
—Robert Browning.

Personal Appearance

The mother who takes the time and trouble to keep herself neat and attractive is well repaid by the appreciation of her children. Even young children are very observant, though they are not exacting in their ideas of dress. A garment may be made of inexpensive material and may be several seasons behind the prevailing mode and still be pleasing to a child, but he is quick to note if it is untidy or ill fitting.

We expect especial neatness of a teacher. Just as an actress or a reader adapts her costume to the tastes of the audience before which she is to appear, primary and kindergarten teachers who realize the subtle influence of dress try to please the little ones, perhaps wearing a touch of brighter color than they would otherwise choose or carrying a "nice smelly handkerchief," or in other ways appealing to childish fancy. Can a mother afford to be less painstaking?

Helps for Mothers

A series of articles on the care and training of small boys and girls at home is being issued weekly by the United States Bureau of Education. These are prepared by mothers who have been kindergarteners and contain suggestions for using kindergarten activities to furnish profitable amusement in the home. They deal with such topics as understanding children, outdoor and indoor games and occupations, playmates, plays and toys, books, stories, pictures, music, and pets. To receive the articles as issued, send name and address, with request to be put on the mailing list for Mothers' Articles, to the Kindergarten Division of the United States Bureau of Education, Washington, D. C.

Prevention of Colds

The changeable fall weather and the mingling of numbers of children together in school combine to produce a great many colds at this time of the year. Since colds are as contagious as measles, the sensible course seems to be to take every precaution to prevent the entrance of the germs into the body and to destroy them when possible. Nose and throat discharges are the sources of the germs that cause colds. In various ways the germs may be scattered by a person who has a cold and may lodge in the nose or throat of another person. If the system is weakened by lack of fresh air, overeating, fatigue, lack of exercise, and exposure to cold, the germs may develop and cause a cold.

Colds are serious because they lower the vitality and thus give germs of worse diseases an opportunity to develop. A cold "develops into pneumonia" when the body is weakened by the cold so that it cannot resist the lurking germs of this disease.

Children suffering from colds should be urged to be cautious about the use of the handkerchief. It should be kept in the pocket, used only for its rightful purpose, and whenever possible the hands should be washed after using it. The mouth and nose should be covered with a handkerchief when sneezing or coughing. When suffering from a cold, several clean handkerchiefs should be carried and each one wrapped in paper after it becomes unfit for use. The soiled handkerchiefs should be kept in a small bag, separate from those of other persons, and the bag and all boiled before being handled by the person who does the washing. A still better way is to use pieces of soft old muslin or cheesecloth, which may be wrapped in paper and burned either at home or at school.

Table napkins, towels, and cups and other dishes used by a person having a cold should be kept rigidly separate from those of other members of the family. A wise precaution to prevent the spread of colds, tonsilitis, or any throat or lung trouble, is to boil the articles used by the patient from fifteen to twenty minutes. This may seem to be a great deal of trouble, but it is not so much trouble as taking care of a sick person, to say nothing of the benefit to the general health of the family.

Window Boxes

Window boxes made up of flowering plants give an added touch of brightness and pleasure to the home life and may be started at a small outlay. Both indoor and outdoor boxes may be used to good advantage, according to M. F. Ahearn, professor of landscape gardening in the Kansas Agricultural College. The most satisfactory window box may be made by using evergreens such as red cedar, arbor vitae, and white and blue spruces.

Professor Ahearn says that these plants should be from six to eighteen inches in height. They may be arranged effectively by keeping the taller ones in the center and back and the smaller ones in the foreground. Such a box, after being well started, will require little attention and need not be protected from wintry weather.

For the indoor window boxes, Boston fern, German ivy, variegated periwinkle, red geraniums, nasturtiums, snapdragon, and vinca alba may be used with good effect. All the flowers should be removed from the plants as soon as they begin to fade. In order to obtain the best results the box plants should be given an application of fertilizer once or twice a month. An east or south exposure will be found best for most window plants.

Wonderful Egg Producer

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit maker, write E. J. Reefer, poultry expert, 4638 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1 (prepaid). So confident is Mr. Reefer of the results that a million dollar bank guarantees if you are not absolutely satisfied your dollar will be returned on request and the "More Eggs" costs you nothing. Send a dollar today or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—(Adv.)

Sugar Trimmings

In two months the sugar produced this year will be on the market and there will be enough, we hope, for everybody. In the meantime the following suggestions are offered by the Food Administration as helps in tiding over the shortage.

Use now your jellies, jams, preserves, and fruits canned with sugar.

Omit icing from cakes and fancy breads.

Use fruit and nuts, candied honey, or maple sugar, for cake fillings.

Try cakes that call for honey or syrup instead of sugar.

If you must sweeten breakfast cereals, try figs, dates, raisins, syrup, or a light sprinkling of maple sugar.

Use honey, corn syrup, dark syrup, or maple syrup, with hot cakes and in bread and muffins.

For dessert serve a fruit salad or fruit omelet, cream cheese with honey or fine preserves, fruit desserts with honey or just enough white sugar to bring out the fruit flavor.

What do we live for if it is not to make life less difficult for each other?—George Eliot: Middlemarch.

(Continued on Page Twelve)

Kind of Cattle to Raise

H. L. N., El Paso County, Colorado, writes as follows:

"What kind of cows are best for me to keep to milk? I am selling cream and I feed the skim milk to calves and pigs. I have Jerseys and Holsteins and I like them, but find that it will be hard to sell the surplus unless the new cheese factory causes people to change their minds. At public sales any kind of a red cow will outsell a Jersey or Holstein. Red calves sold at sales at weaning time go as high as $25 apiece. I had planned to raise all the heifer calves that I could and sell good milk cows. Would it pay me to raise Shorthorns or Red Polled cattle so as to meet the demand through the country here? So many figure on the steers and sell cream as a side issue. I believe in selling cream and counting the steers as the side issue. Holstein bull calves at two or three days of age can be bought for $6.50 to $7 each. How much less would packers give me for Holstein steers than for red ones? By butchering them myself I believe I could get about the same.

"What is the best thing to do with the Jersey and Holstein steers? Most people here sell their steers off of grass in the fall. I thought of running mine on good winter pasture and feeding them silage and sweet clover until after the first of the year. Do Red Polls take well with beef cattle men? And if I should start with registered red cattle, could I make it more profitable than handling dairy cattle?

"Next season I will be within reach of three small towns. Will it pay us to make ice cream and sell wholesale? We know something about making it. I would plan to put up my own ice and produce my own milk and cream. Can you give me information on making and handling ice cream? What about sowing rye and sweet clover together until I get enough sweet clover for pasture and hay, and how many cattle and horses may be pastured on 160 acres of sweet clover?"

The kind of cattle to raise depends largely upon whether dairying is to be the main thing or whether selling cream is only a side line. The real dairyman—the man who takes pleasure in handling high-producing milk cows and knows how and is willing to give them the kind of care and feeding necessary in order to realize on their capacity for heavy production—had better breed up a herd of strictly dairy cows. Such cows, however, would not make good in the hands of those who have had no experience other than that of handling beef cattle. In a country where beef production is the main business and where cows are milked and cream sold only as a means of converting a little surplus labor and rough feed into something that will bring in some cash when there is nothing else to sell, highly developed dairy cows will not be appreciated. In districts where dairying is made the main business, high producing dairy cows will outsell good beef cows. Where our correspondent is located the reverse is the rule. If a man living in that section of Colorado has an inclination to do dairy work and expects to stay with it, he can probably make good, but he will have to go in strong for production, depending on that for his main income and simply treating the beef business as a side line, selling the bull calves for whatever they will bring.

In order to have a local market for surplus heifers or steers before there is any general interest in dairying, it will of course be necessary to raise something in the way of cattle that everybody wants. Beef cattle men have little use for dairy-bred steers, although these animals can be made into fairly creditable butcher stuff by feeding them plenty of silage and sweet clover hay. It would not pay to try to put this class of stock on the market as feeding cattle or finish them as well-bred beef cattle are finished. In order to keep in line with the present local demands for animals having some of the characteristics of beef cattle, Shorthorns of milking strain or Red Polled cattle would be more satisfactory than Jerseys or Holsteins. Red Polled cattle and milking strains of Shorthorns are fairly good producers and they will also sell well as beef animals.

We cannot advise a course of action for our correspondent without knowing more of his special ability along the various lines. There is undoubtedly money in the ice cream business. The dairy department of the Kansas Agricultural College at Manhattan can furnish detailed information on making and handling this product. The Colorado College at Fort Collins probably can supply similar information.

In farming, as in other business, there is danger of trying to do too many different things. The available labor for handling the cows, growing crops, and handling and selling the product, must be carefully considered. A few things well done will realize a greater profit in the long run than attempting to do a number of things and falling down on all of them.

Anyone handling stock in that part of Colorado will find the use of rye and sweet clover a great help in furnishing feed and pasture. Sweet clover especially has a great future before it as a forage and pasture crop. In Central Kansas sweet clover pasture will maintain at least one animal to the acre, and during part of the year even better. We do not know what would be the capacity of sweet clover pasture to carry stock in Eastern Colorado. Perhaps some of our readers in that section or in Western Kansas can furnish some information along that line. Some very useful and valuable bulletins on sweet clover have been published by the United States Department of Agriculture. They are furnished free on request.

Home Slaughtering Economy

Slaughtering home meat on the farm saves money, saves freight on live animals to market and the return freight on finished products; utilizes labor on the farm at a time of the year when it is relatively unproductive; and permits the housewife to increase her bit in food production and conservation.

Much of the commonly practiced farm killing is wasteful in that the fat from the offal is not carefully saved. If kept clean all fat is edible. That which is soiled should be saved for home soap making. Cheek and head meat of beeves should not be wasted. It is splendid meat for mincemeat or hash meat. First and second stomach make valuable edible meat — tripe — and are not hard to clean. They can be worked into sausages and headcheese. Every farmer can afford a bone grinder to utilize the bones for poultry and hogs. Non-edible offal should be cooked for feed for hogs and poultry. This is a better practice than feeding it raw.

A full year's work on the killing, dressing, cutting and curing of beef, mutton and pork, is now given at our Agricultural College. One hour a week is spent in the classroom and three hours in actual practice work.

Meats cured on the farm do not as a rule have the uniform cure of the packer's meat. Much of the bacon is too salty to eat. This is largely from not giving careful attention to details. Country-cured meats can be made uniform, and of a flavor and quality not attained by the packing houses.

Every farm boy who takes the meat course at the college has an opportunity to learn how to cut and cure meat properly. Making of sausage, headcheese, scrapple and bologna are practiced with special reference to the utilization of by-products. To learn to waste less is more important than to learn to consume less.

Bean Crop Report

C. E. Cassel, emergency food agent in Finney County, reports that Ed Solz had a yield of 1,000 pounds per acre, or better than sixteen bushels, of Mexican beans. Mr. Cassel had the pleasure of wielding the flail during the threshing process on this farm. John A. Lewis reports 600 pounds or ten bushels per acre from a two-thirds stand of this crop. Mr. Staley, of the same neighborhood, estimates his yield at ten bushels per acre and has ten acres. Judging from the present local retail price of beans, in spite of the fact that the market is being well supplied for the present, these bean farmers should realize a good return from the crop, if sold at the present wholesale prices. We understand that the local retail price of beans is 15 cents a pound. In localities where the soil is rather sandy, namely in the river bottoms and in the sand hill region, the Mexican beans yield well. Where the soil is heavier in type and local showers rather scarce as during the past season, the crop did not do so well.





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of recent introduction that has the form-fit feature. The front presents a very graceful curve affording ample room for the cravat. It is a collar that you will like.

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They Take Their Medicine Voluntarily

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Let your hogs, cattle, sheep and horses have a chance to prove to you that Carey-ized Stock Tonic Brick is the tonic medicine that insures perfect health and rapid gains. Our 30-day trial offer enables you to do this without risk on your part.

Carey-ized Stock Tonic Brick contains the eight different superior health-promoting ingredients which should be within easy reach of animals all the time. Leading stock feeders who have used it pronounce

Carey-ized Stock Tonic Brick

The Greatest Health Promoter and Conditioner Ever Offered

It does away with the old-time, uncertain, troublesome and wasteful method of dosing. Animals instinctively and voluntarily take their medicine whenever their condition requires it—relieves you of worry.

Prevents and destroys worms—keeps system in prime condition, thereby protecting them against disease. Aids digestion—saves feed cost—conditions hogs and steers for market in several weeks' less time.

TRY IT 30 DAYS AT OUR RISK

Order a dozen or more Carey-ized Stock Tonic Brick from your dealer. Let your animals have free access to it for 30 days. If not satisfied with the result, return what you have left and get all your money—no charge for what you have used. No fairer offer, proving our confidence, can be made. Write for proof of our claims regarding Carey-ized Stock Tonic Brick, and for valuable book on "Making Live Stock Pay." Fill out and mail us the coupon today.

Solid Brick Form Prevents Waste



Salts Animals Regularly While Providing Needed Medicines

Carey Salt Company
Dept. 256, Hutchinson, Kansas

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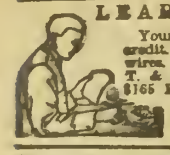

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WHITE ROCKS, SIZE AND QUALITY. Prices reasonable. G. M. Kretz, Clifton, Kansas.

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Be a food dictator in your own kitchen with a hundred per cent record. Glorify the humble foods. Make a perfect record on potatoes.

A baked potato, mealy and evenly cooked, breaking into glistening pearls, is a glorious product, but a clammy offering is an insult to intelligent appetites. Mashed potatoes may be a fluffy, creamy mass, a perfect piecer-out of a war-portion of meat; but as sometimes served, a waxy, watery, depressing compound.

"Soldiers of the commissary" who make a perfect record on baked potatoes and mashed potatoes should be raised to officer's rank and wear the shoulder strap.

Canadian War-Cake

No recipe has been more popular than the one for Canadian war-cake. Many people like this plain cake better than the cakes that call for butter, eggs and milk.

2 cupfuls brown sugar
2 cupfuls hot water
4 tablespoonfuls lard
1 teaspoonful salt
1 teaspoonful cinnamon, ground
1 teaspoonful cloves, ground
1 cupful raisins.

Boil all these ingredients for five minutes after they begin bubbling. When cold add three cupfuls of flour and two teaspoonfuls of soda dissolved in one teaspoonful of hot water. Bake in two loaves in slow oven an hour and a quarter.

Twilight Animal Stories

Bumper The White Rabbit

By George Ethelbert Walsh

(Copyright, 1917, by George E. Walsh)

STORY III—BUMPER IS SOLD

BUMPER was taken to the street corner with Fluffy, Dimples and Pickles. It was a cloudy day, and the old woman limped as she walked along with her basket on her arm. Damp weather always brought out her rheumatism, and sometimes made her very cross.

Dimples and Fluffy began playing they were on a ship in a storm, and when a drop of rain hit Pickles on the nose he squealed with delight, and joined them in the game. They scampered around so lively inside that the old woman stopped and opened the cover of the basket.

"Stop that!" she said quite angrily, "or I'll dump you all in the gutter!"

The threat was enough to send each to a corner of the basket, where they eyed each other and tried to think up some less boisterous game. It was beginning to rain steadily outside, and the water trickled through the top of the basket. Every time a drop hit one, he squealed, but no one dared to jump and run around.

Now rabbits don't sell very well on rainy days, especially white rabbits. Their fur gets all wet and roughened up, and they look more like half-drowned rats than pretty, fluffy bunnies. Fluffy was taken out of the basket first, but nobody took any notice of her, and when she came back she was all wet and shivery.

"B-r-r-r, it's awfully wet outside," she said, shaking with the cold. "I'm glad nobody bought me, for I'd rather be in here safe and warm than in somebody's arms."

Pickles' turn came next. He had an ingrowing toenail, which sometimes made him cronchy and sour, so he was dubbed Pickles. He looked and acted like his name now. He squealed when the old woman picked him up in her hand, and when a splash of rain landed on the back of his neck he kicked both hind legs and wriggled his body free and fell plump back into the basket.

The old woman was very angry. "You, Pickles," she growled, "you'll go to bed tonight without any supper."

Somebody passed just then, a lady with a numbrella over her head, and the woman with rabbits to sell turned to her in her most beguiling way. "Rabbits, lady! Nice, pretty rabbits for sale."

The lady stopped long enough to let her umbrella drip all over the basket, and then she asked: "Are they white rabbits? I don't want any other kind."

"Yes, ma'am, pure white bunnies, with pink eyes, and long, fluffy ears—the dearest and cutest little things you ever saw. Let me show you."

With that she made a grab in the basket. It was a blind-man's bluff grab, for she couldn't see one of the rabbits huddling in the corners. Bumper was the nearest, and her hand closed over him.

"That's the prettiest one I have, ma'am," she said. "He's my pet, an' I hate to sell him, but I need the money an' you can have him."

It was raining pitchforks outside, or something like that, and, for a moment, Bumper couldn't see anything but the big drops of water splashing in his eyes. Then the lady held the umbrella over his head, and he looked up into her face. She was a sweet, womanly lady, but not exactly the kind of mistress Bumper had pictured belonging to.

"He is a dear little thing," the lady said, taking him in her arms and rubbing his back. "And so friendly! Why, he's trying to cuddle up under my arm."

The fact was, Bumper was trying to get in her muff away from the dripping umbrella. He made a dive for the nearest open end, and squeezed all but his tail through.

"How cute of him! I believe I must take him. How much is he?"

Now Bumper's heart nearly stopped beating when he heard the lady ask this question, for had not his mother told him that he cost too much money for most people to buy? Did this lady have plenty of money, or did she put it all on her back and starve her stomach? She was beautifully dressed, and her cheeks were not very plump and fat—not a bit like the red-headed girl with a freckle on the end of her nose.

"Two dollars, ma'am, an' he's cheap at that! You don't find rabbits like him once in a year."

Bumper's hopes took a sudden drop. Two dollars! Why, Jimsy had been sold for one dollar, and Wheedles for seventy-five cents, while Topsy, who was old and fat, brought only fifty cents. My, two dollars was an awful lot of money!

"Two dollars!" repeated the lady, fumbling in her dress with one hand. Then, to Bumper's surprise and delight, she added: "I think I'll take him. I want him for my nephew. Toby's hard to suit, but I think he'll be pleased with a rabbit. What did you say you called him?"

"Bumper, ma'am!"

"That's a queer name, but I like it."

"It was because he was always bumping his nose when he was a tiny mite," the old woman explained, taking the two dollars from the lady. "His mother named him first, and then his brothers and sisters took it up, and, of course, I had to follow 'em. Rabbits don't like to be called by two different names, and if I was you, ma'am, I'd keep calling him Bumper. He wouldn't know any other name."

"I will always call him Bumper, but"—sighing—"I'm afraid Toby will want to nickname him. He makes up the funniest names for all his pets."

"Tell him then Bumper will run away and never come back. Rabbits are more knowing than you think, ma'am."

"I always thought they were very cute and gentle, but very stupid," replied the lady. "But maybe I was wrong. Bumper doesn't look stupid."

"Lordy, ma'am! he ain't no more stupid than that Toby you speak of, whoever he may be."

"Well, Toby isn't stupid, whatever else you may say of him," smiled the lady. "He's bright enough, but he's sometimes very thoughtless, and I fear a little cruel."

"Cruel, ma'am!" And the old woman who sold rabbits for a living stiffened her bent form, and frowned. She stretched forth a hand as if to reclaim her Bumper, but the lady moved away with her purchase under her arm.

"Oh, I'll see that he isn't cruel to Bumper," she said.

While listening to all this conversation, Bumper experienced strange and unusual emotions. He had learned more about white rabbits in a few moments than has mother had ever taught him in all the days of his youth. They were considered stupid, were they?—but cute and gentle. Huh! He wasn't stupid! No, indeed! If the lady thought so he'd show her what a mistake she'd made.

Just to prove it, Bumper began to gnaw at the lining of the muff, and pretty soon got his whole body under it, and then he began to kick and wriggle to get out. He felt he was being smothered alive, and he squealed aloud. The lady finally rescued him, but not until she had torn away half the lining from her muff.

"Oh, you stupid little Bumper!" she said, reprovingly. "You mustn't do such things!"

Bumper felt so crestfallen at this rebuke that he remained perfectly quiet during the rest of the walk. He snuggled up into the crook of her arm, and peeped out once only when they reached a big house and began ascending the steps.

So this was to be his future home! What a big place it was! Why, hundreds and hundreds of white rabbits could live in that house and never lack for elbow room.

Just then, when Bumper began to feel a little proud about his future home, a great noise and clatter behind the door startled him, and it opened so suddenly that he nearly popped out of the lady's arms. And what happened to him behind that door of the big house might fill chapters and chapters, but it will all be told in the next story.

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Breeders' Directory

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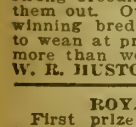
H. C. LaTourette, Route 2, Oberlin, Man.
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

SHEEP.



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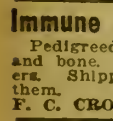

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Twelve head of Duroc Jersey spring boars, no better breeding anywhere, seven of them sired by Kern's Sensation, grand champion of Iowa and Nebraska this year. Priced reasonable.
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Thirty-five spring boars by G. M.'s Crimson Wonder, Crimson Wonder Again Jr., Critic D. and Great Wonder, out of my best herd sows. Priced to sell. Come and see my herd.
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With size and bone. Bred sows and males a specialty. 150 early pigs; pairs and trios, no kin. All immuned. Satisfaction guaranteed. C. G. Ditmars & Co., Turney, Mo.

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Valiant 346162 and Marengo's Pearl 391962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.
Can ship on Rock Island, Union Pacific or Santa Fe Railway.
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For Sale—Three red bulls, 12 months old. A few cows and heifers. Priced reasonable. Come and see my herd.
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Thirty spring boars, forty spring gilts, bred or open. Write for prices. Satisfaction guaranteed.
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Booking orders for spring pigs of National Swine Show blood lines. Fall and spring pigs at bargain prices.
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Best breeding, best type. Stock for sale.
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CLAIM SALE DATES.

Percherons and Standard-bred Horses.
Nov. 30—J. F. Roelofson, Maryville, Mo.

Jacks and Jennets.
Nov. 28—Ed Boen and L. M. Monsees, Lawson, Missouri.

Angus Cattle.
Nov. 23—G. E. Cox & Son, Elk City, Kan.

Holsteins.
Nov. 20—H. B. Browning, Linwood, Kan.
Dec. 3-4—Robinson & Shultz, Independence, Kan.
Dec. 6—E. S. Engle & Son, Abilene, Kansas.

Herefords.
Nov. 19—W. I. Bowman & Co., Ness City, Kansas. Sale at State Fair Grounds, Hutchinson.
No. 22—Sam Drybread, Elk City, Kansas.
Nov. 23—W. H. Rhodes, Manhattan, Kansas.

Shorthorn Cattle.
Dec. 6—Fremont Leidy, Leon, Kan.

Poland Chinas.
Dec. 5—U. S. Byrne, Saxton, Missouri.
Feb. 6—H. B. Walter, Effingham, Kan.
Feb. 7, 1918—W. H. Charter, Butler, Mo.
Feb. 8, 1918—W. B. Wallace, Bunceton, Mo.
Feb. 9, 1918—Will J. Lockridge, Fayette, Mo.
Jan. 29—Head & Moore, St. Joseph, Mo.
Feb. 18—Deming Ranch, Oswego, Kansas.
Feb. 19—Fred B. Caldwell, Howard, Kansas.
Feb. 20—B. E. Hodson, Ashland, Kansas; sale at Wichita.
Feb. 21—E. J. Erhart & Son, Ness City, Kansas; sale at Hutchinson.
Feb. 22—F. Olivier & Son, Danville, Kansas.
Poland Chinas.
Feb. 23—V. O. Johnson, Aulne, Kan.
Feb. 28—Clarence Dean. Sale at Dearborn, Mo.

Chester White Hogs.
Nov. 20—W. W. Waltmire & Son, Peculiar, Missouri.

Durocs.
Feb. 14—B. R. Anderson, McPherson, Kan.
Feb. 27—R. W. Murphy, Dearborn, Mo.

Mora E. Gideon, of Emmett, Kansas, the well known breeder of Percheron horses, Hereford cattle and Duroc hogs, has announced a sale to be held November 20. The offering will consist of twenty-eight head of Percheron horses, mares and fillies, including three choice registered stallions, thirty-one head of registered Hereford bulls and a few cows, and fifteen head of pure-bred Duroc hogs, including spring boars and gilts and tried sows.

W. J. Harrison, of Mayflower Stock Farm, Artell, Kansas, owner of good herds of pure-bred Red Polled cattle and Duroc hogs, reports his herds doing well. Mr. Harrison has succeeded in building up a choice herd of Red Polled cattle. He has the heavy milking strains that are profit producers and a feature of his herd at this time is the choice lot of young stock, including some outstanding bulls.

M. C. Pollard, of Carbondale, Kansas, held a very successful sale of pure-bred Poland China hogs November 6. With an offering composed almost exclusively of spring pigs the general average was $38 per head. A feature of this sale was that the entire offering was taken by Mr. Pollard's neighbors.

The Polled Durham dispersion sale held by D. C. Van Nice, Richland, Kansas, on November 8, was well attended and the offering sold for an average of $240 per head. A large percentage of the offering was taken by Kansas buyers.

The Shorthorn sale held by Park E. Salter of Wichita, Kansas, November 9, was attended by Shorthorn breeders from a number of states. The average on forty-five head was $564 per head.

The Ross & Vincent Poland China sale held at Sterling, Kansas, November 6, attracted a number of farmers and breeders from a distance. The offering was exceptionally good and was well fitted for the sale ring. The top sow went to the herd of Dr. W. A. Nixon, of Great Bend, Kansas, at $150. The top boar was bought by Park E. Salter, Wichita, at $75. There were no boom prices, but an average on fifty-six head of $59.55 was made, which was very satisfactory to Messrs. Ross & Vincent, this being their second annual fall sale of Poland Chinas.

Harlo J. Fisk, formerly manager of the Pabst Stock Farm at Oconomowoc, Wisconsin, has recently concluded the purchase of 100 head of pure-bred Holsteins for the Federal Government. The cattle are for the prisoners' vocational school at Fort Leavenworth, Kansas, of which Mr. Fisk is now superintendent and principal instructor. The herd consists of 100 of as choice specimens of the breed as has ever been gathered together. Mr. Fisk has had long experience in the breeding and caring for pure-bred Holsteins and he exercised his best judgment in buying cattle for Uncle Sam. The stock was all Wisconsin-bred and ranged in price from $275 to $1,000.

The annual meeting of the American Aberdeen Angus Breeders' Association will be held December 5, 1917, at 7:30 p. m. at the Palmer House, Chicago, during the International Live Stock Exposition. The association has listed a very select offering of Aberdeen Angus cattle for their sale to be held in Chicago December 5.

H. E. Myers, of Gardner, Kansas, held a Poland China sale on November 7, which drew a number of breeders and stockmen from a distance. The sale was well advertised and the offering was very attractive from a breeding standpoint. Fifteen boars averaged $88.33 and twenty-seven gilts sold for an average of $84.25, an even sale of real values. The top boar, No. 1 in the catalog, Giant Buster, was bought by Wilver Dell Farm at St. Joseph for $200.

R. L. Hurst, of Bolckow, Missouri, held one of the good Duroc sales at his farm on November 1. Thirty head of spring boars and twenty head of spring gilts sold for an average of $52.70. There were no high boom prices obtained, but each animal sold on its real merits and the prices received for the lot were very satisfactory to Mr. Hurst, who has announced March 8, 1918, for his bred sow sale, when fifty head of very high-class bred sows will be catalogued. Mr. Hurst will be remembered by most Kansas breeders as showing a good herd of Durocs at both Topeka and Hutchinson 1917 fairs.

J. R. Young, of Richards, Missouri, held one of the successful Poland China sales of the season at Richards on November 9. Fifty-four head catalogued sold for an average of $135. A large crowd of farmers and breeders were in attendance. The strong competition was for the get of Caldwell's Big Bob and Big Bob Wonder. One litter of March pigs sired by Caldwell's Big Bob, the Omaha Swine Show grand champion, sold for $1,735. The entire sale offering was well grown out and well fitted for sale condition and the returns for this sale were very satisfactory to Mr. Young.

In connection with the International Stock Show at Chicago, December 1 to 8, there will be held a meeting of the American Polled Hereford Breeders' Association on Thursday, December 7, in the Live Stock Record building, at 7:30 p. m.

T. T. Langford & Sons, of Jamesport, Missouri, owners of one of the good herds of Spotted Polands, report their herd doing well and a good demand for Spotted Polands. This year they have a large number of fall pigs that are growing out fine.

E. S. Engle & Son, of Abilene, Kansas, have announced a sale of Holsteins to be held December 6. Their offering will consist of fifty head and will include a number of cows with A. R. O. records. This will be a sale of producers and will be one of the Holstein sale events of the season.

When writing to KANSAS FARMER live stock advertisers, please mention this paper.

AYRSHIRE CATTLE.



Garclaugh Bloomer's Nell—Senior 2-Year-Old

AYRSHIRE

12,179 lbs. Milk—581.69 lbs. Fat—4.77% Fat

Just a typical record. AYRSHIRES are wonderful producers. Particularly adapted to the needs of the Dairymen—Milk is neither too fat nor too lean. Best for Babies and Invalids. Send for information and list of breeders to

AYRSHIRE BREEDERS' ASSOCIATION
C. M. WINSLOW, Sec'y. • 33 Park St., Brandon, Vt.

SOUTH FARM AYRSHIRES
300 HEAD.
75 Animals Imported from Scotland.
143 cows have qualified for advanced registry.
Males and females for sale.
SOUTH FARM
WILLOUGHBY - - - - OHIO

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Local Representatives—
District Managers—

Man or woman capable of conducting and building a business wanted in every rural district and town in Kansas. No capital required. We help you. Write for particulars. Tell us about yourself in first letter. Address

THE WESTERN AGENCY
Crawford Bldg., Topeka, Kan.

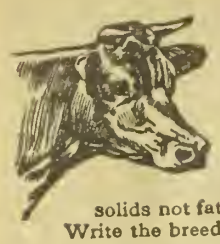
GOING TO COLLEGE?

Our young readers who contemplate attending business college this fall or winter will find it to their advantage to write KANSAS FARMER for information that will be valuable to them.

It will cost you nothing but a postal card or a two-cent stamp to find out what our proposition is. Address

DESK D, KANSAS FARMER
Topeka, Kansas

Jerseys for Net Profits





You're in the dairy business for profit—the *net* profit that your herd has made you at the end of the year will determine the size of your bank account. Jerseys yield the largest returns from every ounce of feed—proved by tests at two great expositions. Jersey milk averages 5.3% butter fat, 9.1% solids not fat—highest of all breeds. Buy a Jersey bull. Write the breeders advertised below for prices, pedigrees, etc.

The American Jersey Cattle Club, 375 West 23rd Street, New York City

120 JERSEY COWS AND HEIFERS

Pure-bred and high-grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. Berry & Son
JEWELL CITY - - - - KANSAS

IDYLWILD STOCK FARM

For Sale—Bull calf dropped March 3, 1917; dam, Pet of Clover Hill F's 2d 227416; sire, Jacoba's Prize Premier 137930. Price, $50.00.

C. F. Blake, Glasco, Kan.

LONGVIEW JERSEYS

(Register of Merit Herd)

Bull calves sired by champion bulls out of Register of Merit dams, for sale at all times.

Longview Farm
LEE'S SUMMIT - - - MISSOURI

Registered Jerseys

Cows, Heifers and Calves. Good breeding, good individuals. Must reduce herd. Price reasonable.
C. F. Pfeutze, Rte. 4, Manhattan, Kan.

Catalogs Are Ready

For the following Jersey Sales to be held under my management:
Lochrie & McCoy, Carl Junction, Mo., Sept. 27; Oklahoma Breeders' Sale, Oklahoma, Okla., Sept. 29; Redmon & Sons, Tipton, Mo., Oct. 1; Geo. W. Hagan, Lee's Summit, Mo., Oct. 31.
Write today and ask to be placed on my mailing list. Address
B. C. SETTLES, Sales Mgr., Palmyra, Mo.

REGISTERED JERSEY BULLS

BUTTER-BRED, FROM HIGH-PRODUCING COWS.
Photo furnished.

Maxwell's Jersey Dairy
ROUTE 2 TOPEKA, KANSAS

LOMAX JERSEYS

A Herd of Producers, Backed by Records. Popular blood lines. Choice individuals. We invite inspection of our herd at all times.
Write us your wants.

Dr. J. H. Lomax
STATION B - - ST. JOSEPH, MO.

J. B. PORTER & SON

MAYETTA, KANSAS
BREEDERS OF HIGH-CLASS JERSEYS.
STOCK FOR SALE AT ALL TIMES.
WRITE US YOUR WANTS.

POLAND CHINAS. POLAND CHINAS

1,000-POUND BOARS

Seven-hundred to nine-hundred-pound sows, big-type Polands. For thirty days we will sell choice spring boars, weighing 150 to 200 pounds, at $35 to $40. Fall pigs, either sex, $20 each or three for $55. Cholera immune. Registered, recorded, and guaranteed to please or your money back. First check gets pick. Ask for catalog.
S. E. WAIT - - - - - - - - BLUE MOUND, KANSAS

DEMING RANCH QUALITY

Big-Type Poland China Hogs.

Fifty March boars for sale. All immuned. Bred sow sale February 18. Send for catalog.

H. O. Sheldon, Herd Manager
OSWEGO, KANSAS.

TOWNVIEW HERD BOARS

Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

White Oak Park Polands

Outstanding herd boar prospects by 1,100-pound Missouri Jumbo 210461 and 1,000-pound Long Big Joe 227387, twelve-inch bone. Dams popular big-type breeding. If you want boars that will mature to 1,000 to 1,100-pound hogs, I have them, big high-quality fellows. Fall boars farrowed August and September, spring boars February and March. Will record in buyer's name. All immune.

Henry Koch, Edina, Missouri

The Lone Cedar Polands

Last Lot of Meyers' Orange Pigs. I will have either sex, some extra fine gilts. Cholera immune for life.
A. A. MEYER - McLOUTH, KANSAS

Big Smooth Polands.—Have bred registered Polands 18 years. Black Orange and Smooth Gold Dust head herd. Everything immuned. Joslas Lambert, Smith Center, Kan.

POLAND CHINA HOGS

150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

FAIRVIEW POLAND CHINAS.

Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.
P. L. WARE & SON - PAOLA, KANSAS

FOR SALE

The great Poland China boar, Jumbo Wonder 2d, one of the best. Catalog free.
J. D. ZILLER - HAWATHA, KANSAS

FALL PIGS, ready to ship. Select Spotted breeding. Express paid on pigs.
T. T. Langford & Sons, Jamesport, Mo.

Henry's Big Type Polands

March and April pigs, sired by Big Wonder, first in class at Topeka; Mammoth Orange and King Price Wonder. Immune.
JOHN D. HENRY, LECOMPTON, KANSAS

Faulkners Famous Spotted Polands

Late summer and fall pigs for sale. Buy them from the Fountain Head. Annual brood sow sale February 13. Ask for catalog.
H. L. FAULKNER, Box K, Jamesport, Mo.

RED POLLED CATTLE.

RED POLLED BULLS
Pure-bred Red Polled Bulls, old and young.
W. J. HARRISON, AXTELL, KANSAS

FARM AND HERD.

George N. Collister, manager of Juniata Farm, Manhattan, Kansas, reports their herd of pure-bred Duroc hogs doing well. This is one of the good Duroc herds They have Defender, Colonel, Pathfinder, Illustrator and Select Chief breeding combined with size and high quality.

We have just received Volume 53 of the National Duroc Record, containing the pedigrees of males from No. 211001 to 220499 and females from No. 530000 to 548998. This volume should be in the hands of every Duroc breeder.

South Farm, Willoughby, Ohio, is the home of one of the great herds of pure-bred Ayrshire cattle in this country. The recent importation of twenty-five Ayrshire heifers from Scotland increases the South Farm herd to 300 head. This last lot of imported heifers is showing up remarkably in scale and will make strong contenders in the show ring next year. They are from good strong families in milk production and in the show ring. Nearly all of them were sired by Howie's Sir Hugh 9026, the unbeaten champion bull in Scotland. South Farm Ayrshires are widely known for their high quality and large quantity of milk as well as typiness. There are about forty cows on test at all times for the Advanced Registry. Out of this forty on test there are every month three or four cows finishing their test for the Advanced Registry, they averaging around 10,000 pounds of milk and 400 pounds of butter fat.

J. F. Roelofson, of Maryville, Mo., one of the leading breeders of Percheron and standard-bred horses, has announced a sale to be held in that city on November 30. Fifty head of horses will be catalogued for this sale. The offering will consist of twenty-five imported and American-bred Percheron mares and fillies; five choice young Percheron stallions; fourteen standard-bred mares and fillies; one standard-bred stallion; one extra good saddle mare and five registered Shetland ponies. A large percentage of the Percherons were sired by the champion Phenix and his daughters are bred to Kroiseur, the imported son of the great Carnot.

SHORTHORN CATTLE SALE

THURSDAY, DEC. 6, 1917



At Farm Near Leon, Butler County, Kansas

15 SCOTCH-TOPPED BULLS READY FOR SERVICE
23 COWS AND HEIFERS

Eight cows with calves at foot and all the cows and heifers old enough to breed will be bred to drop calves early in the spring. I am selling some of my best cattle. They are a useful lot of Scotch-topped cows and heifers that will make money for any farmer or breeder if given proper care. Nicely illustrated catalogs are ready to mail out. Send for one today and come to my sale. I guarantee a good offering of useful cattle. Write

Fremont Leidy, Leon, Kansas

Auctioneers—Lafe Burger, Boyd Newcomb.

HOLSTEIN CATTLE. HOLSTEIN CATTLE.

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM is offering twenty-five pure-bred heifer calves from six weeks to eight months old; also a choice lot of yearlings, bred heifers and young cows, all with top-notch breeding and at prices that cannot be equalled elsewhere; grade cows and heifers. BUY YOUR NEXT PURE-BRED BULL FROM US. For description and prices, wire, write, or call.
T. R. MAURER & COMPANY - - - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.

FRIESIAN PARK FARM HOLSTEINS

I am offering six registered Holstein bulls, all sired by Sir Johanna Bonheur Ormsby. He is sired by a son of Johanna Bonheur and his dam is a daughter of Pietertje Maid Ormsby. Both of his granddams are among the leading cows of the Holstein breed. These bulls will all be from 13 to 15 months old and ready for service by December 1. They are evenly marked and a good husky well grown bunch and priced to sell. $100 each while they last, if taken by December 1. Address

C. G. KEYS
RICHLAND CENTER - - WISCONSIN

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

HOLSTEIN COWS

For Sale—Twenty head of registered cows, yearlings and calves; also twelve young high grade cows and heifers. All bred to a bull whose three nearest dams averaged near 26 pounds butter in seven days. One herd bull and four young bulls by Sunflower Sir Mutual 78654.

CHAS. V. SASS
1013 North Fifth St., Kansas City, Kansas

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

CHOICE HOLSTEIN CALVES

Twelve heifers and two bulls, 15-16ths pure, beautifully marked, five weeks old, from heavy milkers, at $20 each. Safe delivery and satisfaction guaranteed.
FERNWOOD FARM, WAUWATOSA, WIS.

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

The Cedarlane Holstein Herd

For Sale—Registered cows, bred heifers, serviceable bulls, bull calves. Also my 3-year-old herd bull.
T. M. EWING, INDEPENDENCE, KANSAS

HOLSTEIN CALVES, 15-16ths pure, six weeks old, the cream of Wis., $25 each. Registered bull calves, $45, crated for shipment. Edgewood Farms, Whitewater, Wisconsin.

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

BRAEBURN HOLSTEINS—Senior herd bull, Walker Copia Champion, dam and sire's dam held world's records. Service bulls, bull calves. H. B. COWLES, 608 Kan. Av., Topeka, Kan.

GALLOWAY CATTLE.

GALLOWAYS

About 70 registered Galloway cows, heifers and calves. A very choice lot with the best blood lines of the breed represented. A low price on the bunch for a quick sale. Investigate.
G. E. CLARK
205 W. 21st St., Topeka, Kansas

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

HEREFORD CATTLE.

Greenwood Hereford Farm

Prince Rupert Herefords

One carload yearling bulls; fifty head bull calves. Will price single lot or carload.

W. J. Brown, Fall River, Kan.

IDEAL HEREFORDS

For Sale—Ten to twenty cows bred, some now calving, also some yearling heifers and choice young bulls from six to twenty months old. Blood of Prince Rupert 52d, Generous and Don Perfect. Outstanding good cattle. Priced right.

J. H. Keith, Coffeyville, Kansas

International Live Stock Show

December 1 to 8

Union Stock Yards

CHICAGO

A Food Production Camp in the Service of the United States



Daily Sales of Pure-bred Live Stock

RED POLLED SALE
Wednesday, December 5th, 10:00 A. M.
For particulars write H. A. Martin, Gotham, Wis.

GALLOWAY SALE
Thursday, December 6th, 9:00 A. M.
For catalog write R. W. Brown, Carrollton, Mo.

ABERDEEN-ANGUS SALE
Wednesday, December 5th, 1:00 P. M.
For particulars write Chas. Gray, Union Stock Yards, Chicago.

SHORTHORN SALE
Thursday, December 6th, 1:00 P. M.
For catalog write F. W. Harding, Union Stock Yards, Chicago.

HEREFORD SALE
Friday, December 7th, 1:00 P. M.
For catalog write R. J. Kinzer, 1012 Baltimore Ave., Kansas City, Mo.

A Season of Instruction in the Art of Breeding and Feeding of Live Stock Economically
ANSWER THE NATION'S CALL
And Put Into Practice the Lessons This Exposition Teaches.

Brilliant Evening Shows and A TRIP TO CHICAGO

LOWEST RATES ON ALL RAILROADS.

G. E. Cox & Son Angus Sale

Forty-eight Head Registered Angus Cows and Heifers.
Fifteen Yearling and Two-year-old Bulls
One Herd Bull

At Farm Near Elk City, Kansas, Nov. 23, 1917





We are leaving the farm and will sell our entire herd of registered Angus cattle that we have been years building up. They represent all the leading families, such as Blackbirds, Ericas, Prides and Prince Itos. A number of the cows have calves at foot and all are bred to our great herd bull, Rosebud Crown by Blackbird Crown by Prince Ito 2d.

This is not a reduction sale, but a closing out sale. Every animal will be sold with a very liberal guarantee. Catalogs are ready to mail. Write today to

G. E. COX & SON, - - Elk City, Kansas

O. W. Devine represents Kansas Farmer at this sale.
Auctioneers—Col. Cooper, Col. Sheets.

Kansas Herd Chester Whites

FIRST ON BOAR PIGS, BOTH STATE FAIRS. YOUNG BOARS FOR SALE

ARTHUR MOSSE, ROUTE 10, LEAVENWORTH, KAN.

MULEFOOT HOGS.

KNOX MULEFOOT HOGS
Orders booked for fall pigs. A few choice May pigs, either sex, not related. Write for price and booklet.
S. M. Knox, Humboldt, Kansas

SAPPHIRE (BLUE) HOGS

SAPPHIRE (BLUE) HOGS
The quickest pork producer known. Breeding stock for sale. L. E. JOHNSON, Waldron, Harper County, Kansas.

BERKSHIRE HOGS.

BERKSHIRE HERD BOARS
For quick sale—Two choice Berkshire herd boars, three winter boars and five spring boars, all choice.
E. D. KING - BURLINGTON, KANSAS

GUERNSEY CATTLE.

GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

Closing Out Auction Sale of Jacks & Jennets



Prairie View Stock Farm

Sale will be held in Lawson, Mo., on Milwaukee and Santa Fe Railroads, 38 Miles Northeast of Kansas City, Mo.

WEDNESDAY, NOVEMBER 28th, 1917

15 Jacks and 25 Jennets

All black with white points; all well bred and registered: Mammoth blood. The good, big bodied big bone, big kind, with quality and size. Sale will be held under shelter with comfortable seats, etc. Address BOEN & MONSEES, Lawson, Mo., for catalog. Come to the sale. We will try to make it pleasant and profitable for you.

Respectfully,
ED. BOEN & L. M. MONSEES

HOLSTEIN CATTLE SALE

Totten's Third Holstein Sale at Smith's Barn, Hiawatha Kan., WEDNESDAY, DEC, 5, 1917, BEGINNING AT 1 P. M.



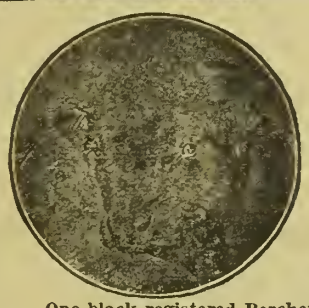
60 HOLSTEINS 60



Consisting of thirty head registered cows, heifers and calves, and a few registered bulls of serviceable age. Most of these heifers and calves are from my $2,500 son of King of the Pontiacs, and are of good dairy type and in nice condition.

Thirty head high-grade cows, heifers and heifer calves, good dairy type and in good order. All stock over six months of age tuberculin tested. Here is a chance to get Holsteins at your own price. This stock is from the best dairy section of Ohio. Hope to meet all my former customers at this sale. Come and bring a friend.

B. E. TOTTEN, - - FARMDALE, OHIO
W. R. GUILD, Clerk. COL. D. L. PERRY, Auctioneer.



PLEASANT VIEW STOCK SALE

AT THE FARM NEAR

Emmett, Kan., Tues. Nov. 20

28 - Head Horses - 28

One black registered Percheron Stallion, 5 years old; one black registered Percheron Stallion, 2 years old; one gray registered Percheron Stallion, 1 year old; six high-grade Percheron Mares in foal, from 2 to 11 years old; two Geldings 3 years old, five Geldings 2 years old, three Geldings 1 year old, five Fillies 1 year old, four Weanlings.

In this bunch of horses is a great chance to get a splendid pair of mares or geldings.

Thirty-one head of registered Hereford Bulls, a few good Cows. Twelve head of yearling Bulls. All well marked, good colors and extra heavy bone. Nineteen head of spring Bull Calves. All of good blood lines. Breeding list given sale day.

Fifteen head of Durocs. Four Spring Boars sired by "Fairfax Boy." Nine Spring Gilts. Two Tried Sows, will farrow soon.

Train leaves Topeka 8:10 a. m. Trains will be met at St. Mary's on main line of Union Pacific. All stock cared for until next day at owner's risk after sale.

MORA E. GIDEON, EMMETT, KANSAS
AUCTIONEERS—JOHN NEWMAN, L. R. BRADY.

PUBLIC SALE OF 50 PURE BRED AND REGISTERED HORSES

MARYVILLE, MISSOURI, FRIDAY, NOVEMBER 30, 1917
Consisting of
25 IMPORTED AND AMERICAN-BRED PERCHERON MARES AND FILLIES
5 YOUNG PERCHERON STALLIONS
15 HEAD STANDARD-BREDS, INCLUDING GREAT BRED STALLION
1 EXTRA GOOD ALL-ROUND SADDLE MARE
4 HIGH CLASS SHETLAND PONIES

The Percherons are all black or gray and nearly all three years old or under. Most of them are sired by the champion sire, PHENIX, and his daughters are bred to KROISEUR, the big black imported son of the $40,000 CARNOT. They are sound, have the quality and size. If you can use a good mare, filly or young stallion—one especially fit to head a band of select registered mares—be on hand sale day.

The Standards are a quality lot with plenty of size and excellent breeding; all bays and blood lookers and fit to do anything. Among them are some trotters and show prospects.

The Shetlands have the correct type with perfect dispositions and come from good show families.

J. F. ROELOFSON, OWNER MARYVILLE, MO.
Col. P. M. Gross and Col. R. P. Hosmer, Auctioneers. Catalog on Application.

READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS

GREAT SALE OF REGISTERED HOLSTEINS

TWO DAYS SALE

Albechar Holstein Farm, December 3-4, 1917

Will offer for sale 125 head of pure-bred, registered Holstein cows and heifers and a few young bulls



These cows are blue ribbon animals, prize winners at the big shows this year, of the very highest breeding and individuality. There will be a large number of A. R. O. cows in this sale bred and in calf to some of the best bulls of the Holstein breed. All animals tuberculin tested and guaranteed free from tuberculosis and other contagious diseases. Write for catalog containing full descriptions and four generation pedigree of each animal.

Robinson & Shultz, Owners

Independence - - - - - - Kansas

H. B. BROWNING'S Holstein Dispersion Sale

TUESDAY, NOVEMBER 20

Farm Known as Col. Harris Farm, Linwood, Kansas

150 High Class Cows and Heifers

Descendants of such bulls as Sir Johanna Aggie Lad 3d, a grandson of the world's champion Sarcastic Lad, sire of 22 A. R. O. daughters; Colantha Korndyke 7th, Baron Korndyke Butter Boy and Joscphine Pontiac Homestead, a grandson of Canary Paul Fobcs Homestead, sire of 15 A. R. O. daughters. All of these bulls backed by a long line of the breed's best records.



The offering will consist of 80 head of cows, 60 head from 3 to 5 years old, 30 head of 2-year-old heifers, 20 head of yearling heifers, 20 heifer calves 8 months and under. One high grade bull 10 months old, also two registered cows and two registered heifers and our herd bull, Josephine Pontiac Homestead.

This herd is practically all our own raising and has becn carefully bred for producers under my personal supervision. There are thirty springers in the offering that will freshen in 60 days or less. Entire herd tuberculin tested. Will also sell one Sharples milking machine used only three months. Sale under cover.

Farm on Union Pacific Railway, or take Kaw Valley Interurban from Kansas City or Lawrence every hour. Get off at Flag Stop 30. Barns 200 yards south.

H. B. BROWNING, LINWOOD, KANSAS

Auctioneers—Jas. T. McCulloch, Lafe Burger.

E. S. ENGLE & SONS'

SIXTH PUBLIC OFFERING OF

50 - Tried and Tested Holsteins - 50

Pure-Bred and High-Grade

Abilene, Kan., Thursday, Dec. 6

Rain or Shine



Consisting of

Ten young pure-bred cows with A. R. O. records made on our farm.

Several show cows, all high producers. A credit to any herd in this country. We own daughters from each of them.

Ten Nicely marked, well-grown yearlings, inbred.

Fifteen two and three-year-old heifers milking or soon to come fresh.

Fifteen full aged cows

Several 600-pound cows, several from 400 to 500 pounds butter yearly, none under 300. A dispersion sale of our grade milking herd at the Sand Spring Farm. Write for catalog to above address.

Auctioneers—McCollough, Hoffman, Engle.

POLAND CHINA HOG SALE

Saxton, Missouri, December 5

Owing to other business I am selling my herd of

EIGHTY HEAD OF POLAND CHINA BROOD SOWS, SPRING GILTS AND BOARS



This is to be a dispersion sale and I am putting in all my best stuff. The two herd boars, Long Jumbo 2d 74013 and B Wonder 71389, both sell. Twenty-five of my tried herd sows sell, bred for early spring litters, among them Pawnee Belle, Big Lady Jumbo, a litter sister to Long Jumbo 2d; Lady C, a daughter of the 1,000-pound champion Columbus; Jumbo Wonder 4th by Model Big Bob; Jumbo Wonder 3d 152158 by (Fessenmeyer's) A Wonder sells with her fall litter.

TWENTY HEAD OF SPRINB BOARS

A number of them real herd boar prospects, as good as have gone through any sale ring this fall. And a choice lot of spring gilts. Will sell about 100 head in all. All cholera immuned with double treatment. Send for catalog and arrange to attend sale. These will be real bargains for all who attend.

O. W. Devine will represent Kansas Farmer

U. S. BYRNE, SAXTON, MO.

(Six Miles East of St. Joseph, on Burlington Railway)

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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 47. TOPEKA, KANSAS, NOVEMBER 24, 1917. Established 1863. $1 a Year

GRANGE AND WORLD PEACE

National Master Makes a Ringing Patriotic Appeal at St. Louis Meeting

IN THIS time of strenuous world affairs, when three-fourths of the nations of the earth are grappling in a death struggle, with the clouds of war rapidly enveloping the earth and the end still hid from view, what shall be the declaration of this great national peace-loving organization of American farmers, so as to maintain before the world those early declarations of peace and arbitration so clearly set forth in our declarations and at the same time ring true to the principles of loyalty and liberty and that shall be the accurate expression of the inner thought of the great host of the tillers of the soil? Of the gravest importance is the position here adopted by this national body, and it is with a full sense of the responsibility involved that we approach this most important of all the subjects that will come before this session."

With the above bold challenge to the delegates in attendance at the National Grange in St. Louis last week, National Master Oliver Wilson introduced that portion of his address devoted to the war situation.

"The history of the Grange, from its very inception," said Mr. Wilson, "is a continuous and unbroken record of devotion to the principles of peace, to the championship of justice, fairness and fraternity, and a repeated avowal of its faith in arbitration as a means of settling all differences between individuals and between nations. All its declarations, upon every issue, and every organized act of the Grange, have been thoroughly consistent with this fundamental teaching of the order; hence, without prejudice, and with a breadth of vision born of long and consistent action, the Grange is now qualified to state its position with the fullest freedom and with the certainty that such a statement of purposes will be as widely listened to, and perhaps fraught with as influential consequences, as was that other declaration of purposes, proclaimed and unanimously adopted in this very city more than four decades ago.

GERMAN NATION WORLD MENACE

"It is my opinion that the National Grange should here and now declare to the world its unqualified consecration to the great world task now facing civilization—of driving forever from existence the greatest world outlaw that history has ever recorded, an empire that has prostituted itself in the worship of brute force, that has hurled to the winds all the ideals of honor, morality and decency, that has stooped to acts of murderous lust and wanton destruction unparalleled in all the annals of human affairs, and that constitutes, until destroyed, a menace to every principle of civilization and even of Christianity itself.

"This is no time for the mincing of words; we may as well face facts as they are, and we must reckon with the full magnitude of the task which we have undertaken. It is the mildest sentence that can be pronounced upon the German empire to assert that we look upon that nation with feelings akin to those with which we might contemplate an insane man running amuck in a peaceful community; but with the same inherent sense of self-preservation no effort will be left undone to check his destructive course and to restore the safety of a threatened community. I, therefore, believe that this National Grange in annual session assembled, as the most representative body of tillers of the soil in the country, should put itself squarely and unreservedly on record in support of the American nation, of the American President, and of the American soldier, and a speedy and thorough finish of the job upon which the United States has entered. To this end let us pledge to that nation, to our President and to those soldiers the utmost limit of our energies—backed by our acres and their productiveness; by our labor and its skill; by all our resources, that those soldiers may be well clothed and fed, and that the awful burden and sacrifice they have been called to make be lightened so far as possible.

GRANGE STANDS FOR LIBERTY

"Let us make this National Grange provide the leadership, for all this great nation-wide organization down to the last member of the remotest Grange, that through every possible channel for their energies, the organized Patrons of this land shall stand an unbroken unit for the defense of liberty and democracy and for the overthrow of autocracy and ruthlessness.

"No less a declaration than this, no pledge of support of our Government less clearly spoken, is worthy the spirit of the Grange and the patriotism of its founders, the organization of peace but no less the defenders of national honor and the champion of universal brotherhood. Standing squarely upon this declaration, let us call upon every Grange in the land—State, Pomona and Subordinate—to give of the last full measure of devotion to the speedy accomplishment of the great world task of nations, exerting such energies through every local channel which may be afforded, that the total of these endeavors may constitute the splendid answer of the Grange to the present challenge of barbarism and ruthlessness. At a time like this we must stand steadfast in our convictions of right and in our purpose of action.

"Our declarations here made, as a national body, must be so positive that no possibility of misunderstanding can exist and no chance of misrepresentation be afforded.

"The Grange has long contended for a league of nations to enforce world peace, and its declarations on this subject one year ago were especially emphatic. By the unforeseen shaping of events we are rapidly approaching the very realization of such an actual league, as nation after nation is arraying itself with the cause of humanity, in a common defense against German aggression and destruction.

MUST CRUSH RULE OF FORCE

"Clearly we now witness the supreme struggle of the race—the world's best arrayed against the world's worst. Can there be any doubt of the outcome of such a struggle, and can we hesitate for a moment to throw the full weight of our great organized power into such a cause? Out of such a struggle, grown to its present dimensions, must come the end that peace-loving men have long and fervently hoped and prayed for — the overthrow of war worship, the destruction of the gods of militarism, of force and of mere physical strength, and the exaltation of that code of international morals that shall spell the ultimate peace and progress of a world.

"The cost of the present struggle, in treasure and in blood, represents the most frightful price humanity has ever paid to secure an ideal. Thus in the midst of the darkest hour in humanity's history, we catch a glimpse of the dawning of a new day, even the triumph of the very peace towards which Grange energies and Grange hopes have unceasingly been directed, and to whose complete attainment by the only possible means now available, we here and now highly resolve to rededicate all that we have and all that we are. Thus shall real and lasting world's peace be attained and the opportunities of freedom and liberty be guaranteed to every people."

GRANGE PROMOTES CO-OPERATION

Mr. Wilson pointed out that co-operation has been discussed in all its phases since the organization of the Grange and yet it remains an unsolved problem. "If financial co-operation was ever needed by the American producer and consumer, it is a greater necessity today. In these times when so much is said about the high cost of living and the true condition existing is so little understood by the average city dweller, most of whom believe the producer is to blame entirely for increased prices and that he is coining money at the expense of the consumer, little realizing that the burden placed on them is by the distributors, but such is the fact. This being the case the Grange should solve the problem by finding a way of shortening the road between the producer and consumer, thereby mutually benefiting both producer and consumer.

"The Grange today," said Mr. Wilson in conclusion, "occupies an enviable position before the world. It is respected by all classes. Its influence along legislative lines is greater than ever in its history. Its officers and members are called into the national councils. This position has been gained by a wise, safe and sane policy, by granting the same privileges to all classes that we demand for ourselves.

"May I not ask now on retiring from this high and honorable position to which I was called six years ago, that the Grange banner may ever be found on the side of justice and right, for 'we desire a proper equality, equity, and fairness; protection for the weak, restraint upon the strong, in short, justly distributed burdens and justly distributed power. These are American ideas, the very essence of American independence, and to advocate to the contrary is unworthy of the sons and daughters of the American Republic'."

Typical Grange Defined

THE typical Grange is the one in which the whole quartet of Grange activities is harmoniously developed.

The social side of life is encouraged by bringing the people of the community together in such a way as to make acquaintances and friendships natural and easy.

The intellectual side is stimulated and developed by the properly conducted lecture hour and by the drill in parliamentary practice.

The co-operative work, if properly conducted, will broaden the business capabilities of the members and return to them substantial cash dividends.

In the economic field we should receive such instruction and information as will prepare and qualify each for a more enlightened and useful citizenship.—B. NEEDHAM, Master Kansas State Grange.

It's Time to Plant Spring Bulbs

The time for planting bulbs for outdoor spring flowers is here. Any time before the ground freezes will suit bulbs of such flowers as tulips, hyacinths, daffodils and crocus, which will furnish such pleasing masses of color about the grounds in the early spring. Any well-drained garden soil will grow good bulbs, although well-rotted stable manure may be added if the soil is rather poor. The depth to plant the different sorts of bulbs varies, but they should be too deep rather than too shallow. About five inches deep will be right for hyacinths and narcissus, and an inch or two less for the bulbs of tulips, crocus, anemone and scylla.

The space to give each bulb also varies with the sort and variety. Plant hyacinths six to eight inches apart, narcissus eight to ten inches apart, tulips five to eight inches apart. Small bulbs, as crocus, scylla and anemone, are generally placed two or three inches apart. After the ground is frozen, mulch the beds where bulbs have been planted with some leaves or strawy manure. This prevents freezing and thawing, also "heaving out" of the bulbs. This must be removed early in the spring. In the home garden, bulbs give more pleasing results when planted among shrubbery and plantings of other flowers than when planted in formal beds.

REO

The GOLD STANDARD OF VALUES

Salient Features of The Reo Six

50 HORSE POWER, Six cylinder motor cast in threes.

REO DESIGNED, Reo made—as are also all other units including body and top.

126 INCH Wheel Base.

CANTILEVER rear springs—Semi-elliptic front springs.

FULL FLOATING rear axle.

TIMKEN BEARINGS throughout.

NOISELESS spiral-bevel driving gears.

REO ONE-ROD centre control.

HYATT QUIET bearings in transmission—at all points.

MULTIPLE Dry-disc clutch.

BOTH BRAKES operated by foot levers and provided with ratchet locks. Extra large and both operating on rear hubs. No hand brake.

CLUTCH AND SERVICE brake are interconnected.

TWO UNIVERSAL Joints in drive shaft.

TORQUE SHAFT relieves driving mechanism of road stresses.

SUB FRAME carries motor and transmission.

EXTRA LARGE—and round—spokes in wheels.

OVER-SIZE TIRES—34 in. x 4½ in.

ONE PIECE drop forged front axle.

PERFECT LUBRICATION system at every moving point.

REO RADIATOR—Reo designed, Reo made.

REO-REMY Electric Starting, Lighting and Ignition system.

REO STEERING GEAR—exclusively Reo. No back-lash—self adjusting for wear. Positive.

MOTOR BEARINGS—even main crank-shaft bearings—adjustable from the outside.

50 PER CENT OVERSIZE in all vital parts—crank-shaft, axles, driving shafts, gears, frame, wheels, tires.

PRICE IS F. O. B. LANSING AND THE SPECIAL FEDERAL TAX MUST BE ADDED.

But The Final Answer Is—Upkeep

IT'S ALL RIGHT to exploit the speed possibilities of a car.

IT'S PERMISSIBLE to extol its wonderful "pick-up" and acceleration.

IT'S PERFECTLY PROPER to prove by any kind of stunt you choose that it will climb a hill, though nobody doubted its ability in any one of these directions.

DEMONSTRATIONS of power and of prowess; feats of endurance; and spectacular performances of a momentary nature are legitimate.

BUT AFTER ALL what do such freak tests prove as to the actual staying qualities of the car?

AND ABOVE ALL, what do they prove on the very subject in which you are most interested—cost of upkeep over a long period of years?

WE COULD AN' IF WE would, write a volume—yes a library—on the subject of performance of this Reo Six in all phases of automobile activity.

WE COULD TELL YOU, not of one, but of scores of Reo Sixes that have crossed the continent, with all the feats of mountain climbing, and trail following as well as of speed and mud plugging that trip entails.

BUT WE DON'T consider that important. To a Reo it is about as difficult as is your daily journey to the barn.

WHAT WOULD IT PROVE? Nothing.

BUT WHEN OWNERS say that this Reo Six costs less, year in and year out, for upkeep—repairs and replacements as well as gasoline and oil and tires—than any other six of equal size and power with which they have had experience—that does prove something.

IT SHOULD INDICATE to you that a Six so built must be capable of any feat or test that any sane owner would ever call upon his car to perform.

AND THAT IS THE FACT—ask any Reo Six owner.

YOUR ORDER should be placed at once if you would secure a Reo Six of present quality and at the present price.

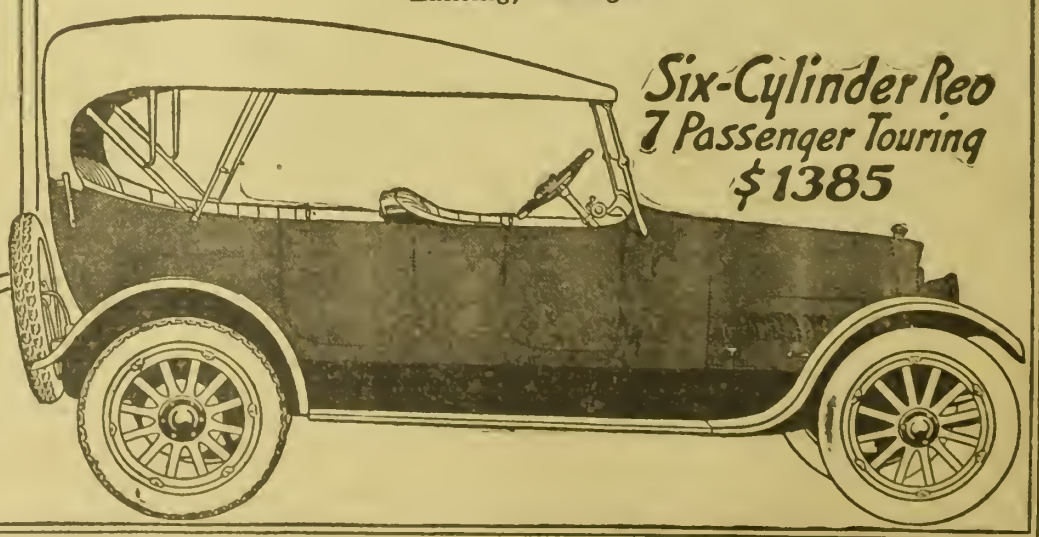
JANUARY FIRST there will be a substantial increase in price of this Reo Six—increased cost of materials and of manufacture render it impossible longer to make this car at this price.

SO ONLY ORDERS for delivery prior to and including December 31st will be filled at the present price.

SEE YOUR REO dealer at once. Place your order and obtain what is veritably a gold dollar for ninety cents.

Reo Motor Car Company

Lansing, Michigan



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GRANGE AND PROHIBITION

The Grange as an organization has the reputation of always being right on the big questions confronting our nation. A striking feature of the address of Oliver Wilson, national master, at the national meeting last week, was his eloquent plea for supporting our Government in this struggle of the race, which if won will mean a permanent peace guaranteed by a league of nations. He also voiced in no uncertain terms the Grange attitude on national prohibition. He pointed out that one by one the states are enacting prohibitory measures and thereby the power of the liquor traffic is being curtailed and each year we are steadily nearing the goal of national prohibition. Congress in its wisdom saw fit to banish rum from the District of Columbia, also as a war measure prohibited the manufacture of distilled liquors. The manufacturing of beer was left optional with the President, but so far no action has been taken to stop the useless waste of grain for brewing purposes. The farmer has been asked to work a little harder, to sow and plant a few more acres so that the world may be fed. It is unreasonable to ask or expect him to use greater energy so long as our Government permits millions of bushels of foodstuff not only to be used here for the making of beer, but ships it to our Allies for the same purpose.

"Let us enter a solemn protest against this useless and worthless waste," said Mr. Wilson. "Food dictators are asking that we observe a wheatless and meatless day each week, why do they not include a beerless day? The Grange must be active in the future as in the past to drive forever from our fair land the manufacture and sale of all alcoholic beverages."

Do not fail to read the extracts from the national master's address on the front page of this issue.

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COWS BEING SACRIFICED

Well-bred cows and heifers from the drouth sections of Texas, New Mexico, and Oklahoma, are being sacrificed at the Kansas City stock yards, going to the packers as canners when they should be going to the farms as breeding stock. Many of these high-grade cows and heifers in their half-starved condition will not weigh over 500 pounds and at the prices being paid will not cost over $35 apiece. Most of them have been bred to pure-bred Hereford bulls on the southwest ranches.

As we stated two weeks ago, the United States Department of Agriculture has placed special agents in the field and is making an attempt to get as many as possible of these heifers in the hands of farmers in the farm belt having plenty of rough feed. They are going to the central markets, however, in large numbers, and the Kansas City Stock Yards Company is urging that farmers take advantage of this opportunity to get some good heifers at bargain prices.

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THANKSGIVING DAY

Thanksgiving Day has a deeper meaning this year than usual. It has been the custom for years to give thanks at this season and because of the age of the custom it has become a habit rather than a thought-provoking ceremony. The first thought that will come to many of us this year will be, "For what are we to be thankful?" when we reflect upon the realities of the terrible war in which we are now engaged.

True it is that there is much in current history to regret, but there is much also that should make our hearts swell with pride. If one is missing from the household because the call has come to him to train for the service, is not the memory of his having responded so willingly and so manfully, cause for gratitude? And truly we can and should be thankful for the safeguards that are following him wherever he goes—the work of the Red Cross and of the Young Men's Christian Association, both of which organizations are rendering a service worthy of our highest esteem and our greatest possible financial backing.

And if one has not gone from our own household, do we dare to be indifferent? In such case one from another family is representing us and our debt of gratitude is even greater.

Let us plan to devote at least a part of the day to real thanksgiving and to some other worthy action. If there are those near us whose lives we can brighten, let us seek them out and be glad of the opportunity to serve in this way.

All of us have something to be thankful for if we will but give it thought, and surely these are thought-provoking days. The war has brought and is bringing its tragedies, but it is also teaching us many valuable lessons and is making us realize our responsibility more than we have ever realized it before. Our hearts, although sad, should be filled with gratitude, and this gratitude should be given expression in our lives.

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NEW DRAFT CLASSIFICATION

The selective draft has been so clumsily worked out in practice that farmers, at least, have felt that the selective feature was in word only. In calling the 687,000 men to the colors, there has been no uniformity of method followed by the different appeal boards. Some of these boards seem to have a vision of the dependence of the nation on its agricultural production, while others made light of exemption claims based on the man's potential value as a producer of necessary food products. Of the 25,000 young Kansans now in the ranks a very large proportion were either engaged in agriculture or sufficiently skilled to be available for farm work.

A far more just and advantageous plan has now been worked out and will be put into operation in calling additional men to the colors. It will greatly simplify the labors of the local and district appeal boards and will be fairer to the men and the country, for those who can least be spared will be the last to be called. This is in line with what we were led to believe in the beginning was the purpose of the selective draft system.

The new plan provides for a classification into five groups of the nine million men still subject to call. Briefly stated, the first group will include unskilled laborers, or those without dependent relatives. The second group will include skilled laborers with relatives only slightly dependent upon them. In Group Three will be placed technical experts, county or municipal officers, municipal firemen and policemen, men employed in arsenals, armies, and navy yards, assistant managers of agricultural or industrial enterprises, those in merchant marine service, and those having wives and children dependent upon their daily labor for support. The fifth or last classification takes in "officers of the states or the United States, clergymen and theological students, and all persons physically, mentally, or morally unfit." Men already in military or naval service, licensed pilots, aliens, and alien enemies, are also to be placed in this last group.

To make this classification, a series of questions will be mailed to every registered man to be filled out and returned to the local board, which will carefully examine the information furnished and place each registered man in one of the five classes. It is estimated that this method of classification will place more than two million men in the first group. Men are liable for service in the order of the respective groups.

The questions, which number in all 148, constitute a searching inquiry into each man's life. All exemptions and discharges of the first draft are automatically revoked by the questionnaire. The minimum number of questions each man must answer is about twenty-six, and the maximum, 100. Mailing of the questions by the local board constitutes legal notice, and failure to respond makes the man liable to a year in prison. Seven days are allowed in which to fill out these blanks and return them to the local board.

Legal and advisory boards are now being created in every community to aid the registered men in making their answers to this rather complicated list of questions. Each man is to indicate in what lines he considers himself expert, and this information will be used in creating special groups trained in special trades or professions. The registrant is permitted to indicate to which group he thinks he should belong.

This plan is vastly superior to that followed in the first call, and should result in the assembling of the army needed with a minimum disturbance of such pursuits as are essential to the successful prosecution of the war.

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The "International" is the stockman's school of efficiency. Never has there been a time when there was such need of efficient methods in meat production. Never has there been such need of a marshaling of all resources and all forces for production on the farms of the United States. The "International" will impress lessons of conservation and efficiency in production of incalculable value. These lessons will have a special significance in view of the unusual conditions now existing. No man engaged in a great enterprise such as farming and food production, at a time when the best results are vital to the nation's existence, can afford to fail to secure information that will add to his efficiency and strengthen the service that he can render. This is the meaning of the International Live Stock Exposition at Chicago the first week in December.

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Sign the food-saving pledge NOW and KEEP it. If famine comes to our allies, they can't fight. Then we would have to carry on the war alone.

AN ANCHOR FOR HUMANITY

THE Young Men's Christian Association is one of the heaviest anchors that humanity has forged for her own salvation, and every dollar contributed to the Friendship War Fund is a strand in the mighty cable that is needed to prevent the shipwreck of civilization.

At a time when the nations are straining their resources to the utmost in a business which subjects men to inconceivable hardship, pain, mutilation, and terror, as well as to death in its most repulsive forms, this organization comes as the only one with an international recognition that makes it possible to engage in comprehensive alleviating service.

This service is almost unlimited in scope. It seeks to defend the spirit from despondency, degradation, and debauchery; it offers the body rest, cleanliness, healing, and recuperative activity; it gives the mind wholesome occupation and saves thousands from insanity and death in the prison camps of all belligerents.—DR. J. T. WILLARD.

MISSOURI FARMERS ORGANIZE

Missouri farmers were aroused to the fighting point in the fall of 1915 by the action of the packers in hammering down the price of hogs $1.50 a hundred inside of forty-eight hours. Inspired by this injustice, they systematically set about attacking the problem in a cool, business-like manner, and the Farm Club movement, which now has over 30,000 members in the state, was the result. The first of a series of articles by William Hirth telling the story of this movement appears in this issue of KANSAS FARMER.

The Farm Clubs of Missouri constitute a purely business organization, and it is a significant fact that it has been built from the ground up by the farmers themselves without the assistance of paid organizers. The slogan of the organization, "Production cost together with a reasonable profit for the fruits of the farmer's toil and sweat," is indicative of the policy of the organization to confine its efforts to solving the problems of farmers by going directly into the markets and insisting on a square deal.

Our farming interests constitute a most important part of our industrial life, and the collective strength of farmers intelligently applied to dealing with other enterprises can absolutely insure that justice be done. It is a power that might easily be misused, and we believe that as a class we should strive to overcome all prejudice and selfishness and put our demands on the basis of justice and equal rights to all. We feel that the story of what these Missouri farmers have done and what they are looking forward to will have an educational value to our readers and we are glad to be able to publish this series of articles by Mr. Hirth.

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PROFESSOR CALL MISQUOTED

L. E. Call, professor of agronomy in the Kansas Agricultural College, is not responsible for the figures to him attributed dealing with the cost of producing wheat.

"There has appeared recently in various papers," said Professor Call, "an article on the cost of producing wheat that has been accredited to me. In this article a detailed statement of the cost of the various operations of producing wheat were given and the statement made that under present conditions wheat could be produced for about 80 cents a bushel.

"I have not authorized such a statement. In fact, I have not within recent years made a statement for publication of any kind on the cost of producing wheat. At this time, with the rapidly rising cost of labor, machinery, twine, and other items of expense, it would be practically impossible to estimate correctly the cost of producing wheat in this country."

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The only hog conference to be held during Thanksgiving week will be the meeting at Burlington at 2 P. M., November 30. The week following, meetings will be held at Yates Center, 2 P. M., December 5; at Mapleton, 2 P. M., December 6, and at Fort Scott and Oneida at 2 P. M., December 8. These special meetings to discuss the hog situation are proving very helpful. Those who attend and take part in the discussions are learning of the importance of increased pork production and also of the efforts being made by the Food Administration to insure them from possible losses. We would urge that all of our readers make a special effort to attend the conferences which may be held in their several localities.

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Bread in England is said to be selling for less than in the United States. The facts are, however, that an allowance of $200,000,000 a year is carried in the budget of the British government to subsidize bakers and millers so that the people can buy bread at low prices. The subsidy must be met by taxation, so the cheap loaf is somewhat of a delusion after all.

MISSOURI FARMERS ORGANIZE

Farm Club Movement Puts Farming on a Business Basis

By WILLIAM HIRTH, Publisher Missouri Farmer

ON AUGUST 28 and 29 the Farm Clubs of Missouri held their first annual convention at Sedalia, Mo., and perfected the Missouri Farmers' Association. In many respects this was perhaps the most remarkable farmers' convention ever held in the history of the country. In the first place, rarely, if ever, have two thousand real farmers come together in a two days' session—working almost day and night upon a program all their own, rather than to listen to a lot of cut and dried addresses by so-called agricultural experts or semi-political exhorters. As soon as the gavel fell, a committee on credentials was appointed and not until each delegate had presented his "passport" was he given a delegate's badge. Also, the Committee on Resolutions was a real committee and remained in session for hours in vigorous though friendly difference of opinion with reference to the vital points in the "platform" and constitution which will henceforward govern the Missouri Farmers' Association. In other words, it was a real convention which, during two long days and the intervening night up to midnight, deliberated as no two thousand farmers ever deliberated before—and when adjournment finally came and the strain was over, hundreds of men glanced into each other's faces with a look which implied if it did not express it in actual words, "Nothing like this ever happened in the corn belt before."

If the reader has any doubt that this was an unusual assemblage of men, he needs but to get at the gist of the "Articles of Purpose" which they adopted to realize that a new force has arisen in American agriculture—that a new farm organization with a new program and a new vision has arrived upon the scene—a program and vision radically different from any other brought forward since the days when Oliver Hudson Kelly started the National Grange back in 1867.

CARRY FIGHT TO MARKET PLACE

In the meantime, let the reader not prepare to become fascinated with some gigantic scheme which proposes to turn the universe upside down or which suggests some new or marvelous scheme for curing the economic ills of American agriculture—for the only brass band connected with this great gathering was the one which had a place up in the gallery of the live stock pavilion at the state fair grounds where the big convention was held and which occasionally relieved the tension of the delegates by striking up the Star Spangled Banner, America, or some other thoroughly decorous and proper air.

On the contrary, these farmers were about the most practical and matter of fact aggregation of their kind that ever assembled in any one spot since the morning stars first sang together—and their overwhelming concensus of opinion was that the hour has come when farmers must organize in every state in the Union if they would preserve American agriculture for themselves and for their children in the years to come—that the farmer's ox will never be pulled out of the ditch until the farmer does it himself and that therefore it is high time for him to quit standing around as if he were the afflicted child of American industry—that farming must be placed upon a business basis when the farmer rather than the speculator and monopolist can say what he shall receive for the fruits of his yearly sweat and toil—that the righting of the farmer's wrongs is a cold business proposition and hence must be fought out in the market place rather than in the halls of Congress or in the various Legislatures—that instead of starting a new political party or a political upheaval, the vastly wiser thing will be to shake off the stranglehold of the industrial profiteers who have robbed the farmer from time out of mind by beating them at their own game!—and hence the Farm Club slogan, "Production cost, together with a reasonable profit for the fruits of the farmer's sweat and toil!"

PACKERS FORCED ISSUE

How, when and where did this new movement in Missouri have its beginning? Briefly, it "broke loose" in the fall of 1915 when the packers made their famous raid on the hog and cattle market—that well remembered occasion when they broke the hog market $1.50 per hundredweight in forty-eight hours and during the quick succeeding days hammered both hogs and cattle until they were driven to practically a six-cent basis. Long before this the Missouri Farmer, which is the official organ of the Missouri Farmers' Association, had been "blazing away" at a farmers' organization of some powerful kind—but not until the packers made the above raid on the market which lost the farmers of Missouri and every other corn belt state millions of dollars in the twinkling of an eye, did the thing really begin to "take."

THE FARM CLUB SLOGAN is, "Production costs, together with a reasonable profit, for the fruits of the farmer's sweat and toil."

THE RIGHTING OF THE WRONGS of farmers is a cold business proposition and hence must be fought out in the market place rather than in the halls of Congress or State Legislatures.

TO SHAKE OFF THE STRANGLEHOLD of industrial profiteers and beat them at their own game will be vastly wiser than starting a new political party.

THE FARMER IS THE ONLY MAN, in the last analysis, who can correct the farmer's wrongs, and any interference from outside will delay rather than aid the process.

At first the farm club idea moved slowly, as such things inevitably must; here and there some farmer who was not content to "let things drift" would call a school house meeting and plead with his neighbors that the time had come to "do something." During the winter of 1915-16 something like 100 school house farm clubs were organized—and gradually some real fighters came to the surface, and after a while these men banded themselves together as a sort of "executive committee at large." Then, to "prime the pump," arrangements were made to buy mill feed, flour, coal, binder twine, etc., at the wholesale price, and this helped to hold the club members together. From the very beginning, however, the leaders made it plain that this was not to be a "farmers' store" or "anti-town" movement, and this idea has been strictly adhered to all the way through and has since become a plank in the constitution of every County Farmers' Association.

By the fall of 1916 the number of clubs had grown to perhaps 300, and during September and October a number of big farmers' mass meetings were held in the counties where the movement had become strongest. Thus things passed on until "Farmers' Week" in January at the agricultural college in Columbia, when a meeting of club leaders was held and a temporary Missouri Farmers' Association brought into being. From that time on, things began to happen thick and fast. A lot of farmers who were in attendance at "Farmers' Week" spread the contagion to other counties, with the result that when the recent big state convention was held at Sedalia, fully a thousand farm clubs were in operation, with a membership of something like 30,000—and now it can truly be said that the "woods are on fire." The leaders have set their hearts upon "one hundred thousand members during 1918"—and at the present rate of progress there is little question but what they will reach their goal.

CLUB CREATES POWERFUL MACHINE

The constitution adopted by the Missouri Farmers' Association provides for thirty-two state directors, or two from each congressional district; out of the body of these directors there was chosen an executive committee of seven which will have in hand the active direction of all matters delegated to it by the full board. Thus it can be seen that the executive affairs of the state association are presided over by a small but very powerful machine—and what is more, it is an intensely active machine and one which is subject to the call of the association president at a moment's notice. Only recently this board came together to consider the future of the cattle and hog market and while the majority had a very definite opinion as to what they thought should be done and the part Mr. Hoover should be asked to play, for fear of "rocking the boat" they asked for an immediate conference at Kansas City of the executive committee of the American Live Stock Association and also of the various state associations to the end that the live stock interests might present a solid front upon this great and vital question.

At this same meeting there appeared before these directors the sales managers of numerous big flour, cottonseed and linseed oil mills, competing in the tendering of wholesale prices on hundreds of carloads of mill feed, flour, cottonseed meal and cake and linseed oilmeal—for the Missouri Farmers' Association is the "battering ram" which breaks down the doors for the various county farmers' associations and for the hundreds of clubs located in counties which have not as yet perfected a county organization. Altogether, it can safely be said that never before in the history of the corn belt has there been constructed such a powerful and closely joined together farmers' machine—a machine which doesn't exist on sentiment, which is heralded by no brass bands, which knows what it wants and also thinks it knows how to get it!

Perhaps the most remarkable thing about this remarkable farm club movement in Missouri is the manner in which it is extending its power. Surely it will bring joy to the souls of those who have doubted whether farmers will ever, of their own volition, "set the ball to rolling." From the time the first school house farm club was organized up to the present hour, there has not been a single paid organizer or "speaker" in the field. On the contrary, all this work is done by the farmer leaders themselves. Through their official organ they are supplied with constitutions and by-laws and literature which explains the purposes of the farm club movement. As soon as a community has a vigorous club, that club helps to organize the immediate adjoining districts. Then as quickly as possible a regular "organizing squad" is formed, composed of the strongest men in these three or four clubs—and from that time on this "squad" arranges for speaking dates (invariably at night) at the different school houses, until the community has been brought solidly into line—and thus like a prairie fire it spreads farther and farther. There are two reasons why no paid organizers are employed: In the first place, they cost a lot of money. In the next place—and vastly more important—the farm club leaders of Missouri believe that farmers will never be able to pull their ox out of the ditch until farmers get to thinking and acting for themselves!

That is why the big Sedalia convention was unlike any other gathering of farmers the country ever saw. It was made up of hundreds of farmers who had learned to think and act—and, having learned this lesson, who appreciate all the more keenly the necessity for cautious and able leadership and concerted action. Today there are literally scores of bright Missouri Farm Club leaders who can tell the reasons for the faith that is within them—men who could appear with credit before any ordinary audience anywhere in the country and yet who only a few months ago shook in their knees when they were going through their first paces. Surely here is "something new under the sun"—something which is decidedly worthy of the close study of thinking farmers throughout the country at this exceedingly critical hour in the history of American agriculture, and it is for this reason that I am offering this article and the ones which will follow to the readers of KANSAS FARMER.

In the meantime, as the articles progress, bear in mind that this movement is not a fight against the country town or an aggregation of petty "buying societies"—that it does not propose to start any new political party or elect a lot of farmers to public office—that it believes the farmer is entitled to "production cost, together with a reasonable profit," just as much as the manufacturer, merchant, banker or organized labor, and that, instead of hanging around congressional or legislative committee rooms, it proposes to roll up its sleeves, invade the market places and, adopting the means employed by the "other fellow," compel obedience to its decrees!

WHERE IS THE REAL TROUBLE?

I now desire to leave the farm clubs temporarily to the end that I may first discuss some of the conditions which make a powerful nation-wide farmers' organization imperative and also to give the reader a fundamental understanding of what the farm clubs have in view—and hence to get at the heart of the matter immediately I desire to ask, What is really the matter with American agriculture? Why is it that during recent years farm mortgages have been increasing by leaps and bounds—not because the farmer in question is buying more land or making other sound investments, but because today's mortgage in tens of thousands of instances is bigger than it was three, five or ten years ago? Why is it that nearly forty out of every hundred farms are in the hands of tenants—a system which is more and more destroying the remaining fertility of our soil? Why is it that thousands of our brightest farmer boys and girls are fleeing from the old farm home to the cities—the young farmer preferring the job of a street car conductor to work in the open fields, while bright country girls choose the precarious career of a stenographer or department store clerk rather than teach a rural school or become the wife of a stalwart young tiller of the soil? Why is it that the average farm home presents a dishevelled appearance even in the best of farming communities? Why are those comforts and conveniences which even the flat dweller demands in the city so seldom found in country homes? Why are our public highways the subject of such frequent anathema and why is our average rural school a reproach to the farmers of the community in which it has its being?

To say that these conditions are the result of "poor farming methods" and thus dispose of it at one fell swoop, as is so often done, is the veriest nonsense. True enough, most farmers could improve their farming methods. But this is also true of the banker, the merchant, the lawyer and the doctor. Again, I grant you that there are a few farmers who could "cash in" for $40,000 or $50,000—but in ninety-nine cases out of a hundred these men made this comfortable little fortune out of an increase in land values and not out of the raising of crops and live stock. The average man, farmer or what not, is an average human being and must have average conditions under which to succeed—and in the face of this inexorable law we find

(Continued on Next Page.)

PUSH THE FALL PIGS

Provide Warm Dry Quarters. Supplement Corn With Skimmilk or Tankage. Keep Them Free From Worms



PROPERLY HANDLED FALL PIG CAN BE BROUGHT TO THREE HUNDRED POUNDS BY APRIL, WHICH IS ONE OF THE GOOD MARKET PERIODS OF THE SEASON

RECENTLY at the hog meeting held at the Iowa Experiment Station Prof. John M. Evvard called attention to the fact that fall pigs had been fed and marketed at the station weighing over 300 pounds. Cold weather pigs that weighed 303 pounds on April 24 this year when they were 254 days old, sound pretty good for pigs that come in the fall. And they were produced economically, requiring only 372 pounds of shelled corn plus thirty pounds of meat meal tankage, a total of 402 pounds of grain for 100 pounds gain. This is a showing that it is difficult to approach even by spring pigs raised under excellent climatic conditions.

To make such marketable 300-pound hogs as these in April it is essential that they be pushed heavily from start to finish. And further that they be pushed heavily upon the right sort of feeds containing the necessary nutrients which go to make for growth and development.

Professor Evvard spoke of some essentials that must be looked into if the fall pigs are to be a pronounced success. Lack of attention or neglect of any one of these essentials may cause disappointment:

See to it that the sows during the summer time while carrying their young in utero are given an abundance of exercise on good pasture such as alfalfa, rape, or red clover, or bluegrass in which plenty of white or alsike clover is growing.

Feed these sows well, giving them a little milk or a little meat meal tankage in addition to the corn allowed during the last couple of months of pregnancy. It is at this time that some 90 per cent of the dry matter of the young growing pigs is laid down before farrowing.

Don't have the sows farrow too early nor too late. The ideal time of the fall is about the first and second wecks of September.

Leave the sows farrow out on pasture if possible. Do not run them up to a large hog house where it is dusty and where pasture is not available; keep them under natural conditions and let them do their bit under the best possible surroundings.

Feed the suckling cows well, giving them an abundance of suitable feeds, which feeds in ordinary times should be centered around corn, and perform the supplement rather than the substitution function. Always keep in mind economy. However, this year wheat middlings or fine oatmeal or hominy feed were all cheaper than corn, but ordinarily this is not true. If a little milk can be spared, so much the better.

At the Iowa Experiment Station farm they like to self-feed the sows, giving them free access to such rations as these:

Shelled corn or car corn self-fed plus meat meal tankage self-fed plus wheat middlings self-fed plus salt self-fed; corn self-fed plus meat meal tankage self-fed plus salt self-fed; corn self-fed plus peanut meal self-fed plus meat meal tankage self-fed plus salt self-fed; corn self-fed plus meat meal tankage self-fed with as much buttermilk or skim milk as can be allowed plus salt self-fed; corn self-fed plus peanut meal self-fed plus meat meal tankage self-fed plus salt self-fed; corn self-fed plus peanut meal self-fed plus wheat middling self-fed plus salt self-fed.

Corn can be substituted in the above rations with wheat middlings when middlings can be bought at 10 or more per cent cheaper than corn; with hominy feed which is practically equal to corn; fine ground oatmeal which is not quite equal to corn on bluegrass but apparently is more than equal to ordinary corn on rape pasture; or other substitutes. It is best if these sows can run on good pasture receiving the above rations. If the pastures are alfalfa, or red clover, or rape, much grain will be saved, particularly the supplementary grains.

Have a warm place for the fall pigs to sleep and rest after they are taken into winter quarters. Small Iowa cable roof hog houses are fine for this. If the skylight can be arranged in the roof to give sunshine, so much the better. In a small 6 x 8 house we can take care of from five to ten fall pigs, depending upon their size.

Keep their beds dry by changing them frequently. Warm, dry quarters mean a great deal.

See that the pigs get plenty of fresh air. In the ordinary gable roof house openings should be made in the peak and under the eaves.

Feed the pigs inside where it is warm. Do not make them go out into the cold to eat. If you must make them go out for anything, make them go out to get their water.

Keep them sanitary. Use crude oil to get rid of the lice, and santonin and calomel to get rid of the worms. Eight grains of santonin and five grains of calomel to 100 pounds of pig is a good worm medicine. This can be mixed with the regular feeds. In case of a 200-pound pig give about one and one-half times the amount as for a 100-pound pig.

Keep open water before the pigs. One of these kerosene heater watering devices is fine in order to keep the water from freezing. This will insure that the pigs can have free open drinkable water at any time their thirst demands it.

It is not necessary that the pigs run over the whole farm. You had better keep them confined to a small lot. The Iowa station pigs had the run of a lot about 15 x 90 feet, and they made the gains recorded.

Feed the pigs abundantly and well. Such rations as these are splendid:

Shelled corn self-fed plus meat meal tankage self-fed plus salt self-fed.

Shelled corn self-fed plus buttermilk at the rate of 4 or 5 pounds to one of grain when pigs weigh 50 to 100 pounds; 3 to 3½ pounds as they go from 100 to 150; 2 to 3 pounds from 150 to 200; 1 to 2 pounds from 200 to 250, and from ¼ to 1 pound after they pass the 250-pound mark.

Fall pigs that grow and fatten in cold weather can easily be made to reach 250 to 300 pounds when eight months of age. They go on the good markets of April, the highest market of the year outside of September, and being marketed in April, as they can be, insures an income at a time when ordinarily there is not much of produce to be sold from the average corn belt farms which do not engage in the live stock business.

"Treat the fall pig kindly, look to his wants, and he will respond gallantly," said Professor Evvard in conclusion.

Good Animals Win

Anyone who has made a study of the fairs and live stock shows of the present season cannot fail to note two conspicuous features, one the dominating numbers and the excellence of the Shorthorn entries and the other the conspicuous winnings of new and hitherto inexperienced breeders.

In spite of high feed costs the entries at the season's shows were well conditioned with very few exceptions and it was a matter of general comment among fair goers that the uniformity and superior merit of the entries, particularly among the younger cattle, surpassed former years.

The fact that various new exhibitors entered the contests and claimed a generous share of the prizes added interest to the season's shows. A number of champion awards were captured by young men on cattle of their own breeding who had never heretofore entered the contests. Their enthusiasm has been stimulated by the encouraging attitude of the breeders who have long been patrons of shows and who in not a few instances were obliged to hold places farther down the line as a result of the high merit of the entries of the new exhibitors. At the American Royal the championships in the futurity classes were limited to new exhibitors.

The lesson drawn from the awards is this: That ownership or long experience in breeding and showing cattle are not considered in the placing of the awards. It is a matter of the fittest. Judges may err in their conclusions, but the boy from the backwoods township has an equal chance with the veteran from the best known breeding establishment in the country, provided the individuals the two lead into the ring compare in individual merit. Many a young man unknown in live stock circles beyond his community has led his animals into the ring and taken his place far up among the best productions of the best known herds of the land and all because, to use a current expression, he "had the goods."

It is an open field and many a man has risen from comparative obscurity into an acquaintance country-wide in its scope because he was able to produce animals of a standard that claimed expert recognition in the show rings.—FRANK D. TOMSON.

Missouri Farmers Organize

(Continued from Page Five)

the average farmer going backward rather than forward. Hence, to charge up cheerless farm homes, bad public highways and poor rural schools which handicap country boys and girls in the great battle of life, to a "lack of progressiveness" on the part of the average farmer—this is utterly puerile, for the farmer likes the good things of life and is as proud of his children as are those who live in the towns and cities—and the only reason why he has not long since provided them is because he hasn't had the money!

Acting upon the theory that our farming methods were chiefly at fault, our splendid agricultural colleges some years ago began a powerful campaign to "make two blades of grass grow where only one had grown before." That crusade marked the advent of the county farm agent and within itself was a thoroughly wholesome doctrine. In the first place, the more generously and economically a farmer can produce, the cheaper he can afford to sell—or, to put it another way, the more he will have left out of the price he is compelled to accept. Also, society has a right to expect the farmer to feed and clothe it at as low a cost as is consistent with sound business methods and therefore economical production is the farmer's duty in the interest of the masses. But while thousands of earnest farmers responded heartily to the "two blades of grass" propaganda, their enthusiasm was short-lived—for when men feed cattle with the aid of silos, balanced rations, etc., and still come out at the small end of the horn—or when all their brawn and brain leaves them behind on the production of a wheat or corn crop, they lose heart—and thus we have come upon a time when both the progressive and the "hound dog farmer" are "slipping," the only difference being that the latter is slipping the faster—and when therefore of far greater importance than raising the second blade of grass is getting a square deal for the first blade!

In the meantime, realizing that there is something wrong—that the American farm is sick and that this sickness is affecting a lot of other enterprises and industries—the farmer has, during the last few years, become an object of patronizing solicitude on the part of bankers and other business men who suddenly made up their minds to "go to the rescue"—who have come to regard the farmer as the big "industrial incompetent" of the nation who needs to be taken by the hand and led into the promised land. Thus only last spring the Federated Commercial Clubs of my own state held a two days' session to discuss the slogan, "A county farm agent in every county and better seed corn for the 1917 crop"—and yet in this audience of several hundred delegates and speakers there was not a solitary out and out farmer. And this is merely one of hundreds of such meetings which have been held all over the country during the last few years.

However, I do not want to be misunderstood in this connection—for the vast majority of these men mean well and are willing to back their theories with their dollars. Again, if their presumption irritates the farmer, he is himself to blame—for it is true that the lack of agricultural prosperity is injuring the banker, manufacturer and merchant and since the farmer has shown no inclination to right conditions, it is little wonder that these men have concluded to take a hand—even though they do not understand the farmer's complex problems and, not understanding them, but complicate and make more difficult their solution. While there should be a close bond of sympathy between the farmer and the business men of the town, and while there are many things in which they can co-operate effectively, in the last analysis the farmer is the only man who can correct the farmer's wrongs—and any interference from the outside will delay rather than aid the process.

(EDITOR'S NOTE.—This is the first of a series of articles by Mr. Hirth, in which he tells of the accomplishments of the Farmers' Clubs of Missouri.)



The Fate of the Unprepared

Among the remarkable events of this war no fact stands out more startlingly than the tragic sacrifice of Russia's unequipped soldiers.

The army has been victimized by intrigue and treachery. Guns were sent to the front without ammunition and ammunition without guns. Supplies were provided that when unpacked proved to be rubbish. Left stranded by communications that broke down under slight pressure the brave Russian troops hurled themselves again and again against foes perfectly prepared.

From the very verge of victory they doggedly fell back fighting with stones and clubs and iron bars, resisting heroically but ineffectively.

No thought can be more abhorrent to Americans than that of our boys ruthlessly slaughtered because of lack of equipment or support which it is the first business of us at home to supply.

Our Government, never before so powerful, is working prodigiously in the preparation of armies and means of warfare. Throughout the nation there is a unity of purpose that is piling on the altar of liberty every personal ambition and corporate gain.

Mines, factories, farms, shipyards, the counting houses and shops of every industry are laboring day and night to supply the sinews of war.

The Bell System is co-operating to mobilize production, transportation and communication, and is using its every energy to speed up American defense.

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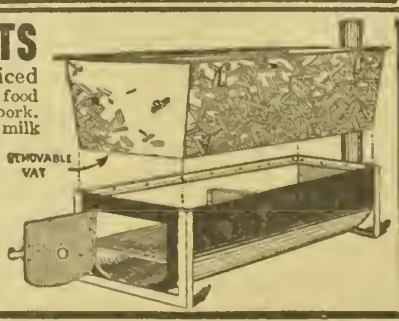

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KANSAS FARMER DAIRY CLUB

Feeding Dairy Cows

WE REPRODUCE on this page some charts which may help you to understand some of the points in dairy feeding which we have been trying to explain. These charts are from a bulletin on feeding dairy cows, by D. H. Propps and E. G. Woodward, of the Nebraska College of Agriculture. The first point and one that we want you to get clearly in mind is that a milk cow uses her feed for two purposes—keeping up her own body and giving milk—and under ordinary conditions a cow giving milk first takes from the feed all she needs for maintenance and uses what is left for milk. The amount required for maintenance, or keeping up the body, varies some with the size of the cow, but is practically the same whether she is dry or is giving a large amount of milk. Of course the amount of feed required for milk production varies with the amount the cow is giving.

Figure 1 illustrates the part of the ration used by the cow for her own body and the part used for milk. The top diagram is meant to show the ration of

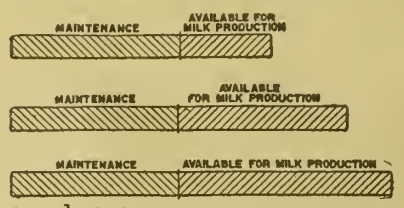

FIG. 1—RATION FOR LOW-PRODUCING COW, MEDIUM-PRODUCING COW, AND HIGH-PRODUCING COW

a low producing cow, the second a ration for a medium producing cow, and the bottom the ration for a high producing cow. We tried to show you this point in a different way in the Dairy Club department of the issue of October 20. You can see from these illustrations that the low producing cow uses only about one-third of all the feed she eats for milk production. The medium producing cow uses about one-half of her ration for milk, and the high producing cow uses about three-fifths of her feed for making milk. Since so much more of the total amount of feed eaten by the high producing cow goes to milk, it is plain to see that she is a more economical producer, because she does not take any more to keep up her own body than the one producing a small amount of milk.

The heavy producing cows are quite often underfed. They require a large amount of feed to supply the nutrients which go to the making of the large amount of milk. If such a cow continues to produce to her full capacity, she must have in her daily feed enough to supply

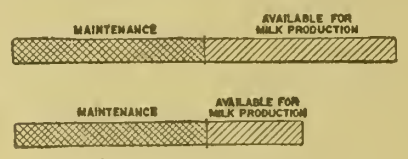

FIG. 2—A FULL RATION AND A THREE-FOURTHS RATION

the material that goes to the milk. If too small an amount is given, she will in time cut down the milk to correspond with what she has left over after the maintenance requirements have been met. Figure 2 illustrates what happens when we cut down the ration of a good producing cow. The upper chart is meant to illustrate a full ration; that is, the cow is eating and digesting of properly balanced feeds all she can handle, and about half of the feed is being used for milk. The lower diagram shows what happens when the ration is reduced one-fourth. It is easy to see that there is only half as much left for milk. If she was giving forty pounds a day on the full ration, cutting it down a fourth would leave her only enough nutrients for twenty pounds of milk and she would soon have to reduce the amount of milk given to that quantity. Since after the cow has supplied her own body all the remainder of the ration is used exclusively for milk, it is a mistaken idea from the standpoint of economy to fail to supply the really high producing cow with enough feed so that she can produce at or nearly her full capacity.

A low producing cow may be fed so much that she gets more than she can use for milk. A cow of this kind after giving as much milk as she is capable of giving, uses what is left in her own body —in other words, she gets fat. Figure 3 illustrates this point. The top diagram is meant to illustrate what happens when a full, well balanced ration is fed to a low producing cow. A portion of the nutrients which in the real dairy cow would be used for milk, is used for body fat. The economical way to feed such a cow is illustrated in the lower diagram. When fed in this way the cow does not have any surplus and therefore does not waste any in fattening her own body. This explains one of the general rules to follow in feeding dairy cows, which is to reduce the ration if the cows begin to gain in weight. Of course this is assuming that they are in good working condition. While a real dairy cow never gets fat while giving milk, they must not be permitted to get extremely poor.

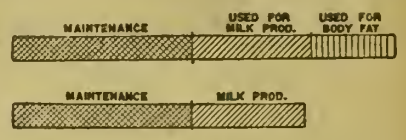

FIG. 3—FULL RATION FOR LOW-PRODUCING COW AND ECONOMICAL RATION FOR SUCH COW

During the dry period high producing cows can store surplus nutrients on their bodies as fat and later draw on it as reserve material for making milk. When a cow does this she gradually falls off in flesh. When really high producing cows freshen in a fairly fat condition, they will begin to fall off during the first few weeks after freshening until finally they have used up the reserve. If you are sure you have a really high producing cow, do not be afraid to have her get fairly fleshy during the dry period.

The charts here reproduced were first worked out by Prof. C. H. Eckles, of the Missouri College of Agriculture, in illustrating these points in feeding dairy cows. They are given in his book entitled "Dairy Cattle and Milk Production," which is one of the good books on this subject.

Names Cow Martha

Gary Cook, of Easton, Leavenworth County, in sending in his report for last month, writes as follows:

"I will send Martha's picture next week. She was born on the twenty-second of February; that is why I named her Martha. I am going to sell my calf today and pay the money on my note with my milk check. I have fed my calf half of Martha's milk, and what I sold during October brought me $6.61 with her feed expense out."

The Purpose of the Head

Every boy has a head topside his neck. The head was not put there by accident, nor as ornamental bric-a-brac. Of course the head, being equipped with a face, is useful as a means of identification, but if that was all it was good for what would be the use of identifying you? Nobody would care a rap whether you were Pete or Jim or the kid that lives over the bakery. The real purpose of the head is to be a packing case for the brain, and the brain is a machine for the manufacture of thoughts. So you want to learn how to use it no matter what comes up—in an emergency just as well as in a contest to guess how many beans there are in a jar. There's a heap of difference between thinking and the sort of product a lot of folks' brains turn out. One brain that can think is worth a hundred arms strong enough to lift a heifer. That's why a general is more valuable than a great many thousands of soldiers, each one of whom could probably lick him beautifully in a fist fight. It's because he can think.—The American Boy.

In looking over the October news letter of Agricultural Agent L. C. Christie, we note that he has given the year's record of a Holstein cow owned by J. B. Stevens, of Liberal, for the year ending October 6, 1917. The milk sold amounted to $323.50, and the amount used at home was estimated at $75, or a total of $398.50. The feed for the year was valued at $196.05. This gives a net return of $202.45 and the cow cost only $95. She has increased in weight about 400 pounds during the year, and no value has been assigned to the manure, which if properly handled as fertilizing material would be worth from $35 to $40.



What kind of music will there be in *your* home this Christmas?

CHRISTMAS AND MUSIC are inseparable. You cannot think of Christmas without thinking of music—all kinds of good music. What kind of music will there be in *your* home this Christmas? What instrument and what voices will entertain you?

Have you ever stopped to realize that all voices, and all musical instruments, excepting one, have their limitations? As wonderful as a piano is, it can give you only piano music; as beautiful as an organ is, it can give you only organ music; as marvelous as the human voice is, it can only sing. It is the same with the violin, the cornet, the accordion or any other instrument which you might have in your home or might consider purchasing. These are excellent in their way, but we are sure you will agree that none of them is completely satisfying.

It is different with the New Edison Diamond Amberola. It has no musical limitations, for it is all voices and all instruments in one and it brings into the home all kinds and classes of music, from the greatest of operatic numbers sung by the most famous of singers to the simplest of popular and comic songs sung by the cleverest performers in their line; from the performances of great military bands and symphony orchestras to the snappy music of the ever popular banjo.

The New Edison Diamond Amberola is not an instrument that you must forbid the children touching for fear of putting something out of order. Even a very young child can readily learn to operate this marvelous instrument, for it is simplicity in itself and is not readily put out of order, and the Blue Amberol records are almost unbreakable and unwearable. With the Amberola you do not even have to bother to change needles. There are no needles to change. Instead of needles Mr. Edison uses a GENUINE DIAMOND, ground and polished to fit perfectly in the grooves of the record, and so perfectly round and smooth that it has no effect on the record. As you know, a diamond never wears out. To operate the Edison Amberola all that is necessary is to put on a record and lower the reproducer so as to bring the diamond stylus (reproducer point) into contact with the record. Besides keeping the Amberola wound up and oiled, there is nothing else to do.

Read Our Liberal FREE TRIAL OFFER

It is Mr. Edison's wish that you hear his Diamond Amberola in your home. In order that Mr. Edison's wish should be fulfilled, we will place a New Edison Diamond Amberola and a choice selection of Blue Amberol records in your home for three days. Play them to your heart's content, invite your friends in to enjoy the music with you. At the end of three days tell us that you want to buy the instrument and records for cash, that you want to buy them on terms, or that you do not care to purchase at that time and request us to call for the Amberola and the records. We leave it entirely to you whether you keep the instrument and records or whether you send them back. Whatever your decision, we shall consider the matter at an end. You will be under no obligation whatever. We will be the ones to feel obligated to you for permitting us to place the instrument and records on trial in your home. Thousands of families throughout America are enjoying these free trials because of Mr. Edison's desire that no one should miss hearing his marvelous invention. Why not you? You are just as much entitled to the opportunity as anyone else, and there is no reason why you should not take advantage of it. When requesting your free trial, please use the coupon at the bottom of this page.

Send for the Beautiful Amberola Booklet. It is FREE

The Music You Get When You Own an EDISON AMBEROLA

Music was never more welcome in the American home than it is today. Home has never meant more to Americans than it does today. With some of our boys at the front and many preparing to go, the tenderest and deepest emotions surge through our souls. It is then that nothing is more appropriate than good music as the companion of our leisure hours. Whatever your tastes, whatever your mood, there are many selections in the Blue Amberol Record Catalog to suit—beautiful old hymns that seem to just lift you out of your immediate surroundings to a higher plane where the spirit is free and unfettered by the irksomeness of the daily routine—thrilling band records that just make you feel like getting up and marching around the room—noble patriotic numbers that would stir the heart of a traitor—tender old and new songs and ballads that go straight to your heart—majestic grand opera that appeals to the deepest of human emotions—lively dance pieces, ragtime and funny records—entertainment of all kinds for young and old.

So that you may have an idea of the many wonderful selections to be found in the Blue Amberol Record Catalog, we have picked a few here and there and they're printed below. Look them over. You are sure to find many of your favorites.

FOR CHRISTMAS

Angels from the Realms of Glory
Bells of Christmas
Birthday of a King
Hail! Hail! Day of Days
Hark! Hark! My Soul
It Came Upon the Midnight Clear
Joy to the World
Night Before Christmas
Old Jim's Christmas Hymn
O Little Town of Bethlehem
Once in Royal David's City
Ring Out the Bells for Christmas
Ring Out, Wild Bells
Santa Claus
Silent Night
Star of Bethlehem
Sweet Christmas Bells
When Christmas Bells are Ringing

SACRED

Ave Maria
Beautiful Isle of Somewhere
Crucifix
God is Love, His Mercy Brightens
My Ain Countrie
Rock of Ages
Face to Face

QUARTETS

The Bridge
Come Where My Love Lies Dreaming
Darling Nellie Gray
Maple Leaf Forever
Massa's in de Cold, Cold Ground
Laughing Song
The Rosary
We're Tenting To-night
Way Back Home

HAWAIIAN

Aloha Oe (Farewell to Thee)
Kamehameha March
Medley of Hawaiian Airs
Moani Ke Ala
Waialae (Waltz Song)
Koleo
Pulupe

BANDS

At the Mill March
Battle of the Marne—Descriptive
Benediction of the Poignards—Huguenots
Glowworm
Humpty Dumpty Rag
In the Clock Store—Descriptive Fantasia
Jolly Coppersmith—with Anvil, Singing and Whistling
My Old Kentucky Home Fantasia
United States Passing in Review

INSTRUMENTAL SOLOS

I Hope I Don't Intrude, Bells
King of Air March, Xylophone
Kiss Waltz, Saxophone
Lullaby—Jocelyn, Cornet
Medley of Southern Airs, Banjo
Old Black Joe, Piano
Peg o' My Heart, Violin

DANCE

Carnival One-Step
Destiny Waltz
Good-Night Waltz
Money Musk Medley Virginia Reel
Oh, You Silv'ry Bells Medley Two-Step
Old Comrades March
Stop! Look! Listen! Fox Trot
Ticking Love Taps Fox Trot
Leg of Mutton One Step

GRAND OPERA

Elisir d'Amore—Una furtiva lagrima
Faust—Air des Bijoux
Pagliacci—Prologue
Rigoletto—Caro nome
Trio from Faust
Bridal Chorus from Lohengrin
Mignon—Ah! Non credevi tu

VOCAL DUETS

All Aboard for Blanket Bay
As We Parted at the Gate
Auf Wiedersehen—The Blue Paradise
Barcarolle (Oh, Lovely Night)—Tales of Hoffman
Every Little Movement—Madame Sherry
For You
Good-Bye, Good Luck, God Bless You
Land of Golden Dreams
I Was Never Nearer Heaven in My Life

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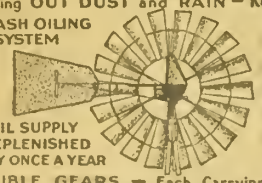

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Live Stock Farming Should Increase

LIVE stock farming has proven to be the most dependable type of farming that can be practiced, but many a farmer is wondering whether or not, under present conditions of abnormal feed prices and abnormal meat prices, he can afford to increase the live stock population of his farm.

As a matter of fact, all the advantages of live stock production in normal times, such as maintenance of soil fertility, equalization of labor, employment of capital and the utilization of otherwise unmarketable feed, still exist. These advantages are enhanced by war time.

A careful survey of conditions shows that there has been some increase of live stock per capita in this country during the last five years. While cattle generally have increased at about the same rate as the human population during that period, sheep have actually decreased and hogs have increased only a small per cent. The human population has increased 8 to 10 per cent, cattle 8 to 10 per cent, hogs only 2 to 4 per cent, and sheep have decreased 7 to 8 per cent. During this fall an additional hog shortage is evident. A further shortage of meat animals has been caused by an increase in exports. During 1916 the animal products exports from this country were nearly 100 per cent higher than those during 1911. In cases of some specific items the increase in exports is even more than 100 per cent. It is likely that exports will be heavy after the war, because for several years Europe will be unable to supply either the food or the animals for home consumption. During the war the United States must export as much meat as can be spared.

A review of animal consumption of meat per person indicates, when the prices which obtained during last year are considered, that the supply of meat is not equal to the demand at this time.

Prof. E. A. Trowbridge, of the Missouri Agricultural College, in discussing the present situation, pointed out that animal products constitute a food reserve. Unlike any other perishable products they may be kept over indefinitely or they may be preserved for use at a definite time. Domestic animals can convert into human food those products which otherwise are wasted. Well directed, properly managed, live stock farming has been made and can be made profitable.

"It would seem clear from a review of the situation," said Professor Trowbridge, "that increased live stock production is indicated, and it is evident that it is a source of food essential for the welfare and safety of this nation at this time. Preponderance of evidence indicates that increased live stock production may be carried on very satisfactorily and profitably. This statement does not mean that it is safe for the average man to engage in speculative live stock ventures."

The great factors to be considered in increasing live stock production are increase in numbers and increase in quality. This may be accomplished, said Professor Trowbridge, by the use of good sires; the use of satisfactory breeding females, which give evidence of being regular breeders and which are increasing rather than depreciating in value; the maintenance of breeding animals in good breeding condition, neither too fat nor too lean, and by the utilization of roughness and forage to the greatest possible extent; by giving special attention to breeding animals at the breeding season and taking special care to see that every breeding female is safely pregnant, and that irregular breeders are eliminated; and by saving newly-born animals by proper care and attention at parturition.

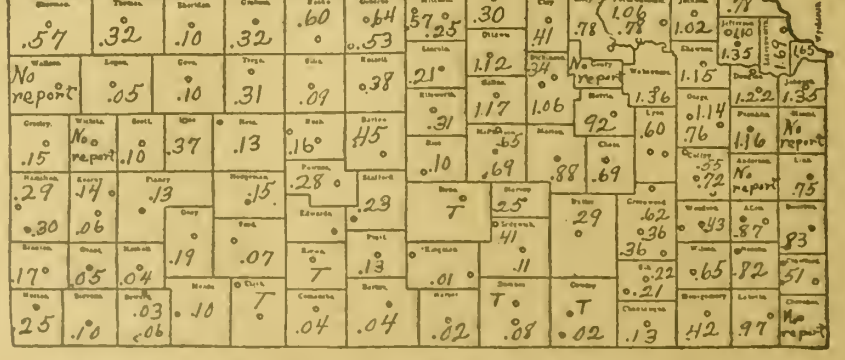
Hog Prices for Current Year

The following table recently published by the Daily Drovers Telegram of Kansas City shows hog receipts, high prices and variations in price, by weeks, for the current year:

Week	Receipts.	Top.	Avge.	Gain.	Loss.
Jan. 6	48,363	$10.50	$10.02	$ .01	$ ...
Jan. 13	61,783	10.80	10.29	.27	...
Jan. 20	65,911	11.05	10.69	.40	...
Jan. 27	57,200	11.70	11.14	.45	...
Feb. 3	53,840	12.10	11.56	.42	...
Feb. 10	68,341	12.40	11.90	.34	...
Feb. 17	62,630	12.45	12.08	.18	...
Feb. 24	51,842	13.00	12.43	.35	...
Mar. 3	49,713	13.55	13.12	.69	...
Mar. 10	34,494	15.00	14.46	1.34	...
Mar. 17	53,839	14.95	14.44	...	.02
Mar. 24	35,841	15.10	14.57	.14	...
Mar. 31	51,032	15.35	14.55	.14	...
Apr. 7	46,920	15.80	15.18	.48	...
Apr. 14	30,560	16.30	15.82	.64	...
Apr. 21	52,011	16.10	15.51	...	.31
Apr. 28	51,568	15.90	15.28	...	.23
May 5	52,997	15.75	15.41	...	...
May 12	56,048	16.25	15.53	.12	...
May 19	41,070	16.45	15.88	.35	...
May 26	52,671	16.45	15.66	...	.22
June 2	39,205	16.00	15.27	...	.39
June 9	39,743	15.95	15.40	.13	...
June 16	88,714	15.80	15.28	...	.13
June 23	44,586	15.95	15.36	.08	...
June 30	45,455	15.80	15.04	...	.32
July 7	31,422	16.00	15.26	.22	...
July 14	38,747	15.80	15.08	...	.08
July 21	38,475	15.80	14.97	...	.11
July 28	37,986	16.00	15.29	.32	...
Aug. 4	51,753	16.15	15.23	...	.06
Aug. 11	39,265	17.00	15.92	.69	...
Aug. 18	23,323	18.60	17.56	1.64	...
Aug. 25	23,728	20.00	18.29	.73	...
Sept. 1	15,327	18.75	17.52	...	.76
Sept. 8	21,651	18.80	17.63	.10	...
Sept. 15	20,537	18.90	17.89	.26	...
Sept. 22	29,334	18.90	18.13	.24	...
Sept. 29	28,653	19.45	18.73	.60	...
Oct. 6	26,388	19.65	18.94	.21	...
Oct. 13	38,101	19.60	18.35	...	.59
Oct. 20	42,288	18.35	16.48	...	1.87
Oct. 27	40,600	16.75	15.48	...	1.00

Rainfall Over Kansas for October

Reports Furnished by S. D. Flora, Meteorologist, Weather Bureau, Topeka



THIS was the second driest October on record in Kansas, with hardly a fourth of the moisture that fell in October a year ago, and not enough for present needs, except in the northeastern and a few southeastern counties. Wheat was badly in need of more moisture in the important wheat producing counties in the central and western part of the state, where its condition was reported as poor to fair. A great deal of it was not up when the month closed and in the dry sections some of it appeared to be dying for lack of moisture. In the northeastern counties it fared better and most of it was in good to excellent condition.

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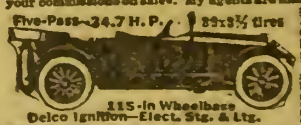

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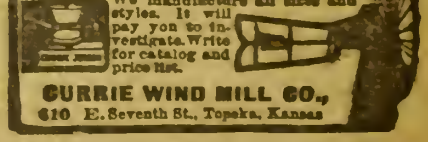

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816 Union Street, Ottawa, Kansas.



Ration Lacks Protein

A HARPER County reader asks the following questions about feeding milk cows: "We have kafir fodder, kafir hay — drilled in and cut before grain ripened, Sudan grass, and silage made from kafir and corn with quite some grain on it. Also good wheat straw. At present the milk cows are on some pasture grass and are fed kafir hay. One fresh cow gives about two and a half gallons of milk a day on this. Another has been milking fourteen months, but will not be fresh until May. She is a splendid three-year-old heifer, but gives only about four quarts a day now and is quite thin. Her dam is a good Jersey and the sire a registered Holstein. Would it pay to stable her this winter, with feeds as high as they are, in order to benefit her in freshening next spring? Please give suggestions on what we should buy to balance our ration. I believe proper feeding would increase the flow of milk in each one of these cows a gallon a day. Will soon have two fresh cows that will give four gallons a day each on fodder and thirty pounds of silage daily. How should I feed them for best results? Will they pay for alfalfa at $30 a ton or cottonseed cake at $51 a ton?"

Every one of the feeds mentioned is low in digestible protein. Next to not feeding liberally enough, the most common mistake made in feeding milk cows is not giving enough protein. Nothing can take its place in the ration. If it is deficient in quantity in the feeds used, supplying an over-abundance of fattening feeds will only result in waste. A good milk cow simply cannot eat enough kafir fodder or hay and silage to supply the protein necessary for a heavy milk flow. Cows of decided dairy temperament may do fairly well for a time, but they are sure to run down in condition because of the drain on their own body tissue.

The three-year-old heifer mentioned that now gives four quarts of milk a day ought to be so fed as to come to her next freshening period in May in fairly good condition. She has some growth yet to make, and this requires protein.

Since the protein cannot be supplied in sufficient quantity in the feeds on the farm, it must be purchased, and even at $51 a ton cottonseed cake or meal is the cheapest source of this nutrient. It contains at least three times as much as alfalfa hay, and the cost of a ton is less than twice that of alfalfa. Sudan grass is one of the sorghum group that seems to have more protein than is ordinarily found in any of the other plants of this group. Its value as a dairy feed has not been fully established, but the indications are that it is better than kafir, cane, or other forages of the sorghum family. In view of this fact, we would advise using the Sudan grass hay as largely as possible in feeding the milk cows. Of course they should have a good liberal ration of silage, at least thirty-five or forty pounds daily. There is some grain in silage, but the actual amount in forty pounds is very small.

Cottonseed meal or cake in the nut form can be fed as the sole concentrate with good results by scattering it over the silage. As a rule when such low protein roughages are fed, it is the common practice of good dairymen to make up a grain mixture consisting of three parts corn, one part bran, and one part cottonseed meal, adding an additional pound daily of meal to the heavier producing cows. Because of the high price of corn it probably would be more economical to leave this out of the ration, especially if the silage is of good quality. If oats can be purchased at a price not greater than the price of corn by the pound, they can profitably be fed to milk cows. A good many dairymen are feeding oats this year because at the present prices they are about the cheapest source of the necessary nutrients for milk production.

We believe that in this particular case the cheapest way to balance the farm-grown feeds on hand would be to buy the cottonseed meal and feed it with the silage, giving probably not more than three or four pounds daily to a cow. The exact amount to feed will depend largely upon the amount of milk the cow gives. It is almost impossible to feed intelligently without keeping a milk record and we believe that with the present high prices of feeds no dairyman should attempt to handle good milk cows without keeping a milk record.

While feeds are high in price, we should not overlook the fact that dairy products are also high in price. Skim milk has a value for feeding far beyond what is ordinary given. It is an ideal feed to balance a corn or kafir ration for hogs, and with hogs at present prices skim milk ought to be worth from 75 cents to $1 a hundred pounds.

Dairy cows must have warmer shelter than beef cows. They do not have the power to resist the cold and the best of results cannot be expected if they are forced to be out in unsheltered yards during the cold winter weather. This young heifer spoken of as being rather thin should by all means be given good shelter during the coming winter. It probably will not be necessary to keep her in a stall, but she should at least have a good warm shed in which to run.

Value of Pure-Bred Sire

The value of a pure-bred dairy bull as a herd sire is strikingly shown in the reports of some experiments upon a scrub herd at the Iowa Experiment Station. In this experiment pure-bred bulls were mated with scrub cows, and the resulting heifers were bred back to approved bulls of the same breed. In the case of one group, the original scrub cows averaged 3,255 pounds of milk and 161 pounds of fat in a year. The average of the daughters from these cows was 6,311 pounds of milk and 261 pounds of butter fat. The granddaughters averaged for the year's production 11,295 pounds of milk and 431 pounds of butter fat.

There is no surer nor safer way of building up a high-producing herd than the use of a high-class dairy-bred sire.

Completes Third Record

Murne Cowan 19597, former world's champion over all breeds, and still holding the highest record for Guernseys, has come back with a third record. This record, completed when twelve years old, while not equal to her preceding ones, demonstrates her great staying power and ability as a producer. No effort was made to break or even equal her former record, but rather to show what she would do under ordinary conditions.

Her record of 24,008 pounds of milk and 1,098.18 pounds of butter fat, which won her the coveted title of world's champion two and one-half years ago, still remains unchallenged among Guernseys. The average for her three yearly records is 19,373.6 pounds of milk and 911.78 pounds of fat, figures which we think have not been approached by a cow of any breed.

She has three sons and three daughters registered, and still has many years of usefulness ahead of her. Neither her sire nor her dam have Advanced Registry records, not from lack of ability, but because their owners did not give them the opportunity. Her grandsire, Lily Ella's Jeweler 5417 A. R., has forty-four registered daughters, six of which have made nine Advanced Registry records, and thirty-eight sons, four of which are in the Advanced Registry, and five others with one Advanced Registry daughter each.

The record just made by Murne Cowan was supervised by the dairy department of the Ohio University, from which a different man was sent each month to conduct the tests.

Dairying Brings Steady Income

The young farmer with the milk cow is the fellow whose credit is good the year round. He has a decided advantage over the farmer without milk cows in that he has a steady income the year round and in this way does not have to depend so much on credit. With this regular income he pays his grocery bills and his interest—not only that but he has one of the most profitable means of utilizing a part of his feed. A few good cows will insure his success.

There is no safer plan for the young man starting into farming with limited capital than the keeping of a few good dairy cows.

The young farmer may hesitate to buy milk cows because feed is high and because he does not like to milk. The feeds are high but milk products are steadily increasing in price.

It is important to have good cows. The majority of milk cows on the average Kansas farm are not profitable. They do not produce enough milk of the desired quality. The cow must be a good producer. She should produce at least from 250 to 300 pounds of butter fat, and the more she produces the more profitable she will be.

The grade cow and the pure-bred sire are the best combination for the beginner.—O. E. Reed, K. S. A. C.



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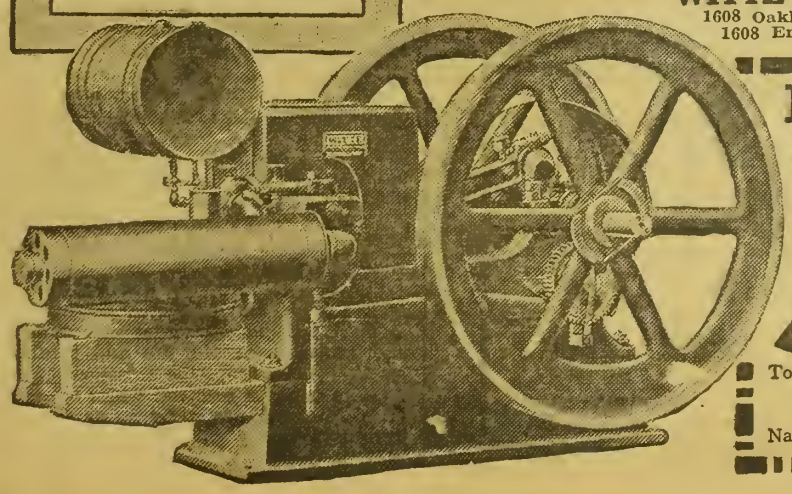

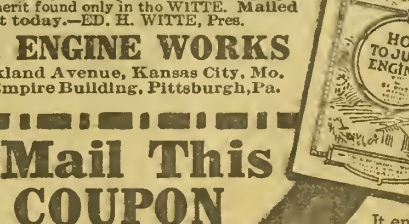

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The 20 on which he used the machine produced 512 bushels more than the other 20. He paid the dealer $256.00 for the spreader—a great deal more than its present selling price. Today, higher prices would make that difference about three times $256.00!

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Here is a spreader for every farm. This year, of all years, you need one. Write us for full information.

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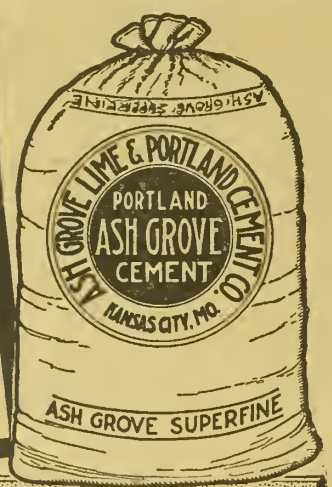

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Drainage Increases Production

IN THESE days of labor shortage, making the acre yield more without increasing the work put in on a given area is recognized as a logical proposition. In this connection the statement of J. B. Marcellus, irrigation and drainage engineer of Kansas, that every acre of Kansas land that can be drained and used in the production of food products will not only help win the war but will be a permanent addition to the value of the farm, state, and nation, is of special significance.

Not only should steps be taken to improve every swampy acre or tract subject to overflow, but in the western part of the state an effort should be made to increase production through means of irrigation projects. At present prices irrigation by pumping readily can be made profitable.

Kansas usually is not considered a state with great need for either drainage or irrigation, but the report of the drainage and irrigation engineer for the year ending June 30, 1917, shows that fifty-five farms were examined for drainage improvements.

The improvement of these farms called for the use of 500,000 linear feet, or nearly 100 miles of tile. Under average conditions this means a direct benefit of approximately 1,000 acres, and an increase in value to each of the fifty-five farms.

In addition to tile drainage improvement the report shows assistance given on twenty-seven drainage projects. They concerned the prevention of overflow of land.

Some of these districts involve 15,000 acres. With an average of 5,000 acres for each project, this would show 135,000 acres which have been or can be increased in efficiency. Special flood and storm problems in a dozen different localities were also given consideration.

In the western part of the state an examination was made of forty-seven irrigation projects. Most of these were pumping plants.

Government Insures Soldiers

In providing insurance for its soldiers and their dependents, the United States Government has inaugurated a movement never before undertaken. The Secretary of the Treasury, through the Bureau of War Risk Insurance, has been charged with the administration of the War Insurance Law enacted by the Congress as a measure of justice to the men and women who have been called to give their lives, if need be, in the service of their country.

In a statement addressed to the officers and enlisted men and women of the army and navy of the United States and their relatives, Secretary of the Treasury W. G. McAdoo says:

"I wish to acquaint you with the benefits and privileges which your Government has placed at your disposal. It is essential that you and your families at home should know of your and their rights under this law in order that full advantage may be taken of them.

"To care for the wife and children of the enlisted man during his service, the War Insurance Law compels him to contribute up to one-half of his pay for their support. The Government, on application, will generously add to this an allowance of from $5 to $50 a month, according to the size of the family. Moreover, if the enlisted man will make some further provision himself for a dependent parent, brother, sister, or grandchild, they may be included in the Government allowance.

"If, as a result of injuries incurred or disease contracted in the line of duty, an officer or enlisted man or an Army or Navy nurse should be disabled, provision is made for compensation of from $30 to $100 a month to him, and, should he die, compensation of from $20 to $75 a month will be paid to his wife, his child, or his widowed mother.

"In order, however, fully to protect each person and family, Congress has made it possible for every soldier, sailor, and nurse to obtain life and total-disability insurance. This insurance applies to injuries received while he or she is in the service or after he or she shall have left it.

"Exposure to the extra dangers of war makes the cost of life insurance in private life insurance companies prohibitive. It was, therefore, a plain duty and obligation for the Government to assume the risk of insuring hundreds of thousands of our soldiers and sailors who are making the supreme sacrifice. Under this law, every soldier and sailor and nurse, commissioned and enlisted, and of any age, has the right, between now and February 12, 1918, to take out life and total-disability insurance up to $10,000 at very low cost, with the Government without medical examination. This right is purely optional. The soldiers and sailors are not compelled to take insurance, but if they desire to exercise the right, they must do so before February 12, 1918. The cost ranges from 65 cents monthly, at the age of 21, to $1.20 monthly, at the age of 51, for each $1,000 of insurance. This is a small charge on a man's pay—small in proportion to the benefits it may bring. The premiums will be deducted from his pay, if he desires, thus eliminating trouble on his part.

"To provide adequate protection until February 12, 1918, during the period when the soldiers and sailors are learning the details of this law, the Government automatically insures each man and woman, commissioned or enlisted in the military service of the United States. It pays the man $25 a month during total permanent disability; if he dies within twenty years, it pays the rest of 240 monthly installments of $25 each to his wife, child, or widowed mother.

"I desire to call the provisions of this just and generous law to the attention of our officers and enlisted men and women so that they may not be deprived of their rights through lack of knowledge. Full information may be obtained from the Bureau of War Risk Insurance of the Treasury Department, Washington, D. C. I earnestly urge that the officers of the Army and Navy give to the men under their command all possible aid in helping them to understand fully the benefits that this insurance may bring to their families and the small cost at which it may be obtained.

"This is the greatest measure of protection ever offered to its fighting forces by any nation in the history of the world. It is not charity; it is simply justice to the enlisted men and to their loved ones at home, and each and every one of them should promptly take the benefits of this great law."

Storing Potatoes

If wastage is to be avoided, potatoes must be stored under proper conditions. The following points may well be observed:

Sweating and heating occur when freshly dug potatoes are placed in too large piles.

Rotting is often due to putting wet potatoes in storage.

Every precaution should be taken to protect the tubers from frost both before and after digging.

Diseased tubers should be sorted out from the sound potatoes, and after being boiled or steamed, they may be fed to poultry or live stock.

Potatoes may be kept from sprouting by proper ventilation and by holding the temperature of the storage room at as near 35 degrees as possible.

There is usually a slack period in the work program during the late fall. The wheat has been sown and the silage cut. A part of this time might well be spent in tile drainage. The tile should be put into the ground before it freezes. They will then do their greatest service by removing the excess water and allowing the soil to warm up for early spring planting. Tile drainage can often be carried on as late as the last part of December. Be sure and do the work right.

Farm crops have advanced in price from 40 to 80 per cent in the past few months. Although the increase in farm machinery has been much less, now is the time to repair that old machine, for new ones may cost a great deal more money next spring.

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PURE-BRED BUFF LEGHORN COCKERels, choice, $1.50; fancy, $2. P. A. Wempe, Seneca, Kansas.

SINGLE COMB BUFF LEGHORN COCKerels, $2. Mammoth White Holland turkeys. Mrs. S. F. Crites, Florence, Kansas.

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PURE-BRED SINGLE COMB WHITE Leghorn cockerels, one dollar each. Kate Skelley, Delia, Kansas.

100 EXTRA FINE SINGLE COMB WHITE Leghorn cockerels from my best laying and show winning pens. Order now and receive the choice. $1.50 and up. C. G. Cook, Lyons, Kansas.

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RHODE ISLAND WHITE AND BARRED Rock cockerels for sale. W. E. Wulf, Clearwater, Neb.

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WHITE-FACED BLACK SPANISH HENS, pullets and cockerels. Closing out. I must sell. Satisfaction guaranteed. H. W. Chestnut, Kincaid, Kansas.



Fattening Geese and Turkeys

CONSIDERABLE loss results from marketing geese and turkeys without special fattening. N. L. Harris, superintendent of the Agricultural College poultry farm, is authority for the statement that the goose especially is easily fattened. The old-time method was to tie several geese to a stake in some quiet shady place and give all the finely ground grains they would eat readily. In from one week to ten days the birds would put on large amounts of fat at a small outlay for grain. In recent years it has been the custom to place a few geese in a small yard with ample shade. A wet mash composed of 60 per cent finely ground corn meal, 30 per cent shorts, and 10 per cent beef scrap, is given. When possible the mash should be mixed with sour milk or buttermilk. By this method rapid gains are realized.

The turkey, being a somewhat wild fowl, does not take kindly to small pens and is usually fed on the range. Birds that are to be marketed for the holiday trade are given all the cracked corn they will eat twice a day. When freezing weather comes early and destroys insect life it is advisable to furnish some form of meat feed, such as commercial beef scrap, where birds can have easy access to it.

In case a local market is to be supplied it is possible to feed turkeys in crates. The birds are put in small crates in a quiet, protected building, and fed three times a day on batter made of corn meal, low grade flour, beef scrap, and a small amount of bran mixed with buttermilk. This method is more expensive and only practical where special markets are to be supplied. The old range method of fattening is more desirable as well as economical. Care should be taken to remove all breeding stock from the birds selected for market, as it is not desirable that those to be kept over should become too fat.

Choice Cockerels Valuable

Poultry breeders are carrying low stocks of male birds this fall, and indications point to a general shortage of breeding stock in the spring. This condition, due largely to high prices of feed, is important to practical poultrymen.

People who expect to follow the usual custom of buying roosters in January and February to make up their breeding pens are likely to be disappointed next year.

To be sure of an early start in poultry operations during the coming season, it will be well to retain at least a few choice well-matured cockerels. Carrying them through the winter, even at a considerable cost for feed, is a wiser course than depending on the uncertain commercial supply.

Fattening Chickens for Market

Crate fattening chickens for market is conducted in a large way by the big poultry houses. The average farm chicken as it comes to the poultry house is seldom in the best condition. They must go through a fattening process just as a steer must be finished for market.

A few farm poultry growers finish their stock for market, although as a rule it is not practical to do this. The method will not be successful if carelessly conducted, and those who attempt to fatten chickens on the farm as they are fattened by large commercial plants should send to the poultry department of the experiment station or to the United States Department of Agriculture for detailed instruction. Better yet, visit one of the commercial poultry fattening plants and make a careful study of their methods. By making some modifications, the methods followed in a large way can be successfully adapted to farm conditions and one who will pay strict attention to the details can successfully fatten the stock so they can be sold to a special trade for better than ordinary market prices.

Material to be used for fattening chickens in crates should depend somewhat on the cost and on the purpose for which the fowls are being fed. If a hard white fat and white skin are desired, oats and barley should make up a large part of the ration. If yellow fat and skin are desired, corn meal should be the principal ingredient of the mash.

A simple, efficient ration for farm use consists of sixty pounds corn meal, forty pounds wheat middlings, oat flour, or barley meal (or forty pounds of a mixture of equal parts by weight of these materials) and five pounds of finely ground beef scrap. This mash is mixed with sour milk, either skim milk or buttermilk, in the proportion of about one and one-half pounds of milk to each pound of mash. The mash mixed ready for feeding should have the consistency of buckwheat cake batter. It is not necessary to mix the mash fresh for every feeding, as a slight fermentation makes it more palatable and more digestible.

The chickens to be fattened should be given nothing to eat or drink for at least twelve hours after they are placed in the crates.

At the first feed, only about one-third as much of the mash should be given as the chickens will eat. The amount fed should be increased at each feed until by the fourth feed they are being given all they will clean up in from twenty to thirty minutes. After the fourth feed, every effort should be made to stimulate the consumption of mash.

Feeding should be done at the same hours each day. Regularity is essential.

Free Poultry Bulletins

Standard Varieties of Chickens. Farmers' Bulletin 51.

Poultry Management. Farmers' Bulletin 287.

Capons and Caponizing. Farmers' Bulletin 452.

Hints to Poultry Raisers. Farmers' Bulletin 528.

Important Poultry Diseases. Farmers' Bulletin 530.

Boys' and Girls' Poultry Clubs. Farmers' Bulletin 562.

Poultry House Construction. Farmers' Bulletin 574.

Natural and Artificial Incubation of Hen's Eggs. Farmers' Bulletin 585.

Natural and Artificial Brooding of Chickens. Farmers' Bulletin 624.

Simple Trap Nest for Poultry. Farmers' Bulletin 682.

Squab Raising. Farmers' Bulletin 684.

Duck Raising. Farmers' Bulletin 697.

Goose Raising. Farmers' Bulletin 767.

Turkey Raising. Farmers' Bulletin 791.

Mites and Lice on Poultry. Farmers' Bulletin 801.

For copies of these bulletins address U. S. Department of Agriculture, Washington, D. C.

Selecting Good Hens

The following brief suggestions are helpful in selecting the hens to keep for the winter:

The best hens are those still in old plumage in October, still with red combs and still laying. All such hens are extra good hens and should be marked and used as breeding stock next spring.

The next best hens are those that are moulting at this time and laying both.

The next best are those that are moulting rapidly—all at once.

The next best are those that are through the moult and showing full, red combs, although in heavy breeds such must be especially fed—handled if they are to lay early this winter.

Poor hens are such that are moulting badly or slowly or that appear dumpy or sick because of the moult. Broken down, runty and scoured hens are all in the class that are sure not to return enough eggs this coming year to pay for the feed they will eat.

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FINE BUFF ORPINGTON COCKERELS, $3 each. Mary E. Price, Route 7, Manhattan, Kansas.

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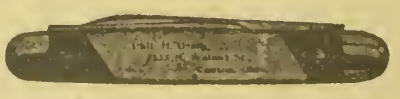

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Thanksgiving.

There are so many things I am not thankful for;
The cruel war I loathe, the carnage I abhor,
New graves and open wounds and death-infested sea
And ruins gaunt and gray where temples used to be.
But I am thankful, God, 'mid all the murk today
That I can keep my faith and hope and wait and pray.

—L. M. Thornton in Farm and Home.

Let Us Be Thankful

That, even though our country is at war, we are fighting for no territorial indemnity for ourselves;

That even though the food is dear, we have as a people felt as yet no touch of actual want;

That there is no danger of an invader's foot upon our shores at this time;

That, even though there is industrial and political strife within our own borders, there is no division that justice and reason cannot bridge;

That, while all the world fights, all men talk of peace;

That there is a probability that Thanksgiving, 1918, may be the greatest Peace Jubilee of all time.—Farm Life.

"Brer" Rabbit

In England the rabbit has always held a place of honor on the festal board. A Christmas stagecoach without its full hampers and dangling rabbits for town tables would not have been a stagecoach at all. Thanksgiving, 1917, would be a good time to give the American rabbit equal honor. The rabbit has such possibilities that you can hardly go wrong when you have once caught your rabbit. What can you do with a rabbit? Exactly what you can do with a chicken—roast, fry, cream, and a dozen ways besides. Try one of these for your Thanksgiving dinner:

ROAST RABBIT.—Wash the rabbit with soda water. Lay in salted water for an hour. Stuff with a dressing made of stale bread and seasoned with salt, pepper, and onions, celery, or chestnuts, and sew up. Line a baking pan with one onion and one carrot cut up, a few cloves, whole peppercorns, and one bay leaf. Rub rabbit with salt and pepper and lay upon this dressing, putting butter or other fat here and there over the rabbit. Sift a little flour over the top and pour a cup of stock or hot water into the pan. Cover tight and roast, basting frequently. When ready to serve, put on a hot platter and garnish with slices of lemon and cranberry jelly or currant jelly.

CREAMED RABBIT. — Season with salt and pepper, roll in flour, and fry. When brown, turn, then cut an onion on top and add a little water. When done, cover with sweet milk, and thicken a little.

Home-Made Hominy

One of our readers just called us by telephone to ask how to make hominy, and others are probably interested in making it at the present time.

Select sound white corn. The hulls may be removed by using either lye or soda. If lye is used, the proportion is a tablespoonful of concentrated lye to a gallon of corn. Cover the corn with water. Boil slowly until the skin comes off easily and the dark tips on the grains begin to come out. Wash thoroughly. Soak in cold water — preferably over night — drain, return to kettle and boil in plenty of water until tender.

If the hulls are removed with soda, use one tablespoonful of baking soda for each cup of corn. Boil until hulls are softened and may be removed easily. Drain off the soda water and wash in cold water. Rub between the hands to remove any hulls. Wash repeatedly until all hulls are gone. Add boiling water to the corn and boil till thoroughly cooked.

The hominy may be kept in a stone jar in a cool place for several days, or it may be canned and kept as long as desired. To can, pack closely in hot jars or cans. Fill with boiling water. Add one level teaspoonful of salt to each quart of hominy. Put rubbers and caps of jars into position, not tight, sterilize in hot water bath ninety minutes if the corn has been cooked tender beforehand. If it is packed into the jars without cooking, sterilize pints two and one-half hours and quarts three hours in hot water bath. Remove from bath and tighten lids.

The following ways of preparing hominy for the table are recommended by the home economics department of the Ohio University:

Creamed Hominy.—Reheat cold cooked hominy in hot white sauce. Parsley or a small amount of grated cheese may be added.

Hominy Balls. — Mix cooked hominy with white sauce, cheese sauce, or tomato sauce, and shape into balls. The white sauce is made by thickening one cupful of milk with three tablespoonfuls of flour and adding three tablespoonfuls of bacon fat, drippings, or butter. To make cheese sauce, add to each cup of white sauce about four tablespoonfuls of cheese, grated or chopped fine. To make tomato sauce, use tomato juice instead of milk. Roll the hominy balls in beaten egg and then in bread crumbs. Fry in deep fat. Cold creamed hominy may be mixed with egg, made into balls and fried in deep fat.

Hominy and Bacon. — Cut up several slices of bacon into small pieces. Fry until crisp and stir the hominy into this. Heat through thoroughly.

Another delicious way of serving hominy is to use one-half cooked hominy and one-half well-cooked corn meal mush. Add chopped English walnuts, mold, slice, and fry. The nuts should not be cooked, but should be added to the mixture just before molding. The nuts make this rich enough to serve as a meat substitute.

All measurements given in the foregoing recipes — like all measurements given in KANSAS FARMER, unless otherwise stated—are level.

Golden Pumpkins

Before turning the pumpkin into the good dishes you know so well, take a long look at this glorious bit of color, double-died with sunshine. Its very beauty evokes thanksgiving. If you are going to make a pie, cut off the top, scoop out the meat, then fill the shell with sprays of red-brown autumn leaves and place this golden bowl in the center of the Thanksgiving board.

1917 Pumpkin Pie

1 cupful molasses
1 quart cooked pumpkin
Grated peel of one lemon
½ teaspoonful each of nutmeg, cloves, and cinnamon
4 eggs.

Heat the molasses and stir into the pumpkin. Add the seasoning and beaten yolks of the eggs. Mix well. Add the stiffly beaten whites of the eggs. Bake in a pudding dish. Serve cold. Mashed sweet potato may be used in place of the pumpkin if thinned with one and a half cups of milk.

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The quickest pork producer known. Breeding stock for sale. L. E. JOHNSON, Waldron, Harper County, Kansas.

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Two choice bulls and ten extra good heifers for sale. Priced to sell. The kind that always please.
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At head of herd, Kansas Archer 440809 by Mistletoe Archer. For sale, fifteen choice young bulls from spring calves to yearlings. Come and see our herd.
F. H. HULL & SONS - EUREKA, KANSAS

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A few Scotch bulls for sale of breeding age. Red and roans. Write or come and see my herd.
O. A. HOMAN & SON, PEABODY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS

Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Pearl Herd Shorthorns

Valiant 346162 and Marengo's Pearl 391-962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

Can ship on Rock Island, Union Pacific or Santa Fe Railway.
C. W. TAYLOR - ABILENE, KANSAS

CLOVERDALE SHORTHORNS—For Sale, two roan yearling Scotch Shorthorn bulls. Exceptional quality and breeding. Also a few heifers. Wesley Jewell, Humboldt, Kansas.

Cedar Heights Shorthorns

For Sale—Three red bulls, 12 months old. A few cows and heifers. Priced reasonable. Come and see my herd.
HARRY T. FORBES
Route 8 Topeka, Kansas

FARM AND HERD NEWS NOTES

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W. R. Houston, of Americus, Kansas, owner of one of the best herds of pure-bred Duroc hogs in the state, reports his herd doing well and a good demand for high-class Durocs. A feature of his herd at this time is the fine lot of young stock, including a lot of good boars by the great sire, Taylor's Model Chief, a prize winner at the Missouri State Fair and the American Royal. Sisters of this great boar are among the great prize winning sows of the Duroc breed. Mr. Huston keeps his herd immune.

J. W. Anderson, of Leonardville, Kansas, owner of the Jumbo herd of big-type Polands, reports his herd doing well. Mr. Anderson now has 100 head in his herd and will breed a large number of sows for spring farrow. He reports a good demand for high-class Poland China sows and has just sold eight head of choice sows to one breeder.

A. V. Young, of Palmyra, Missouri, has announced a dispersion sale of Jersey cattle to be held at Palmyra, Missouri, December 12. Mr. Young owns one of Missouri's high-class Jersey herds and will catalog fifty head of imported and American-bred Jerseys. The sale will be under the management of B. C. Settles, the well known Jersey cattle sales manager of Palmyra, Mo.

C. F. Blake, of Idylwild Stock Farm, Glasco, Kansas, owner of one of the choice herds of Jersey cattle in this state, reports his herd making a good record. This herd is bred for production and carries the blood lines of the producing families of the breed. A feature of the herd at this time is the choice lot of young stock, all record bred.

S. M. Knox, of Knox Knoll Stock Farm, Humboldt, Kansas, is building up one of the best herds of Mulefoot hogs in the West. His herd now numbers 135 head and he will breed thirty sows for spring farrow. He has three prize winning herd boars in service, one of them a recent purchase. This boar was junior champion at the Iowa, Nebraska and Dakota state fairs. Mr. Knox also owns a choice herd of Shorthorn cattle.

The Kansas Percheron breeders have announced January 25 as the date of their annual Percheron sale. This sale will be under the management of C. W. McCampbell and will be held at the Kansas Agricultural College at Manhattan. The offering will be carefully selected and a very choice lot of Percherons will be catalogued.

W. C. Kenyon & Sons, of Elgin, Illinois, owners of one of the good Holstein herds in that state, report their herd doing well and also report a good demand for high class Holsteins, both registered and high grade. Their herd is bred in the best producing lines of the breed.

Charles H. Redfield, of Bucklin, Kansas, is building up a choice herd of pure-bred Spotted Poland China hogs and has found them very profitable. This year he raised a choice lot of spring pigs that are growing out fine.

Orrie Coburn, of Edgewood Farm, Whitewater, Wisconsin, reports a good demand for high class Holsteins. He recently shipped 109 high grade Holstein heifer calves four to six weeks old, to the Peoples Bank of Butler, Missouri, for a calf club there organized by the bank. The calves were shipped by express and arrived in twenty-four hours time, and 109 boys and girls were there with their friends to get them. It was a gala day for the youngsters. The H. P. Faris Trust Company, Clinton, Missouri, also bought and put out to club members over 150 of these calves through Mr. Coburn the past fall.

Thomas D. Marshall, of Brookside Stock Farm, Sylvia, Kansas, is the owner of choice herds of Percheron horses and Jersey cattle. His Jersey herd is one of the heavy producing herds of Kansas. He has Eminent Flying Fox, Queen's Raleigh and other choice breeding. A feature of his herd at this time is the choice lot of young stock.

A. V. Young, of Palmyra, Missouri, owner of one of Missouri's good Jersey herds, has announced a sale of Jersey cattle to be held at Palmyra, December 12. A choice offering will be catalogued and the sale will be under the management of B. C. Settles, of Palmyra.

Joseph Baxter, of Clay Center, Kansas, reports his herd of Polled Durham cattle doing well. On December 12 he will sell a select draft from this great herd at public auction. The sale will be held at the Kansas Agricultural College, Manhattan. The cows and heifers that will go in the sale are a very fine lot of breeding animals. The great prize winning bull, Select Goods, will go in this sale. He is one of the greatest sires of the breed and has a show record of ten first prizes and three grand championships and is the sire of many prize winners.

L. J. Lindsey, of Reece, Kansas, has announced December 11 for a public sale of Angus cattle at his farm. The offering comprises twenty-nine head of registered Angus cattle, consisting of ten bulls and nineteen females. The bulls consist of nine head of bull calves from seven to twelve months of age and one three-year-old herd bull. The females include sixteen head of good breeding cows bred and showing heavy in calf to the herd bull, Lord Elric, a choicely bred double Trojan Erica from the herd of E. L. Barrier, Eureka, Kansas. The females include a choice lot of heifer calves and their dams were sired by Black Last King Donald, a tried sire of very uniform type of Angus cattle.

M. F. Rickert, of Greenwood Farm, Seward, Kansas, reports his herd of big-type Polands doing well. Mr. Rickert owns one of the good big-type herds in Kansas. The herd boars, Big Wonder 66696 and Orange Wonder, used in his herd, are two of the good sires of the breed, and he has a very choice lot of sows by Big Wonder, Kansas King, Moore's Harbor and other noted big-type sires.

W. H. Charters, of Butler, Missouri, is announcing February 7 for a bred sow sale. Mr. Charters will catalog 100 head for this sale, consisting of fifty head of large fall yearling gilts, fifteen tried brood sows and twenty-three head of large spring gilts. All will be bred to four great breeding boars, Charter's Giant, Gerstdale Major by Gerstdale Jones, Chartier by Wonder Chief, and Charter's Grand Master by Big Maston. Mr. Charters is breeding the kind that grow big and make good for the farmer as a pork hog. They are grown on alfalfa pasture and fed a balanced feed that will insure their usefulness as breeders.

Wesley Jewell, of Cloverdale Farm, is one of the progressive breeders in Kansas. His herds of Scotch Shorthorn cattle and big-type Poland China hogs are among the best in the state. He also has a choice flock of pure-bred Shropshire sheep headed by an imported ram. His Shorthorn herd is headed by Sir Hampton 390589, one of the good bulls now in service. A feature of his Shorthorn herd at this time is the choice lot of young stock.

J. M. Hill, of Sedgwick, Kansas, has made a success breeding Galloway cattle. For more than twenty years he has maintained a herd of these cattle on the same farm and has used some of the best herd bulls of the breed that he could purchase. A number of imported bulls have been used, among them Imported Evara of Walton by Optimist, a bull that was champion at the leading shows in Scotland and a sire of many herd headers that went to head herds both in Scotland and America. Mr. Hill now has on his farm twenty head of yearling and two-year-old heifers, sired by Imported Evara of Walton, that are a choice lot. They will be kept for herd cows. A feature of the herd at this time is the fine lot of young stock, including yearling bulls.

Dr. J. T. Axtell, of Newton, Kansas, owns one of the high class herds of registered Holstein cattle in Kansas. Probably more cows with records are kept and more high-priced sires have been used in this herd than any herd in this section. There are cows in the herd with seven-day records as follows: Wilhelmina, 30.15 pounds; Vadia De Koi Soldene, 23.47; Green Plain Wera Bell, 21.45; Bellemore Hengerveld Topsy as a two-year-old with seven-day record of 19.05; Pussy Willow of Russell Farm, 26.79. A feature of the herd at this time is a choice lot of young bulls out of record cows.

GUERNSEY CATTLE.

GUERNSEY BULLS.

Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

AYRSHIRE CATTLE.

SOUTH FARM AYRSHIRES
300 HEAD.
75 Animals Imported from Scotland.
143 cows have qualified for advanced registry.
Males and females for sale.
SOUTH FARM
WILLOUGHBY - - - - OHIO

JERSEY CATTLE.

DISPERSAL Sale of

Fifty Head

IMPORTED AND AMERICAN BRED JERSEYS

Owned by A. V. Young

Palmyra, Mo.

December 12, 1917

Don't fail to attend this sale, and write at once for sale catalog to

B. C. SETTLES, SALES MANAGER
PALMYRA, MO.

120 Jersey Cows and Heifers

Pure-bred and high grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.
J. W. BERRY & SON, Jewell City, Kansas

BROOKSIDE JERSEYS

Registered Jersey Bulls, few old enough for service from Eminent Flying Fox dams, sired by Idalia's Raleigh, a son of the great Queen's Raleigh. Write for prices.
THOS. D. MARSHALL, SYLVIA, KANSAS

MULEFOOT HOGS.

KNOX KNOLL MULEFOOTS

Gilts and young sows, bred to champion boars at several state fairs. Ten extra fine gilts. Boars not related. Also Shorthorn cattle. Catalog on request.
S. M. KNOX - HUMBOLDT, KANSAS

HEREFORD CATTLE.

Greenwood Hereford Farm

Prince Rupert Herefords

One carload yearling bulls; fifty head bull calves. Will price single lot or carload.

W. J. Brown, Fall River, Kan.

IDEAL HEREFORDS

For Sale—Ten to twenty cows bred, some now calving, also some yearling heifers and choice young bulls from six to twenty months old. Blood of Prince Rupert 52d, Generous and Don Perfect. Outstanding good cattle. Priced right.

J. H. Keith, Coffeyville, Kansas

AUCTIONEERS.

Jas. T. McCulloch — Live Stock Auctioneer. I make sales anywhere. Write for date. CLAY CENTER, KANSAS

Live Stock and Real Estate Auctioneer.
Fifteen years experience. Write for terms.
Thos. Darcey, Hutchinson, Kansas.

CHESTER WHITE HOGS

Clinton County Chesters

Booking orders for spring pigs of National Swine Show blood lines. Fall and spring pigs at bargain prices.
J. H. McANAW - CAMERON, MISSOURI

CHESTER WHITE SPRING BOARS

Husky, growthy fellows of the best breeding. Cholera immune. Priced right.
HENRY MURR - TONGANOXIE, KAN.

GOING TO COLLEGE?

Our young readers who contemplate attending business college this fall or winter will find it to their advantage to write KANSAS FARMER for information that will be valuable to them.

It will cost you nothing but a postal card or a two-cent stamp to find out what our proposition is. Address

DESK D, KANSAS FARMER
Topeka, Kansas

REGISTERED
ABERDEEN ANGUS SALE
FROM THE FLINT HILL ANGUS HERD
AT
REECE, KANSAS, TUES., DEC. 11



29 Head 29
10 Bulls 10
19 Females 19



The bulls include a bunch of calves seven months to twelve months old, choice individuals and in good condition. Also a good herd bull, a tried sire.

Sixteen Cows Sired by Black Last King Donald
From the Herd of Mr. McWhorter, Aledo, Illinois

These cows are the useful kind, with size and substance, the sort for beginners to start with better cattle, or to add to herds already established. They are bred and safe in calf to Lord Elric, a Trojan Erica (from the herd of E. L. Barrier, of Eureka, Kansas).

Sale will be held at farm five miles from Beaumont, on Frisco Railway; sixteen miles from Eureka, on Santa Fe Railway; and seven miles from Reece, Kansas, on Missouri Pacific Railway. Write for the catalog.

L. J. LINDSEY
REECE, Greenwood County, KANSAS
L. R. Brady, Auctioneer

HOLSTEIN CATTLE SALE
Totten's Third Holstein Sale at Smith's Barn, Hiawatha
Kan., WEDNESDAY, DEC, 5, 1917, BEGINNING AT1 P M.



80 HOLSTEINS 60



Consisting of forty head registered cows, heifers and calves, and a few registered bulls of serviceable age. Most of these heifers and calves are from my $2,500 son of King of the Pontiacs, and are of good dairy type and in nice condition.

Forty head high-grade cows, heifers and heifer calves, good dairy type and in good order. All stock over six months of age tuberculin tested. Here is a chance to get Holsteins at your own price. This stock is from the best dairy section of Ohio. Hope to meet all my former customers at this sale. Come and bring a friend.

B. E. TOTTEN, - - FARMDALE, OHIO
W. R. GUILD, Clerk. COL. D. L. PERRY, Auctioneer.

Kansas Herd Chester Whites
FIRST ON BOAR PIGS, BOTH STATE FAIRS. YOUNG BOARS FOR SALE
ARTHUR MOSSE, ROUTE 10, LEAVENWORTH, KAN.

POLAND CHINAS. *POLAND CHINAS*

1000 POUND HERD BOARS 700 to 900-pound sows, big-type Polands. For thirty days we will sell choice bred spring gilts weighing 200 to 250 pounds at $60 each. Fall pigs, $20 each, three for $55. Cholera immune, registered, recorded and guaranteed to please or your money back. First check gets pick. Ask for catalog.
S. E. WAIT - - - - - - - - - BLUE MOUND, KANSAS

DEMING RANCH QUALITY
Big-Type Poland China Hogs.
Fifty March boars for sale. All Immuned. Bred sow sale February 18. Send for catalog.
H. O. Sheldon, Herd Manager
OSWEGO, KANSAS.

TOWNVIEW HERD BOARS
Ten big stretchy fellows farrowed in June. Every one a good one. Two choice fall yearlings. I ship my boars and gilts any place on approval. They make good. Prices are right. CHAS. E. GREENE, Peabody, Kan.

OLD ORIGINAL SPOTTED POLANDS
Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

White Oak Park Polands
Outstanding herd boar prospects by 1,100-pound Missouri Jumbo 210461 and 1,000-pound Long Big Joe 227387, twelve-inch bone. Dams popular big-type breeding. If you want boars that will mature to 1,000 to 1,100-pound hogs, I have them. Big high-quality fellows. Fall boars farrowed August and September, spring boars February and March. Will record in buyer's name. All immune.
Henry Koch, Edina, Missouri

FAIRVIEW POLAND CHINAS.
Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.
P. L. WARE & SON - PAOLA, KANSAS

GREENWOOD POLANDS
Spring boars for sale. Booking orders for bred gilts. M. F. RICKERT, Seward, Kan.

SPOTTED POLANDS
Sept. pigs, either sex, $20. One tried brood sow, $70. Chas. H. Redfield, Bucklin, Kan.

The Lone Cedar Polands
Last Lot of Meyers' Orange Pigs. I will have either sex, some extra fine gilts. Cholera immune for life.
A. A. MEYER - McLOUTH, KANSAS

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

FOR SALE
The great Poland China boar, Jumbo Wonder 2d, one of the best. Catalog free.
J. D. ZILLER - HIAWATHA, KANSAS

FALL PIGS, ready to ship. Select Spotted breeding. Express paid on pigs.
T. T. Langford & Sons, Jamesport, Mo.

Henry's Big Type Polands
March and April pigs, sired by Big Wonder, first in class at Topeka; Mammoth Orange and King Price Wonder. Immune.
JOHN D. HENRY, LECOMPTON, KANSAS

Faulkners Famous Spotted Polands
Late summer and fall pigs for sale. Buy them from the Fountain Head. Annual brood sow sale February 13. Ask for catalog.
H. L. FAULKNER, Box K, Jamesport, Mo.

BERKSHIRE HOGS.

BERKSHIRE HERD BOARS
For quick sale—Two choice Berkshire herd boars, three winter boars and five spring boars, all choice.
E. D. KING - BURLINGTON, KANSAS

RED POLLED CATTLE.

RED POLLED BULLS
Pure-bred Red Polled Bulls, old and young.
W. J. HARRISON, AXTELL, KANSAS

HOLSTEIN CATTLE. *HOLSTEIN CATTLE.*

REGISTERED HOLSTEINS FOR SALE
Having purchased Mr. Potter's interest in our Holstein herd, I am offering all of them at private sale. In the herd are matrons with seven-day records, as follows:

Wilhelmina De Kol Netherland.....30.15	Pussy Willow of Russell Farm.....26.79
Vadia De Kol Soldene 23.47	Boness 7th Topsy Clothilde.....22.58
Green Plain Wera Bell.....21.45	Margaret of Wheat Hill.....24.00
Locust Terrace Buttercup 22.00	Pearl Korndyke Burke 22.00
Tehee Changeling Abbekerk 21.11	Bellemore Topsy 2d 22.00
Bellemore Hengerveld Topsy, 2 year....19.05	Bellemore Mona Korndyke, 2 year.....17.79

BULLS—Some of them ready for service, out of these and other dams, and by 30-pound sons of King of the Pontiacs.
HEIFERS of all ages, with similar breeding.
Many of these cows are fresh or will be fresh before March 1.
DR. J. T. AXTELL - - - - - NEWTON, KANSAS

CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank
HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS
BREEDERS OF PURE-BRED HOLSTEINS
We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.
IT WILL PAY YOU TO SEE OUR OFFERING
of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.
GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM is offering twenty-five pure-bred heifer calves from six weeks to eight months old; also a choice lot of yearlings, bred heifers and young cows, all with top-notch breeding and at prices that cannot be equalled elsewhere; grade cows and heifers. BUY YOUR NEXT PURE-BRED BULL FROM US. For description and prices, wire, write, or call.
T. R. MAURER & COMPANY - - - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS
High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.
F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.

FRIESIAN PARK FARM HOLSTEINS
I am offering six registered Holstein bulls, all sired by Sir Johanna Bonheur Ormsby. He is sired by a son of Johanna Bonheur and his dam is a daughter of Pietertje Maid Ormsby. Both of his granddams are among the leading cows of the Holstein breed. These bulls will all be from 13 to 15 months old and ready for service by December 1. They are evenly marked and a good husky well grown bunch and priced to sell. $100 each while they last, if taken by December 1. Address
C. G. KEYS
RICHLAND CENTER - - WISCONSIN

Butter Bred Holsteins
Buy your next bull calf from a herd that won the butter test over all breeds.
J. P. MAST - - SCRANTON, KANSAS

HOLSTEIN COWS
For Sale—Twenty head of registered cows, yearlings and calves; also twelve young high grade cows and heifers. All bred to a bull whose three nearest dams averaged near 26 pounds butter in seven days. One herd bull and four young bulls by Sunflower Sir Mutual 78654.
CHAS. V. SASS
1013 North Fifth St., Kansas City, Kansas

HOLSTEIN CALVES
Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

HOLSTEIN CALVES, 15-16ths pure, six weeks old, the cream of Wis., $25 each. Registered bull calves, $45, crated for shipment. Edgewood Farms, Whitewater, Wisconsin.

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

The Cedarlane Holstein Herd
For Sale — Registered cows, bred heifers, serviceable bulls, bull calves. Also my 3-year-old herd bull.
T. M. EWING, INDEPENDENCE, KANSAS

BRAEBERN HOLSTEINS—Senior herd bull, Walker Copia Champion, dam and sire's dam held world's records. Service bulls, bull calves.
H. B. COWLES, 608 Kan. Av., Topeka, Kan.

REGISTERED HOLSTEIN-FRIESIAN COWS
We have about fifteen cows that will freshen in the next three weeks and would like to contract the sale of the calves, as we will need all the milk to supply our trade. These cows will weigh from 1,300 to 1,500 pounds and will be bred to an A. R. O. bull who has several 30-pound daughters.
STANDARD DAIRY COMPANY
Walnut Grove Wichita, Kansas

HOLSTEIN CALVES
We offer for sale choice, beautifully-marked heifer or male calves, 15-16ths pure-bred, and all from extra large heavy-milking dams, as follows, crated f.o.b. cars: One to two weeks old, $15 each; two to three weeks old, $17 each; five to six weeks old, $20 each. First check takes them. Write
W. C. KENYON & SONS, ELGIN, ILLINOIS

GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
W. E. BENTLEY, MANHATTAN, KANSAS

GALLOWAY CATTLE.

GALLOWAYS
About 70 registered Galloway cows, heifers and calves. A very choice lot with the best blood lines of the breed represented. A low price on the bunch for a quick sale. Investigate.
G. E. CLARK
205 W. 21st St., Topeka, Kansas

GALLOWAY BULLS
SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

GOOD GALLOWAY BULLS
Twenty-five Extra Good Yearlings
Extra breeding and quality. Priced to sell.
J. M. HILL, SEDGWICK, KANSAS
Route 4, Box 65A

GREAT SALE OF
Registered Holsteins

TWO DAYS SALE

Albechar Holstein Farm, December 3 and 4, 1917



These cows are blue ribbon animals, prize winners at the big shows this year, of the very highest breeding and individuality. There will be a large number of A. R. O. cows in this sale bred and in calf to some of the best bulls of the Holstein breed. All animals tuberculin tested and guaranteed free from tuberculosis and other contagious diseases. Write for catalog containing full descriptions and four generation pedigree of each animal.

Will offer for sale 125 head of pure-bred, registered Holstein cows and heifers and a few young bulls



SIR JULIAN GRACE DE KOL

Robinson & Shultz, Owners, **Independence, Kansas**

E. S. ENGLE & SONS'

SIXTH PUBLIC OFFERING OF

50 - Tried and Tested Holsteins - 50

Pure-Bred and High-Grade

Abilene, Kan., Thursday, Dec. 6

Rain or Shine



Consisting of

Ten young pure-bred cows with A. R. O. records made on our farm.

Several show cows, all high producers. A credit to any herd in this country. We own daughters from each of them.

Ten Nicely marked, well-grown yearlings, not bred.

Fifteen two and three-year-old heifers milking or soon to come fresh.

Fifteen full aged cows

Several 600-pound cows, several from 400 to 500 pounds butter yearly, none under 300. A dispersion sale of our grade milking herd at the Sand Spring Farm. Write for catalog to above address.

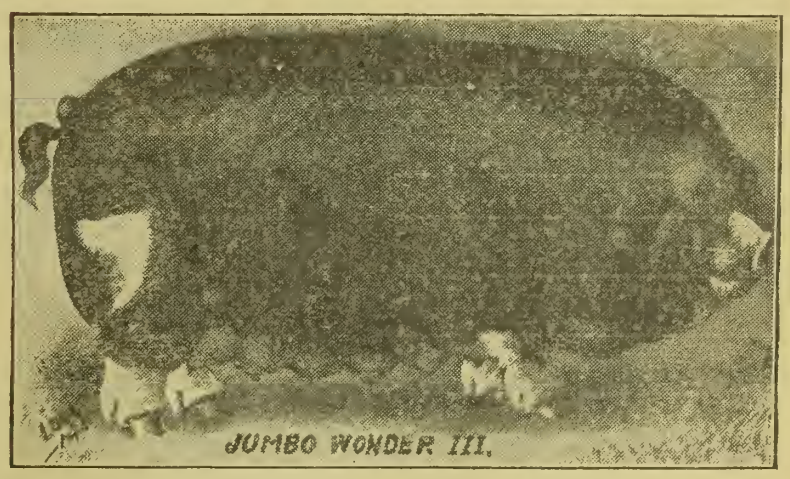
Auctioneers—McCollough, Hoffman, Engle.

POLAND CHINA HOG SALE

Saxton, Missouri, December 5

Owing to other business I am selling my herd of

EIGHTY HEAD OF POLAND CHINA BROOD SOWS, SPRING GILTS AND BOARS



This is to be a dispersion sale and I am putting in all my best stuff. The two herd boars, Long Jumbo 2d 74013 and B Wonder 71389, both sell. Twenty-five of my tried herd sows sell, bred for early spring litters, among them Pawnee Belle, Big Lady Jumbo, a litter sister to Long Jumbo 2d; Lady C, a daughter of the 1,000-pound champion Columbus; Jumbo Wonder 4th by Model Big Bob; Jumbo Wonder 3d 152158 by (Fessenmeyer's) A Wonder sells with her fall litter.

TWENTY HEAD OF SPRINB BOARS

A number of them real herd boar prospects, as good as have gone through any sale ring this fall. And a choice lot of spring gilts. Will sell about 100 head in all. All cholera immuned with double treatment. Send for catalog and arrange to attend sale. These will be real bargains for all who attend.

O. W. Devine will represent Kansas Farmer

U. S. BYRNE, SAXTON, MO.

(Six Miles East of St. Joseph, on Burlington Railway)

Biggs Wants Furs



Ship Your Furs NOW

—ship to "Biggs at K. C.", and depend on a square deal—honest, most liberal grading, and quickest returns. All our old customers will ship to us because they know we will pay top prices always. Increase your shipments this year. New trappers—make good money and get started right. If this is your first season, don't waste it by shipping where you will not be sure of your returns.

We Must Have More Furs

We Will Pay The Price To Get Them!

"BIGGS AT KANSAS CITY" has immense orders for furs and hides of all kinds. These orders must be filled without fail—regardless of conditions and regardless of the high price we must pay trappers. Get busy right now and help us to get the supply we **must** have. We have paid the highest prices in years past, and this year we are ready and waiting to pay you and every trapper more actual cash—**more real money,** than you could hope for in dealing with any other fur house in the entire country. And as proof of this claim "BIGGS at K. C." points with pride to the fact that there are now over three quarters of a million names on our lists of satisfied shippers. This season we want more furs than ever before, and naturally we are prepared to pay more money than ever before in order to get the enormous quantity we need.

Furs Have Gone Up and Up

The advance has been steady and sure. We are paying top prices for large Prime Black Skunk of the kind easily caught in Central Sections. We are paying extra top prices for Skunk of extra grade and extra fine quality of fur from sections further north. **Write at once for Raw Fur Price List.** See with your own eyes just what we are paying—see why hundreds of thousands ship to BIGGS—the house of high prices, ready cash and quickest returns. Take advantage of Biggs' Better Service.

FREE Use Coupon Below for Free Copy of "The Trappers' Exchange"

Send your name and address today, using the coupon below or postcard, so that we may send you a free copy of **"The Trappers' Exchange,"** our monthly magazine for trappers—greatest published. Full of stories and tales of hunting and trapping adventure in all parts of North America. Interesting and valuable. Simple hints on how to get more furs and how to get more money for them. Fully illustrated with pictures and diagrams. Learn what others are doing. Take the hints they give and you will bank some easy trapping profits between now and the New Year.

Fur Shipments Held Separate

WE hold fur shipments separate on request, provided you make the request to "hold separate" on a letter or note put inside of or attached to your package of furs when you ship. "Hold separate" instructions sent separately by mail would reach us too late. We mail our check to you an hour after your furs reach us. If price is not satisfactory, return check and we will send back your furs. Thirty-seven years of Square Dealing back of every Biggs transaction.

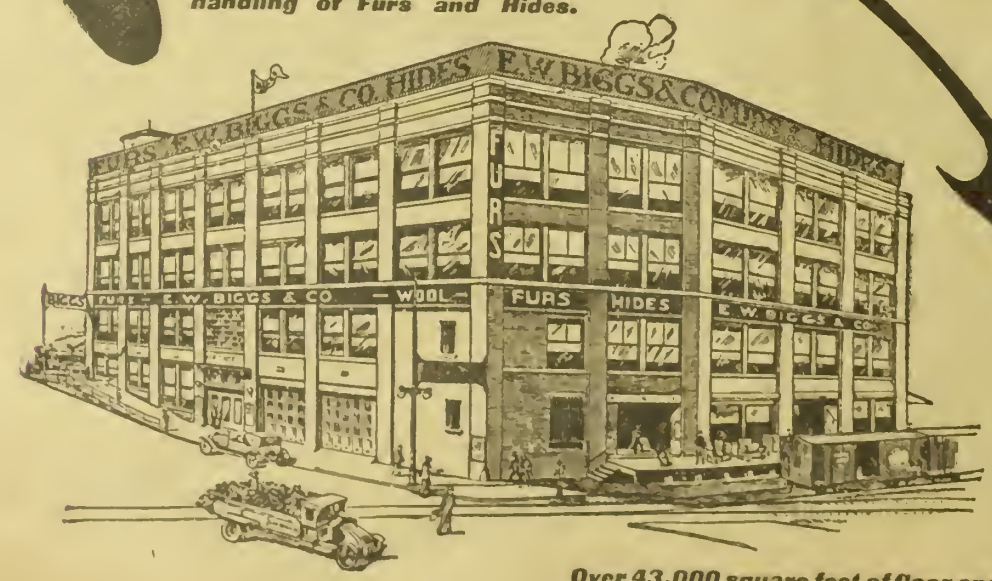
Trappers' Supplies At Factory Cost

Guns, Ammunition, Traps, Animal Baits, etc., at low factory cost. Biggs Baits are guaranteed to increase your catch or we will gladly refund your money.

E. W. Biggs & Co.

633 Biggs Bldg., Kansas City, Mo.

This is our big modern building devoted exclusively to the receiving, grading and quick handling of Furs and Hides.



Over 43,000 square feet of floor space—the largest establishment of the kind in the entire Southwest.

The House with a World-Wide Reputation for Giving a Square Deal.



Mail This NOW—QUICK!

E. W. BIGGS & CO.,
633 Biggs Bldg., Kansas City, Mo.

Send me "The Trappers' Exchange," latest Raw Fur Price List, Shipping Tags, Catalog of Trappers' Supplies—all free and postpaid.

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R. F. D..... State.....

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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 48. TOPEKA, KANSAS, DECEMBER 1, 1917. Established 1863. $1 a Year

DAIRY CLUB RECORD

Winner of First Prize Paid For $300 Cow in Less Than Eight Months

NOTHING KANSAS FARMER has ever done has given us more satisfaction than the conducting of the Kansas Farmer Dairy Club. There can be no great progress in the dairy business without the application of the sort of systematic record work taught boys and girls who took part in this club which as far as we know is the first of its kind ever conducted.

To the club members this year's work under our direction has been a veritable schooling in the most up-to-date dairy methods. You have learned the value of a good cow and you have received instruction of the most vital importance in feeding and caring for your cows each week through the club department in the paper and through private letters from the editor. These lessons have been so associated with your work of caring for the cows and their products each day that they will never be forgotten, and last but not least your association with the banker who loaned the money has taught you valuable business lessons and has given you the opportunity to acquire a standing in the business life of your community.

The stories told by each member as a part of the year's work furnish the most conclusive evidence of what the Kansas Farmer Dairy Club has accomplished in building for future progress in the dairy development of this state which has so many natural advantages for this branch of live stock farming. Rudolph Enns, of Newton, Kansas, who made the highest score in the year's work, writes as follows:

"Since my father is a dairyman, I have the chance to work with dairy cows and calves. My father asked me one day if I cared to join the Kansas Farmer Dairy Club. He told me that you were trying to get the girls and boys of Kansas interested in the dairy business. In the meantime we read a good deal in regard to this entirely new plan in KANSAS FARMER.

"H. E. Suderman, of the Midland National Bank of Newton, father's banker, was already trying to locate boys and girls who would like to try this and get ready for the contest. Mr. Lane, our county agent, also got busy and tried to enlist boys and girls for this contest. At first it looked like everybody would want to join this club, but very soon we heard about a good many dropping out one by one.

"In one case the banker wanted to loan not more than $75 to buy a good cow. In another instance the father of the boy who had located a good cow with the help of Mr. Lane, objected when he heard that this cow would cost $150 and would not let the boy join the club. My father got interested in this boy and offered him a good cow for $150, taking the boy's own note without security and not collecting anything except what the boy would make from that cow. His father would not stand for this and so the boy could not join the club.

"I was more lucky. My father not only helped to get me a good cow, but also went as security for me. The price of this cow—Daisy, a pure-bred Holstein—was $300. The reason I bought a pure-bred was that father wanted me to find out for myself what kind of cow, whether pure-bred or grade, would be more profitable in the long run.

"We made a note for nine months. Father suggested that if I would attend to my business I should be able to pay off this note in that time. The banker looked with a kind of funny face and smiled, saying he would like to see a cow that would do that.

"Having arranged my finances with the banker according to your instructions, I filled out my application blanks, father helping me all the time, and mailed them to you. In a few days I received my first letter from you with instructions how to go about it, and on May 10 I started with Daisy in this contest. Daisy had freshened May 5, 1916, and so I could go right ahead.

"I had milked and helped to take care of cows and calves, weighed the milk and done such other work as is necessary on a dairy farm, but this was my first experience of owning a cow, having a debt of $300 costing six cents interest every day on the money that I owed. I also had a calf, which was a nice bull calf, to feed and keep growing. I had to get feed and pay for it. All this sometimes made me think that I had likely tackled too big a job. Then father would step in and show me what the feed would cost and how much I could clear after paying all my expenses. Quite often the other boys of my class would have a game after school hours, but in most cases I had to be home and do my chores.

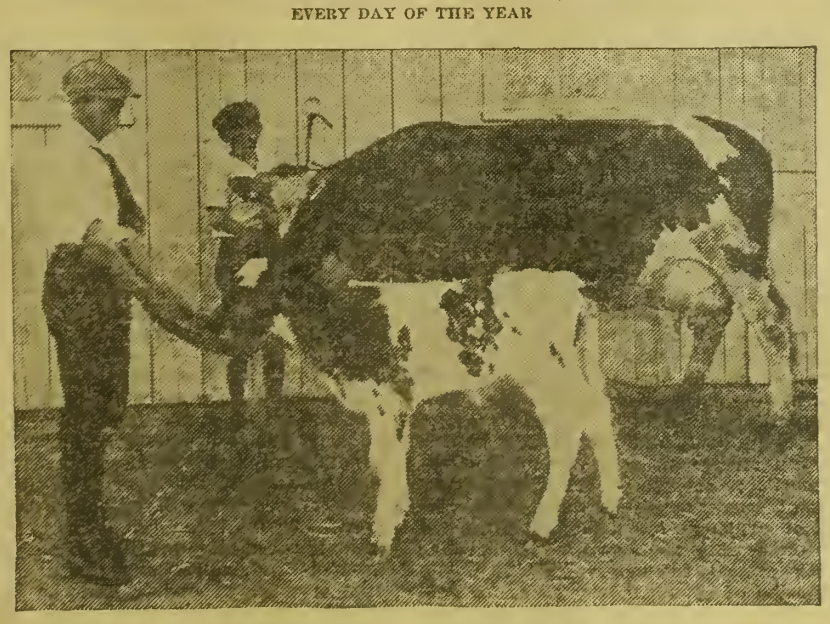
"Once Daisy stopped eating all of a sudden, and to my consternation gave less milk. I did not know what to do. Here papa again came to my rescue. I was feeding corn chop, bran, and cottonseed meal. Papa advised me to cut out the cottonseed meal, but still she refused to eat any grain. She also stopped eating alfalfa hay. Now papa gave her a dose of Glauber salts and the next morning Daisy was all right again. It was about a week before she gave her usual amount of milk. Since then I have watched Daisy very closely when feeding, but never again has she been off feed. But I did not feed her cottonseed meal any more. She never has liked it since.

"May 10 I started in keeping records and selling milk at an average price of twenty-one cents a gallon.

"I milked Daisy four times a day so that her udder would not cake and also to get more milk. At first it seemed to be much extra work, but now I think she paid for it.



THREE SILOS ON ENNS FARM.—HAVING NO PASTURE, RUDOLPH FED SILAGE EVERY DAY OF THE YEAR



RUDOLPH ENNS AND HIS COW, DAISY, AND CALF

"The calf I fed milk three times a day, giving the milk directly after milking, then after it was six weeks old I put in skim milk, at the same time adding less whole milk. And after drinking milk I gave him corn chop, alfalfa, and later silage. I kept my calf in good shape, which later greatly helped in selling him. When the calf was seven months and nineteen days old, Mr. Loyd, of Loyd, Kansas, looked him over and the next day bought him for $150 cash.

"I have learned during the year in the Dairy Club work about how much a cow is worth. Keeping a daily record will tell you how much milk she gives in one year and how high her milk tests run. After knowing this you must find out whether there is any blemish on her, as leaky teat or ruined udder, and whether she has been tested for tuberculosis or whether she might have some other disease.

"Before Daisy freshened I fed her grain so that she was in good condition when she freshened. But a week before freshening I cut out all grain except bran.

"Always be gentle to your cow and calf. Give them as much water and hay as they want, also give them shade in the summer and a clean, warm place in the winter.

"I always spray cow and calf when flies are bad, and also curry and brush her, then her udder I wash aud wipe before milking and if she has sore teats I put salve on them.

"The following tells the story of how I succeeded in taking that note up before it was due. With December 31 I had milked Daisy exactly seven months and twenty days. In this time she had given me 11,932.2 pounds of milk, or 1,387.5 gallons, which I sold here in the city of Newton for $269.90. The calf I sold to Mr. Loyd, of Loyd, Kansas, for $150, making me a total income of $419.90. My expenses were $300 for the cow, $12 interest, $68.93 for Daisy's feed, and $22.80 for the calf feed—total $403.73—leaving me still $16.17, for which I get interest.

"Daisy's record reads at the end of my trial year as follows: In twelve months, 16,161.7 pounds of milk—over eight tons—making 609.82 pounds of butter fat, or 762.27 pounds of butter. The total feed bill for Daisy is $96.58, for the calf $22.80, interest on the money $12, insurance on the cow $1.20, total expense $132.58.

"I find that Daisy's milk has cost me for feed alone five cents a gallon and the butter fat which this milk contained could have been produced for fifteen cents a pound. Every month Daisy gave a profit. The highest profit was in June, amounting to $29.27 clear profit. For the nine days of May which it took to complete the year she made me a profit of eighty cents. The total profit for her eight tons of milk amounted to $244.38. The price for her calf was $150.

"Deducting the $12 interest and $1.20 for insurance from the total profit leaves me a balance of $381.18."

A hinge-door silo offered by H. H. Pugh, manager of the silo department of the Beatrice Creamery Company, was the prize won by Rudolph Enns, whose story is given above.



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HIGHLANDS OF LOUISIANA

a natural corn country, and where live stock can be fed and fattened at about half the cost of feeding in Northern states. The Highlands are high, rolling, naturally drained; the climate healthful; ample rainfall, mild winters, a long growing season, open pasture seven to nine months each year. Investigate for yourself. Get the new, illustrated book of facts—

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ROOSEVELT IN THE STAR

The editorials of Theodore Roosevelt are appearing in The Weekly Kansas City Star. If you want to read what this great American has to say, send 25 cents to the Subscription Manager, 125 Star Bldg., Kansas City, Mo., and you will get the paper for a whole year.

I helped a blind man across the crowded street, and lo! I was safely across myself as well. His cane had found a mudhole that I did not see.—HERBERT L. BAKER.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

THIS is the fourth winter in which special traction engine instruction has been given at the Agricultural College. Apparently it is meeting a state need, as it has been a success from the start. The number of young men enrolled the first year was seventy-eight. Last winter—1917—the number had increased to 200 taking the straight traction course, and in addition 100 of the farmers' short course men were given instruction in traction engines. In the winter of 1917 a second year course was offered, and twenty-five men enrolled for this advanced work. From the inquiries received, there apparently will be a decided increase in the second year enrollment this winter.

The traction short course not only gives instruction on traction engines, but covers the following related subjects: Stationary gas engines, steam boilers and engines, blacksmithing, machine shops, and power farming machinery. Electives can be arranged in addition, from the farmers' short course. All these subjects are four hours of laboratory work each week excepting power farming machinery, which are recitations and lectures only. In addition to the laboratory work there are lectures each week in traction engines, gas engines, iron and steel for blacksmithing and shop work, and one lecture a week on general rural engineering subjects.

This course contemplates the better fitting of young men to meet the problems of handling modern farming machinery, from the time of its selection to its operation, repair, and housing. It is intended further to lead toward closer co-operation in handling all rural questions of an engineering nature that are of community interest.

In view of the enormous increase in the number of traction engines in Kansas, and considering the fact that the demand is now far in excess of the supply, there will be many who will be starting to do traction farming next spring for the first time. It behooves them to be so equipped as to make every day's work with their tractors count to the fullest extent. If you must learn the operation of the machine, how to plan your work, and make your own repairs, at a time when the tractor should be working steadily, much disappointment will follow. It is to the men that are to operate tractors next season that this traction short course should especially appeal, as the course has been worked out largely from the advice of practical farmers to meet as fully as possible the needs of the up-to-date farm.

Labor is going to be very scarce on Kansas farms next spring, and the shortage bids fair to be more acute each succeeding year. The young men that remain as farmers need to have a very full knowledge of how to make machinery do its utmost with the least number of men. No one machine can do this as fully for the farmers of today as the gas tractor, and the larger tools it is capable of handling. It is wise to get this information during this coming winter, when the farm work is slack, and be ready to take full advantage of the rush next season.

This special course in engine instruction begins January 7. We would advise those interested to write to the Department of Farm Engineering, Manhattan, Kansas, for full information.

The Gasoline Situation

The United States Bureau of Mines has been going into the gasoline situation, and estimates that our army will need 350,000,000 gallons of gasoline for air-planes, trucks, tractors, etc. In the opinion of the chief of the petroleum division of this bureau, and of many oil producers and refiners, while the gasoline situation should be viewed seriously, it will probably not become so acute as to call for drastic action from the Government or the suspension of customary useful operation of passenger automobiles; although it is the patriotic and unselfish duty of owners to use gasoline with utmost economy. This is not a question of saving money spent for gasoline or of saving gasoline to prevent increase of price; but of conserving the fuel itself so there will be plenty for war needs.

Of the two and one-half billions of gallons of gasoline refined in this country last year, about one-half was used in the motor vehicles in use. Now, even if only a 10 per cent saving is effected by such users, it will amount to more than 125,000,000 gallons in the next twelve months; and according to the National Automobile Chamber of Commerce such a saving is easy to accomplish without entailing hardship on any one and with actual benefit to car users, aside from the saving in fuel and the cost thereof.

By more careful adjustment of carburetors, cleaning of cylinders, tightening of piston rings, etc., gasoline will be very appreciably saved, while the cars will run better, develop more power and generally be more satisfactory.

New oil fields, new refining processes and a persistent campaign for economy are expected to help the fuel situation, to the benefit of the Government and all concerned.

Here are some ways that are suggested for economy in the consumption of gasoline; and aside from the economy effected, they are good rules to follow from the standpoint of safety and conservation of the machine.

Do not use gasoline for washing or cleansing—use kerosene to cut the grease.

Do not spill gasoline or let drip when filling—it is dangerous and wasteful.

Do not expose gasoline to air—it evaporates rapidly and is dangerous.

Do not allow engine to run when car is standing. Cars are fitted with self-starters and it is good for the battery to be used frequently.

Have carburetors adjusted to use the leanest mixture possible—a lean mixture avoids carbon deposit.

See that piston rings fit tight and cylinders hold compression well. Leakage of compression causes loss.

Stop all gasoline leakage. Form the habit of shutting off gasoline at the tank or feed pipe.

See that all bearings run freely and are well lubricated—friction consumes power and wastes gas.

Protect the radiator in cold weather—a cold engine is hard to start and is short in power.

Keep tires fully inflated — soft tires consume power.

Do not drive at excessive speed. Power consumption increases at a faster rate than speed. Every car has a definite speed at which it operates with maximum fuel economy.

Change gears rather than climb hills with wide open throttle—it saves the car and gasoline.

Do not use cars needlessly. — Power Farming.

The best width of wagon tires has been found to be: One-horse wagon, 2 inches; light two-horse wagon, 2½ inches; medium two-horse wagon, 3 inches; standard two-horse wagon, 4 inches; and heavy two-horse wagon, 5 inches. These figures were secured in extensive tests on earth and macadam roads by the U. S. Department of Agriculture.

The Emerson-Brantingham Implement Company will again conduct a series of schools in tractioneering the coming winter at their various branch houses. The demand for instruction in handling tractors has increased most rapidly, and this company is undertaking to help out by conducting fourteen schools this season. There is no tuition charge and the courses are open to any farmer or dealer interested in tractor farming. For further information address the nearest branch house, which is Kansas City, Missouri, for most KANSAS FARMER readers.

On November 1, one hundred thousand manufacturers, wholesalers and other distributors of staple food were placed under a license by the government food administration to continue throughout the duration of the war. The purpose of this license has been stated as follows: To limit the prices charged and prevent speculative profits; to keep food products moving in a direct line and eliminate delays, and to limit as far as practicable future contracts and the attendant evils. The Food Administration has ample power to do the things here set forth.

Check Up

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Garden land should be plowed late in the fall and left rough. This will destroy many insects, allow the water to go deep into the soil and give a chance for sod or green manure to decay.

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GERMANY AND WORLD PEACE

Every loyal American ought to know to what extent the German government has conspired against the peace of the world. We had just cause for suspicion of her intentions during the Spanish-American war. Then as now the British fleet loomed up as a barrier of defense for this country. Plans for German world mastery were well matured at that time. In "Naval and Military Record" No. 33, Volume LII, page 578, are recorded the words of Count Von Goetz, a personal friend of the kaiser, spoken to an American citizen at the close of the Spanish-American war.

"About fifteen years from now my country will start her great war. She will be in Paris about two months after the commencement of hostilities. Her move on Paris will be but a step to her real object—the crushing of England. Some months after we finish our work in Europe we will take New York, and probably Washington, and hold them for some time. We will put your country in its place, with reference to Germany. We do not propose to take any of your territory, but we do intend to take a billion or so of your dollars from New York and other places. The Monroe Doctrine will be taken in charge by us, as we will then have to put you in your place, and we will take charge of South America as far as we wish to. Don't forget this, and about fifteen years from now remember it, and it will interest you."

At the time this might have been considered as the vain boasting of a German officer perhaps under the influence of alcohol, but Admiral Dewey thought seriously enough of these words to record them, as quoted above. In his Buffalo speech to the American Federation of Labor, President Wilson said: "The war was started by Germany. Her authorities deny that they started it, but I am willing to let the statement I have just made await the verdict of history."

Now when the whole civilized world is saying that this must be the last war, what is Germany planning? Straws tell which way the wind blows. At a time when no one is willing to prophesy as to the probable duration of the present struggle, Herr Walter Rathenau, a director in the Imperial Department for Raw Materials, in an article published in a Berlin periodical urges that Germany must never again be caught unprepared for war. This would seem to be an admission that Germany was not sufficiently prepared in 1914 to carry out her proposed program in the light of what has happened since.

Herr Rathenau now pleads for such preparation as will insure her power to successfully carry out her plans for world domination. "His program is interesting," says an editorial writer in the Youth's Companion in commenting on this article. "It has three parts, and if carried out would be so thorough that it would make the task of defeating Germany even harder than the world is now finding it.

"In the first place he would accumulate and store vast quantities of everything that might be needed in waging a long war. He would gather and hold raw materials of every sort for future use. That, of course, is a policy that Germany adopted long ago, but he would carry it much further.

"Next, he would organize a statistical department to find out exactly what the resources and supplies of the empire are, and where all the food and other commodities are stored. The two measures would supplement each other.

"The third measure is a system of 'economic mobilization.' Every man in the country not liable to military service would be enrolled and assigned to some definite work at a specified place, and on the outbreak of war would go at once to that work, just as the man in the military service goes to his regimental headquarters.

"The plan is not merely interesting as revealing the strength of the German delusion that Germany is yet to conquer the world; it has a lesson for us so plain that it hardly needs to be pointed out. If Germany cannot win this war, and yet is to get out of it with hands still free, it will be more militarist and more militant than ever. Its 'next war' would be absolutely certain to include the United States. To meet a Germany better prepared than ever would require us to be equally militaristic; to bend our very souls to the burden of taxation and the yoke of drilling and training and making ammunition and building battleships and aeroplanes—in short, to living and thinking and dreaming nothing but war.

"Is it an attractive prospect? Then let us resolve that it shall never appear above our horizon. Let us make up our mind that, come what will and cost what it may, we will see the thing through now; and that we will not withhold our hand until we have crushed from the very face of the earth the militaristic spirit that even in the midst of the present world agony is already planning 'the next war'."

* * *

MORE TRACTORS IN KANSAS

In Kansas the farm tractor is becoming an important factor in our farming operations. Our State Board of Agriculture reports that on March 1 there were 4,504 tractors in the state, which is an increase of 14.5 per cent over the number on the same date in 1916. These figures are from assessors' reports which are certified to the state board.

With the increasing scarcity of farm labor, the tractor can be expected to play an even more important part in the farming of our state. To date 25,000 young men of Kansas have taken their places in the ranks of our army. Of this number a large proportion are farm boys or were potentially available for farm work. The tractor is capable of replacing to some extent this drain upon our agricultural labor. The world expects maximum productions of food crops in Kansas, and through conscripting the tractors the possibilities of realizing such expectations are enlarged.

Even before the war the farmers of Kansas were taking keen interest in the tractor, as shown by the official enumeration. The first census was made in 1915, when 2,493 tractors were reported. Two years later an increase of 80 per cent is shown. Ellis County in that period gained almost 1,050 per cent, reporting this year 131 machines. McPherson County shows an increase of 104, Pawnee 91, and Reno 74.

The central third of the state, from east to west, comprising thirty-five counties, has this year 2,444 tractors or more than 54 per cent of the total number reported for the state; and Eastern Kansas, with 39 counties, is becoming more and more interested in this new labor-saving device, now having in use 1,177 machines.

In connection with the distribution of tractors it is interesting to note that all counties having 100 or more are located in the central third of the state, and comprising the major portion of the wheat belt, McPherson leading with 143 tractors, followed in order by Reno with 138, Ellis 136, Pawnee 123, Rush 111, Barton 110, Sedgwick 109, and Sumner 104. All counties report tractors, those having the smallest numbers being located in the southwestern part.

Their distribution throughout the state indicates that tractors are found adapted to various systems of farming, to the small and to the large farm, to diversified agriculture and to the single crop plan in the East as well as in the West.

The average value of the tractors is placed by the State Tax Commission at $643 each, or aggregating a total investment of $2,895,349.

* * *

HOT LUNCH IN LYON COUNTY

The progressive county of Lyon has been trying out the hot lunch in eighteen of its country schools during the past year. Mrs. Nettie Cartmel, their live superintendent, in a discussion at the State Teachers' Association meeting, said that they hope to adopt this plan in practically every rural school of the county this year. In conversation with her later we asked if after the trial given the hot lunch, they thought it a success. "We know it is," was her enthusiastic reply.

Usually only one hot dish is prepared each day. This is something simple, such as cocoa or soup, which can quickly be gotten ready by the older girls. It is eaten with the sandwiches or other lunch brought from home, each child furnishing his own cup, bowl, and spoon. Most of the country girls have had considerable experience in the preparation of meals in the home so that the work is not new to them, and an opportunity is afforded for helpful discussions of simple problems of nutrition and economy in cooking.

We are glad to note that the extension division of the Agricultural College is promoting the idea of the warm lunch in the country schools. In a recent issue of the Kansas Industrialist, Mrs. H. W. Allard urges that the preparation of the warm lunch be made a part of the regular exercises of the school. In addition to the individual equipment which each child should have, she suggests that the school should be provided with a suitable stove, table, and a few of the utensils necessary in cooking. These can be kept in a closed cupboard, the making of which should be a job for the boys of the school. A fireless cooker is a piece of equipment that will be helpful in connection with the preparation of warm lunches.

Of course the one hot dish prepared at the school would be supplemented by the lunch each child brings from home. The mother who prepares the home lunch should know the day before if possible what the hot dish is to be so that the home lunch may be planned accordingly.

* * *

During October about 7,500 immunized stock pigs and breeding sows were shipped out of Chicago. This is a new business for the Chicago stock yards. To date the November shipments have exceeded those of last month. Taking stock hogs out from central markets for finishing is a conservation measure made possible by the development of safe and satisfactory methods of immunizing against hog cholera.

* * *

If you put a stunted, immature crop into a silo, do not expect to take out prime silage. The silo has no miraculous power to convert a poor crop into a good one, but it will make the immature crop worth more than if it had been cut and stored as dry feed. In fact, as a rule the immature feed crop dries up and much of it blows away as soon as it is struck by frost.

* * *

ADVISORS TO MEAT CONTROL HEAD

The action of the meat division of the Food Administration on hog pricing was taken following a conference with a group of advisors chosen because of their intimate knowledge of the business of pork production. If this policy is continued we feel sure no serious mistakes will be made in attempting to regulate meat prices. The advisory committee on hogs is as follows: H. C. Wallace, secretary Corn Belt Meat Producers' Association; E. Z. Russell, Omaha, general manager National Swine Show; W. M. McFadden, representing the swine record associations; J. M. Evvard, Iowa Agricultural College, and William Lovejoy, Roscoe, Illinois. The committee on cattle is composed of the following men: E. L. Burke, Omaha, Nebraska; Dwight B. Heard, Phoenix, Arizona; Alfred S. Gage, San Antonio, Texas; W. T. McCray, Kentland, Indiana; W. R. Stubbs, Lawrence, Kansas, and W. A. Cochel, Kansas Agricultural College.

STABILIZING MARKET RECEIPTS

One of the grievances of the live stock shipper has been that only on certain days of the week was there an active competitive market for his stock. If he failed to get in on the appointed days he was certain to suffer loss. The problem of the two-day market has baffled the meat industry for more than fifteen years. The rule forcing all live stock on the market on certain days brought about congestion in transportation and frequently created a glut on the market. For instance, the receipts of cattle at Kansas City September 24 and 25—Monday and Tuesday—totaled 80,000 head, while the receipts for the three following days were but 15,000 head. Such haphazard methods of marketing result in violent fluctuations in prices. The instance referred to is by no means unusual. On all big live stock markets they are of almost weekly occurrence.

In these war times we are learning a great many things, and it looks as if the Food Administration has found a way to break up the two-day market idea for at least as long as their power and authority continues in force. They boldly grappled with the problem which has existed for years in shipping terminals and through a rearrangement of live stock shipments from farms and ranches have put into operation a plan which distributes market receipts more evenly throughout the week. Kansas City was the first market chosen for the operation of the new plan which went into effect November 12. Orders went out dividing Kansas into a north and south district and Oklahoma into an east and west district, the main line of the Santa Fe through Kansas and the line south from Arkansas City to Oklahoma being the dividing lines. Shipments from the north district of Kansas and the east district of Oklahoma must arrive at the stock yards for Monday and Wednesday marketing, while shipments from the south district of Kansas and the west district of Oklahoma must arrive for Tuesday and Thursday morning deliveries.

No restrictions were placed on shipments to arrive Friday and Saturday and the order in no way interfered with the shipments from Missouri or other points close to the Kansas City market outside of the states mentioned. As a result of these orders the stock coming into Kansas City was so distributed through the first week in which the zone system was in operation that the market was virtually distributed over the six days of the week.

The Kansas City stock yards fire precipitated the order of the Food Administration as affecting Kansas City. But for that it probably would have been tried out first in Chicago. Following this successful demonstration at the Kansas City stock yards, we can see no reason why this method of equalizing receipts and standardizing markets should not be put into operation by order of the Food Administration at Chicago and other big market centers. It is now reported that a plan developed along similar lines is under consideration by the railroads leading into the Chicago market and it is probable that carriers at other live stock centers will soon put into operation this method of stabilizing the live stock receipts.

The Food Administration, through its power and authority to ignore precedents and long established customs, may pave the way for some real reforms along many different lines. We call attention to matters of this kind with the feeling that there is too much of a disposition to find fault with everything that the Food Administration does. It is facing a tremendous task and we feel that in many ways progress is being made.

* * *

You are the guard over the soldier's ration. He will attend to the enemy.

WHAT AILS FARMING BUSINESS

Missouri Farm Clubs Propose to Control Distribution

By WILLIAM HIRTH, Publisher Missouri Farmer

IN MY humble judgment, the trouble with American agriculture can be summed up in a few words and the answer to the farm conditions referred to in my previous article is found in the simple fact that from time out of mind the farmer has permitted the other fellow to say what he shall pay for the things he buys and also what he shall receive for the fruits of his yearly sweat and toil!

And if all the wise men in the universe were to debate the matter for a thousand years they would arrive at no other conclusion! In this sinister condition of affairs is found the answer to the staggering farm mortgage debt which hangs like a millstone about the necks of farmers in the greatest farming states in the Union—to the rapid increase in land tenancy—to the thousands of retired farmers who have become curbstone pessimists in our towns and villages—to bad public highways and inefficient rural schools—to cheerless farm homes from which country boys and girls are fleeing as if from a pestilence and to the fact that, go where you will, the great American farm game lacks the "pep" which characterizes the field of banking, manufacturing, merchandising and the professions.

When the farmer goes to his home merchant to buy a suit of clothes, a pair of shoes or a cultivator or if his wife wants the goods for a new dress, the merchant says that the price is thus and so; if the farmer objects that the price is high, the merchant tells him that he cannot help it—that it represents the manufacturer's cost of the raw materials, the high wages exacted by organized labor, overhead expense and profit; then he modestly admits that he also must have something for interest on his capital, clerk hire, taxes, etc.—and if this explanation is honest, the farmer has no kick coming, for this is merely doing business in a business way—and any business conducted upon any other basis is certain to come to grief sooner or later.

But when the farmer goes to market to sell instead of buy, how suddenly the rule changes! When he arrives at the stock yards with his hogs, cattle or sheep, they do not ask, "What is the price?" On the contrary, they say, "We will give you so much"—and just as there was no appeal from the price demanded by the merchant, so there is no appeal from the price offered by the packers—for buying the lion's share of the nation's live stock supply and owning the great packing houses from one end of the country to the other, the farmer is completely at their mercy and has no choice but to accept what is offered—although it may mean that his feed has been lost and that the price which the consumer will finally pay would have justified a wholesome profit for his year's thought and toil. And likewise when the great grain speculators assemble around their mahogany tables in Chicago, do they say, "Now lets find out what it costs the farmer to produce wheat, corn and oats this year, give him a conservative profit in addition and then adjust the market accordingly?" Not at all. On the contrary, as it may serve the respective interests of the bulls and bears, the actual yields are distorted by every conceivable means—always the controlling idea being to "hammer" the price until the lion's share has passed out of the farmer's hands and then to make a "killing" by sending the market up. Thus, the farmer received little more than $1 per bushel for the 1916 wheat crop—but in the winter of 1917 the speculators got as high as $3.40 per bushel for it, while the consumer paid $4 per bushel for the potatoes which the growers in Colorado, the Dakotas and Minnesota received only 65 cents and 75 cents per bushel only a few months before. And relatively the same thing was true of many other farm commodities.

PRODUCTION COST AND A PROFIT

The manufacturer, merchant, banker and the professions do business on a business basis. In other words, they demand at least what their goods or services are reasonably worth—and in some instances more. And this is true in practically the entire field of industry, without express or specific agreements. Thus, while the steel mills, implement manufacturers, cloth and shoe manufacturers, etc., are competing with each other in the sale of their products, they all nevertheless, by common consent, charge enough to make a living profit—a sort of unwritten law of the industrial jungle which would become a living fact should any of these industries suddenly become menaced in a serious way. But not so with the farmer who symbolizes the lone Indian in the world of industry. Whether the drouths or the floods come—whether pestilence smites his live stock—in short, whether Nature smiles or frowns, they offer him what they please—and for years he has accepted his lot in a helpless sort of way—glad when he made a little profit and bearing his grief in silence when their greed left him only the empty husks—or perhaps even less.



SHORTHORN COWS ON FARM OF W. A. FORSYTHE & SONS.—LIVE STOCK FARMING MAKES FOR PERMANENCY, BUT SOME POWER OF STABILIZING PRICES IS ABSOLUTELY NECESSARY TO GIVE PRODUCER SQUARE DEAL

I am exaggerating, you say? Well, I will leave it to the most intelligent farmers you can find in any community in the Union—and in the meantime remember that this is written by a man who was raised on a big farm—who has pitched hay on many a hot summer's day—who understands and loves the patient beasts of the barnyard and feed lot—who, during the last few months, has addressed many thousands of farmers and talked to them face to face in the privacy of their homes—from one, in short, who does not speak of these things at long range but who is constantly on the "firing line."

I have said that the great Farm Club movement in Missouri is "something new under the sun"—that it has arrived upon the scene with a new program—and ringing out as clear as the peals of a church bell on a frosty winter's morning that program is, as I have already frequently stated, "Production cost, together with a reasonable profit for the fruits of the farmer's sweat and toil."

In other words, what these Missouri farmers have made up their minds to do is to put the business of farming upon just as stable and assured a basis as is that of the banker, manufacturer, merchant and organized labor—a basis which means that the great law of supply and demand will become a living fact and that henceforward there will be a real reward for intelligence and thrift upon the farm. As these articles progress, you will be advised as to how these farmers expect to bring about this new condition of affairs. In the meantime, let the reader ponder the above slogan and conclude for himself whether it does not come like a flood of sunlight through the fog of doubt and misguided effort in which the farm organizations of the past have so endlessly and wearily floundered for many years?

THE GREAT PACKERS COMBINE

As I have already stated, the "tiger" back of the Farm Club movement in Missouri dates back to the fall of 1915 when the packers hammered hogs and cattle to practically a six-cent basis—and this despite the fact that the idle thousands who depended upon soup-houses for something to eat during the winter of 1914 had found employment in the great steel mills, munition plants, upon the railroads, etc., and were therefore eating three square meals per day; also despite the fact that the foreign demand for American meats, because of the war, had broken all previous records; in short, with the foreign orders tucked away in their safes and with the domestic situation in the hollow of their hands, the packers set out to compel the farmer to "deliver"—and as a result, the hammering of the market during the weeks which followed meant a sacrifice of millions to the live stock producers and feeders of the corn belt. It was this conscienceless raid which suddenly brought the American Live Stock Association back to life and which resulted in scathing resolutions of denunciation of the packers by the Live Stock Producers' Associations of Texas, Kansas, Colorado and other western states. Also, it gave birth to the Borland resolution in Congress for an investigation of the packers at the hands of the Federal Trade Commission—a proposal which is still in abeyance because of the stress of war.

During the fore part of 1916, a coterie of Canadian packers suddenly appeared in the Union Stock Yards in Chicago and commenced to fight the "Big Cinch" crowd for fat hogs and cattle—and perhaps not in years has the market known so aggressive a factor and to this influence unquestionably was due the sudden rise in the prices of fat live stock in the early part of 1916. When we entered the war against Germany, however, this factor automatically disappeared and today, with the Allied buying concentrated into the hands of one man — whoever that man may really be—the big packers once more have the farmer completely at their mercy—barring the timely interference of Mr. Hoover.

For years now the shadow of this ruthless aggregation has hung like an evil influence over American agriculture—and yet, ever conscious as the average thinking farmer has been of its sinister power, I doubt whether one in a thousand has correctly gauged its true menace. And I am not now indulging in hyperbole. On the contrary, I am merely calling attention to facts with which everybody is familiar and which must be righted ere it will be possible to deliver American agriculture from this millstone which has so long hung about its neck and which, with each passing hour, is more and more crushing the joy and the profit out of American farm life.

The production and feeding of live stock is, of course, the true basis of the farm. It furnishes the meat which holds body and soul together for the toiling millions in our own and foreign lands. Also it appeals to the highest type of farmer and is vitally fundamental in the maintenance of soil fertility — and yet for years now the fate of this great industry has rested in the hands of five gigantic packing concerns which, 80 per cent of the time, have been in position to pay the farmer what they pleased for his cattle, hogs and sheep. These five great concerns own not merely the largest packing houses in the world, but nearly all the great stock yards in the country to which the shipper is compelled to pay tribute in the form of excessive yardage rentals and feed prices; so too, they own the live stock exchange buildings in which the commission men who sell the farmers live stock are compelled to hold forth; great banks which hold mortgages upon the "cattle upon a thousand hills," terminal railroads, etc.

HAVE THEY ABUSED THEIR POWER?

For answer, despite their plausible denials, I point to the hundreds of millions of dollars which they have accumulated, while thousands of the best cattle feeders the country ever had have gone bankrupt—while thousands of silos have been permitted to collapse through disuse and while the production of live stock has declined until in recent years its scarcity has become a positive menace to the nation! With this picture of desolation upon the one hand and with their vast accumulated millions upon the other, what a mockery become their spacious explanations!

There isn't an intelligent farmer, commission man or other individual who knows anything about how the gigantic machine of the packers works at the various stock yards who doesn't know that it rules with an iron hand—that there is little or no appeal from its decrees—that the idea of a real supply and demand market is a shrieking farce—and hence, whereas years ago feeders occasionally reconsigned their stuff from one market to another in the hope of getting a better price, today they take what is offered and consume their rage in silence.

But the control of the packers over the great live stock industry is merely one of their many vast industrial activities. For years Mr. Armour has been a tremendous figure in the wheat pit—and perhaps owns a greater storage space for grain than any other living man. Likewise, coming into possession of raw hides, the packers are the vital factors in the American leather market—and only recently Armour & Company have invaded the manufacturing field of shoe soles, while no doubt in the near future they will give battle to the entire shoe manufacturing industry. Likewise, they are powerful factors in the manufacture of cottonseed meal and cake which the farmer must have to fatten his cattle; practically the sole producers of tankage, which the farmer must have to supply bone and sinew for his hogs; of bone meal and other commercial fertilizer which he must have to increase his crop yields and of oleomargarine which competes with the farmer's butter on the one hand, while upon the other they control great centralized creameries which combat the farmers' co-operative creameries—many of which in recent years they have driven upon the rocks of bankruptcy through a ruthless method of competition which always springs for the throat of its intended victim.

Even so, more nearly than any other single influence in the land, they name the price on every dozen eggs and chickens which the farmer's wife brings to town—an industry which, within itself, runs into the hundreds of millions of dollars annually. So too, some years ago they entered the fruit field and already they have become a tremendous factor in its destiny—and this doesn't take into account their activities in the output of other innumerable by-products such as the various canned goods, grape juice, cereal foods, etc., nor the millions of bank, railroad and other gilt-edged industrial securities owned individually by the big packer kings.

Like a giant industrial devil fish, it has silently and constantly extended its power until today it is in control of the great essential food products of the nation—its tentacles clutching the throat of producer and consumer alike—a menace which threatens not only the destruction of American agriculture but which levies its unholy tribute with such remorseless precision that neither rich nor poor escape its ever-growing appetite! With a power so vast there can be no safe compromise—and so far as the farmer is concerned, the hour has come

(Continued on Page Seven)

FIGURING INCOME TAX

THE income tax is new to this country, but it has probably come to stay. It is a tax measure of the United States Government and cannot be successfully evaded or beaten, for the government spares no expense in running down the tax dodger. If it fails to get the tax this year it will keep at it for ten years if necessary, and when finally collected heavy penalties will have been added. This form of taxation should appeal to the average citizen because it cannot be evaded by anyone. It is fair and equitable, and the tax is so graduated that the more a person is able to pay the more he must pay.

Our first income tax law, which only taxed incomes in excess of four thousand dollars, did not touch many farmers, but now that incomes in excess of two thousand dollars for heads of families and one thousand dollars for single persons are taxed, a good many farmers of Kansas will have to make the income tax report.

Residents of Kansas pay the tax to W. H. L. Pepperell, United States Revenue Collector, Wichita. The tax to be collected covers the income from January 1, 1917, to January 1, 1918. The Wichita Weekly Eagle has prepared and published detailed information on how to make out the income tax statements and pay the amount due. From this article which has been carefully corrected by Mr. Pepperell, the revenue collector, we draw for the information given below.

The first step in making the report is to send to Mr. Pepperell in January for two income reports. The report must be filled out and returned to the Internal Revenue Office at Wichita before March 1, 1918. A copy should be made and preserved for reference. If you do not understand the report, get your banker to help you fill it out. The tax must be paid before June 15, 1918. After receiving the report and some time before the above date, the collector will send you a statement of the exact amount due, based on your own figures as given in the report.

If you are even a day late in getting in the report, unless you obtain permission for a thirty-day delay on account of sickness or other causes, you will have to pay 50 per cent more tax. If you fail to pay the tax, a revenue collector will report to the Government for prosecution as soon as he finds out that your income is taxable. Penalties of from $20 to $1,000 are provided by law. Failure to report on time calls for a penalty of 50 per cent added to the original amount. For intentional evasion a double tax will be collected, and imprisonment stares that person in the face who makes a false or fraudulent report.

Only those persons having incomes in excess of $1,000 if single or $2,000 if married are required to make the income tax report. The person to be taxed figures out his own net income, but in accordance with the rules laid down by the Government. These rules are given on the blanks and must be studied carefully.

To figure out about what your net income is, put down the total value of all your crops disposed of in 1917, the value of all live stock and their products disposed of in 1917, the value of all profits on trades, sales and exchanges made in 1917, the amounts of all rents, dividends and interest received in 1917. Add these sums together and you have what the Government calls your gross or entire income. From this gross or entire income, you are allowed to subtract all necessary expenses actually paid within the calendar year in running the farm, not including any personal, living or family expenses. After you have subtracted these expenses (called deductions by the Government) from the entire income, you have what is called your "net income."

You are allowed an exemption from this net income of $1,000, if you are single, or $2,000 if married, plus $200 for each dependent child under eighteen years of age, or $200 for each older child if he or she is incapable of self-support because mentally or physically defective. Yu are allowed also all dividends on bank stock and stock of other domestic corporations.

To find out about what your income tax will be, consult the following table, which shows the tax for a married person and a single person when their annual net income is $1,000, $2,000, $3,000 and up to $20,000. No exemptions for children are figured in this table. The taxes for the sums between the even thousands (such a net income as $3,150, $3,600 or $4,500) are not presented in the table. In making your actual income tax report, you figure the tax on every dollar and cent of your net income less the exemption:

Annual Net Income	Married Person's Tax	Single Person's Tax
$ 1,000	....	....
2,000	....	$ 20
3,000	$ 20	40
4,000	40	80
5,000	80	120
6,000	130	170
7,000	180	220
8,000	235	275
9,000	295	335
10,000	355	395
11,000	425	465
12,000	495	535
13,000	570	610
14,000	650	690
15,000	730	770
16,000	830	870
17,000	930	970
18,000	1,030	1,070
19,000	1,130	1,170
20,000	1,230	1,270

In addition to the income tax there is an excess profit tax on incomes in excess of $6,000.

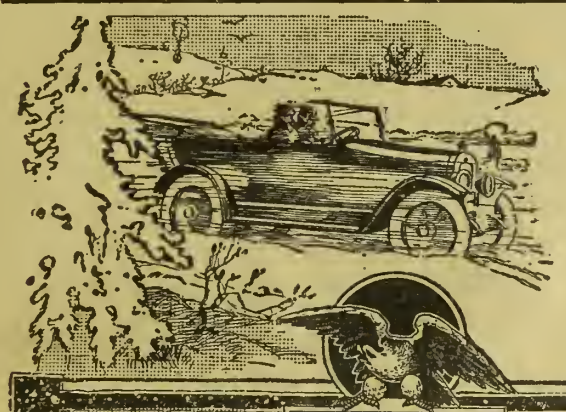
Income is defined by the Government as gains, profits, salaries, wages, commissions, money or its equivalent from professions, vocations, business, trade, commerce, rents, sales or dealings in property, both personal and real, and interest from bonds or obligations of the United States or any political subdivision thereof; also dividends, profits or income for services as trustees, guardians, executors, administrators and receivers; also partnership gains or profits, bonuses, patents, franchises, pensions and royalties on oil or gas wells; and income from all sources whatsoever.

It will be noted that this last phrase, "income from all sources whatsoever," as well as from the specific sources of income named in this paragraph above, just about covers every possible bit of worldly goods that a citizen of the United States can get, and that is just the intention of the Government. The farmer will find that some one or more of these words or phrases will cover just about everything that he has taken in during the year. All products of the farm sold, traded or exchanged for cash or the equivalent of cash must be accounted for as income, such as milk, butter, eggs, chickens, horses, cattle, hogs, sheep, grain, hay, fruit, vegetables, wood, timber, pasture, rent, etc. Products traded or exchanged for other products, such as groceries, or dry goods, must be returned as income for the value received. Groceries used in family and living expenses, therefore, cannot be deducted. Anything sold, that has been purchased, is accounted for as profit or loss by deducting the price paid from the price received. If real estate is sold, the farmer must report as profit or loss the difference between the price paid (less amount of deferred payments) from the selling price. If purchased before the beginning of the income tax law, March 1, 1913, then subtract the fair market value of the property on March 1, 1913, from the selling price. The difference will be the profit, income, or loss for the year in which sold.

Insurance received for damage or loss of anything raised, or produced on the farm, must be reported as income. It is income, for the reason that it was converted into cash to the amount of the insurance. Rents, or partnership shares for rents, paid in products of the farm instead of cash, must be reported as income for the amount of the value of the products at the time paid. When grain or any other product of the farm is held over from another year, like holding wheat over for a better market, when it is sold, it must be accounted for as income in the year sold, and for the full amount of the price sold or exchanged. The farmer cannot deduct in this year's report any cost or expense incurred whatever in producing the grain, or other product produced in a former year, as all expenses and costs incidental thereto belong only to the former year or years producing same, and not to the year in which it was sold.

In a later article we will tell what deductions may and what may not be made in calculating the net income.

One thing ought always to be considered when men start out to buy pure-bred cattle. That is, that the knowledge, skill and character of the man who bred them is about as important as are the animals they are to buy.



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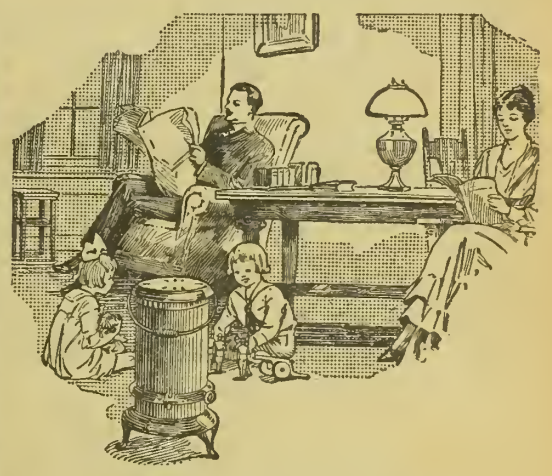

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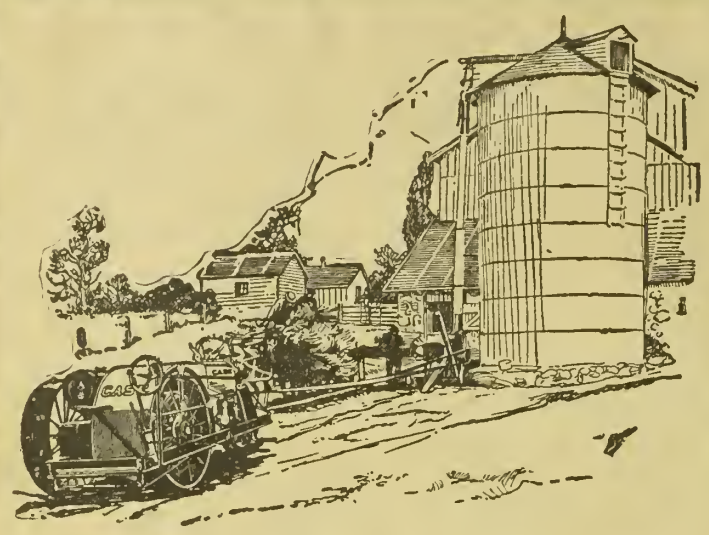

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KANSAS FARMER DAIRY CLUB

Summary of Winner's Record

THE year's record of the cow milked by Rudolph Enns in the Dairy Club contest is given in the table on this page. The value of the silo which has been awarded as the first prize may be converted into Liberty Bonds. On the front page of this issue appears the story of Rudolph's year's work in his own language. The business statement in his story differs from the table because he sold his product as whole milk at a price which brought him greater net returns than the butter fat alone would have brought. In order to put all the boys and girls on a uniform footing in the contest, their production and cost of production records were determined by crediting them with all butter fat at average Elgin prices and charging all the cows the same prices for feed consumed. Feed prices were about normal when the year's records began, September 1, 1916, and they were not raised to meet the unusual prices which prevailed during the latter part of the year. The table given shows Rudolph's record for the year on this basis. No allowance is made for skim milk, manure, or calf, nor is any charge made for labor or interest on the investment in necessary dairy equipment.

The prize of a hinge door silo offered by H. H. Pugh, of the silo department of the Beatrice Creamery Company, was won by Rudolph, and it will interest all to know how he proposes to use this prize. After receiving notice that he had won the silo he wrote to ask if he could sell it. He says, "I certainly feel very thankful and would like to show my thankfulness by converting the amount of my prize into Liberty Bonds. We have three silos and do not need another." Arrangements have been made whereby the silo can be sold and if Rudolph's plans work out the money value of his prize will be loaned to our Government to use in providing our soldiers with the backing they must have if they are to be the most highly efficient in waging war against the autocratic power of Germany in the great world conflict.

We have many valuable and instructive stories from other members of the club who did just as faithful work as did Rudolph and who learned as much from the experience of the year. It is our purpose to give you these stories from time to time, so you can study each one by itself and get the lesson it teaches firmly fixed.

Awarding of Prizes

We announced the winners in the Dairy Club contest several weeks ago. A few of those appearing in this list have expressed their preference as to prizes, and we are glad to be able to recognize these preferences. The awards have been made as follows:

Rudolph Enns, Newton, Kansas, hinge door silo furnished by Beatrice Creamery Company of Topeka.

Firmer Hiddleston, De Soto, Kansas, two-unit milking machine furnished by the Hinman Milking Machine Company, Oncida, New York.

Mahala Smith, Leavenworth, Kansas, cream separator furnished by Beatrice Creamery Company, Chicago.

Glen Romig, Topeka, Kansas, cream separator furnished by the Empire Cream Separator Company, Chicago.

Howard Weis, Thayer, Kansas, pure-bred Jersey bull calf, furnished by R. J. Linscott, Holton, Kansas.

Lester Kincaid, Oakley, Kansas, twelve-bottle Babcock milk tester furnished by N. A. Kennedy Supply Company, Kansas City, Missouri.

Elise Regier, Whitewater, Kansas, complete cow stall furnished by Hunt-Helm-Ferris Company, Harvard, Illinois.

The cash prizes and subscriptions to KANSAS FARMER offered for the letters and pictures sent in by members during the year will be awarded later. We have received so many good letters and pictures from the members of the club that it is not an easy task to decide on the members entitled to the prizes offered.

Rations for Breeding Ewes

Feeding breeding flocks during winter depends much upon the season. Many flocks receive little feed other than that furnished by the bluegrass pastures, the wheat fields and the meadows, until the winter snow cuts off this source of feed. During the winter months clover and alfalfa are the standard roughnesses for pregnant ewes. The high prices of these hays in recent years has caused the use of other cheaper rough feeds to replace part of the more expensive hays. Corn, silage and corn stover are the most common rough feeds used to replace clover or alfalfa hay.

A. M. Paterson, who has charge of the sheep at the Kansas Agricultural College, advises that the ewes be allowed to run on pasture until late in the fall. As soon as pasture becomes dry and scarce, some other feed should be added to the ration, such as alfalfa hay, silage, corn fodder, or straw. The sheep should be provided with dry, well-ventilated quarters, and care should be taken not to confine them too closely, nor have their quarters too warm. A great mistake is often made in confining them too closely. They should be turned out where they can get plenty of exercise. A large field or pasture where corn fodder or other feed is scattered, would make an excellent place in which to give them exercise. If this rough feed could be put out half a mile or even a mile from the barns, making the sheep walk out and back each day, it would be desirable. The feed boxes, doors, etc., should be arranged and constructed in such a way that crowding would be avoided because crowding may cause some of the ewes to lose their lambs.

"After the ewes are taken in for the winter," says Mr. Paterson, "they should be given plenty of feed to keep them in good thrifty condition. It is a good practice to go over the flock from time to time to determine the condition of the ewes. The thin ewes should be separated from the rest of the flock and given a little extra feed in order that the flocks will be uniform in condition. Care should be taken not to get the ewes too fat. This is equally as bad as having them too thin."

At the Missouri Experiment Station feeding trials were conducted to compare the different roughnesses for breeding ewes. A carload of Western Colorado ewes was purchased in the fall and kept on bluegrass pasture until December 9. The rams were left with ewes from the middle of September to the first of December. The ewes were divided into eight lots of seventeen ewes each. The various lots were kept as uniform in size, condition and quality, as possible.

A ration of one-third pound of grain and two pounds of clover hay with all the corn stover the ewes would eat was compared to a ration of an equal amount of grain and three pounds of clover hay per head per day. In this case the corn stover was substituted satisfactorily for one-third of clover hay. However, in the lots where grain was not fed the

Rudolph Enns' Year's Record

Month—	Total Milk	Test	Total Butterfat	Average Elgin Market for Month	Value of Butterfat Based on Elgin Market	Total Cost of Feed	Profit for Month
May—22 days	1,572.3	3.2	50.31	.2912	$ 14.65	$ 7.74	$ 6.91
June.	1,958.8	3.0	58.76	.2862	16.82	9.35	7.47
July.	1,634.5	3.6	58.84	.2762	16.25	7.74	8.51
August.	1,503.1	2.95	44.341	.2988	13.25	7 43	5.82
September.	1,417.6	4.0	56.70	.3225	18.29	7.25	11 04
October.	1,302.9	4.8	62.54	.3462	21.65	8 35	13.30
November.	1,249.3	3.6	44.97	.3862	17.37	10 13	7.24
December.	1,284.5	4.15	53.30	.3650	20.52	8 10	12.42
January, 1917	1,189.4	4.2	49.95	.3825	19.11	8 10	11.01
February.	1,053.5	3.9	41.08	.4033	16.57	7.32	9.25
March.	1,128.1	4.2	47.38	.4100	19.43	7.56	11.86
April.	785.	4.8	37.68	.4275	16.11	6.58	9.53
May—9 days	82.7	4.8	3.969	.3900	1.55	.93	.62
Totals. 16,161.7			609.82		$211.67	$96.58	$114.98

substituting of one-third the clover hay with corn stover was not successful. The lambs in the hay-stover lot were not as strong and did not make as good gains as those on clover hay alone. A ration of corn stover as the only rough feed with one-half pound of grain per head per day was fairly satisfactory, but not as satisfactory as in lots where one-third pound of grain and two pounds of hay were fed. However, corn stover proved to be a superior roughness to timothy hay when fed with one-half pound of grain per head per day.

The feeding of corn silage is sometimes attended with ill results. In many instances the trouble with silage has been attributed to mould, or to the acid in silage that has not been properly put up. Sheep seem to be more susceptible to the poisons of mouldy silage than cattle. In these trials the silage proved to be superior to the corn stover. Both feeds were fed in combination with grain and clover hay. In all cases the silage proved to be the better feed of the two. In trying to reduce the cost of replacing a part of the clover hay with silage, a ration of corn silage one and six-tenths pounds and clover hay one and nine-tenths pounds was fed. This ration gave as satisfactory results as clover hay alone. The average daily amount of hay consumed per ewe was three and one-quarter pounds.

The ration containing grain one-third pound and clover hay two pounds and silage one and eight-tenths pounds proved as satisfactory as a ration of an equal amount of grain and three pounds of clover hay. Silage in these lots was substituted for practically one-half the clover hay. It required practically two pounds of silage to replace one pound of clover hay. However, rating the silage at $5 a ton it is in most cases an economical feed to use in connection with clover hay. A ration of three-tenths pound of grain and three and one-half pounds of silage, which was all the ewes would eat, proved superior to one of four-tenths pound of grain with all the stover that the ewes would eat.

The grain fed in these Missouri tests in all cases was a mixture of six parts shelled corn, three parts wheat bran and one part linseed oil meal by weight.

The measure of efficiency of the various rations was weight, condition and thrift of the lambs at birth and thirty days after birth, and the condition and thrift of the ewes and their ability to suckle their lambs.

Trapping Muskrats

Muskrats are about the only fur-bearing animals that have not diminished in numbers in recent years. They multiply much more rapidly than beaver, otter, martin, and fisher, or even than mink, raccoon, or skunk. In a recent bulletin of the United States Department of Agriculture, by David E. Lantz, it is shown that the muskrat is one of our most valuable fur-bearing animals. During the season of 1917 the pelts sold at from 35 to 75 cents each.

The boys who plan to make a little spending money this winter will find this bulletin, which is entitled "Farmers' Bulletin 869, United States Department of Agriculture," both interesting and instructive. The following extract gives some points in trapping the muskrat:

"Muskrats are not suspicious and are trapped easily. They take any suitable bait readily, especially in winter and early in spring, when green food is scarce. The majority of those captured in the ordinary steel trap are caught by the front leg. A strong trap breaks the leg bone and in struggling the animal may tear loose, leaving a foot, or part of it, in the trap. For this reason traps should be set so that the captives will drown quickly.

"The best baits for muskrats are carrots, sweet apples, parsnips, turnips, or pieces of squash. Many trappers use scent to attract the animals, but it is doubtful whether the smell of musk or of any of the oils, as anise or rhodium, has advantages over the natural odor of the baits named.

"Most muskrat trappers use the ordinary steel trap. The manner of setting it depends upon the situation, and the skill of the trapper is best displayed in selecting this. Muskrat trails may be found along the banks of all streams and ponds which they inhabit, and the practiced eye often can trace them into shallow water. Sink the trap in the trail, partly in the mud or sand where the water is two or three inches deep, and fasten the chain to a stake, or better still, to a slender pole reaching into deep water. The pole, upon which the ring of the chain is to slide, should have a fork at the outer end to prevent the ring from slipping farther, and the other end should be stuck firmly into the bank. Fasten the bait to a stick set in the mud, so that the bait is about a foot above the pan of the trap. The animal in reaching for the bait sets the hind foot upon the pan and is caught more securely than if taken by the fore foot. It immediately plunges into deep water, sliding the chain along the pole as far as it will go, and soon drowns. If the chain is fastened to a stake, it should be planted in water a foot or more in depth, so that the animal will drown.

"Setting traps inside or near muskrat houses is to be condemned. Many states have laws forbidding the practice and some of them specify the minimum distance from the house at which a trap may be placed. A long plank five or six inches wide or a floating log or one extending out into the water may be used advantageously as a support for traps. The plank is moored to the shore by a wire passed through a staple driven into one end and the other end is anchored in the stream or pond. Light cleats are nailed to the upper side at intervals, with space enough between them to hold the trap when set. Shallow notches wide enough to hold the traps may be cut into the log, and the traps covered lightly with fine leaves or grass. The ring at the end of each trap chain is fastened to the plank by a staple. Baits of carrot or apple may be scattered, but they are not necessary since the animals use such a device as a highway to reach the shore. An animal venturing upon it is almost sure to be caught. In this way many occupants of a pond may be taken in a single night.

"The box trap is a favorite with some trappers. This consists of a wooden box with a gate at each end, the cross section inside measuring about six by six inches. The gate is of wire and is arranged to swing inward but not outward. The box is set just under water with one end at the entrance to a muskrat burrow. The animal lifts the gate on leaving the burrow and is imprisoned and drowned. Others follow until perhaps all the occupants of the burrow are caught. A similar trap may be made entirely of heavy wire netting of half-inch mesh, bent to shape. These traps are well adapted to very narrow streams or ditches."

Those who raised a crop of beans this year have at hand a valuable feed for horses, cattle, and sheep. The bean crop is a leguminous one and the straw can be used as a substitute for alfalfa hay or clover. The threshing, of course, destroys some of the leaves and finer particles, but these can be used by cattle or sheep if they are saved. The pods are probably fully as valuable as alfalfa hay. Bean straw is especially relished by the breeding or fattening flock. It should not be fed as an exclusive roughness, but, like alfalfa hay, should be fed along with other roughness in the proportion of one part of bean straw to three or four of prairie hay, corn stover, cane hay, or feeds of like character.

Sheep growers claim that it is possible to establish a flock at present high prices and realize from 50 to 70 per cent profit on the investment during the first year.

What Ails Farming Business?

(Continued from Page Four)

when he must give battle—when he has no other choice—when every hour lost but extends its ruthless power!

What hope is there ahead for the farmer if he shall toil the whole year through, only at the end to permit this aggregation of industrial plunderers to place their own price upon that toil? What hope is there ahead for the young farmer who contemplates the high price of land upon the one hand and this all-powerful thing from which he cannot escape, no matter where he turns, upon the other? In the light of this sinister reality, how futile becomes the prattle of the "two blades of grass." "Farmers' stores" are turning things upside down politically—for remember that thus far this powerful aggregation of packers has defeated the most determined efforts of the Government.

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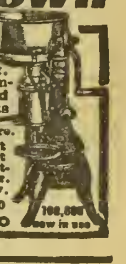

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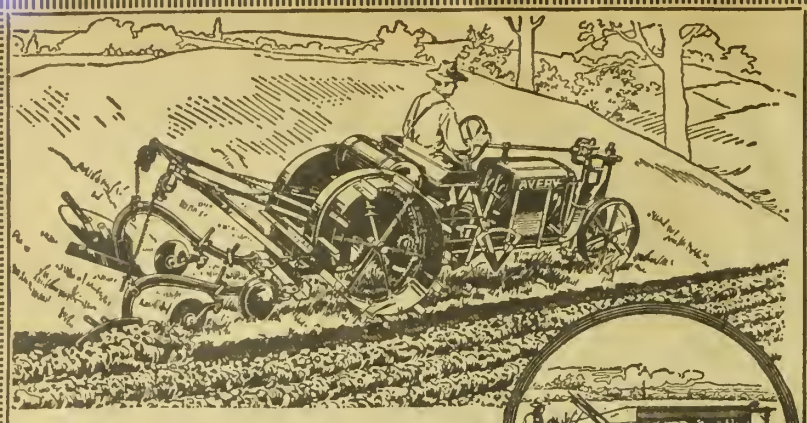

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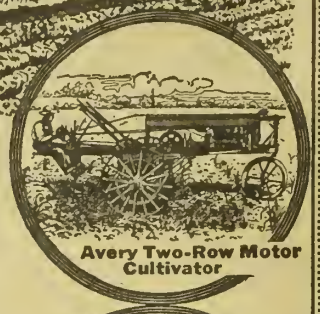

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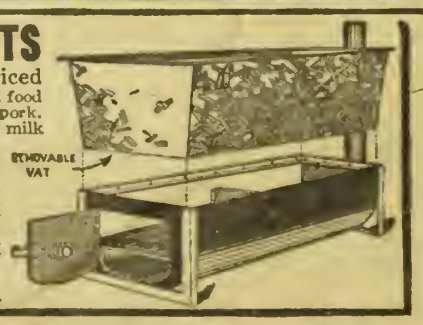




Winter Rations for Breeding Gilts

THE wise man is going to breed more sows this fall than last year," said George M. Rommel, of the United States Department of Agriculture, in a talk November 3 at a Missouri pork producers' conference similar to the one held in Manhattan a few weeks ago. The first thing that will come up will be the cost of maintaining the sows through the winter.

The Missouri College of Agriculture has found that satisfactory rations for the winter period or while the gilts are pregnant will not be excessively expensive. In December, 1916, forty-two head of pure-bred Poland China gilts, farrowed in late March and April in the previous spring, were placed on a feeding experiment. These gilts had been liberally fed on forage during the summer and fall. They were divided into six lots of seven each and each lot was handled in exactly the same manner except that a different ration was fed. One lot received corn ten parts, tankage one part, all the alfalfa hay they would eat; a second lot received the same ration except that clover hay was substituted for the alfalfa; a third lot received corn ten parts, tankage one part; a fourth lot received corn five parts, old process linseed oil meal one part; a fifth lot received corn eight parts, shorts two parts, tankage one part; the last lot received corn eight parts, shorts four parts, bran one part, tankage one part.

The clover and alfalfa hay were fed once daily in a rack. The corn was ground. All feed excepting hay was mixed with water at feeding time and fed morning and evening. All lots received enough feed to keep them in good growing and breeding condition. An effort was made to keep all lots at a uniform weight. In other words the condition of the sows fixed the standard of feeding and thus determined the amount of each ration fed.

The average weight of the gilts at the beginning of the trial was 186 to 188 pounds and at the close they averaged 265 to 270 pounds, having gained 75 to 84 pounds. The cost of feed consumed ran from $11.84 to $13.47 per sow with feeds at present market prices: Corn $1.25 per bushel; shorts $2.60 per cwt.; bran $1.75 per cwt; tankage $90 per ton; old process linseed oil meal $60 per ton; alfalfa hay $30 per ton; clover hay $20 per ton.

Figuring the value of the gain at present market price of pork it will be seen that the value of the gain was enough to pay for the feed consumed. It is of course true that "piggy gilts" would not be salable on the market without a dock. On the other hand it is very seldom that such gilts could not be sold for brood sows just before farrowing for more than they would weigh out at the market price of pork.

While the figures here presented do not show the farrowing records of the gilts, it might be said that all rations proved satisfactory in this respect.

The results obtained indicate that it is good business even with feeds at the present high prices to breed and carry growing gilts through the winter. This is the most logical method of beginning a remedy for the present pork shortage.

Hog Cholera Statistics

In these days when there is such vital need for conserving our pork supply, it is well to ponder over the figures showing the losses due to cholera. It is reported by the State Board of Agriculture that during the year ending March 1, 1917, 36,188 hogs died of cholera in Kansas, or 61 per cent of the total number lost from diseases of all kinds, as against 192,386 last year, or approximately 85 per cent.

The total loss from diseases in the year ending March 1, 1917, is less than that recorded in any year of which the State Board of Agriculture has a record. The greatest loss shown by such records was in 1912, when 437,639 swine succumbed. In 1895, the first year such figures were gathered, 154,279 deaths were reported, practically three times that shown for the year just past.

The larger losses from cholera during the past year occurred in Butler County, which reported 2,644 deaths, followed by Smith with 1,819, Jewell with 1,703, Washington 1,649, Brown 1,612, and Osage reporting 1,426. The counties reporting the heavier losses are mostly in the northern part of the state extending from Smith County eastward, but these counties are leaders in hog population.

Among the notable examples of the reduction of cholera in the past year are Lyon County, which reported 11,677 head lost last year as compared to 251 this year, a decrease of 11,426. Counties reducing their losses from cholera more than 3,000 including Lyon are Smith, Jewell, Reno, Linn, Bourbon, Barber, Geary, Saline, Rawlins, Pratt, Thomas, Republic, Jefferson, Ford, Shawnee and Osage; those making reductions between two and three thousand each are Labette, McPherson, Allen, Atchison, Sedgwick, Sumner, Harvey, Ottawa and Nemaha.

Only 3.7 per cent of the swine on hand March 1, 1916, died of disease (all kinds) during the year succeeding, as compared with 12 per cent in the year previous and 21.5 and 22.8 per cent during the years 1914 and 1913 respectively.

These statistics would seem to indicate that measures to control diseases of hogs and particularly the dread scourge of cholera were bearing fruit and that losses from such causes were being reduced by proper sanitary precautions and the exercise of care in the inoculation and treatment of animals. The decrease in mortality from disease during the year just past has been worth to the farmers of Kansas more than a million and a half dollars.

Survey Cattle Industry

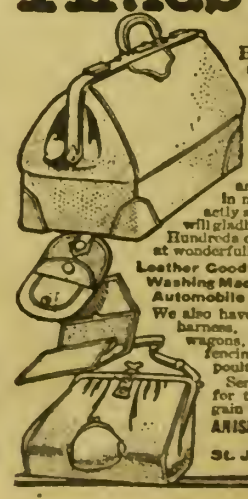
The cost of feeding cattle and their production costs up to a certain point is to be the subject of a farm management survey to be conducted by the United States Department of Agriculture. In Missouri this survey is being made near Carrolton, and in Iowa in the vicinity of Council Bluffs. The work in Kansas will start in the near future. This investigation has nothing to do with government price fixing of cattle or cattle products, but is being conducted solely in the interests of cattlemen who recognize the need of more statistical information on cattle production costs. Accurate and detailed figures on production costs are absolutely essential to placing farming on a more businesslike basis. Without such information the producer cannot fight his battles in the market place to the best advantage.

Conditioning Brood Sows

If you have not already begun conditioning your brood sows for the breeding season, plans should at once be made to separate them into lots according to age and condition. "This work should begin about two weeks before the breeding season so that the sows may be in a gaining condition at the time they are bred," says Ray Gatewood, who has charge of the breeding herd at our agricultural college.

The condition and thrift of the breeding herd during the breeding season have

Xmas Gifts



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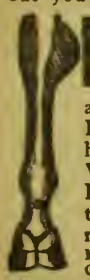

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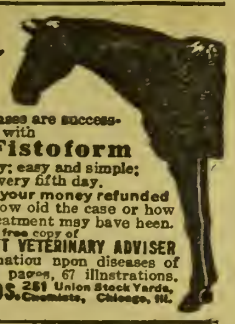

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an important effect upon the litters the sows are to farrow

The grain ration should be well balanced, and may be made up of corn, shorts, tankage, and kafir or similar feeds. When pasture is no longer available it is advisable to give the sows free access to alfalfa hay. The last cutting is the best and should be fed in racks to prevent waste.

Mr. Gatewood also keeps the boar in a thrifty condition. He may receive the same ration as the sows and should be fed liberally. It is a good practice to place the boar in a pen where he may occasionally see the sows. It is not advisable to let him range with the sows, as he will annoy them and keep them from doing well, and will also make it impossible to keep breeding records.

Pigs Have Rheumatism

G. T. Bliss, Brown County, sends in the following inquiry:

"Please tell me what to do to cure rheumatism in the legs of eight-months-old pigs. They got lame in one hind foot and then another, and now in three legs. Have been in small pen on cement floor. Not much bedding and very little feed except slop made of shorts and corn chop."

Dr. R. R. Dykstra of the Kansas Agricultural College furnishes the following suggestions as to treatment for the condition described:

"In our experience this condition may be handled successfully by the internal administration of two drams of salicylate of soda every two hours in the feed until six or seven doses have been given. After this the animal is to receive the same medicine in the same dosage, but only three times daily. If at the end of a week or ten days no relief has resulted, it is advisable to discontinue the treatment. During the treatment the animal should be kept in a comfortable pen and not exposed to draughts."

We would further suggest as a preventive measure that pigs kept on cement floors be supplied with plenty of dry bedding. A cement floor is cold and the trouble our correspondent is having is of frequent occurrence where hogs are compelled to sleep on cement without sufficient bedding.

Hogs in Kansas

Hogs in Kansas decreased 13.8 per cent in number in the period from March 1, 1916, to March 1, 1917, according to the State Board of Agriculture. Its figures are from the assessor's reports. This year there were 1,356,703 head on hand, as against 1,576,568 in 1916. The decrease is without doubt due to the short corn crop of last year, the increased cost of feed and the attractive prices that have prevailed for pork.

Fourteen counties in the state each had more than 25,000 head of hogs on hand at the time the assessors made their rounds, all of which, with the exception of Smith, are located in the eastern half of Kansas. The seven counties having the greatest number are in the northern tier, Washington leading with 42,130 head, followed by Nemaha with 41,784, Jewell 41,339, Marshall 39,671, Smith 32,353, Republic 32,189, and Brown 30,796. Of the seven counties ranking next, three are located in the south-central part of the state and three in counties within a short distance of the great hog market at Kansas City.

As is practically always the rule, where the most corn is grown hogs will be fattened in largest numbers. The seven counties this year showing the greatest number of hogs also reported the most corn on hand March 1, ranging from 475,000 bushels in Washington County to 865,000 bushels in Namaha.

Co-operate in Buying Feed

Failures in grain crops and forage crops in parts of Texas, Oklahoma and Kansas, have caused many men, who never bought feed away from home, to get out and look for feed. Hundreds of these men have traveled over districts where a surplus of hay and grain was raised. The result of this has been to make it appear that the demand for feed was greater than it really was. Price of corn in Eastern Oklahoma soon was far above what market conditions justified.

If our farmers and dealers could have gotten together, and had one man to buy for a county, they all might have saved by doing so. I know one county agent who has recently bought fifty cars of corn for his people. Other counties might use their county agents to advantage in this crisis.—J. E. PAYNE, Oklahoma.

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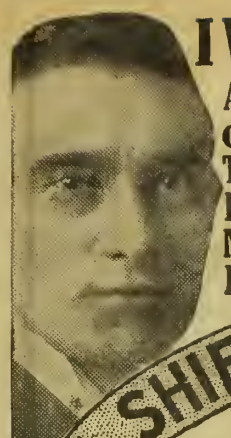

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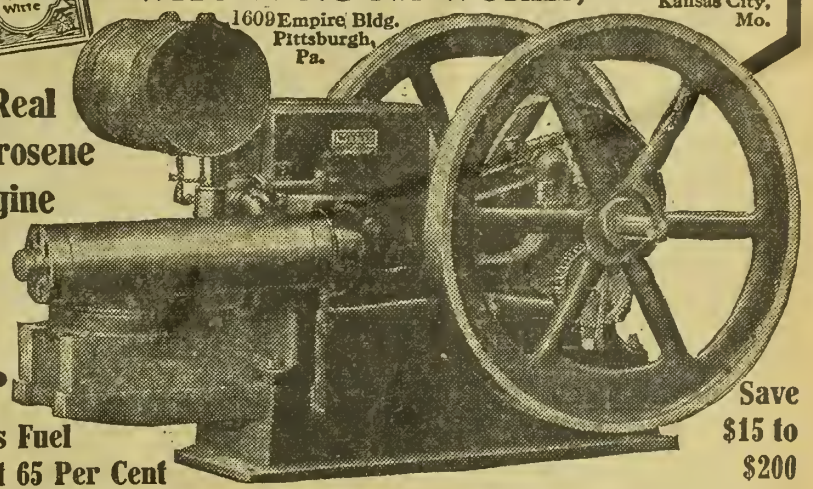

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Judging from market reports the action of the Food Administration in setting a minimum of $15.50 on hogs has stimulated interest in hog raising. Immune stock hogs are in strong demand, at 18 to 19 cents a pound, and men in sections largely given over to cattle are buying brood sows.

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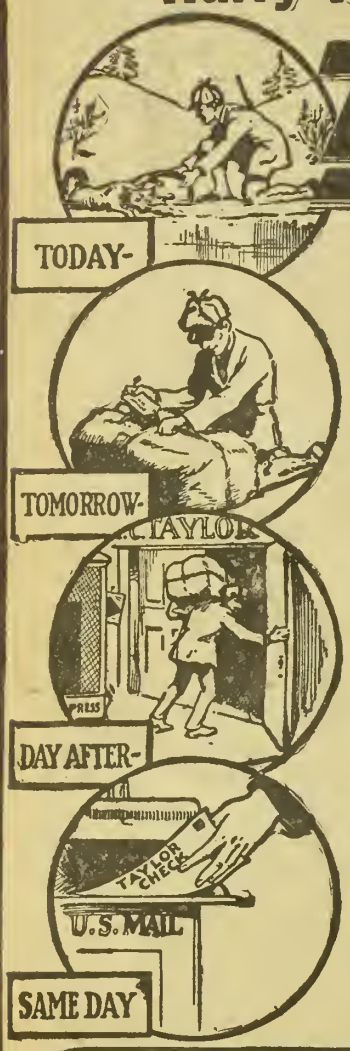

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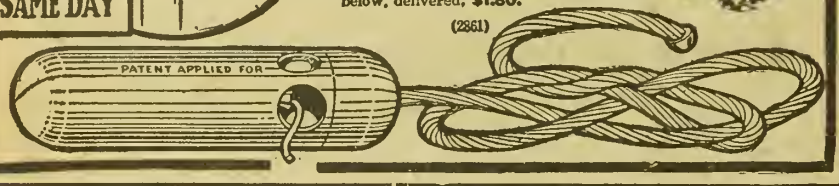

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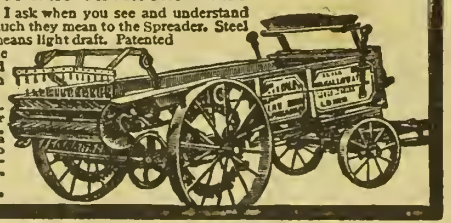

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FURS

While it's on our mind we might as well say that in our opinion a boy who can go to school and won't go to school, or a boy who can master his studies and doesn't master them, is as much of a slacker as the man who tries to dodge the draft.—The American Boy.

Can Surplus Fresh Meat

By JANETTE LONG

BUTCHERING time is here again and the busy housewife must lengthen her days and increase her pressure in order to take care of the winter's meat supply. The butchering season means much disagreeable work for those who have a hand in it, and usually all members of the family have more of the fresh meat than they relish, especially if there is not continued freezing weather, for the reason that the smaller parts of the beef and those parts of the hog which are not cured must be used right away in order to save them. At least this has been the prevailing opinion for a long time.

However, there is a way of saving these pieces until the family appetite welcomes them. The housewife who can use the hot-water-bath or steam-pressure-cooker method of canning need not hesitate to can meat, for it will keep as perfectly as do vegetables and fruits and it will be relished out of season equally as much as these.

In the canning of meats, as in the canning of vegetables, certain rules must be followed to insure success. Of course all parts of the meat that are used should be thoroughly cleaned. If the hot-water-bath method is used the heat must be intense enough to boil the water rapidly and the time of processing or cooking should not be counted until the water around the jars boils. The jars, lids, and rubbers should be washed and sterilized with boiling water and the meat should be packed into the hot jars until it reaches the top. If screw-type lids are used they should be made as tight as possible with thumb and little finger before placing the jars in the cooking vessel. If the bail-type jar is used the top bail should be left loose until the jar is taken from the hot-water bath. Only first class rubbers should be used. Good rubbers can be stretched and will return to their natural size. Lids should be tightened as soon as jars are taken from hot-water bath or steam canner.

If there is not enough meat to fill the jar it is not necessary to fill the jar with water. Usually about a tablespoonful of boiling water, or just enough to create moisture in the jar, will be sufficient.

All these points — although some of them seem unimportant—have a direct bearing on the success of the canning work, and none of them should be overlooked.

The recipes here given are recommended by Otis E. Hall, state club leader, in the extension division of the Kansas Agricultural College, employed co-operatively by the state and the federal Department of Agriculture, to whom so much credit is due for the canning work that has been done in the state in the past three years. The worth of all of these recipes has been proven.

CANNING BEEF OR HOG LIVER

Cut in slices about one-third inch thick. Blanch or parboil one minute in boiling water, remove and pack in jars. Add one teaspoonful of salt to each quart. Fill jar with boiling water which should require only a small amount as the meat should be packed closely. Some of the water should reach the bottom of the jar and this can be accomplished by pressing the meat away from the sides of the jar with a fork or knife to allow the water to pass. If using hot-water-bath outfit, process three hours for pints and three and one-half hours for quarts. If steam canner is used, process in ten to fifteen pounds of steam seventy-five minutes for quarts and sixty minutes for pints.

Some housewives prefer to fry liver before canning. If this is done, it will be necessary only to warm the liver before serving, and this can be done best in the oven. In no case should the liver be fried before and after canning. If fried before canning, the fryings can be poured over it instead of the hot water, and these fryings can be used for gravy when the can is opened.

CANNING SPARERIBS AND PORK TENDERLOIN

Cut into sections that will drop into jars. Spread these sections in single layer in bread pan or baking dish, place in hot oven and cook until each piece of meat is nicely browned. It usually requires from twenty to forty minutes for a hot oven to properly brown the meat. When browned sufficiently, pack well in hot jars, using two to four tablespoonfuls of liquid from pan to each quart of meat, or the entire space left in jars may be filled with the liquid. Make sure that part of the liquid reaches the bottom of the jar. Add one teaspoonful of salt to each quart. Put on rubbers and lids carefully. Process in hot-water bath three hours for pints and three and one-half to four hours for quarts. If steam canner is used, process sixty minutes under ten to fifteen pounds of steam for pints, and seventy-five minutes for quarts. If the grease from the baking dish is poured over the meat, this can be used for gravy when the can is opened.

Spareribs and tenderloin also may be packed into jars raw, as recommended for heart, and processed twenty to forty minutes longer than given above. The browning, however, adds a flavor which is not obtained when the meat is packed into jars raw.

CANNING BEEF OR HOG HEART

Rinse meat in cold water. Cut in portions to fit jars. Pack the raw meat into jars and add one teaspoonful of salt to each quart, and one tablespoonful of boiling water. Place rubbers and lids in position. If hot-water bath is used, process three hours for pints and three and one-half hours for quarts. If steam canner is used, process sixty minutes under ten to fifteen pounds of steam for pints, and seventy-five minutes for quarts.

CANNING TONGUE

Rinse meat thoroughly. Cut in pieces or leave whole, as desired. Pack well in jars, adding one teaspoonful of salt to each quart, one tablespoonful of vinegar, one tablespoonful of sugar (brown preferred), and two or three cloves. Fill jar with boiling water. If pack is properly made the jar will hold very little water — one tablespoonful is enough. Place rubbers and lids in position. If hot-water bath is used, process two and one-half hours for pints and three hours for quarts. If steam canner is used, process sixty minutes under ten to fifteen pounds of steam for either pints or quarts. Those who do not like the vinegar flavor or the other seasoning given above may substitute something else—sage or mint, for instance—or they may add nothing but the salt and boiling water.

Before serving, skin the tongue and heat on top of stove or in the oven.



BY CANNING THE SURPLUS, PEOPLE ON THIS FARM NEED NOT GET SICK AND TIRED OF LIVER—AND WASTE OF FOOD VALUE CAN BE AVOIDED

Feed Pullets Liberally

EVERY year at the beginning of winter many poultry keepers are disappointed and puzzled by the failure of apparently well-grown pullets to lay according to expectation. They can not understand why early pullets that seemed to be developing nicely and show the usual signs of being near laying should remain at that stage for weeks and sometimes for months.

Where the conditions are as described, the most common cause of deferred laying is an insufficient ration.

Underfeeding in the early fall occurs oftenest through the failure of the poultry keeper to increase the food given to pullets on range as much as is necessary to make up for diminution in the supplies secured by foraging.

Underfeeding after the pullets are put into winter quarters is usually due to excess of care to prevent them from becoming too fat to lay.

In either case the remedy is to feed the birds all that they will eat of a substantial ration furnishing in proper variety the food elements required, taking care at the same time to provide for as much exercise as will keep them in good condition under heavy feeding.

While pullets remain on range the only changes in diet usually necessary as cool weather comes on are to increase the quantities of food given, especially corn and corn products, and if green food on the range is running short, to supply what is required to make up the shortage.

It is desirable to have pullets in their winter quarters about a month before they are expected to begin laying. Moving them at that stage does not retard laying, while if they are moved shortly before or after beginning to lay the change may set them back several weeks.

Pullets that will not begin laying before winter sets in may be left in the coops which they occupied while growing as long as the weather permits them to range.

When the pullets are in winter quarters and are dependent upon the feeder for all green food and animal food as well as for grain, one of the following rations will supply the variety required. The proportions indicated are parts by weight:

RATION No. 1—Dry Mash: Three parts bran, two parts middlings, four parts corn meal, one part beef scrap or fish meal. Scratch Feed: Two parts cracked corn, one part wheat, oats, or barley, or mixture of the three. Green Feed: As available, in constant supply.

RATION No. 2—Dry Mash: Five parts mixed feed (bran and middlings), four parts corn meal, one part beef scrap or fish meal. Scratch Feed: Cracked corn. Green Feed: Cabbage, in constant supply.

RATION No. 3—Dry Mash: Six ports corn meal, three parts bran, one part beef scrap or fish meal. Scratch Feed: Wheat. Green Feed: Sprouted oats, cabbage, or mangel beets.

RATION No. 4—Dry Mash: Six ports corn meal, three parts bran, one part beef scrap or fish meal. Scratch Feed: Heavy oats. Green Feed: Sprouted oats.

RATION No. 5—Dry Mash: Three parts corn meal, one part beef scrap. Scratch Feed: Two parts cracked corn, one part oats.

In deciding upon a ration a poultry keeper should be governed largely by the availability and cost of foodstuffs in his locality. The common grains do not differ extremely in composition and food value.

For Worms in Chickens

"Very successful" is the way a Massachusetts poultry raiser describes a remedy for worms in chickens, suggested to him by a United States Department of Agriculture official after recommendation by investigators in the California Agricultural Experiment Station.

The poultry raiser added, in his letter of thanks, that thorough trials of other remedies had failed. The remedy is as follows:

"Give the chickens no food or water for twenty-four hours before treating; then feed them half the usual amount of ground feed in which has been mixed finely chopped tobacco stems soaked for two hours in all the water they will absorb. One pound of tobacco stems (weighed before soaking) is sufficient for 100 birds. Two hours after the chickens have eaten the medicated mash, give them one-fourth of the usual ration of ground feed mixed with water in which Epsom salts has been dissolved, using eleven ounces of Epsom salts for a hundred birds.

"To reduce the chances of further infestation all manure and loose dirt should be removed from the chicken yard and the pens and roosts thoroughly scalded and cleansed with hot water."

Keep Turkeys Until Mature

This year's turkey crop has been so slow in maturing that farmers are being asked to withhold the birds from market until fully fleshed. W. F. Priebe, poultry expert of the Food Administration staff, states that the average young turkey will weigh from 10 to 15 per cent more on December 15 than on November 15 of this year. "Turkeys are unlike other poultry," Mr. Priebe explains. "Chickens can be fattened at any time, but a turkey does not take on much flesh until it has nearly reached maturity. Then it gains in weight rapidly."

Feed is now abundant in most of the turkey-raising areas, and to place immature birds on the market means the loss of a large potential supply of turkey meat at a time when it is needed to substitute for the beef, pork and mutton that we must export to feed our army and our Allies. The rapid gain in weight which turkeys make after reaching maturity will more than compensate growers for holding them the additional thirty days.

Guinea fowls, which have suffered unpopularity because of pronounced propensities for noise making, are likely to rise above this objection in view of a steadily increasing demand for their delicious flesh. With eastern markets offering 75 cents to $1.50 a pair for these fowls, guinea raising now is a profitable side line on eastern farms, and may offer opportunities to the commercial poultryman in a few cases. In Farmers' Bulletin 858, "The Guinea Fowl," a poultry specialist of the U. S. Department of Agriculture discusses the guinea business from the starting of a flock to marketing the produce, which is largely the meat.

Can the cockerels when it no longer pays to feed them. This gives you material for a chicken dinner when poultry is highest in price without the necessity of feeding until that time.

Dogs may be friends of a man, but sheep furnish clothing for his back.



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THE STRAY LIST.

I HAVE THIS 10TH DAY OF NOVEMber, 1917, in Belmont Township, Woodson County, Kansas, taken up as a stray the following described animal: One red cow, white face, swallow fork in right ear and underbit in the left, weight about 800 pounds, branded with a blurred S on the left hip. John L. Gibbs.—C. V. Orendorff, County Clerk.

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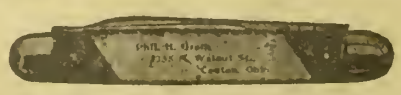

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We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

An arrow is in the heart of Death,
A God is at the doors of fate!
The Spirit that moved upon the Deep
Is moving through the minds of men:
The nations feel it in their sleep,
A change has touched their dreams again.
—Alfred Noyes: The Wine Press.

Our grandmothers used to think that it looked "lazy" to see anyone sitting down to do kitchen work. But in these practical days we feel that it is just as proper for the housewife to make herself comfortable as for the farmer to use riding implements or for the person who works at a desk to sit in a comfortable chair. A high stool in the kitchen will permit sitting down to do many tasks for which it would otherwise be necessary to stand, thus avoiding tired feet and aching back and saving strength which can be put to a better use.

Twilight Animal Stories

We hope that those of our readers who have small children in their homes have discovered the series of bedtime stories for children now running in this paper. The author, George Ethelbert Walsh, of New York City, is a popular writer for children. Each installment is complete in itself and yet a part of a general plot. If you are looking for wholesome stories which will hold the interest of the little ones, send them happy to their dreams, and help make the memory of "the children's hour" a pleasant one, try reading them the adventures of Bumper, the White Rabbit.

The practice of letting the child take with him to bed a doll or other toy that can be "cuddled" is one that some wise mothers have found helpful. It sometimes gives a feeling of companionship and content to the child who does not like to be left alone. May we suggest that a little white cloth rabbit would be a charming bedfellow for the child who becomes interested in these stories?

Air Should Be Kept Moist

Two points to be borne in mind regarding the air in our living and sleeping rooms during the cold weather are that it should not be allowed to become stagnant and that it should be kept moist. Violent drafts should be avoided, but a gentle motion in the air is both refreshing and healthful.

Outdoor air usually contains more moisture than the air inside a house. If the air in the house is allowed to become too dry, it irritates the mucous surfaces in the nose and throat by sucking out the moisture, and so makes us more susceptible to colds. Some data obtained in an investigation a few years ago showed that the air in many dwelling houses is dryer than in Death Valley, California. Manufacturers of heating plants are just beginning to recognize this fact and to make provision for supplying moisture. In the ordinary farm home heated with stoves the best way to do this is probably to keep shallow pans of water on the heater or kitchen stove so that the heat will aid evaporation. The bringing in of the more moist outdoor air will also help to maintain healthful moisture conditions.

It is an interesting fact—especially in the present time of high-priced fuel—that less heat is required for comfort when the air is moist. It is a matter of common observation that summer heat is much more noticeable on a damp day and the same principle holds true in winter. Moisture in the air is essential to both health and economy in fuel.

The School Lunch

The school lunch is a problem. We remember in our days of rural school teaching how even hungry, growing boys, in their haste to play, would cram down their lunch, selecting sweets or fruit and a few hurried bites of something more substantial and rush out to the playground. Although nearly all the children brought their lunches, in ten minutes from the time school was dismissed the room would often be almost empty. Of course the remnants of the lunch were eaten on the way home, or a piece was snatched out of the basket and devoured while playing during the afternoon recess.

If the lunch is to be properly eaten, it must be made more attractive to the child than his play. The limited variety possible in the use of cold foods and the tendency toward messiness unless the packing is carefully done, make it difficult to prepare an attractive lunch for each day. The mainstay of the child's lunch should be sandwiches; not thick slices of bread which will be gulped down without sufficient chewing, but bread cut thin, both slices buttered lightly and filled with something not too dry. If meat is used it should be sliced thin or ground fine and mixed with cream to form a paste. Slices of hard-cooked egg seasoned with a very little oil or cream salad dressing, peanut butter softened with cream, jams and marmalades all make good sandwiches. The crusts should be left on the bread, but the sandwiches should be carefully cut and wrapped singly or in pairs in the paraffin paper used for wrapping butter. A large roll of this can be purchased for five or ten cents. A piece of simple cake or a cookie and a liberal allowance of some juicy fruit in addition to the sandwishes will be enough. It would be better, however, if occasionally, at least, some little unexpected treat is included, such as a few shelled nuts, a piece of candy, a little jar of jelly, or some much-loved dainty. If milk can be kept cold and clean, a bottle of milk is an excellent addition to the child's lunch.

Removing Stains

To give clothes a longer period of service, and to conserve garments or fabrics which may appear to be hopelessly stained, is the object of a new publication just issued by the United States Department of Agriculture.

Uncle Sam says that if the housewife knows the cause of a stain, she can find a common-sense way to get rid of it by following the directions given in this bulletin. Methods which have been tested by the home economics experts of the department are outlined for the removal of practically all kinds of stains from "acids" all the way through the alphabet to "whitewash."

One of the first requisites in removing stains is to know the kind of fabric which is spotted and, if possible, the nature of the stain. Some stain removers which will give admirable results on cotton or linen may, if applied to woolen or silk, remove pieces of the fabric as well as the stain. On the other hand, stain removers which are entirely satisfactory for cleaning silk or woolen materials cannot always be used for removing stains from vegetable fibers, such as cotton or linen. Treatment which will remove some stains immediately will cause those of a different nature to take a firmer hold on the fabric.

The second cardinal principle in spot removal is to work while the stain is fresh. Cold or lukewarm water is usually the best thing to try first if the nature of the stain is not known and if the fabric is not injured by water. Hot water should not be used until it is determined that the staining material is such that it will not be "set" by heat. Stains from meat juice, blood, egg, milk, and other materials containing protein are set by hot water.

If stains are of such a nature that they will not yield to laundering or sponging with water or with water and soap, it is necessary to use one or more of a number of chemicals. Besides water and soap the bulletin names as the substance most useful in removing stains, Javelle water, potassium permanganate solution, oxalic acid solution, ammonia water, carbon tetrachlorid, French chalk, and cream of tartar, each of which may be used successfully, provided the right one is used at the right time. Copies of the publication — Farmers' Bulletin No. 861—may be had free so long as the supply lasts, on application to the United States Department of Agriculture, Washington, D. C.

SCHOOLS AND COLLEGES

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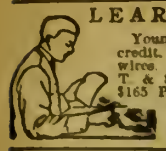

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WANTED — PURE-BRED S. C. WHITE Leghorn pullets. Cockerels for sale, $1.25 each. Lyman Mun, Galva, Kansas.

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BARRON ENGLISH WHITE LEGHORN cockerels, $1.25 to $2 if taken soon. Andy Mikkelson, Utica, Neb.

FINE R. C. BROWN LEGHORN COCKerels, $1.50 each. Mrs. Griswald, Tecumseh, Kansas.

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100 EXTRA FINE SINGLE COMB WHITE Leghorn cockerels from my best laying and show winning pens. Order now and receive the choice. $1.50 and up. C. G. Cook, Lyons, Kansas.

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WHITE WYANDOTTE COCKS, COCKERels, hens and pullets, $1.50 to $5 each. Birds may be returned if not as represented. H. A. Dressler, Lebo, Kansas.

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WHITE ROCKS, SIZE AND QUALITY. Prices reasonable. G. M. Kretz, Clifton, Kansas.

BARRED PLYMOUTH ROCKS, ST. Louis, Wichita, Kansas City winners. J. K. Thompson, 205 The Drive, Topeka, Kansas.

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PURE-BRED BARRED ROCK COCKERels, prize winners, $2, $3 and $5 each. J. P. Alpers, Hudson, Kansas.

BARRED ROCK COCKERELS, STATE Fair winners, $2 and $3. Egg producers. Satisfaction guaranteed. Hiram Patten, Hutchinson, Kansas.

Twilight Animal Stories

Bumper The White Rabbit

By George Etheldert Walsh

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STORY IV—WHAT HAPPENED IN THE DREADFUL HOUSE

WHEN the door of the house flew open with a bang, the lady holding Bumper put one hand to her heart, and exclaimed: "Oh, dear, what has happened now!"

Bumper couldn't see any one in the dark, but evidently the lady could, for a cool, quiet voice spoke to her.

"Toby threw his playthings down the stairs, and he's riding the banisters with a tin pan for a hat. I suppose you heard the clatter of the pan as it fell off."

"It sounded to me as if the house was falling down, Mary! I do wish Toby would behave."

The one addressed as Mary laughed. She seemed like a pleasant, wholesome young woman, with pink cheeks and smiling gray eyes. "I've told him to behave a dozen times, but he won't mind. He's been cutting up all the morning. But what have you there in your arms, Aunt Helen?"

"Guess, Mary. It's for Toby's birthday."

"Some kind of a toy, I suppose—or maybe a book."

"A book for Toby! What an idea! He'd throw it in the fire unless he liked the pictures. No, it's something prettier and better than a book."

She opened her arms, and held Bumper forward so Mary could see him, white ears and blinking eyes and all.

"Oh! A dear little rabbit!"

Before Bumper could protest or stop his heart from beating like a trip-hammer, Mary seized him in both hands, and began gently stroking his head.

"What a sweet little thing!" she murmured. "And so tame and friendly!"

Bumper was rubbing his wet nose against her velvety hands and thinking how soft and pleasant they were to the touch.

"Yes, he's so tame he never tried to jump out of my hands," replied Aunt Helen. "I'm almost afraid to let Toby have him now that I've brought him home. Do you think he'll be rough with him?"

Mary's face turned very grave and serious. "He's pretty young to have a rabbit, Aunt Helen. If he should drop him—or—or—well, we must teach him to be very careful."

"Yes, I will speak to him myself."

You can imagine the state of Bumper's feelings by this time. Toby was undoubtedly a cruel boy—Aunt Helen had said as much, and Mary had confirmed it—and they were both afraid he was too young to own a pet rabbit. What if he should drop him to the hard floor! Bumper peeked over Mary's hands and looked below. The floor seemed a long distance away. If he should fall it would very likely break a leg or his neck. Oh, why had he been bought for a cruel boy's birthday present.

Bumper wanted to run and hide. If it hadn't been for the fear of falling to the hard floor, he would have jumped out of Mary's hands and scampered away. But he had no chance to do this. There was another loud racketty - rack - clumpity - bang! First a big dish pan rolled all the way down the stairs into the hall; then a set of building blocks, a wooden hobby horse, a lot of animals from a Noah's ark, tin soldiers, a drum, and a train of cars. Toby came last, sliding down the banisters, and shouting in glee as he landed at the bottom.

"It was a landslide, Auntie!" he shouted. "We all slid down the mountain together."

"Toby, how many times have I told you not to do that!" reproved Mary, while Aunt Helen turned pale and stood stock still.

Toby paid no attention to the rebuke. He was a small, freckle-faced boy. In one hand he held a whip, and in the other the broken head of a wooden horse. He picked himself up, and began slashing his toys with the whip. Bumper gave him one terrified glance, and made a desperate dive for Mary's open waist. But Toby had sharp, bright eyes.

"What you got, Mary?" he shouted, running toward her, whip in hand. "Oh, a rabbit! Yes, it is! You needn't hide him! I see him! It's a rabbit! Let me have him!"

"Be careful, Toby, you'll tear my dress."

"Let me have him! He's mine."

"No, no, Toby, don't touch him. Wait! I'll show him to you!"

But Toby was much too spry for Mary or Aunt Helen. He darted around back of them, and caught Bumper by the tail—and you know a rabbit's tail is the smallest part of him—and began pulling it. Bumper let out a squeal, and pulled the other way with all his might.

"I got him!" shrieked Toby gleefully. "I got him by the tail."

"Toby! Toby!" cried Mary, catching his hand. "Let go of him this instant."

"I won't! I won't! He's mine!"

Between Toby pulling at one end, and Mary holding the other, Bumper felt as if he would part somewhere in the middle. He kicked with his hind legs, and scratched Toby's hands, but the boy would not release his hold. He gave a sharp jerk, and Bumper let out a squeal.

"You cruel, wicked boy!" exclaimed Mary, as Toby pulled the rabbit from her arms, and swung him around by his hind legs. "Let me have him this minute. You'll kill him!"

"No, I won't! He's mine! Isn't he, Aunt Helen? You brought him to me, didn't you? There now, Mary, she nodded her head! I'm going to keep him!"

"But, dear, you must be very gentle with him," said Aunt Helen. "You'll hurt him carrying him that way."

"That's the way to carry rabbits, by their hind legs," replied Toby. "I saw them in the market the other day—a whole bunch of them—hanging by their hind legs."

"But they were dead rabbits, Toby, and not live, white ones. Now let me show you how to hold him."

But Toby was more interested in the experiment of making Bumper squeal than in listening to his aunt's instructions. It was better than the squealing camel he had or the girl's doll that said mamma every time you squeezed it. All he had to do was to squeeze the legs or swing the rabbit around to make him squeal. Each time he laughed and shouted with joy.

Mary could stand this cruel torture no longer. She made a dive for Bumper, and caught him by the fore paws. In the struggle that followed Bumper was likely to be pulled apart. What might have happened no one could tell if the door had not suddenly opened, and a young girl, with red hair and freckles on her nose, entered. She was humming some tune to herself or to the doll she carried in her hands; but she stopped singing, and stared at Toby and Mary pulling at the white rabbit.

Then she dropped her doll, and sprang forward to Bumper's rescue. "Oh, that's my rabbit, cousin Mary!" she cried. "It's the one I wanted to buy from the old woman, but I didn't have the money. Let go of him, Toby! You're hurting him!"

"I won't! He's mine!" came the reply. "You let go of him!"

"He's not! He's mine!"

"He ain't! He's mine!"

"Stop that!" cried the girl, when Toby squeezed the legs so hard Bumper whimpered with pain.

"I won't! I'll squeeze him all I want to."

To make good his word he gave the rabbit a harder squeeze. Then something happened that surprised every one. The girl raised a hand, and boxed Toby's ears so hard that it made him howl.

"Now, take that, and see how it feels to be hurt!"

Toby clapped both hands to his ears, and in a flash the red-headed girl seized Bumper in her arms and ran pell-mell from the room. Toby started after her, but when the door slammed in his face he flopped down on the floor to howl and kick just like a baby who had eaten pickles instead of good milk for breakfast.



No. 8359—Ladies' House Dress: Cut in sizes 36 to 44 inches bust measure. The dress has a three-gored gathered skirt with a slightly raised waist line. **No. 8397—Ladies' Blouse:** Cut in sizes 36 to 44 inches bust measure. Any of the pretty striped materials can be used for this blouse with the trimming of plain material. **No. 8387—Boys' Norfolk Suit:** Cut in sizes 2, 4 and 6 years. The suit consists of a box-plaited jacket and straight trousers.

Scalloped Vegetables

Arrange the cooked vegetable in a baking dish in alternate layers with white sauce, made by thickening one cup of milk with two tablespoonfuls of flour and seasoning with salt, pepper, and two tablespoonfuls of butter or other fat. Cover with buttered crumbs and brown in the oven. Cheese, curry, hard-cooked eggs, peppers, chopped meat, and fish may be added if desired. In preparing buttered crumbs, dry bread in the oven, being careful not to let it brown, and put it through the food grinder or crush with a rolling pin. Melt one tablespoonful of butter in a pan, add four or five tablespoonfuls of bread crumbs, and mix thoroughly. This is a good way to use left-over vegetables.

Fresh Air

Children, like grown people, should be outdoors as much as possible. When they are indoors, whether at home or at school, they should be in properly ventilated rooms. Shutting them up in close, heated rooms, weakens their natural resistance to disease germs and prepares the way for bronchitis, tonsilitis, and the like. The temperature of living rooms should be kept about 68 degrees Fahrenheit; never above 70 degrees.

Ventilation may be provided and a direct draft avoided by the use of screens made by stretching cheesecloth or muslin on a frame which fits inside the window casing. The screen may be made as high as desired, the window being raised and the screen inserted beneath.

In ironing a garment on which hooks and eyes are sewed, closing the hooks may be prevented by placing flannel or other soft material beneath them.

The happiest heart that ever beat
Was in some quiet breast
That found the common daylight sweet,
And left to Heaven the rest.
—John Vance Chene.



Your Grocer *Believes in Good VALUE -- That's Why he SELLS*

Golden Sun Coffee

NO need to send your money out of town when you want good coffee. Just ask your grocer for Golden Sun. He gives you what you want and keeps your money in town where part of it returns to you in the form of better streets, better schools, etc.

Golden Sun Coffee is made clean, and comes to you clean, without even the natural dust and chaff that make ordinary coffee so muddy and bitter. Try a pound. You will like its delightful aroma and flavor.



The Woolson Spice Co.
Toledo, Ohio

GUARANTEED ROOFINGS



$1.30 to $2.05 per roll

Roofings that are giving universal satisfaction and only cost one-fourth as much as shingles. Write for our

Free Catalog

It will save you from 20% to 40%. Also bargain prices on Harness, Saddles, Vehicles, Gasoline Engines and Wire Fencing.

Aniser Mercantile Co.
Dept. 180-A
ST. JOSEPH - - MISSOURI

RHODE ISLAND REDS.

LARGE BONED DEEP BRILLIANT S. C. R. I. Reds, guaranteed to suit. Lela Osterfoss, Hedrick, Iowa.

FOR SALE — GOOD ROSE COMB RED cockerels, red to the skin. $2 each. Mrs. B. F. Weigle, Winfield, Kansas.

COCKERELS — SINGLE COMB REDS. New blood from Ohio. Fine. D. H. Welch, Macksville, Kansas.

ROSE COMB RHODE ISLAND RED cockerels for sale. Price, $1.50 each, six for $8. John Nelson, Stamford, Neb.

RHODE ISLAND WHITE AND BARRED Rock cockereis for sale. W. E. Wulf, Clearwater, Neb.

BRAHMAS.

STANDARD BRED LIGHT BRAHMA cocks 2; cockerels 4; hens 36. Felton's strain. Prices reasonable. Mrs. Mark Johnson, Waldron, Kansas.

ORPINGTONS.

CHOICE BUFF ORPINGTON HENS, pullets, cockerels and cock birds. Write for prices. Myrtle Howard, Byron, Okla.

FINE BUFF ORPINGTON COCKERELS, $3 each. Mary E. Price, Route 7, Manhattan, Kansas.

BUFF ROCKS AND BUFF ORPINGTONS. Closing out sale, half price. Laying strain. Winners Texas and Kansas state shows. Eggs for hatching, fancy show pens. Write me. John A. Cragan, Kingman, Kansas.

DUCKS AND GEESE.

FINE TOULOUSE GEESE AND PEARL Guineas for sale. Emma Ahlstedt, Roxbury, Kansas.



Percheron Stallions and Mares

FOR SALE—Young stallions and mares, one herd stud. All registered in Percheron Society of America. Blacks and bays. A few Shorthorn bulls, reds and roans. Come and see me.

J. C. PARKS - - HAMILTON, KANSAS

Breeders' Directory

ANGUS CATTLE.
D. J. White, Clements, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

HORSES AND MULES.

PERCHERONS—BELGIANS—SHIRES



2, 3, 4 and 5-yr. stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
FRED CHANDLER, R. 7, Charlton, Ia. Above Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes.
Illinois Horse Co., Good Blk., Des Moines, Ia.

DUROC JERSEYS.

TAYLOR'S DUROCS

For Sale—One Missouri State Fair prize winning boar. Seven yearling boars sired by champion boars that are real herd headers. Fifty spring boars that are fine prospects. Write for prices or come and see my herd.
Chas. L. Taylor - Olean, Mo.

THIRTY DUROC JERSEY BOARS

Cholera immuned. Sired by Taylor's Model Chief 126455, winner at Missouri State Fair and American Royal. Extra good breeding boars at prices to close them out. Also choice bred gilts. Dams well bred for years.
W. R. HUSTON - AMERICUS, KANSAS

DUROC BOARS

Thirty-five spring boars by G. M.'s Crimson Wonder, Crimson Wonder Again Jr., Critic D. and Great Wonder, out of my best herd sows. Priced to sell. Come and see my herd.

G. M. Shepherd, Lyons, Kansas

MARSH CREEK DUROC HERD

Fall pigs by Highland Cherry King 204165 out of tried sows, big type. Ready to ship December 1.
R. P. WELLS - - FORMOSA, KANSAS

MAPLEWOOD DUROCS

Seventeen yearling and early spring boars, ready for service, as good as we ever grow. Twenty-five gilts, open. Three bred gilts due to farrow this month and early in November. Prices reasonable. Write us your order at once and get first choice.
MOTT & SEABORN, HERINGTON, KAN.

Immune Duroc Boars on Approval

Pedigreed Duroc boars with size, length and bone. Immune and guaranteed breeders. Shipped to you before you pay for them.
F. C. CROCKER, BOX K, FILLEY, NEB.

SHORTHORN CATTLE.

ABBOTSFORD SHORTHORNS

Two choice bulls and ten extra good heifers for sale. Priced to sell. The kind that always please.
D. BALLANTYNE & SON, Herington, Kan.

SHADY LAWN SHORTHORNS

At head of herd, Kansas Archer 440809 by Mistletoe Archer. For sale, fifteen choice young bulls from spring calves to yearlings. Come and see our herd.
F. H. HULL & SONS - EUREKA, KANSAS

SHORTHORN CATTLE

A few Scotch bulls for sale of breeding age. Red and roans. Write or come and see my herd.
O. A. HOMAN & SON, PEABODY, KANSAS

ALYSDALE HERD OF SCOTCH SHORTHORNS

Prince Valentine 4th and Clipper Brawith in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Pearl Herd Shorthorns

Valiant 346162 and Marengo's Pearl 391-962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

Can ship on Rock Island, Union Pacific or Santa Fe Railway.

C. W. TAYLOR - ABILENE, KANSAS

CLOVERDALE SHORTHORNS—For Sale, two roan yearling Scotch Shorthorn bulls. Exceptional quality and breeding. Also a few heifers. Wesley Jewell, Humboldt, Kansas.

Cedar Heights Shorthorns

For Sale—Three red bulls, 12 months old. A few cows and heifers. Priced reasonable. Come and see my herd.
HARRY T. FORBES
Route 8 Topeka, Kansas

JERSEY CATTLE.

DISPERSAL Sale of

Fifty Head

IMPORTED AND AMERICAN BRED JERSEYS

Owned by A. V. Young

Palmyra, Mo.

December 12, 1917

Don't fail to attend this sale, and write at once for sale catalog to

B. C. SETTLES, SALES MANAGER
PALMYRA, MO.

GALLOWAY CATTLE.

GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
E. E. FRIZELL, Frizell, Pawnee Co., Kansas

GOOD GALLOWAY BULLS

Twenty-five Extra Good Yearlings
Extra breeding and quality. Priced to sell.
J. M. HILL, SEDGWICK, KANSAS
Route 4, Box 65A

GUERNSEY CATTLE.

GUERNSEY BULLS.

Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

FARM AND HERD NEWS NOTES

C. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising
O. W. Devine, Field Representative

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CLAIM SALE DATES.

Percheron Horses.

Jan. 25—Kansas Percheron Breeders at Kansas Agricultural College, Manhattan. Under management of C. W. McCampbell.

Jersey Cattle.

Dec. 12—A. V. Young, Palmyra, Mo. B. C. Settles, Palmyra, Mo., sales manager.

Holsteins.

Dec. 3-4—Robinson & Shultz, Independence, Kan.
Dec. 6—E. S. Engle & Son, Abilene, Kansas.

Shorthorn Cattle.

Dec. 6—Fremont Leldy, Leon, Kan.

Poland Chinas.

Dec. 6—U. S. Byrne, Saxton, Missouri.
Feb. 6—H. B. Walter, Effingham, Kan.
Feb. 7, 1918—W. H. Charter, Butler, Mo.
Feb. 8, 1918—W. B. Wallnce, Bunceton, Mo.
Feb. 9, 1918—Will J. Lockridge, Fayettc, Mo.
Jan. 29—Head & Moore, St. Joseph, Mo.
Feb. 18—Deming Ranch, Oswego, Kansas.
Feb. 13—H. L. Faulkner, Jamesport, Mo.
Feb. 19—Fred B. Caldwell, Howard, Kansas.
Feb. 20—B. E. Hodson, Ashland, Kansas; sale at Wichita.
Feb. 21—E. J. Erhart & Son, Ness City, Kansas; sale at Hutchinson.
Feb. 22—F. Olivier & Son, Danville, Kansas.

Poland Chinas.

Feb. 23—V. O. Johnson, Auine, Kan.
Feb. 28—Clarence Dean. Sale at Dearborn, Mo.

Durocs.

Feb. 14—B. R. Anderson, McPherson, Kan.
Feb. 27—R. W. Murphy, Dearborn, Mo.
March 7—W. W. Otey, Winfield, Kansas.

Present prospects indicate that the Polled Durham and Shorthorn cattle sale announced by Joseph Baxter, of Clay Center, Kansas, will be one of the big sale events of the season. Mr. Baxter has catalogued fifty head from his great herd for this sale. The offering will consist of thirty-eight cows and heifers. Ten of the cows will have calves at foot, sired by the great prize-winning bull, Select Goods. Others are bred to him. Twelve bulls will be catalogued, including Select Goods 353693. This bull has won ten first prizes and three grand championships at the big state fairs in strong competition and has sired many prize winners.

Samuel Drybread, of Elk City, Kansas, held at his farm November 22 one of the successful Hereford sales of the season. Sixteen nbulls and fifty-two head of cows and heifers sold for $20,965. There were no boom prices but an even clean-cut sale of good useful cattle at reasonable prices, and the sale was very satisfactory to Mr. Drybread.

Olivier & Sons, of Danville, Kansas, are among the progressive Poland China breeders of Kansas. They have bred and shown Poland Chinas at our state fair for the past ten years and always won a large share of the premiums. They breed the large useful hog, which grows quick and fills the need of the farmer and pork producer. The herd now numbers more than 100 head and a feature of the herd at this time is the choice lot of young nstock, including choice spring boars. They have announced February 22 as the date of their annual bred sow sale.

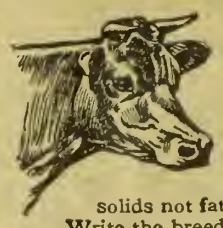
One of the successful Holstein sales of the season was held by H. B. Browning, of Linwood, Kansas, November 20. The offering of 150 head of high-grade cows and heifers was readily taken by the large crowd of buyers at good prices. The highest price for a grade cow was $210 and a number of others sold well up to the $200 mark. The registered herd bull sold for $550. The offering was practically all bred by Mr. Browning and was a choice lot of Holsteins. The sale totnled over $14,000.

C. E. Cox & Son, at Elk City, Kansas, held on Friday, November 23, a closing out sale of registered Angus cattlo. Owing to the shortage of feed in that vicinity the local support was not strong and most of the cattle were bought by breeders from a distance. Thirty-nine cows averaged $130. Seventeen bulls, mostly spring calves, averaged $107.50. The fifty-five head of registered cattle sold averaged $123, which was very satisfactory to Messrs. Cox & Son.

E. R. McKeefer & Sons, of Ossian, Ind., well known breeders of old original Spotted Polands, held their annual fall sale November 17. Fifty head sold for an average of $85.59 per head, the highest average for Spotted Polands this season. The top was $205. Eighteen head sold at from $100 up and only seven head sold before $70 per head. Sixteen were sold to buyers from other states. McKeefer & Sons' show herd was one of the attractions in the Spotted Poland section at the Topeka Free Fair this year.

F. B. Wempe, of Frankfort, Kansas, owner of one of the outstanding herds of pure-bred Hampshire hogs, reports his herd doing well. Mr. Wempe has built up one of the best herds of that popular breed of hogs in the West. The herd boars in use in this herd at this time are Wempe's Model, a son of Paulsen's Model, the $800 boar, and Gavis Model, a son of Manley's Duke, the junior champion at the World's Fair. He has also recently added Kansas Kid, junior champion at Topeka and first at Oklahoma City and Muskogee. A feature of his herd at this time is the choice lot of young stock, including a number of outstanding boars and a fine lo tof fall pigs.

Jerseys for Net Profits



You're in the dairy business for profit—the *net* profit that your herd has made you at the end of the year will determine the size of your bank account. Jerseys yield the largest returns from every ounce of feed—proved by tests at two great expositions. Jersey milk averages 5.3% butter fat, 9.1% solids not fat—highest of all breeds. Buy a Jersey bull.



Write the breeders advertised below for prices, pedigrees, etc.

The American Jersey Cattle Club, 375 West 23rd Street, New York City

120 JERSEY COWS AND HEIFERS

Pure-bred and high-grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. Berry & Son
JEWELL CITY - - - - KANSAS

IDYLWILD STOCK FARM

REGISTERED JERSEYS OF BOTH SEXES FOR SALE

C. F. Blake, Glasco, Kan.

LONGVIEW JERSEYS

(Register of Merit Herd)

Bull calves sired by champion bulls out of Register of Merit dams, for sale at all times.

Longview Farm
LEE'S SUMMIT - - - MISSOURI

BROOKSIDE JERSEYS

Registered Jersey Bulls, few old enough for service from Eminent Flying Fox dams, sired by Idalia's Raleigh, a son of the great Queen's Raleigh. Write for prices.
THOS. D. MARSHALL, Sylvia, Kan.

B. C. SETTLES

MAKES A SPECIALTY OF MANAGING JERSEY SALES.

Write for catalogs.

Palmyra, Missouri

REGISTERED JERSEY BULLS

BUTTER-BRED, FROM HIGH-PRODUCING COWS.
Photo furnished.

Maxwell's Jersey Dairy
ROUTE 2 TOPEKA, KANSAS

LOMAX JERSEYS

A Herd of Producers. Backed by Records. Popular blood lines. Choice individuals. We invite inspection of our herd at all times.

Write us your wants.

Dr. J. H. Lomax
STATION B - - ST. JOSEPH, MO.

J. B. PORTER & SON

MAYETTA, KANSAS
BREEDERS OF HIGH-CLASS JERSEYS.
STOCK FOR SALE AT ALL TIMES

WRITE US YOUR WANTS.

Next Year's Garden

A good garden saves many a dollar in keeping the table supplied with food. Now is the time to begin the work on next year's garden. The following apt suggestions are from the November news letter by W. A. Boys, agricultural agent for West Central Kansas.

"Is your wind mill idle? Many are at this time of the year, but they should be kept at work and run the surplus water on the garden patch before freezing weather sets in. The frost will give the best possible aid in getting your ground in prime condition for next spring. With the subsoil well wet up in the fall, less water will be required during the growing season than otherwise.

"A. Yale, who lives near Grinnell, has a good demonstration this year of the benefits of a garden to the farmer. A three-acre tract, consisting of orchard and garden was irrigated from an ordinary well and windmill in addition to watering 250 head of sheep and fifty head of horses and cattle. From this garden the family was supplied with an abundance of asparagus, pieplant, beans, peas, cabbage, potatoes, tomatoes and strawberries. A surplus of some varieties was canned for winter use.

"Mr. Yale keeps his windmill going the year round and is a strong believer in fall irrigation for the home garden and trees. His results speak for themselves.

"E. J. Guilbert, who lives near Wallace, irrigated one-fifth of an acre of tomatoes which produced 150 bushels. These were sold at an average price of $2.25 per bushel. Mr. Guilbert says his plants were set out late in the spring and did not receive the best of attention."

GOING TO COLLEGE?

Our young readers who contemplate attending business college this fall or winter will find it to their advantage to write KANSAS FARMER for information that will be valuable to them.

It will cost you nothing but a postal card or a two-cent stamp to find out what our proposition is. Address

DESK D, KANSAS FARMER
Topeka, Kansas



The Price of Bread

President E. F. Ladd, of the North Dakota Agricultural College, who was a member of the wheat price-fixing commission, has given out the following figures on a barrel of flour:

"It is estimated that 4½ bushels of wheat, or 270 pounds, will produce one barrel of flour of 196 pounds; that is, when it is milled to 72.6 per cent of flour, and it has been recommended that the per cent of flour milled should be greater than this, but at 72.6 per cent milled, there would remain, approximately, 74 pounds of mill feed.

"Let us take the cost of wheat as milled for producing one barrel of flour. The miller does not, in the larger commercial mills, use No. 1 Northern as the wheat from which he produces his flour, but the average, under the present grades, will probably be about No. 4. Let us see, then, what will be the cost of the wheat for a barrel of flour on the Minneapolis market if the basic price for No. 1 Northern is $2.20 Chicago.

"First, there is a differential of three cents in freight in favor of Minneapolis, or the basic price at Minneapolis would be $2.17. If No. 4 wheat is used in the mills of Minneapolis for the production of the flour, then there is another saving of 10 cents per bushel, or the cost of the wheat at the mill door is $2.07. Let us assume that the handling expenses, commission, etc., will bring this to $2.10 per bushel as the value of the wheat that goes upon the rolls; that means, then, that the wheat at the rolls in the mill has cost $9.45 for the barrel of flour, or to summarize as follows:

Wheat, 4½ bushels at $2.10	$ 9.45
Cost of milling, per barrel	.75
Miller's profit	.25
Total	$10.45

"Let us now ascertain what the returns are from this product as milled and converted into bread and feedstuff. The value of the mill feed is $1.25 and that, deducted from the cost of the wheat, or $10.45, equals $9.20 as the cost of straight flour, but the baker uses considerable of grades lower than straight flour in his shop. Nevertheless, let us transform this flour at $9.20 a barrel into fourteen-ounce loaves of bread. In some parts of the country the average weight of bread is found to be fourteen ounces, and others twelve ounces. Therefore, we will take both sets of figures, and the prices have varied from 5 cents to 10 cents per loaf. We will therefore use both sets of prices. One barrel of flour will easily make 300 loaves of fourteen-ounce bread, or 350 loaves of twelve-ounce bread.

"The 300 fourteen-ounce loaves at 5 cents will bring $15, and at 10 cents, $30; the 350 twelve-ounce loaves at 5 cents will bring $17, and at 10 cents, $35.

"The cost of this flour was, as already stated, $9.20. Therefore, when the bread is retailed at 5 cents per loaf of twelve ounces, which is about the average size loaf in this section of the country, there is a gain of $6.30 for the material used in baking, and the cost of retailing the bread. Or if we take the loaves at 10 cents, we have $25.80 as the difference. Certainly it cannot cost two and one-half times as much to convert flour into bread and retail it as it does for the farmer to raise the wheat, transport it to the mill, and for the miller to transform it into flour.

"There was prepared and submitted to the committee on price-fixing for wheat, by J. W. Sullivan, a statement giving the approximate retail prices for bread in several European countries as compared with Washington. For the early spring the data is as follows:

"The Great Britain 32-ounce loaf of war bread, 11 cents; France's 35-ounce loaf of war bread, 8 cents; Lyons' 35-ounce loaf of war bread, 9 cents; the Belgium 35-ounce loaf, 10 cents; Italy's 35-ounce loaf of war bread, 8 cents; and in Washington a 14-ounce loaf of war bread cost 10 cents.

"Composition of war bread in France is 80 per cent wheat and 20 per cent rye, barley and corn."

The farmer can hardly be charged with the high cost of bread in this country.

Health and Vigor

One of the prime essentials in poultry breeding is to use only strong, vigorous, healthy stock. It is only by continuing to do this that a flock can be built up which will have strength and vigor and which will produce strong, fertile eggs, strong chicks capable of making quick growth, and pullets with sufficient stamina to stand the strain of heavy egg production. The appearance of a bird is not always a sure indication of its vigor, but appearance and action taken together are a fairly reliable basis for picking out vigorous birds. The comb, face, and wattles should have good, bright color; the eyes should be bright and fairly prominent; and the head should be comparatively broad and short, not long and snaky or crow-headed. The bird should be alert and have a vigorous carriage. The legs should be set well apart and strongly support the body, with no tendency to weakness or a knock-kneed condition. The bone as seen in the shanks should be strong, and not too fine for the breed. The plumage should be clean and smooth. Lack of condition often accompanies soiled, roughened plumage. Fowls that have been sick but apparently have recovered should not be used for breeding if it can be avoided.

A very handsomely gotten up pamphlet entitled "The Supremacy of Aberdeen-Angus Cattle" has just been published by the American Angus Breeders' Association. This is the fourth edition of this pamphlet, and it gives a great deal of statistical material on the results of the leading fat stock shows of Great Britain and America. Charley Gray, secretary of the Angus Association, Chicago, will be glad to furnish a copy of the pamphlet to anyone sufficiently interested to write and ask for it.

TWENTY-THIRD SALE OF

FIFTY

Imported and American-bred
Registered

PERCHERON STALLIONS, MARES AND COLTS

FIFTY

AT WHITEWATER FALLS STOCK FARM, TOWANDA, KANSAS

Saturday, December 15

TWENTY-FIVE STALLIONS
TWENTY-FIVE MARES

Stallions and mares sired by Casino. Mares bred to Casino and an imported son of Carnot.

Sale Held at the Farm Four Miles Northwest of Towanda

Write for catalog to

J. C. ROBISON, Towanda, Kans.

AUCTIONEERS

Fred Reppert, J. D. Snyder, Boyd Newcom, W. M. Arnold

Shorthorns and Polled Durhams

Wednesday, December 12

SALE WILL BE HELD AT MANHATTAN, IN THE COLLEGE SALE PAVILION, COMMENCING AT 1 O'CLOCK PROMPTLY

FIFTY REGISTERED PURE-BREDS

All of the breed and strain we believe best adapted for practical use by Kansas farmers and breeders.



FIFTY HEAD BULLS AND COWS

The individuals in this draft are sired by or bred to the best sires obtainable and show splendid development.

THE GREAT SIRE, SELECT GOODS 353693, WILL GO IN THIS SALE

This famous show bull comes from the greatest prize winning herd of Polled Durhams in America, and not only has to his credit ten first prizes and three grand championships at state fairs but is the sire of a goodly number of first prize and championship winners exhibited by Albert Hultine, of Saronville, Nebraska, at state fairs and the International at Chicago. The cows in this draft are in calf by him and some with calf at foot. The average age of cows and heifers offered is five years, the oldest cow being eleven. All are well fed and in good breeding condition but not slicked up for the show ring. They are real producers and we recommend them as such.

Write for Catalog and Further Information

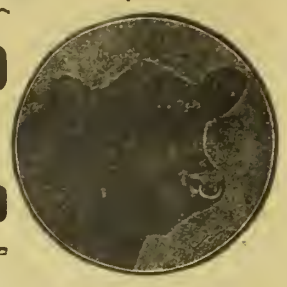
JOSEPH BAXTER, Proprietor, R. F. D. 3, CLAY CENTER, KANSAS

Cols. L. R. Brady and Jas. T. McCulloch, Auctioneers — Carl Hammel, Clerk

REGISTERED
ABERDEEN ANGUS SALE
FROM THE FLINT HILL ANGUS HERD
AT
REECE, KANSAS, TUES., DEC. 11



29 Head 29
10 Bulls 10
19 Females 19



The bulls include a bunch of calves seven months to twelve months old, choice individuals and in good condition. Also a good herd bull, a tried sire.

Sixteen Cows Sired by Black Last King Donald
From the Herd of Mr. McWhorter, Aledo, Illinois

These cows are the useful kind, with size and substance, the sort for beginners to start with better cattle, or to add to herds already established. They are bred and safe in calf to Lord Elric, a Trojan Erica (from the herd of E. L. Barrier, of Eureka, Kansas).

Sale will be held at farm five miles from Beaumont, on Frisco Railway; sixteen miles from Eureka, on Santa Fe Railway; and seven miles from Reece, Kansas, on Missouri Pacific Railway. Write for the catalog.

L. J. LINDSEY
REECE, Greenwood County, KANSAS
L. R. Brady, Auctioneer

Kansas Herd Chester Whites
FIRST ON BOAR PIGS, BOTH STATE FAIRS. YOUNG BOARS FOR SALE
ARTHUR MOSSE, ROUTE 10, LEAVENWORTH, KAN.

POLAND CHINAS. POLAND CHINAS

1000 POUND HERD BOARS 700 to 900-pound sows, big-type Polands. For thirty days we will sell choice bred spring gilts weighing 200 to 250 pounds at $60 each. Fall pigs, $20 each, three for $55. Cholera immune, registered, recorded and guaranteed to please or your money back. First check gets pick. Ask for catalog.
S. E. WAIT - - - - - - - - - - BLUE MOUND, KANSAS

DEMING RANCH QUALITY
Big-Type Poland China Hogs.
Fifty March boars for sale. All immuned. Bred sow sale February 18. Send for catalog.
H. O. Sheldon, Herd Manager
OSWEGO, KANSAS.

OLD ORIGINAL SPOTTED POLANDS
Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the
CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

White Oak Park Polands
Outstanding herd boar prospects by 1,100-pound Missouri Jumbo 210461 and 1,000-pound Long Big Joe 227387, twelve-inch bone. Dams popular big-type breeding. If you want boars that will mature to 1,000 to 1,100-pound hogs, I have them, big high-quality fellows. Fall boars farrowed August and September, spring boars February and March. Will record in buyer's name. All immune.
Henry Koch, Edina, Missouri

FAIRVIEW POLAND CHINAS.
Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.
P. L. WARE & SON - PAOLA, KANSAS

GREENWOOD POLANDS
Spring boars for sale. Booking orders for bred gilts. M. F. RICKERT, Seward, Kan.

SPOTTED POLANDS
Sept. pigs, either sex, $20. One tried brood sow, $70. Chas. H. Redfield, Bucklin, Kan.

The Lone Cedar Polands
Last Lot of Meyers' Orange Pigs. I will have either sex, some extra fine gilts. Cholera immune for life.
A. A. MEYER - McLOUTH, KANSAS

POLAND CHINA HOGS 150 HEAD IN HERD
Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
V. O. JOHNSON - AULNE, KANSAS

FALL PIGS, ready to ship. Select Spotted breeding. Express paid on pigs.
T. T. Langford & Sons, Jamesport, Mo.

Henry's Big Type Polands
March and April pigs, sired by Big Wonder, first in class at Topeka; Mammoth Orange and King Price Wonder. Immune.
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Late summer and fall pigs for sale. Buy them from the Fountain Head. Annual brood sow sale February 13. Ask for catalog.
H. L. FAULKNER, Box K, Jamesport, Mo.

Poland China Boars
For Sale—Ten head large growthy spring boars, sired by A Wonderful King, a state fair winner. Ready for service. Price, $35 to $75. Satisfaction guaranteed. First check gets choice. Write at once or come and see our herd.
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BERKSHIRE HERD BOARS
For quick sale—Two choice Berkshire herd boars, three winter boars and five spring boars, all choice
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RED POLLED CATTLE.

RED POLLED BULLS
Pure-bred Red Polled Bulls, old and young.
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REGISTERED HOLSTEINS FOR SALE
Having purchased Mr. Potter's interest in our Holstein herd, I am offering all of them at private sale. In the herd are matrons with seven-day records, as follows:

Wilhelmina De Kol Netherland.....30.15	Pussy Willow of Russell Farm.....26.79
Vadia De Kol Soldene 23.47	Boness 7th Topsy Clothilde.....22.58
Green Plain Wera Bell.....21.45	Margaret of Wheat Hill.....24.00
Locust Terrace Buttercup 22.00	Pearl Korndyke Burke 22.00
Tehee Changeling Abbekerk 21.11	Bellemore Topsy 2d 22.00
Bellemore Hengerveld Topsy, 2 year....19.05	Bellemore Mona Korndyke, 2 year.....17.79

BULLS—Some of them ready for service, out of these and other dams, and by 30-pound sons of King of the Pontiacs.
HEIFERS of all ages, with similar breeding.
Many of these cows are fresh or will be fresh before March 1.
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CLYDE GIROD, At the Farm F. W. ROBISON, Cashier Towanda State Bank
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We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.
IT WILL PAY YOU TO SEE OUR OFFERING
of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.
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Way Side Stock Farm - Whitewater, Wis.

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Buy your next bull calf from a herd that won the butter test over all breeds.
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HOLSTEIN COWS
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HOLSTEIN CALVES, 15-16ths pure, six weeks old, the cream of Wis., $25 each. Registered bull calves, $45, crated for shipment. Edgewood Farms, Whitewater, Wisconsin.

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For Sale — Registered cows, bred heifers, serviceable bulls, bull calves. Also my 3-year-old herd bull.
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Registered Holstein Cattle
For Sale—Yearling and bred heifers, also young bull calves, mostly out of A. R. O. cows. Perfect satisfaction guaranteed.
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Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

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143 cows have qualified for advanced registry.
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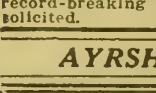

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We have about fifteen cows that will freshen in the next three weeks and would like to contract the sale of the calves, as we will need all the milk to supply our trade. These cows will weigh from 1,300 to 1,500 pounds and were bred to an A. R. O. bull who has several 30-pound daughters.
STANDARD DAIRY COMPANY
Walnut Grove Wichita, Kansas

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I am offering this season's crop of bull calves from a few weeks to three months old. Their sire is a splendid son of King Segis Pontiac, whose four nearest dams averaged better than 25 pounds butter fat in seven days, are from heavy producing dams up to 70 pounds milk per day and are extra fine individuals. Call and see them, also their sire and dams, or write.
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HOLSTEIN CALVES
We offer for sale choice, beautifully-marked heifer or male calves, 15-16ths pure-bred, and all from extra large heavy-milking dams, as follows, crated f.o.b. cars: One to two weeks old, $15 each; two to three weeks old, $17 each; five to six weeks old, $20 each. First check takes them. Write
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Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 49. TOPEKA, KANSAS, DECEMBER 8, 1917. Established 1863. $1 a Year

PLAN FARMSTEAD CAREFULLY

Farm is Factory and Proper Management Increases Efficiency

By K. J. T. EKBLAW

A REAL problem for the up-to-date farmer is that of farmstead planning. Without a doubt, if a careful study were made of Kansas farms, a good big improvement would seem to be possible on ninety per cent of them, in the way of better arrangement, and probably on every farm some improvement could be made. The loss of time, the excess of labor involved, the reduction of efficiency—all these things become surprisingly evident when a careful analysis is made of a farmstead and its arrangement. In these days of economic stress, when everyone should be putting forth his best efforts and straining every fiber to increase production, no opportunity to increase efficiency should be lost sight of. The average man seldom thinks that he could save time and effort by using care and forethought in the location of his buildings with proper reference to their relation to each other and to the farm operations, and as a consequence the farm that possesses an efficient building arrangement is very much the exception rather than the rule.

When a manufacturing plant is being built, the arrangement of the buildings is not left to the judgment of the architect alone; nor is any haphazard setting of the buildings just to get them within a certain space at all permissible. In a project of this kind, a careful study is first made of the operations to be carried on, the sequence of operation is tabulated, accurate estimates of time requirements are made, probable expansions are taken into account, and all incidental but important factors such as fire risk, water supply, transportation facilities, etc., are given careful consideration. When all these various items have finally been decided upon, by production and efficiency engineers, then the architect may be called in and permitted to proceed with the preparation of the construction plans.

The farm is simply a factory; the farmstead is not only the executive center and as such intimately connected with all farm operations, but is the location of many of them as well, such as the feeding and housing of live stock, the repair and storage of equipment, and the storage of crops and supplies. So much of the work is done right here that it makes a splendid place to effect economy if the right steps are taken to accomplish it.

The construction of an entirely new farmstead of course gives every opportunity for its establishment on an efficient basis, and there is no excuse for poor arrangement. On farmsteads that have been previously established, the problem is an entirely different one, and is usually much more difficult of solution, because not only must the revised arrangement be efficient, but continual care must be exercised to make the most economical use of those buildings already installed. Sometimes an old farmstead is so badly and inefficiently arranged that complete reconstruction is advisable.

In earlier days agricultural pioneers in deciding upon the location for the farmstead had to consider entirely different influences from those that now prevail. Many of the early settlers came from the East and naturally gravitated to such locations as most nearly resembled their former abodes. Some supply of water had to be convenient, consequently a spring sometimes was the controlling factor in the farmstead location, and advantage was taken of every natural resource.

In modern times these factors have been to a certain extent reduced in importance and new and entirely different ones have to be given attention. Factors which formerly were logically predominant are now of relatively minor importance. The predominating thing that the modern farmer has to consider is the type of farming to be practiced, whether the principal efforts are to be centered on the raising of grain, stock, fruit, truck, etc. The size of the farm is important and in close connection with this possible expansion of the farm in direction and amount must be carefully considered. It must be remembered, too, that every farmstead is an individual problem, possessing its own peculiarities, so that a particular study must be made of every place and the relative importance of the various factors determined after all of them have been given careful and thoughtful attention.

The American system of farmstead arrangement is entirely different from that practiced in European agricultural communities. In America where land is relatively cheap and where the inhabitants have had the opportunity to develop broad-mindedness in viewpoint and attitude, the buildings constituting the farmstead are usually found spread over a relatively large tract of land. They are distributed rather than concentrated as in the case of the European system where the inhabitants, the farm stock, the farm equipment, and all stored supplies, are kept under practically the same roof. The European system has the advantage of unity and economy in structure, convenience in operation, and utilization of the minimum amount of probably very valuable land. On the other hand, sanitation is bound to be rather poor, fire risk is great and the close association of humans and animals may not operate to the best advantage. The American system is advantageous in that a better arrangement of lots is possible, different kinds of animals are separated, the construction of the buildings can be adjusted to suit requirements, and there is less danger from fire.

The various influences which effect the location and arrangement of the farmstead are numerous and the relative importance will depend to a great extent upon the particular section of the country under consideration.

Climate is one of the most important factors. In very cold, windy regions, some sort of a windbreak is almost necessary and where a considerable number of animals are kept their protection is a matter of great moment. The windbreak, if one be planted, should protect the farmstead from cold chilling winds but should not entirely surround the place so as to prevent summer breezes from blowing. A breeze in summer time is one of the best cooling agents available. Careful consideration must be given to the prevailing direction of the wind in different seasons not only for the reason that has just been given but because in locating the residence care must be taken so that offensive odors from the other farm buildings will not be carried to it.

The character of the land must also be taken into account. Heavy, mucky soil is not suitable for the location of a farmstead because it does not drain well and the soil is likely to become waterlogged and will dry out very slowly. A sandy or gravelly soil has the advantage of rapid drainage and quick drying. When a garden is considered we must select good soil for that, consequently we must be careful not to locate on the poorest part of the farm. In cold climates a southern slope is usually the most comfortable, since it gets the rays of the sun more directly and thus will be dry a greater portion of the time. Eastern and western slopes are in some sections of the country to be recommended.

Provision must be made for the proper arrangements of lots and pastures. Lots should be large enough to accommodate the stock to be cared for and should be in close proximity to the barns or storage buildings. A great deal of thought should be given to their arrangement, for upon this will depend to a great extent whether an efficient feeding system can be developed. Pastures, if not adjacent to the farmstead, should be readily accessible through lanes or systems of gates. This brings up the question of fences. Good fences are an asset, while poor fences look bad and usually consume a great deal of time in making repairs. Choose their location very carefully and build well.

The market, the church, and the school, entering as they do so closely into the life of the farm, must be given special consideration and the farmstead should be located so that all three of these are readily accessible.

One of the most important things in the location of the farmstead is to take the fullest advantage of whatever views the landscape affords. The development of the artistic side of the farm has been all too sadly neglected and every effort should be made to develop real appreciation of the beautiful in nature. When a beautiful view exists, do not hide it; keep the buildings out of the line of view. Do everything possible to make the view even more beautiful. Farmstead planting has received considerable attention in recent years and a number of institutions have published bulletins giving valuable suggestions along this line. For a remarkably low expenditure enough plants can be purchased to transform the barest and bleakest yard into a beautiful little park. Tree planting should also be more generally practiced; our western plains have all too few trees. By choosing trees which are suited to the climate and rainfall we can add much to the beauty of the prairie.

Perhaps one of the greatest aids in the planning of the farmstead for efficiency and economy is a carefully drawn map of the farm. It can be drawn to scale—say an inch to five rods. In planning the location of buildings small blocks of different colored paper or cardboard, cut to scale, can be used to represent the buildings and these may be moved around into various positions so as to enable one to decide as to the relative distances and comparative advantages of different locations. With a careful and accurate analysis of the prospective farm operations at hand, the arrangement that gives the best results can then be made without difficulty. A map such as described is invaluable in directing farm operations, for the whole farm can be seen, so to speak, at a glance. It may also be made to serve as a record of the location of underground tile drains, a record which should be carefully kept.



PURE-BRED HOLSTEINS ON FARM OF J. P. MAST.—BARN AND YARDS CONVENIENTLY ARRANGED

EDITOR'S NOTE.—Professor Ekblaw takes up the farm engineering work at our Agricultural College. This is a field of service but little developed in our state. The engineering division is fortunate in having a man of Professor Ekblaw's training and experience. His assistance should be eagerly sought in connection with such problems as he outlines in the above article.



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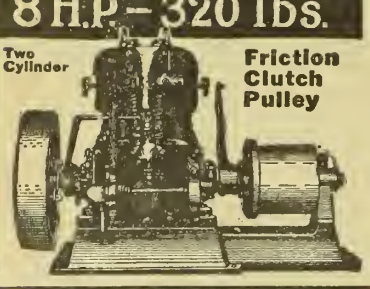

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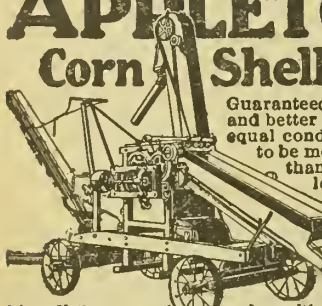

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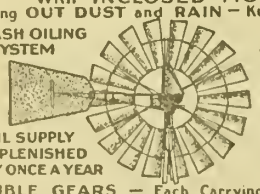
Keeping OUT DUST and RAIN—Keeping IN OIL



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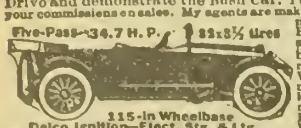

BUSH MOTOR COMPANY, Bush Temple, Chicago, Illinois

A carload of blue-gray calves bred at the Hays Experiment Station were recently shipped to Manhattan to be used in cattle feeding experiments the coming winter. The blue-grays are very popular with Scotch farmers. They are produced by crossing a White Shorthorn bull on pure-bred cows of the Angus or Galloway breed.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

IF YOU use a tractor during the winter, do not neglect to drain your radiator when you stop work. As cold weather approaches one cannot be too careful about letting a motor freeze up. Hundreds of motors are frozen up every year by the first cold weather that comes, because the owners neglect to drain them out, and think, "Oh, well, it won't freeze hard enough tonight to do any harm." If a tractor is run after freezing weather sets in, it must be drained every night immediately upon stopping the motor, or an anti-freezing solution be used in the radiator.

In very cold weather kerosene can be used very successfully as a cooling agent, also a solution of 33⅓ per cent of denatured alcohol and water. If about 10 per cent of glycerine is used in this solution, it will prevent the alcohol from evaporating so fast.

Also as cold weather comes on, it is generally necessary to use a lighter oil in your motor, as advised in the instruction book; otherwise the motor will get so stiff nights that it will be practically impossible to start in the morning.

It is also necessary to prime heavier and in some cases use a higher test gasoline for priming than in warm weather. Keep the plugs perfectly clean for starting, as moisture is much more apt to form on the plug and short circuit it in cold weather than in warm weather.

Trucks for Short Hauls

The National Council of Defense has decided to supplant freight trains, as far as possible, with motor trucks for hauls of less than 200 miles throughout the United States during the period of the war.

The council has appointed committees to co-operate with the railroads, steamship lines and inland waterways to this end, and other committees to co-ordinate the work of motor truck manufacturers and the various state road commissions.

J. Frank Smith, of the Kansas Goods Roads Association, received a letter recently from R. D. Chapin, Washington, chairman of the Highways Transport Committee of the National Defense Council, stating that his committee was formed for the purpose of co-operating with all highway organizations and officials in the matter of construction and maintenance of highways and their best utilization in this war-time period. The War Department and the National Defense Council is realizing very forcibly every day the need of hard roads over which all kinds of trucks and motor cars may travel at all times. The greatest need of the country at this hour is more transportation facilities, and the paved roads and the motor trucks are the logical relief. The trucks are available but they must have permanent roads.

This is a Government recognition of the campaign in Kansas for improving the main market and cross-state highways at once without waiting for the war to end, as they will be needed to win the war.

Laying Tractor By

The Avery Company suggests that if you are going to lay the tractor away for a while, you should, when stopping the tractor on its last run, pour in a pint or more of oil into each priming cup and then shut the motor down immediately afterward. This oil will be drawn into the cylinders and will coat the valves and valve stems with an oil film which will protect them from rust.

In putting a tractor away, it should be looked over very carefully to see that all parts of the cooling system are drained thoroughly. If the tractor sits high at one end or the other, water may lodge in certain places and if freezing does not damage, it will rust the parts and in time cause trouble.

The user of a tractor will find it a paying proposition to house the tractor at all times when it is not in service. However, if it is not housed, there should be something placed over the stack of the radiator which will prevent snow and rain getting in, and a tarpaulin or canvas large enough to cover the motor complete used, as the motor should not stand out and take the weather.

The fuel tanks should be drained and protected so that it will be impossible for water to get into them. If the last time the tanks are filled with fuel a pint of cylinder oil to each five of fuel is put into the fuel tanks, it will leave an oil film on the inside of the tanks which will be very beneficial in prolonging the life of same.

Also, in putting away a tractor the user should make a note of all parts that will be needed to put on the tractor when it is put into service again in the spring, for if you wait until time to use the tractor in the spring, you are not only liable to overlook some of these parts but there may be a delay in getting them promptly.

Every tractor should do its full duty, but it lies largely with the user as to how much service the tractor will give. Remember, it is the little oversights that are most expensive and cause the greatest delays.

Care Returns Profit

Farm machinery depreciates in value more rapidly from poor care than from actual use. That is, a larger part of the 10 per cent annual depreciation is caused by exposure than by use.

A 160-acre farm needs about $1,000 worth of machinery. Ten per cent depreciation means $100 every year, and more than $50 of this is lost through lack of care. Sheds for this machinery would cost about $200, which at 6 per cent a year would mean $12. The difference between $50 and $12 cannot all be credited to profit, for part of the care of machinery lies in labor and material. Still there would be a fair margin. Housing, repairing at the proper time, and painting the wooden parts are three essentials in the care of machinery.

The advice of The American Thresherman may well be taken with advantage to the nation. "When your work has been finished," it says, "don't forget that the high cost of tractors will not permit of their standing out in the storm all winter. Machinery rusts out faster than it wears out."

Cement Floors Save Manure

By increasing the value of the manure produced, cement floors in live stock feeding will return their cost in about a year. Tight stable floors save soluble plant food from seeping away as it does with earth floors.

In a carefully conducted test manure was increased in value by $4.48 annually for every thousand pounds live weight of steers fed on cement floors over that recovered from animals standing on earth floors. In the experiments fifty-eight steers were fed. The cost of concreting was about $4.50 a steer. Two six-months feeding periods would therefore pay for the expense of the concrete floors.

Much of the fertility value of manure is in the liquid part, which is easily carried away through earth floors. Concrete prevents this seepage, making each ton of manure worth more, and at the same time increasing its quantity.

Hauling manure directly from the stable as it is produced has increased its value nearly $2 a ton. At the Ohio Experiment Station eight tons of manure per acre is taken directly from the stable to the field in winter in one case, and in the other the same quantity is left in an open barnyard until April before it is spread on the land. The increase per acre for eighteen years has averaged for each rotation of crops 6.52 bushels of corn, 1.31 bushels of wheat and 663 pounds of hay. The gain is therefore worth $15.71 an acre if corn is valued at $1.50 a bushel, wheat $2 and hay $10 a ton. Where direct application is impracticable, a covered manure shed or pit will prevent the loss of fertility in large degree.

The sixteenth annual show of the Wichita Thresher and Tractor Club will be held in Wichita February 21, 22, and 23, 1918. Arrangements are being made to stage a larger and more elaborate exhibition of farm machinery than has ever previously been held by this organization. The Forum and all annexes have been engaged for the occasion.

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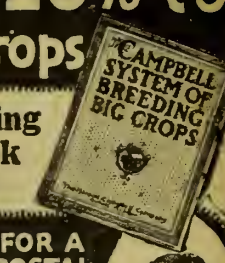

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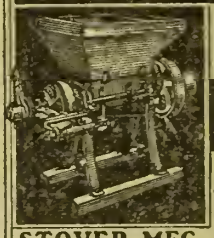

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KANSAS FARMER

THE FARM PAPER OF KANSAS

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DESTROY CHINCH BUGS

Chinch bugs have given us a little rest the past year or two, but they will be with us again in force when conditions favor their increase. Now is the time to get the bugs going into winter quarters by burning the grass where they go for protection.

The chinch bugs harbor in bunch grass, big bluestem, and other clump-forming grasses. In places where the bugs did noticeable damage last summer, these clumps of grass growing along the roadsides, fences and pastures adjacent to the infested fields of corn, sorghums, and cane, will be found full of bugs.

Many of the chinch bugs are still up between the leaves and stems of the plant. Later they will work down into the crown of the plant, where ordinarily a mulch of soil and decayed grass has gathered. Here the bug is harder to find than when higher up on the plant.

Two methods may be used in searching for chinch bugs. One is to search for them in the mulch at the base of the stems if the bugs have gone down so far in the plant. In looking for the bugs, part the stems of the grass and look carefully through the mulch, because the bug is hard to see unless it is moving. If the bugs are abundant they should be revealed in this search.

The other method is to take clumps of the grass—roots and all—and carefully pick them to pieces over a white sheet of paper or cloth. This should be done in a warm room because the bugs will be more active and thus more easily distinguished. If the chinch bugs are present in any numbers worth considering, this method will reveal them.

TRADING IN PRODUCE STOPPED

The producer and the consumer are the only persons being given very much consideration by the Food Administration. The butter and egg business, for example, has been positively confined to such persons and agencies as are rendering some real service to the people. Under the regulations now in force all future or speculative trading is absolutely eliminated. The Food Administration seems determined that there shall be no intertrading in food products. This practice and its results is what has aroused the ire of the man who produces food products. Under the new ruling no purchases can be made on "call" except by persons or firms actually engaged in the distribution of the commodity purchased. The amounts purchased must not be in excess of what the firm needs to carry on its business economically and furnish an even, regular supply to its trade.

Profiteers who have been in the habit of buying and selling commodities that are scarce or not being freely offered on the market and thus causing excessive and unwarranted prices, are getting some hard raps. It cannot all be done in a minute, but the policy inaugurated is in line with the demands of the people who produce, and as it begins to work out in actual practice there will be less and less cause to find fault with the prices received for farm products.

REVISED SELECTIVE DRAFT

Provost-Marshal General Crowder pleads lack of time as the reason for the failure of the first draft army to be called in accordance with the full spirit of the selective draft system. In a lengthy statement addressed to the draft boards he explains that they were confronted with the necessity of getting 687,000 recruits into mobilization camps just as fast as the factories could equip them and the nation could erect the cantonments to receive them. Making a graduated classification of ten million men, such as is now being made, was clearly out of the question in the time at their disposal. The other alternative was to establish such rules for exemption as would permit selecting 687,000 men in ten weeks' time and yet be liberal enough to protect industries, farming operations, and families from serious handicap. It has been accomplished, but farm labor has been hard hit in the deal. Our need for labor will grow as the military need for men grows, and it is most encouraging to find that the plans for operating the selective draft from now on are being worked out most carefully.

General Crowder most aptly says: "We have hacked the first increment of our armies out with a broad-axe because there was time for no greater refinement. We must pare future increments away with greater discrimination. The selective principle must be carried to its logical conclusion and we must meet Prussian efficiency with a greater American effectiveness. We must consider the circumstances of all registrants. We must arrange them in the order in which they can be taken with the least disturbance, and thus place behind our battle lines sources of recruitment that will furnish men as they are needed."

This graduated classification of the remaining registered men is to begin December 15, the information being obtained through the series of questions which must be answered by every man on the list.

LAWYERS OFFER SERVICES FREE

Lawyers all over the country have responded to the call of the President to help the drafted men fill out their question blanks. These blanks will begin to go out from the local boards December 15. All discharges or exemptions made prior to that date are revoked, so every man on the list is obligated to fill out and return the questionnaire within the prescribed time. Those who have any doubts on any of the points connected with the questions should consult with some lawyer in their community. Members of the legal profession are offering their services free to draft registrants.

In giving out the regulations governing the new system, the President said: "The selection and classification of men for military service is an undertaking that should be regarded as a systematized effort of the citizenry of the whole nation, organized and compacted to meet the present emergency. Every citizen has a duty to give his best endeavor to the success of this undertaking according to his qualifications and talents. * * * It should be the pride of every lawyer that no registrant within his district is without competent legal advice and assistance in preparing all papers that such registrant is required to submit in the process of the selection of citizens of this nation for duty in the present emergency."

The many responses to this call indicate the complete success of the plan.

EQUALIZE LABOR SUPPLY

No one doubts that we have in this country enough men and women to produce everything essential to winning the war. In prosperous times of peace there are millions of workers engaged in making articles that supply no vital want of people engaged in a gigantic struggle. A shifting of our industrial forces may run counter to the "business as usual" program held up by some, but winning the war is the big job, and "better business than usual" would be a more appropriate slogan. A writer in a recent issue of the London Economist says: "The national conscience on the subject of saving and spending has backslid badly in the last six months and the 'business as usual' spirit is among us again with all its accompaniments of stupid and unpatriotic extravagance which forgets war saving and leaves the war to be financed by inflation and the manufacture of war credits."

Perhaps the "better business than usual" program as applied to the winning of the war may mean shifting a million of these workers who are not contributing to their country's real needs at the present time. There is a great shortage of labor for the production of food, ships, munitions, and other necessary supplies. America must carry an increasingly larger share of the burden. Russia has quit. Italy cannot do much in an aggressive way. There is a woefully weary element in France. The women and children of England, Canada, and other countries of the British Empire are contributing their all, and our allies must be helped with abundant supplies of food, munitions, and men.

Congress, which is now in session, will find powerful influences at work to prevent its placing a ban on any of the luxuries. The question is certain to come up. We need additional workers in the lines essential to the prosecution of the war, and a movement is under way to encourage such legislation as will release labor for these purposes. It is no time to argue respecting what products should be restricted or barred. That can be determined in congressional committees. There is much merit to this movement. It is not inspired by selfish motives. The business that expects to make anything off the war is rightfully branded as disloyal, and that business which might so adjust itself as to release a large proportion of its workers and resources for prosecution of war measures and fails to do so is not accepting the full responsibility of patriotic citizenship.

What Congress does will largely depend upon what people want done. We would suggest that the matter of restricting the production of luxuries during the war be discussed in Grange meetings and other meetings of farm organizations. After you have argued the matter through, either individually or collectively, in such meetings as mentioned, and arrived at some definite conclusion, write to members of Congress and express your views.

NEED NEW WAR LAW

Protecting our country from the results of the German spy system and propaganda ought to be one of the important measures taken up by our present Congress. A foe within our midst is a hundred times more dangerous than one openly fighting in the ranks of the soldiers. As humane a man as George Washington sadly permitted the execution of Major Andre of the English Army as a spy, and he would not have hesitated a moment in inflicting the death penalty on hired corruptionists, assassins, and experts in arson, such as are now doing the bidding of the government with which we are at war. A statement was made recently by an editorial writer in the Outlook, which calls for meeting the situation as it actually exists. This writer says: "To ask for the death penalty for German spies and to ask that the infliction of this penalty be made known to the public, is not to indulge in hysterics. It is simply to recognize the fact that we are at war and that this war is being waged not only in Flanders and along the banks of the Piave, but also on the water front of New York, the shores of the Great Lakes, the forests of Oregon, and in the machine shops of all America.

"To ask for the death penalty for spying is not to advocate lynch law. It is to advocate ordered justice. It is to advocate the one sure preventative of hysteria or that mob spirit which feeds and grows on manifestations of governmental weakness. It is to make demand for a warning to German agents that we are done with sentimentality in our dealing with those who have shown themselves devoid of even the commoner attributes of humanity. It is in some measure to insist that those industries and stores of supplies vital to the success of our allies should be protected from disaster."

Forty bushels of corn to the acre is the average of a number of fields in Atchison County as reported by Charles H. Taylor, county agricultural agent.

CONTROL OF PACKERS

The packing houses of this country are now practically being run by the Government. On November 25 Joseph P. Cotton, chief of the meat division of the Food Administration, announced the regulations which will govern the packers operating under Government license. They have been divided into two groups or classes. The first group consists of the five large concerns—Armour, Swift, Cudahy, Morris, and Wilson & Company. These are to virtually supply all governmental needs. In explanation Mr. Cotton says that the burden of preparing the bulk of the meat products which our allies and armies require will rest upon these five concerns. They must become national agencies of the war service. They are, with such help as will be required from the smaller packers, to be called on month by month for whatever meat products may be needed at prices and in quantities approved by the meat division. For these reasons it was determined to treat these five concerns as a separate class. All the other packers of the country will be in the second classification.

At stated periods all packers must render reports and these reports and their operations will be open to inspection by Mr. Cotton's advisory committees, which were named in our issue of December 1. The five big packers are to be allowed to make an annual profit of 2½ per cent on the total sales of meat. In addition there is a provision that their net profits shall be restricted to 9 per cent on the "average capital necessarily used in that business, including borrowed capital. This profit is to be met after expenses are paid, but United States taxes, interest on bonds and borrowed money, and dividends may not be treated as expenses, but must be paid by the packers out of this profit. If, however, the rate paid on borrowed money be over 5 per cent, such excess will be treated as an expense."

The 2½ per cent is to be figured on all meats and foods mainly of animal origin. On what Mr. Cotton calls "specialty business," which includes hides, tanned leather, glue, fertilizer, and other by-products of similar nature, an annual profit of not to exceed 15 per cent on the investment will be allowed. The reasons given for permitting the larger profit on by-products are that these specialties, not being food products, do not neccessarily come under the Food Administration. In many of the specialties competing concerns are making higher profits and the Food Administration does not wish to discourage the manufacture of animal by-products for the reason that in the long run they tend to reduce the price of meat.

The smaller packers are permitted to treat all interest on borrowed money as an expense and apparently there is not the intention to limit the total amount they may earn, as in the case of the large packers. They are, however, like the large packers, permitted to make but 2½ per cent on the total sales of meat and meat products.

This may seem to be a most generous treatment of the packing industry. It is to be assumed of course that in the enforcing of the regulations, provision will be made for accurately checking the accounts of the packers. This might well be done by the Federal Trade Commission, which is equipped for doing this sort of work.

Straw stacks are too valuable to be burned. According to figures worked out by one of our experiment stations, the fertilizing value of wheat straw is $2.60 and of oat straw $3.10 per ton for the potash, nitrogen, and phosphorus they contain. This is entirely over and above the value of the straw in supplying organic matter to the soil. All straw not used for feed or bedding will pay big dividends on the labor of hauling it out.

FARM CLUBS OF MISSOURI

Problem One of Business and Not Politics—Solution in Market Place

By WILLIAM HIRTH, Publisher Missouri Farmer

IT IS high time that the farmer wake up and quit stumbling around in a fog of idealism and a lot of impractical twaddle about "co-operation" which is not understood by those who proclaim it the loudest. It is into this situation that the Farm Clubs of Missouri come with a new program and when they adopted the slogan, "Production cost, together with a reasonable profit for the fruits of the farmer's sweat and toil," what they mean is that the farmer shall obtain control of and own the agencies through which his products reach the distributor and ultimate consumer!

In other words, the packers will be able to control the price of American live stock, only so long as the farmer consents to let them remain practically the sole buyers of that live stock in the first instance. As matters stand today, they buy the lion's share of the nation's supply and hence fix the price. Therefore, the only possible thing left for the farmers to do is to band themselves together in every great live stock producing state, build to start with at some strategic point one powerful packing plant of their own—and through this plant, commence to give the consumer a chance to buy their dressed beef, hams and bacon, rather than continue to sell the live animals to the packers on the hoof!

A herculean proposal, you say? Well, be that as it may, there is no other way out—for government regulation has failed utterly, not because it was not honestly attempted, but because political agencies, by whomsoever inspired, are never more than half effective and also because you cannot maks laws which will circumvent a power which constantly works under cover and which always presents an outward foil of legal good behavior. It is high time that we quit chasing a lot of political will-o'-the-wisps which never get anywhere except possibly to land a bunch of dreamers in temporary political power — that we come to regard these matters in the light of a cold business proposition and fight the devil with fire!

Under existing conditions, the farmer is little more than a "hewer of wood and a drawer of water"—a mere "producer" dependent upon the whims of Nature and the jugglery of those who wax fat upon his sweat and toil. Not only do those who live in the towns and cities own the great banking institutions, manufacturing enterprises, mercantile establishments, railroads, etc., but they also own the great agencies through which the farmer's products are finished in transit to the consumer—and these agencies the farmer must own and control as soon as possible if we would put farming upon a business basis where, like all other kinds of industrial activity, the farmer is really to have something to say about what he shall receive for his year's work. To this extent at least the farmer must become an investor as well as a producer.

Nor is this proposal as herculean as may seem at first glance. Our great railroads, manufacturing enterprises, etc., are owned by tens of thousands of stockholders, scattered throughout the length and breadth of the land. Usually once yearly these stockholders, chiefly by proxy, elect or confirm a board of directors, and these directors are held responsible for the management of the property in question. Therefore, is there any sane reason why, in like manner, a million or more intelligent corn belt farmers should not own and conduct one or more great producers' packing houses —even as the tens of thousands of stockholders of the Pennsylvania Railroad own and conduct that great property? The only trouble with us is that we have not been accustomed to thinking in this channel—and once we enter upon it, we will find the beaten path of the millions who for years have thus owned and controlled the lion's share of the nation's popular industrial enterprises. A case in point is the California Fruit Growers' Exchange, which comprises 8,000 members, which fronts to the whole world as one man, which absolutely controls the destiny of its product and compels a fair price therefor through its sales offices established throughout the country, which utilizes its by-products to the last penny, which spent a half million dollars for advertising last year and which since its organization fourteen years ago has done a business of over $225,000,000. And yet in its beginning there were those who said the plan was "impractical"—that it was "impossible to get thousands of fruit growers to hang together," etc.

To begin with, there is nothing mysterious about the packing business—80 per cent of which has been reduced to a matter of machinery. To assume that the farmers of the corn belt, once powerfully organized, will not be able to find men who can put up good dressed meats or good hams and bacon—or, who cannot every whit as intelligently utilize the by-products in the form of leather, tankage, glue, soap, fertilizer, etc., as the packers do at the present time, is too puerile to merit worthy discussion—but mind you, before they make the attempt they must be more powerfully organized than farmers ever dreamed of organizing before; they must have millions of capital, go into the market for the best and most experienced brains and ability that money can hire, and then, instead of scattering their efforts, tackle the enemy at one vital spot—and win in that spot before branching out further!

FARMER HOLDS POSITION OF POWER

In this connection the farmer holds two vital cards: In the first place, he produces the raw material out of which the packers annually make their tens of millions of dollars—and as I have said before, they can continue to make these millions only so long as the farmer gives them a chance to buy his live stock. In the next place, there are nearly 7,000,000 farmers in the United States, and therefore their combined financial power, while weak individually, becomes enormous in the aggregate. Thus, for instance, if one million corn belt farmers should buy an average of ten dollars' worth of stock in a producers' packing company, it would create a fund of $10,000,000—sufficient to build one powerful plant and also to give it ample working capital. Now we will suppose that this plant were located either at St. Louis, Kansas City or Chicago and that as shipments of live stock are received by it, the shipper be paid on the basis of the existing market as created by the packers—whatever that price may be—but that at the end of each fiscal year these shippers receive in addition a profit dividend equal to not only the profit in the meat but full participation also in all the by-products such as leather, tankage, soap, glue, fertilizer, etc.—does any sane man doubt that this profit dividend would be splendidly substantial—that it would unmask the real earnings of the packers in such a glaring way that it would be the beginning of the end?

I know that at this juncture somebody will say, "The packers would either outbid you for live stock at the point where the producers' plant was located, or undersell you to the consumer"—the old methods which monopoly has so often successfully employed in years gone by. However, times have changed. Some years ago, when the independent oil refiners in Kansas and Oklahoma were engaged in a battle with the oil trust which had sought to compel them to sell their wells, the Supreme Court of the United States rendered substantially this decision—that while the trust had a perfect right to undersell the independent refiners wherever it chose to attack them, if it made a cut price in Detroit or Cleveland it would also have to make this same price, barring the difference in freight rates, in New York and San Francisco, or, in other words, throughout the United States!—and in my humble judgment this is the greatest decision of the kind ever rendered in the history of American courts and it means that if the producers' plant were located at St. Louis and the packers should bid up on live stock at that point, they would have to bid up in like manner at Fort Worth, Oklahoma City, Denver, Kansas City and Chicago. Therefore, this one plant would soon become a veritable sword of Damocles, constantly suspended above their heads.

No doubt a producers' plant would find it necessary to establish its own distributing markets in such cities as Chicago, Milwaukee, Detroit, Cleveland, Indianapolis, St. Louis and Kansas City —in other words, in a group of large cities within as short a freight radius as possible. This would unquestionably be necessary in order to make the plant independent of the butchers who in many instances would no doubt be afraid to handle its products—but here again the above court decision would apply, should an effort be made to undersell the producers' plant at its points of distribution and again that cut price would have to become nation-wide.

In this connection it must also be borne in mind that once this fight starts, a hundred million consumers will watch it from the side lines and their sympathy would unquestionably be with the producers, for success would mean a square deal for them in the years to come, as well as for the farmer. In short, no other industrial combat that could be pulled off in the country would be in the spotlight as fiercely as would this one, and this would be a tremendous factor in favor of the organized farmers back of it.

FARM-CONTROLLED PACKING PLANT

And now let's look at it from another viewpoint: A difference of 25 cents per hundredweight on 4,200 pounds of hogs or cattle amounts to $10.50; therefore assuming that one million farmers back of a powerful producers' packing company had put up an average of ten dollars apiece in order to create a ten million dollar fund, these one million farmers would only need to influence the market 25 cents per hundredweight on 4,200 pounds of hogs or cattle to get back their ten dollars—and they would still own a ten million dollar packing plant. On the other hand, as conditions stand, the farmer has been robbed out of one dollar per hundredweight on hogs and cattle time and again, and unless something is done no doubt will be again many times in the future—and therefore, in view of these facts, why not for once in their lives give them a run for their money?

In the meantime let us not mistake not merely the size of the task, but the vital necessity of winning it, once we strip for action. Not less than one million corn belt farmers should stand shoulder to shoulder before the start is made, and to this end every attempt on the part of two-by-four promoters to start so-called small "farmers' packing plants" should be promptly smothered out, for such efforts are certain to end in dismal failure and a pitiful waste of sweat-earned money. In fact, there is the greatest danger that the "farmers' creamery" frauds of twenty-five years ago will be repeated in this field if the farm papers do not warn the farmers of the great live stock states in time, and keep on warning them. During the last two or three years there have been several of these "promoter's plants" in Wisconsin and other states, and they were installed to make money chiefly for those who "put them over."

In summing up this phase of the question, I will once more repeat that there can be no real independence for American agriculture so long as the great meat packers hold their present power, and furthermore, that neither effective government regulation nor safe compromise is possible—that we have reached the "cross roads" where the farmer has no choice but to fight, and once having made up his mind to fight, he must play the game as the packers themselves play it!

Nor do I look with favor upon the plan of the Non-Partisan League of North Dakota, which demands "state-owned packing plants." In the first place, this would mean political management, which means incompetency and which will never be able to win in a battle of wits against as shrewd an aggregation as the packers; in the next place, as farmers, we have no right to ask bankers, manufacturers, merchants, doctors, lawyers, school teachers, etc., to pay taxes toward the maintenance or subsidization of purely agricultural enterprises: and lastly, God save the day when the farmer shall become a charge upon the state or the Government—when through the red blood of self-reliant manhood he is no longer willing to say to society, "I'll pull my own ox out of the ditch, and all I expect from the public is that it shall see to it that there is no hitting below the belt while I am doing it."

FARMER-OWNED FLOUR MILLS

For many long, weary years, the dealing in grain futures has been a reproach to the self respect of the American farmer. If at any time during the last score of years such an imposition had been directed against workingmen, the spokesman of the American Federation of Labor would have done as the trainmen did with reference to the so-called eight-hour law; they would simply have given Congress so many hours in which to remove the obstruction—and while I trust we will never see a farmers' organization which employs such methods, yet had we been even reasonably well organized there is no question but what we could have long since put an end to the nefarious practice of dealing in grain

(Continued on Page Nine)



THESE boys are inspecting the tile silo and modern self-supporting-roof barn on the Bushnell farm near Coffeyville. They were shown a flock of pure-bred Shropshire sheep and Mr. Bushnell gave them a demonstration in drenching a lamb for stomach worms, showing how to avoid strangling it. Over fifty boys took part in this Montgomery County hike under the direction of E. J. Macy, county agricultural agent, assisted by H. L. Popenoe, agricultural agent for Lyon County, and Carl G. Elling, district agricultural agent for Southeast Kansas. Professor Tomlinson of the Independence schools had charge of the sports during the trip, and Frank De Hart, a local "chef," looked after the feeding of the crowd. Thirty-five of the best farms in the county were visited, and the boys received many practical lessons in farm methods.

MORE ABOUT INCOME TAX

Obligation to Obtain Blanks and Full Information Rests Upon Individual

IN A previous issue we told something about figuring the income tax, the source of our information being an article prepared by an editorial writer in the Wichita Weekly Eagle and approved by the United States Internal Revenue office located in Wichita. It is to this office that all citizens of Kansas write for blanks upon which to make their income tax reports.

In our first article we did not give in detail the items of expense which can be deducted from the gross income. The Government says in a general way that the farmer may deduct as his expenses "all necessary expenses actually paid within the calendar year in carrying on his business." Then the Government through its law departments proceeds to define just what are necessary expenses actually paid that may be included, and then some items that must not be included. It is a long list. First comes what the Government calls deductions proper, and then it lists under a second heading of deductions, losses that the farmer may put down in the deduction column. Taking up the deductions proper as many as can be thought of are given below.

Deduct all taxes actually paid during that year, except for local benefits and income taxes. By local benefits is meant local drainage, roads, etc. Deduct all interest actually paid on personal indebtedness including interest on a mortgage on the home, if any. All insurance except on your own dwelling. All actual cash paid for hired help, not including boarding, washing, or any product of the farm. All seed, grain, hay purchased for planting or food for stock. All stock bought for resale, stock purchased that dies, or is killed by order of the authorities of a state or the United States. If insured or reimbursed, the loss, if any, to be deducted is the difference between the price paid and the amount received. Any debts due the farmer made since March 1, 1913, that he has used every effort to collect, or are not outlawed, are expenses to be deducted.

A reasonable allowance for depreciation of property, except on the farmer's own dwelling and contents occupied by him, but on property used in business such as machinery, implements, farm buildings, etc., is an allowable deduction. The treasury department has approved deductions made on depreciation in the following percentages: Ten per cent on cost of machinery, implements, etc.; 5 per cent on frame, 2½ per cent on brick or stone buildings. Depreciation to be deductible must be an amount that fairly measures the loss occurring during the year for which return is made, by reason of the use, employment, or obsolete character of physical property, and must be based on the cost of the property sought to be depreciated and the probable life thereof, taking into consideration the material of which constructed and the uses in which employed, etc. He can charge off for deterioration the same amount each year until he has charged off the amount of capital invested, that is, the cost of the property.

Under deductions called losses, the following list can be put down:

Losses sustained during the year in business or trade or from fires, storms, or theft, not compensated by insurance or otherwise, the value of the property lost to be that of a fair market value. He cannot deduct for loss of his dwelling or contents if he was living in the dwelling at the time of loss, as that was a living expense. But if he loses machinery, implements, barn, granary, or any other property used in farming, this may be deducted.

He cannot deduct for loss anything produced or raised on the farm such as stock, grain, hay, lumber, but can deduct for anything purchased, such as breeding stock, work horses, seed wheat, food for stock, etc. For example, a man loses by fire a field of grain, or hay or stacks of grain or hay. He has no insurance. His loss is complete. He cannot deduct his loss because he is not required to report his grain as income until sold or exchanged for cash or the equivalent, therefore it cannot be deducted from his income.

A loss is not deductible if the market was down when he sold, and had been higher before he sold. He cannot deduct from his income any amount paid on debts, or investments, or for purchase of Liberty bonds. Nor can he pay his income taxes with Liberty bonds, but can with the interest secured from them.

If a farmer sustains a loss in an investment outside of his farming, he cannot deduct anything unless he has made profits in other outside investments. Then he can deduct the amount of his loss in one investment if such loss is equal to the profit in the other investment, or he can deduct that proportion that equals the profits, if the profits are less in the one investment than the loss in the other investment. This is considered speculation. He cannot deduct for alimony paid, as that is a personal expense. He can deduct for contributions or gifts, not over 15 per cent of his net income, to corporations or associations exclusively religious, charitable, scientific or educational, and to societies for prevention of cruelty to children or animals, when no part of the net income of such corporation or association inures to a private stockholder or individual.

Here are some of the items that a farmer is not to deduct as expenses: No personal, living or family expenses. Also no share of expenses of partnership, as the partnership is considered a separate business and the farmer reports as income the amount due him in profits after the partnership has paid all expenses.

He cannot deduct cost of permanent improvements, or betterment of property, machinery, implements, automobiles, tractors, etc., as that is capital investment, but he can deduct cost of small tools, nails and the like, and repairs, expenses of running his machinery, tractor, etc., but not the cost of running automobile, unless used solely and exclusively in and for business. The farmer can not deduct for the use of his team, his own services or the services of any minor member of the family, as all have a personal interest in the farm.

A farmer cannot deduct as expenses interest on indebtedness incurred by purchase of obligations or securities, the interest on which is not taxable. This means that if he borrows money to buy government, state or municipal bonds, the interest on which the government says shall not be taxed, he cannot deduct as expense the interest he has to pay on this borrowed money. Such bonds are Farm Loan Bank bonds, Liberty bonds, etc.

He can deduct for all stock bought for resale, but not bought for breeding or for use.

Remember that the law makes no provision for furnishing blanks upon which to make your return. The obligation to secure full information and proper forms rests with each of you. Each taxpayer should communicate with the collector of internal revenue of the district in which he lives in plenty of time to receive blanks and full information.

The income tax law and its provisions is not a simple subject, but with study, thought and earnest desire to pay the right amount of income tax, the farmer will find making this report not an impossible task. No small measure of value attaches to keeping some sort of records of farming transactions. This bookkeeping will not only serve beneficially in making up income tax reports, but will help in placing the farm business on a more satisfactory and profitable basis.

Individual War Responsibilities

By CLARENCE DUBOSE

THE war has given to the food producers of this country the greatest responsibility, the greatest privilege and the greatest task any man or any class of men have ever shown.

The spirit in which we meet this obligation will in large degree determine the trend of human history for all time to come, because the enormous ultimate consequences of this conflict rest primarily upon the production of food and feed to sustain the fighting forces. They might fail even with an adequate food supply; without it they are certain to fail.

But in your fields, far from the fury of battle, far from either the adventures or the horrors of the firing line, you who produce the food will say whether autocracy or democracy shall rule the world during the seasons that are to come.

In a sense the war will be won or lost in our fields, gardens, orchards, pastures and hog lots. The hope of the American citizen, not a farmer, also hinges upon adequate agricultural production. Our aeroplanes are useless, our guns are spiked and our rifles jammed, our shells are but as harmless baubles, if production fails. This must be understood in all its grim force by every man, woman and child in America; by you who produce and by those who are consumers.

With food we can win the war.

Lack of food will lose the war.

Whether or not we produce the food depends upon whether or not each and every individual farmer does his level best on his farm—produces its maximum.

But the "agricultural problem" means not merely the production of foodstuffs and feedstuffs and live stock. It means the conservation of the food after it is produced. That puts the "agricultural problem" squarely up to everyone from the man on a forty-acre field to the man whose fertile lands run farther than he can see; from the tenement eavedweller to the occupant of the costliest mansion.

The agricultural problem today means to every American, and indeed to every civilized person on earth, simply whether he shall, when this strife ends, be a free person in a free land or whether he shall be bossed from Berlin.

That is the precise interest that you, now reading these lines, have in the agricultural problem in America today. You may have been a farmer all your life or you may not know the difference between a straight furrow and a threshing machine—no matter what your condition may be, one of the two divisions of the agricultural problem is yours: to produce food or to conserve food.

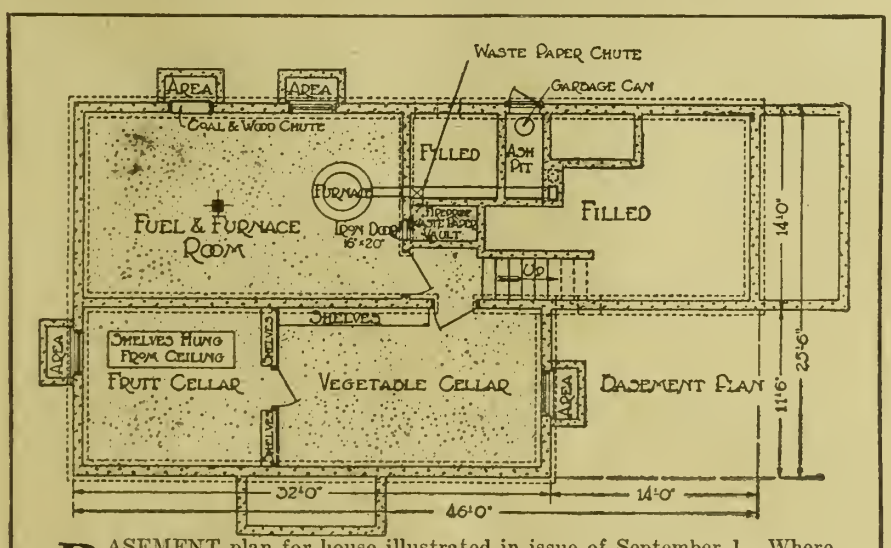
Many people have thought of the war as "far away," as a remote, impersonal thing, a sort of dreadful nightmare—but not as a specter menacing our immediate persons and property. Our appreciation of the actuality is more poignant now, with our own flesh and blood upon the firing line. That firing line is in France today. It will come to America if we fail.

No matter what course military strategy may take, the final battlefield of the war is already fixed. The Waterloo of the Prussian autocrat and all he stands for, or the Waterloo of American liberty—the end of autocracy or the end of democracy—the end of Prussianism or the end of freedom—will be wrought on the battlefield of the American farm—every American farm.

But even victory there will not avail if we lose in another equally fateful battlefield—the American kitchen. If we produce to the limit of farm resources and energies and do not conserve what we produce, we may lose by waste.

No conceivable responsibility could be more grave, no privilege more proud, no opportunity more rich for significant service than that which opens to those engaged in our fundamental industry. The war has sounded a call to duty to every individual throughout civilization. The course of the individual life is not now to be considered in terms of self. The question dominating every individual is for what service can he be used—what can he best do to help win the war. To some the call comes to march away with uniform and gun, to some it comes for the organization and administration of parts of the great war machine—to the American farmer comes the call to feed the forces fighting for liberty. To every other man, woman and child comes the call to save.

That about sizes up your personal interest in the nation's agricultural production and conservation program.



BASEMENT plan for house illustrated in issue of September 1. Where dry basements can be easily obtained, the space should be utilized. Entrances should be under cover and easily accessible from both the inside and the outside of the house. This basement is arranged for a hot-air furnace. A hot-water boiler, if used for heating, should be placed under the kitchen where a fireproof room can easily be provided.

Sheds for Farm Machinery

Tool sheds have not risen in price nearly so fast as farm machinery. This statement by C. E. Cassell, emergency food agent, was the text of an appeal to Finney County farmers to conserve their farm machinery.

We are confronted with the fact that prices of machinery and farm implements of many kinds have raised from 20 per cent to 30 per cent within the past two years and dealers predict a probable raise during another year. To some extent the government has seen fit to limit the manufacturers to one-half their normal supply of iron.

Good binders and other machinery should last at least twelve to fifteen years with good care, but the average life of binders and many other high-priced machines probably does not exceed over five years. Money invested in repairs and substantial sheds now may mean the saving of buying a lot of high priced machinery a little later. A straw shed will do or even makeshift sheds whereby these implements may be sheltered from the elements in seasons when they are not in use. Sickles should at least be removed from binders and mowers, plow and lister mold boards and shares should be greased with heavy oil or grease. Shovels should be removed from cultivators and well greased and stored in the shed where they will be in good condition next spring and the wearing parts of other machinery should be well oiled and protected from rust so that they will be in condition when needed in season.



Don't wait till next spring to get your new

DE LAVAL

With butter prices soaring no cream producer can afford to go another month without a New De Laval Cream Separator.

This is true whether you have no separator, or an inferior or half-worn-out machine, or even an old style De Laval.

In cold weather your waste of butter-fat is relatively greater, either with gravity skimming or a poor separator; and at present prices for cream a De Laval would very soon pay for itself out of its own savings.

See the nearest De Laval agent right away and let him show you what the De Laval will save for you. If you do not know the local De Laval agent, write direct for any desired information.

The De Laval Separator Co.

165 Broadway NEW YORK — 29 E. Madison St. CHICAGO

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In Southeastern Oregon is a beautiful, fertile district that you ought to investigate. Many shrewd farmers are buying there, because their keen business foresight tells them that investment will pay big returns from the natural increase in the value of the land alone, to say nothing of the big crops that they can produce. Prices low; terms easy.

Ask me for authentic information, absolutely free.

You are cordially invited to call at Room 112, Union Pacific Building, to see our excellent and extensive exhibit of products grown in the Union Pacific Country.

R. A. SMITH, Colonization & Industrial Agt.
Union Pacific System
Room 1354, U. P. Bldg., Omaha, Neb.

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Under the head, "Prime Kansas Thoroughbreds," we note the Kansas Farm Journal of Salina says some fine things about the cattle of the western part of our state and makes mention of the high-class registered Herefords found in the pastures of C. G. Cochran, of Ellis County. It puzzles the live stock man, however, to figure out what connection there is between the "thoroughbred" and the pure-bred registered cattle in Mr. Cochran's pastures. We have not heard of any strains of running cattle being developed.

KANSAS FARMER DAIRY CLUB

Selling Milk or Cream

SOME of you are so situated that you have a market for your milk, while others have to separate the milk and sell cream. A few have explained in writing to us that they could not make as much by selling cream and rather lamented the fact that they did not have a milk route. A good many grown-up dairymen also have thought that a market for their milk meant more in actual cash returns than a market for butter fat only. K. Hamilton, a tester for a cow testing association in Oregon, has some ideas on this point which we believe will be helpful to club members. Of course he mentions some conditions prevailing in Oregon, but what he says applies with equal force to Kansas. He writes as follows:

"The average dairyman is often tempted to sell milk rather than cream because the cheese factory or condensery offers a larger immediate cash income. When further investigation is made, another reason for selling milk is found to be that someone objects to washing the separator. However, no man who is looking for a soft snap is apt to choose dairying for an occupation. If one has the energy to farm, he should not allow the dislike of having to wash a cream separator to stand in the way of success. If one will bind himself to milking cows, he ought to make the most of it. A man who sells 4 per cent milk at $2.10 per hundred pounds when he can receive 40 cents or more for butter fat at the creamery, is not making the most of his work.

"The average farmer has a poor idea of the value of skim milk. Our experiment stations and best authorities have placed a value as high as 80 cents and 85 cents per hundred upon it. It is true that many men do not receive such returns for their skim milk, but that is their fault. One can waste any kind of feed through improper feeding methods. Whole milk is a balanced ration but when the fat has been removed it is not. Corn, barley, or shorts, should be fed in conjunction, replacing in a measure the food value of the fat removed. Even if the conservative value of 56 cents per hundred be placed upon the skim milk, the man who is selling 4 per cent milk at his door for $2.10 per hundred is receiving only 37½ cents per pound of butter fat after the cost of hauling and value of skim milk has been deducted. If a value of 80 cents per hundred were figured, only 30 cents per pound would be left for the butter fat thereiu.

"Another point in favor of selling cream is that the skim milk fed to the hogs is fertility kept on the farm and there is a certain section of the Willamette Valley where they cannot afford to lose the least fertility. A farmer's or a nation's real wealth lies in its soil; the more a man hauls off of his place, whether it be grain, stock, or dairy products, the more he must some day return in the way of feed or fertilizer."

Milk is now bringing more than when this was written, but feed also is a great deal higher in price. That means that the skim milk is worth more, for when fed to pigs it saves corn or makes the corn go farther. Some careful feeders have made a hundred pounds of skim milk worth as much in feeding pigs as half a bushel of corn. They fed it at the rate of about three pounds of the skim milk to each pound of corn.

Taking Sample for Month

Do not forget to take the sample of your milk for testing on the fifteenth day of the month, or as near to that day as possible. Take the sample on the fifteenth unless there is some very good reason for not doing so. If your cow should happen to be off feed on that day, or in heat, you might not get a fair test. There may be other reasons which would make it best to wait a day or so until the cow is in average condition and giving about the average amount of milk.

In preparing your sample, do not make the mistake of keeping the milk for testing in any other bottle than the one you are going to mail it in. If you put the milk you save in the morning into a jar or milk bottle and then pour it from that into your little two-ounce bottle, some of the cream which rose after you took the morning sample may stick to the side of the big bottle, and your sample will test lower than it should. In taking your sample, follow exactly the directions given, and, unless we have your permission to have your sample tested somewhere else, send it to the Dairy Department, Agricultural College, Manhattan, and be sure to put your own name on the package and mark it "Kansas Farmer Dairy Club."

Testing Sour Milk

You should not attempt to save milk samples for testing without putting the preservative tablets in the sample bottle. Some of the samples sent to Manhattan are sour when they get there. Professor Reed does not try to test these sour samples, but writes and asks you to send another sample. The reason that sour milk cannot be tested accurately is that the fat gets tangled up in the clots of curd and it is almost impossible to mix it so as to get the particles evenly distributed. To get a fair test, the tiny globules of fat must be mixed all through the milk as sugar or salt dissolves in water.

The preservative does not affect the test, although it is not a good plan to keep milk too long before testing. Sometimes samples are kept ten or fifteen days before they are tested, but this is not a good plan. Your samples are always tested in a day or so after you take them.

Feed and Butter Fat

A good many people still feel quite sure that rich feed makes rich milk. Do not let this point worry you. We hope none of you have low testing cows, or if you do happen to have a low testing cow that she gives milk enough to make up for it. You cannot make her milk test higher by feeding her corn, oil meal, or other rich feeds. Her milk will gradually get richer the longer you milk her until she goes dry, but when she freshens again her test will be about the same as it was when she freshened before. The kind of milk a cow gives is an individual characteristic, just like the color of her hair, and cannot be changed permanently by any method of feeding. The only way to get more butter fat is to feed her so as to get more milk.

Hay for Young Calf

It is surprising how early in life a calf will eat a little hay if given a chance. Prairie or timothy hay is better for the real young calf than alfalfa hay. The alfalfa is apt to be too laxative, or loosening, and then there is another good reason. Skim milk contains all the protein that was originally in the milk, and it does not need a feed rich in protein to balance it. Too much protein is apt to cause trouble.

In balancing feeds for almost all kinds of farm animals, you have to add something rich in protein to the feeds ordinarily grown on the farm, but when you feed the skim-milk calf you must add something to take the place of the fat which you have taken out and sold as cream. The skim milk is thus lacking in fat and too rich in protein. That is the reason you feed prairie hay and corn, kafir grain or oats, to the young calf getting skim milk. These feeds do not contain much protein, but they take the place of fat. Give your calf only the brightest and best of the hay and only a little at a time. It will not like the hay unless it is perfectly fresh and clean.

A man with the small farm flock of sheep cannot make up a carload shipment when marketing his lambs, but he can co-operate with his neighbors and thus assemble a carload. This fall a carload of lambs from Washington County, Kansas, representing ten different owners, sold on the Kansas City market for from $18 to $20 a hundred. This shipment was made by the Washington County Farmers' Co-operative Association, composed of live stock farmers of that county.

War has brought forth a great army of substitutes. Retired farmers are taking the places of the boys who have been called.

Anyway the shortage of sugar will teach some folks how good many things taste without it.

BETTER CATTLE

Get full service from your cattle. Lameness, scouring, sore udders and kindred ailments reduce their usefulness and fruitfulness.

Use Sloan's Liniment; easily applied and quickly effective. It penetrates at once.

You will find many uses for this fine remedy in the home as well as in the barnyard. Always have it handy.

Buy it at your druggists. 25c 50c $1.00

The 18 oz. $1.00 bottle contains six times the 25c size.



Sloan's Liniment

NUTS

Choice Hickory Nuts, 12 cents; Walnuts, 6 cents. Orders above 30 lbs. prepaid. Delicious, nutritious, economical, patriotic. Can you beat it for a Christmas present? Don't pay 25 to 40 cents for nuts.

ROCK BOTTOM NUT COMPANY
Emporia - - - - Kansas

Real Estate For Sale

Absolutely one of the finest 240-acre farms in Northeast Kansas, near one of the finest college towns in the state. Only $85. Half cash, 10 years on balance.
J. E. THOMPSON (The Farmer Land Man)
Tecumseh, Kansas

200 ACRES

One mile loading station, Franklin Co., Kan. Forty acres alfalfa, 50 acres corn, 15 acres timber, remainder pasture. Abundance good water. Offered at bargain price. Write for full description and list.

MANSFIELD LAND CO., OTTAWA, KAN.

10,000 ACRES of good grazing land, well watered, for $3 to $5. All crops good. No drouth, no hot winds. Grass for cattle and corn for hogs. Best country in the world to live and make money.
W. W. TRACEY - ANDERSON, MISSOURI

Best Bargain in S. E. Kansas

360 Acres, 160 acres fine wheat, corn and alfalfa land. Rich creek bottom soil. Balance pasture. $5,000 worth improvements. Splendid oil prospects. A snap. For quick sale, $45 per a. M. T. Spong, Fredonia, Kan.

SUMNER COUNTY produces the big crops, corn, wheat and alfalfa. Improved farms only $40 to $75 per a. Owner's price my price. Write for list. Wm. Hembrow, Caldwell, Kas.

NORTHWEST ARKANSAS. Cheap land, free list. J. A. PRYOR, Real Estate Agent, Green Forest, Arkansas.

FOR EXCHANGE

320 Acres of Good Improved Corn and Wheat Land
Ten miles Logan. $40 an acre, Inc. $3,000. Owner wants Eastern Kansas land.
McAULEY & ELDRED, LOGAN, KANSAS

A GREAT BARGAIN

318 Acres, 12-room house, near church and school; seven miles to market; smooth and rich productive soil; 120 acres pasture with break; 100 acres wheat, share to buyer. Price only $40 per acre, one-third cash, balance five years, 6 per cent. One crop at war time prices pays for it. Act quick. Write to WILLIAM HEMBROW, Caldwell, Kansas, about it.

This is a good time to rediscover the value of farm manure. One ton of manure contains more nitrogen and potash than 500 pounds of 2:8:2 fertilizer. Manure reinforced with acid phosphate is the most effective fertilizer known. The weak point about manure is that there is not enough of it. More of it is needed. More men are needed to preach and to practice the saving of every particle of manure produced on the farm. At the North Dakota Experiment Station manure applied to land that was put into corn and fallowed by three crops of wheat at the rate of six loads per acre increased the yield enough to bring $1.40 per load. Wheat was then averaging about 80 cents and corn 50 cents per bushel. Now that wheat and corn are over $2 per bushel, the return per load of manure will be about $3.50 if the same rate of increase in the crop is secured.



High Cost of Feed

FEED prices are so high that dairymen are facing a serious problem in their efforts to produce milk and butter fat at a profit. "Feed prices have doubled and the prices paid for the dairy products have not kept pace with this increase," says Prof. O. E. Reed of the Agricultural College. "Many farmers who are milking cows have wondered if they could profit by selling the cows and the feed which they have grown. At first thought this seems to be a logical conclusion, but on more serious consideration it is found that this plan would only result in a temporary relief.

"It has always been true that during a crisis such as the present, when prices of all products of the farm have risen, that milk, butter, and other dairy products were the last to increase in price. This is due to the fact that these products are perishable and cannot be stored for any length of time. This is true in the case of milk. It is also true that with falling prices dairy products are the last products to be reduced in price."

In Professor Reed's judgment, the logical thing for the dairyman to do is to hold on to his cows. The country must have dairy products and in the long run the dairymen who stick will be repaid for their efforts.

With the increased cost of production this seems to be the time to weed out the boarder cows in the herd. The meat value of the dairy animal now is closer to the dairy value than ever before, and consequently it is possible to weed out the poor cows and replace them with profitable producers with less cash outlay than ever before.

Now is the time to study the feed market, and the dairymen in a given community should co-operate in buying their mill feed and other concentrates in car lots.

Silage was never worth so much as it will be during the coming winter feeding period. When hay goes up in price, silage becomes more valuable as a feed. Three tons of silage is equivalent to about one ton of good hay, and consequently the farmers who put up plenty of silage this year will reap the profit.

Milking Machine Labor Saver

The milking machine will help solve the labor problem for the dairyman who milks thirty cows or more, believes Prof. O. E. Reed, of the Agricultural College. "Labor was 25 per cent short before the draft, and now it is much shorter," said Professor Reed. "Dairymen with large herds are having trouble getting help and are using milking machines successfully. With a herd of less than thirty cows very little labor saving is effected.

"A milking machine will not do quite so good a job of milking as a first-class hand milker, but will do a better job than an average milker. The success one has with a milking machine will depend to a considerable extent upon the ability of the person who operates it. A man must be something of a mechanic to operate a machine with the best results."

Profits in Trapping

Trappers in the fur-bearing animal sections are reported to be reaping a harvest this year through the demand for pelts.

There is a constant call for all kinds of skins and a scarcity prevails. This is due to so many trappers being in the military service, which has resulted in a great falling off of fur shipments.

As a consequence, fur-bearing animals are plentiful and the men and boys who are doing anything at all in the trapping line report big profits for their work.

No large investment is necessary. The average trappers' outfit consists of one or two dozen traps, some effective bait, an assortment of stretchers, and a smoke device for driving the animals out of their dens. Any one of the large fur houses will be glad to supply full information regarding trapping needs, game laws, and curing and shipping the skins.

Thousands of farmer boys are already contributing to the receipts of the fur houses, and it is expected that on account of the big demand—the scarcity and advanced prices—that others will find it a very profitable winter's business.

Kafir Seed Selection

Kafir and others of the grain sorghums are especially adapted to Kansas conditions, but we have not begun to fully realize on the possibilities of these dry weather resistant crops, because of carelessness in seed selection. All over the grain sorghum belt seed will be scarce for next year's planting. The crop failed to mature, largely due to the unfavorable season, but this could be overcome to a great extent by selecting for vigorous and early strains.

L. C. Christie, emergency agricultural agent in Seward County, reports that owing to the lack of maturity of the sorghum crops, a great deal of seed of low germinating power will be produced in that county this year. Good well matured seed will likely be high and scarce next spring at seeding time. Now is the time to prepare against this shortage by head selection in the field or from the shock. It takes a little time and trouble to select seed in this way, but it will amply repay every farmer to do so.

A farmer recently told Mr. Christie that he had selected his milo in this way for the past three years, and as a result, he had had a much higher yield each year than his neighbors. He will this year have a hundred bushels of choice seed for sale, besides producing a superior quality of grain for the market and for home consumption. There is just as great an opportunity to improve seed as there is live stock, by careful selection. We must begin with the individual in each case. In every field there is a percentage of good plants, the seed of which if selected at harvest time and kept pure, will greatly improve the yield and quality of the next year's crop. In a year like this only the hardiest, most drouth-resistant and early-maturing sorghums come to full maturity. Now if we select the seed of these in the field, we can preserve this type of sorghum and thus breed up strains best suited to our soil and climatic conditions.

The following are some of the most important points to be considered in selecting sorghum seed in the field. Select good seed heads on plants of medium size, having thick, short-jointed stalks. Heads should be uniform in shape, size and type. The center stem of kafir should be at least three-fourths as long as the head. The seed stem sections should occur at regular intervals, be short, close together and well seeded. The stems should grow straight out from the midrib, and not upward. The head should be entirely out of the hoot, and free from mould, smut, or other injury. Base well set with seed stems. Top compact, not too loose, and fan-shaped. Main stem should extend unbroken, well to the tip of the head. Seed should be sound, firm, mature, large, and of the right color for the variety. Seed should not shatter easily in handling. Evenness of height and general uniformity of stocks should be considered when selecting seed heads. The heads should be stored under shelter in an airy place, in layers thin enough to prevent heating before becoming thoroughly dry. It would be best to run the seed through a grader and treat for smut, before planting in the spring.

There has been a depletion of more than 115,005,000 head in the live stock supply of the world since the war began. The decrease in the United States has been alarming. During the three-year pre-war period 86.3 per cent of the hog population of the United States was slaughtered. During the three years of war 96 per cent was slaughtered. The people of this country are consuming more pork, exporting more and producing less than they did in the pre-war period. Conclusions drawn from the available statistics are that the demand for pork will become greater as the war continues, and the farmer is consequently justified in increasing his live stock population; and if peace should come within the next few months it will not lessen the demand, because of the depleted supply and because people will eat more in peace than in war time.



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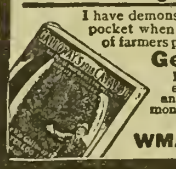

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Proper Hog Houses

HOGMEN sometimes get the idea that they must build large and elaborate houses in order to succeed in the pork production business. "Invariably the larger and more elaborate these hog houses are, the more the pork costs that comes out of them," says L. W. Lighty, a well known Pennsylvania authority on agricultural subjects. "One of the largest and most elaborate ones in the state has been cleaned out by hog cholera three times in a dozen years. Very frequently I meet people who tell me about their hog ailments. Then I look at the shelters and find them better adapted for root cellars than swine shelters. No wonder the pigs have rheumatism, and break down in the spiue, the sows have inflamed udders and fail to nourish the pigs and everything goes wrong.

"What animal could thrive on a cold rock and wet cement floor? Sometimes they make a wooden rack of slats and put it on the cement floor. That multiplies the trouble. It adds a constant cold draft underneath the animal. Also it adds to the foulness of the place.

"The small breeder needs nothing but good A-shaped houses for farrowing shelters. These are movable. The large breeder needs a winter farrowing house and it should be built for the comfort of the sows and not for his comfort.

"I never met a man who had the heart to build a dog's house in the manner he builds his hog-house. He builds the dog-house for the dog's comfort but when he builds the hog-house he never for a minute considers the hog's comfort.

"The litter of the 'old sow of the woods' numbered ten to fourteen pigs. The 'new sow' hred to all kinds of fancy points that do not count in pork pounds, and kept in sixteen-foot-high solid concrete stable with all kinds of automatic fixtures for the owner's amusement, litters from two to six pigs.

"If they come a little early they usually keel over in a few days. Every practical swine grower knows I am stating facts. The old 'pig-pen' by the barnyard was better shelter for the sow to farrow in than the new solid concrete cold-storage arrangements now called hog-houses.

"A winter farrowing house must have a warm floor. Cold, damp, solid rock will never do. It must be free from drafts. It must have a low ceiling. It must have an adundance of sunlight where the hogs are, on the floor of the pens. It must have artificial heat when the sows are pigging. Did you ever think that the cow has a heavy coat of fur to keep her warm and you are worrying for years about keeping her warm, and the sow is practically naked and you give her no consideration at all. The cow has a furnace full of fuel on her inside. Her stomach holds ten to twenty gallons. The hog has a bit of a stove holding a gallon. Your cow is uncomfortable in a warm stable but you make her stay there and your hog is uncomfortable in a cold stable but you try to build them colder every year. The farrowing house should be so arranged that the sow with her pigs can go out into an open sunshiny pen when the weather permits. Plenty of direct sunshine is of the utmost importance in keeping the stock healthy, and if not kept in a good healthy condition we are sure to lose out in pork production.

"For more than twenty-five years the swine department was profitable in my farm operations and what I say does not come from a vivid imagination as does a large per cent of the stuff we read this day about pork production."

Full-Bloods vs. Grades

An impressive object lesson in comparative profits in feeding grade and full-blood calves is had in the outcome of two boys' calf club contests in Central Illinois. There is a little story of local rivalry that enters into these contests and for this reason the community in which they occurred is not indicated.

A certain bank decided upon a contest and invested in fifty registered Shorthorn heifer calves. Upon their receipt they were appraised by a well-known Shorthorn breeder and were distributed, by drawing lots, among the boys and girls who formed the club. The conditions of the contest obligated the banker to advertise a public sale and dispose of the calves in that way at the close of the season the last week in October. Each boy and girl was to take care of his or her calf and grow it out during the season and was to receive the margin between the purchase price and the selling price for profit; or in the event the animal sold for less than the original price, they were to make up the loss.

A rival bank also decided on a contest with similar conditions, but selected grade calves for the purpose. It happened that this bank held its sale a week before the date announced for the full-blood heifers and the event was regarded as a real success, the grade calves selling for an average of $65 per head.

The registered calves cost the boys and girls an average of $117 around and when sold in the sale averaged $235 per head—an average gross profit of $118 for every boy and girl in the contest. In other words, the margin of profit received by the boys and girls who fed the registered heifers was almost double the actual selling price of the grade heifers in the other contest. An interesting fact is that there was not one animal sold among the full-bloods that did not make a profit for its owner, and in one or two cases the profit reached $300.

But there is another and more important fact that comes out of this contest and that is that it has resulted in the starting of a number of full-blood herds in that community. The inspiration received through the various stages of this experience and its conclusion has started a goodly number of boys and girls along the road of producing registered Shorthorns.

As an advertising force this contest has been tremendously effective in attracting attention to this community from a wide territory. The sale of these registered calves brought an attendance of fully 2,000 people and a number of bankers from over the state were on hand to watch the outcome and study the effects of this enterprising undertaking.

A feature of the contest was the showing of the most worthy of the calves for prizes. This display was made on the main street and competent judges made the ratings. Beautiful rosettes were provided by the American Shorthorn Breeders' Association for the prize winners.

These calf club contests are becoming popular and are proving a useful and definite force in the growing of better standards of live stock.—FRANK D. TOMSON.

Bloating on Stalk Fields

Some of the deaths of cattle in stalk fields are caused by bloat and blackleg. Bloat may be prevented by permitting animals to fill up on accustomed feed before being turned into the stalk field, or they may be turned into the stalk field only for a short time at first, and the periods gradually lengthened.

After animals are once accustomed to the new feed the danger of bloat is not nearly so great. Because bloat sometimes comes on suddenly and may terminate fatally in less than a half hour, it is advisable for stockmen to have on hand a cattle trocar or canula, which may be introduced into the paunch through the upper left flank to permit the gas to escape. Such an instrument may usually be purchased for $1.50.

Vaccination, preferably with the new germ-free vaccine, is the only safe measure for preventing losses from blackleg.

The cattle at the Hays Experiment Station came in off pasture in good shape and plans are now being made for the winter's feeding experiments. The test on development of eighty breeding heifers will be continued on the same plan as last winter's experiment. The visiting bankers at the recent meeting of the Northwest Kansas Bankers' Association were shown 1,106 head of live stock on the station farm.

Farm Clubs of Missouri

(Continued from Page Four)

futures—that most powerful of all instruments in the manipulation of our grain markets.

For many years we have been taught to believe that our prices were fixed largely on the basis of the Liverpool market—and yet time and again there has existed a difference of from 20 to 30 cents a bushel between the United States and Liverpool prices, after due allowance for land and ocean freights had been made. I have already referred to the fact that the farmer parted with the lion's share of his 1916 wheat crop at one dollar a bushel, while a few months later the speculators forced the price as high as $3.50. And just as we will be at the mercy of the packers so long as we give them a chance to buy our hogs and cattle on the hoof, instead of giving the distributor and consumer a chance to buy our dressed meat, hams and bacon made in a producers' packing plant, so we will continue to be at the mercy of the wheat speculators only so long as we give them a chance to buy our wheat rather than give the public a chance to buy our flour from farmer-owned mills.

Flour is one of the items which the more than a thousand Missouri Farm Clubs have taken over and which is supplied to the members at the lowest wholesale price—a dozen large mills vigorously competing for the business. At the present time, for instance, we are delivering the finest quality of hard or soft wheat flour at $10.55 per barrel, freight paid, all over Missouri. In recent months, however, I have done some investigating, and the chances are that the time is not far off when the Missouri Farmers' Association will erect a flour mill of 500 barrels capacity at Kansas City with the view of supplying 100,000 Farm Club members of Missouri with their flour at the manufactured rather than at the wholesale cost. Such a mill at the present time would cost approximately $250,000 and would therefore only require an assessment of $2.50 per member on a hundred thousand members; under the Food Control Bill, the Government is allowing the miller a margin of 75 cents per barrel for grinding, and assuming therefore that this mill can save even 50 cents a barrel for the club members, each member would have his $2.50 back after he had consumed five barrels of flour. In the meantime it must also be remembered that he would purchase these five barrels of flour at a lower wholesale price than any mill would be willing to grant under existing conditions. Therefore, it can be seen that, with a good manager and miller in charge, such an enterprise could hardly fail; in fact I feel safe in saying that this mill would easily pay for itself on the first 250,000 barrels of flour turned out—and thereafter represent that much "velvet" to the Missouri Farmers' Association.

But in order to be able to compel a fair price on wheat, undoubtedly farmers would eventually have to own enough mills to grind something like 400,000,000 bushels, which is about the quantity annually consumed by our 105,000,000 people at the present time; in fact, we would be in position to wield a tremendous power if we were only able to grind 250,000,000 bushels annually, but in order to be entirely safe we will assume an annual mill capacity of 400,000,000 bushels; roughly speaking, it would require 300 thousand-barrels-per-day mills to equal this output and with a construction cost of $500,000 for each mill the total investment would amount to $150,000,000. An enormous investment for farmers to make, you say? True enough; but if on the 600,000,000 bushel wheat crop in 1916 the farmers could, through farmer-owned mills, have influenced the market even 25 cents per bushel, they would have saved at one stroke the $150,000,000 necessary to the construction and ownership of these 300 thousand-barrel mills.

In view of this startling analysis which is so apparent that a child can comprehend it, cannot the reader see that the great Farm Club movement in Missouri is, in truth, "something new under the sun"—that it has put its finger upon the vital spot in the farmer's trouble—that without chasing off after political dreamers or farm organization "side shows," it proposes to tackle this great problem in a business way and by procuring the control of the great marketing agencies, put the farmer in position where he will in truth be able to demand "Production cost, together with a reasonable profit"?

And now why, in a nutshell, did the farm organization efforts of the past fail? In my humble judgment, for a number of reasons: In the first place, nearly all of them have gone off on one of two tangents—either they have made an assault upon the so-called "middleman" by starting a "farmers' store," or they have sought a panacea for all the farmers ills by starting a new political party or upheaval. While it is entirely true that there are hundreds of middlemen who deserve to be put out of business at the earliest possible moment—such as the speculator or manufacturing monopoly which intervenes between producer and consumer—this, however, does not now and never has applied to the middleman as represented by the average conscientious country merchant.

In the first place, a flourishing country town not only increases the value of the farm lands surrounding it, but it also adds enormously to the social desirability of the community for the average farmer's family—a thing to which we have paid entirely too little attention. As a boy on the farm years ago I lived near a flourishing little village and many a Saturday night I have wearily trudged the distance on foot because the horses were tired in order that I might listen to the little town band play for an hour or so—or perhaps see a "show" in the opera house. These occasions were little bright spots in the months of hard toil in the fields and they meant a great deal to me; but today this little village looks as if some pestilence had laid its heavy hand upon it; the little band has long since been broken up, while the "opera house" is closed—and gone are the cheerful little Saturday night crowds. From one end of the corn belt to the other one sees tragedies like this upon every hand—erstwhile flourishing little villages which have become victims of the tendency of the times to "send off for things"—and as these villages have fallen into decay, so has the possibility for social recreation for the young folks of the surrounding farms. I know the true ideal is for this social recreation to exist out in the country districts and I am in favor of developing this opportunity with all possible speed, but nevertheless, the time will never come when bright show windows and the gala crowds on the streets of the flourishing country town will not be a positive social asset, from the farmer's standpoint.

Vastly more important, however, those who live in the towns and cities consume the farmer's surplus beef, pork, butter, eggs and other farm staples, and therefore, to say the least, these people constitute a mighty "necessary evil"—for we cannot all be producers and hence if the farmer would have a good market for his surplus, he must be willing for those who consume it to have an opportunity to serve society in some useful way—for unless they are permitted to earn money, they will have no money with which to buy the things the farmer has to sell. Therefore, there is a possibility of killing a goose which lays golden eggs.

In other words, the farmer must be willing to "live and let live"—to realize that, as a prima facie proposition, the man who lives in town and who is trying to earn an honest living for his wife and little ones, is entitled to consideration just as much as the man who lives upon the farm—always provided of course that the avocation and methods of the former do not oppress or menace the general welfare of society as a whole. No organization of farmers or of anybody else which is not founded upon this broad principle can live—because things which are utterly selfish do not deserve to live.

Again, the farmer is primarily a farmer and not a merchant—and hence the average "farmer's store" becomes the victim not only of "too many cooks" but also of cooks who are inexperienced. The average country dog can lick two or three ordinary town dogs — but he can't lick a dozen, and hence when the merchants of the whole town train their guns upon the "farmer's store," as they must for self preservation, it is usually only a matter of time until it "takes the count." And lastly, why go gunning after squirrels when the woods are full of bear? Give the farmer a square deal in the "market place" and he will have no quarrel with the legitimate country merchant. Then here is still another way to look at it; assuming that there is a big bull dog in the path of the American farmer—a bull dog which he must put out of commission or get all chewed up—would it be the part of wisdom, under any circumstances, to pick a fuss with a lot of other little dogs while he is disposing of the bull dog? On the contrary, will not the farmer need the help rather than the enmity of all the other dogs?

Stock-yards figures gathered by the Food Administration show that 73.3 per cent of the calves slaughtered at nine large packing points in this country during the first nine months of this year were males.



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We just heard of a Western Kansas man who is planning to build two more silos this fall, although this year he did not raise enough feed to fill the two silos he now has. We believe this is the right view of the silo game for Western Kansas. Next year may be a big feed year. The man with three or four silos can store a reserve and be absolutely independent of a failure of feed crops for a year or two. He can make definite live stock plans and be able to carry them out. Without the assurance of a positive feed supply, live stock farming cannot be properly developed. It may take considerable nerve to start building some more silos when the ones already built are partially empty for lack of crops to fill them, but there is no better time to build than right now. Next year will probably see the greatest shortage of farm labor that has ever existed in this country. If we put off building the silo until next summer or next fall, it may not be built at all.



Grain Grading Hearings

THE Federal Grain Standards Act has been severely condemned by many grain-growing farmers. Those who thoroughly understand the act and its application maintain that lack of knowledge of the rules and requirements of the act is responsible for many of the objections that have been raised in connection with its operation. Whatever may be the trouble, the Government must recognize that the way it actually works in practical operation is the true test of its merits.

The United States Department of Agriculture has apparently recognized the fact that it must get in touch with the operation of the act and with that end in view is planning to get some first-hand information through the holding of a series of public hearings in seventeen different cities of the country. The avowed purpose is to get constructive criticisms on the standards and rules and regulations of the Grain Standards Act. Grain growers and millers, merchants, inspectors, warehouse men, carriers, and other persons interested are invited to be present at these hearings.

The standards for shelled corn have been effective since December 1, 1916; for hard red winter wheat, soft red winter wheat, common white wheat, and white club wheat, since July 1, 1917, and for all other wheats since August 1, 1917. The regulations have been in force long enough to afford a basis for discussing such modifications or amendments as may seem necessary. We have heard many criticisms of the act and feel that those who have found fault should by all means take advantage of this opportunity to present their grievances direct to representatives of the agricultural department of our Government. Bring your objections or recommendations in definite form, and refer to the specific class, sub-class, grade, or regulation to which objection is made. If unable to be present at the hearing, send your recommendations by mail. Be sure to be specific, however, as general statements will not help much in arriving at such changes as should be made. The following suggested subjects which will come up at the hearing will be helpful in preparing your criticisms in specific form.

Shall heat-damaged kernels of corn be permitted in Grade No. 3, and if so, what percentage?

Shall the test weight per bushel for Grades Nos. 3, 4 and 5, be established, and if so, what shall be the minimum test weight?

The official standards for wheat specify that "any grain which, when free from dockage, contains more than 6 per cent of grain of any kind or kinds other than wheat, shall not be classified as wheat." Shall this definition for wheat be changed, and if so what definition is suggested?

Shall the grades for mixed wheat be changed, and if so, what changes are suggested?

Shall the definitions and grades for smutty wheat be changed, and if so, what changes are suggested?

Shall the specifications for treated wheat be changed, and if so, what changes are suggested?

How much treated wheat should be present before the lot or parcel shall be designated as treated wheat?

Shall the minimum test weight per bushel, maximum moisture content, total wheat of other classes, and special limitations for wheat of other classes, be changed, and if so, what changes are suggested?

Shall maximum limitations for total damaged, heat damaged, total inseparable foreign material, and special limitations for inseparable foreign material be changed, and if so, what changes are suggested?

Under the subject of Rules and Regulations, the following questions are suggested for consideration:

Shall licensed inspectors be prohibited from certifying to the grade of any lot or parcel of grain unless the samples are drawn by themselves or by samplers who are approved for the purpose by the Secretary of Agriculture, and who are not interested, financially or otherwise, directly or indirectly, in any grain elevator or warehouse, or in the merchandising of grain, nor are in the employment of any person owning or operating any grain elevator or warehouse?

Shall a licensed inspector, in his discretion, be permitted to issue an "out" inspection certificate based on a sample of grain drawn for the purpose of an "in" inspection when the identity of the grain represented by the sample is preserved; and if so, what time limit following the first inspection should be imposed upon the issuance of the "out" certificate?

Shall licensed inspectors be required in all cases to state on the certificate the reasons for grading grain No. 3, No. 4, No. 5, No. 6, or Sample Grade?

Shall the fees for appeals and disputes be lowered?

What regulations, if any, shall be made covering the issuance of "split" certificates?

The Kansas hearing will be in Hutchinson, December 17, at 1 P. M., in the rooms of the Commercial Club. We would urge that those of our readers interested in presenting their objections to the Grain Standards Act make every effort possible to be present at this conference.

Thoughts About Kafir

In the Mulvane News recently the editor said that he had come to the same conclusion as Guy Radford, a farmer of that community, about our kafir crop. Mr. Radford maintains that the seed has run out of its early maturing qualities and needs to be renewed. He calls attention to the fact that in early years kafir planted the middle of June would always mature and raise a good crop. Now the kafir is planted before corn, and this year very little of it matured in time to escape the frost, notwithstanding the fine August rains that looked like sure kafir.

The idea of continually going out to the bin and scooping out the seed for next crop from what was raised this year will not do. Kafir is not a native plant of this country. Its early maturing and drouth resistant qualities might be kept in by careful breeding and selection, but will not last without it.

He points out that there are several evidences in support of his theory in his community this year. Henry Swanson has some fine well-matured kafir that made better than thirty bushels, but his seed was comparatively new. Fred Kersey, who harvested a thousand dollars' worth of kafir from twenty acres, planted seed that had only been in the country four years. The Jones boys east of town had some fine kafir, but they sent to Wisconsin for new seed. "We will be glad for other opinions on this matter," says the Mulvane News editor. "It is important. If the kafir problem calls for new seed, let's get it.

"We are going to check this theory up to the Agricultural College and see what they say about it."

KANSAS FARMER has for many years insisted that kafir seed must be selected in the field. The necessity for doing this is not a theory, in our judgment, but a well established fact.

The Kansas Experiment Station has shown the possibility of developing early maturing strains, but too little attention is given over the state to the matter of planting only carefully selected seed. The agronomy department of the Agricultural College has finished threshing its sorghums and reports a kafir field that produced an average of fifty-eight bushels of well-matured seed to the acre. This seed is valuable in view of the fact that little kafir seed in this part of the country matured sufficiently to make good seed.

The orange sorghum field of five acres yielded forty-one bushels to the acre. Sudan grass made an exceptional showing, producing an average of 675 pounds to the acre.

Farm Butchering Saves Money

"Hog killin'" on the farm, in spite of much encouragement given it in recent years, is not yet a general practice. The custom of buying cured meat is increasing in spite of the fact that meat, especially pork, can be grown and cured at home for much less than the cost of pur-

chased meat. These statements are made in a new publication of the Federal Department of Agriculture, Farmers' Bulletin 913, "Killing Hogs and Curing Pork," which is intended to aid in popularizing farm butchering.

The cheapest meat that can be used is the product of the farm. This is also true of the suburban or town farmer who fattens one or two hogs on kitchen and truck garden wastes. The publication just issued takes the farm butcher step by step through the processes of slaughtering, cutting up the carcass, lard making, curing, sausage making, and smoking. It tells also how to make a small ice house which may be used not only for meat but for other perishable products. Suggestions as to how farm butchering may be made a paying enterprise commercially are given and it is stated that selling farm animals as meat is one of the best ways to market them.

This is the equipment needed for slaughtering: An eight-inch straight sticking knife, a cutting knife, a fourteen-inch steel, a hog hook, a bell-shaped stick scraper, a gambrel, and a meat saw. More than one of each of these tools may be necessary if many hogs are to be handled and slaughtered to best advantage. A barrel makes a very convenient receptacle in which to scald the animal. It should be placed at an angle of about forty-five degrees at the end of a table or platform of proper height. The table and barrel should be securely fastened to prevent accident to the workmen during the scalding. A small block and tackle will reduce the labor of handling the animal.

Only hogs which are known to be healthy should be butchered. There is always danger that disease may be transmitted to those who eat the meat, while the quality of the meat is always impaired by fever or other derangements. Hogs can be killed for meat any time after eight weeks, but the most profitable age at which to slaughter is eight to twelve months. An animal in medium condition gaining rapidly in weight yields the best quality of pork. Hogs intended for slaughter should remain unfed for at least twenty-four hours, or better thirty hours, and all the clean, fresh water they will drink should be provided. Temperature can not be controlled on the farm, but it is possible to kill when the weather is favorable. In the fall it is best to kill in the evening, allowing the carcass to cool over night. In winter a day when the carcass can be cooled before it freezes should be selected.

Destroy Eggs of Grasshoppers

Grasshoppers take a heavy toll of crops raised in the western part of our state. Like many other insects there are certain periods in their life history when they can be attacked with a high degree of success. The fight against the 1918 crop of grasshoppers has already begun in some counties of Western Kansas. T. H. Parks and Scott Johnson, entomologists in the division of extension of the Agricultural College, have undertaken to locate the places where grasshopper eggs are numerous and urge the cultivation of these areas to destroy the eggs before they hatch in the spring.

A study of conditions in Thomas County showed that the eggs of the grasshoppers are now confined to relatively small areas on each farm. The roadsides and fence rows adjoining grain crops where the grasshoppers were numerous in August contain myriads of grasshopper eggs which have been placed among the tufts of young prairie grass and buffalo grass. Mr. Johnson working in Thomas, Gove, and Logan counties, found no eggs of grasshoppers in the soil in corn or wheat fields. Their presence in all of these counties is confined almost entirely to roadsides, fence rows, and edges of pasture land joining crops which were devastated in August.

Clusters of grasshopper eggs have been collected and placed on exhibit in many of the towns in these counties together with information about their presence in each community. Double disking these roadsides and fence rows before the ground freezes will destroy the eggs by exposing them to the weather.

Trapping Hints.

Dwight Chamberlain, of Sedan, one of our boy readers, writes the following about trapping:

"The trapping season will soon be opened up. We are sure of high prices for furs. Many of the boys who have been trapping are now in the army.

"The opossum is found mostly in drift stuff. The best bait is chicken. Go up a little branch or stream and when you find a good place hang a clean chicken on a stake about eighteen inches from the ground and set three or four traps under it. This is the way I catch 'possum.

"For civet cats, take four rocks and make a pen, leaving one side open, and put chicken for bait back in the pen. Set trap in the opening and you will catch them.

"The muskrat is easy to catch when their dens are found. Set the traps so that when they are caught they will drown. Another way is to find where they go out to get food and set traps along the trail and put corn by them."

Fall Listing

Fall working of land has many advantages. In Western Kansas as well as other parts of the state it will pay to work land in the fall. In this section of the state listing should be resorted to rather than plowing, because of the danger of soil drifting and blowing. Listing, if done in an east and west direction, prevents soil drifting and blowing. The furrows also catch and hold snow better than would be possible for the ground where the corn and kafir crops had been removed. The destruction of insects and the distribution of labor are also the advantages of autumn working of the soil in this section of the state as well as in other sections.

Fall preparation also permits early spring work to be done in the fields when many crops are to be planned for and seeded. If after fall harvest, the weather, frozen soil, limited time or other conditions do not permit the listing of the entire field, every other row, or every third or fourth row in the field can and should be listed out, for this will assist in holding the drifting soil and will catch considerable snow and to a certain degree facilitate the early spring work. Again, if you are contemplating a good garden next season, do some deep fall plowing by all means. Winter irrigation on such a well prepared tract would also be a good idea.

Lye Not Remedy for Worms

Soda lye has frequently been recommended as a remedy for worms in hogs. According to the United States Department of Agriculture it has no value whatever as a worm remedy. Hogs were fed daily with the soda lye mixed in their food in accordance with the directions printed on the label of the sample tested. As a result it was found that the hogs remained infested throughout the period of treatment—two and one-half months—and that the extent of infestation was increased rather than decreased.

While the efficacy of soda lye against worms parasitic in other animals was not tested, it is probable that it has no value. The digestive tract of sheep is much more complex than that of hogs, and it is probable that a drug having no apparent effect on worms in the comparatively simple digestive tract of hogs would be equally unsatisfactory in the case of sheep and other ruminants.

Manufacturers of soda lye have been warned to remove labels on which are printed unwarranted claims that the product has remedial or preventive powers against worms. By failing to do so they render themselves liable under the provisions of the Insecticide Act of 1910.

Wheat Condition at Hays

In spite of the dry fall, most of the wheat on the Hays Experiment Station farm has come up well. Its good germination and early growth was due mainly to July plowing and careful work later on the seed bed.

A new type of disk lister drill was tried out this fall on part of each field. This drill plants the rows a foot apart and twice as deep as the ordinary drill. It is hoped that this drill will prove valuable for use where there is danger of soil blowing and where the surface soil is dry but has moisture available beneath it for germinating the wheat. Several years of careful testing on a large scale will, however, be necessary before any conclusions can be stated.

"Somewhere in France." Let us remember that if that "Somewhere" is unknown to us it is not unknown to Him to whom every soldier, man and boy, is dearer than to the mother who bore him. —Our Dumb Animals.



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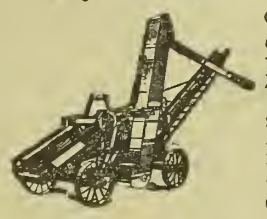
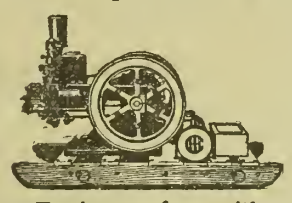
Keystone Shellers, adaptable to large or small ears, shell hard or soft corn clean without cracking the kernels or crushing the cobs. There are eight styles in 1, 2, 4, and 6-hole sizes, with capacities from a few ears shelled by hand, up to 4,000 bushels per day.



International Feed Grinders, for grinding small grain, corn on the cob, or corn in the husk, come in three styles with regular or special plates, 6", 8", and 10" in diameter. Capacities from 5 to 30 bushels per hour take care of all ordinary requirements.



Mogul Kerosene Engines furnish steady, economical power for these and other farm machines. They are simple, reliable, satisfactory; operating on the fuel that is cheapest or most convenient to buy. Mogul kerosene mixers; built-in magnetos that make batteries unnecessary; enclosed crank cases; full equipment, ready to run; are features of all Mogul engines, from 1 to 50-H. P.



Equip your farm with a set of these three useful machines. See the local dealer or write the address below for complete information.

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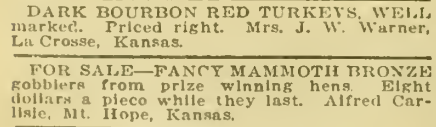

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PURE BRED POULTRY

LEGHORNS.

SINGLE COMB BUFF LEGHORN COCKerels, 1.50. Free from black or white. Alf Johnson, Leonardville, Kan.

BROWN LEGHORNS, BOTH COMBS.—Breeding cockerels. Bred to lay strain. $2.50, $5.00. Plainview Poultry Farm, Lebo, Kan.

PURE-BRED BUFF LEGHORN COCKERels, choice, $1.50; fancy, $2. P. A. Wempe, Seneca, Kansas.

FOR SALE—PURE-BRED ROSE COMB Brown Leghorn cockerels, fine birds. $2.00 each. Mrs. H. B. Walter, Effingham, Kan.

TRAP-NESTED EGG-BRED S. C. BUFF Leghorn cockerels from dams of high record. Pearl Haines, Rosalia, Kansas.

WANTED—PURE-BRED S. C. WHITE Leghorn pullets. Cockerels for sale, $1.25 each. Lyman Mun, Galva, Kansas.

TWENTY-FIVE EXTRA QUALITY S. C. Brown Leghorn cockerels, $2 each while they last. Mrs. L. H. Hastings, Thayer, Kan.

BARRON ENGLISH WHITE LEGHORN cockerels, $1.25 to $2 if taken soon. Andy Mikkelson, Utica, Neb.

FINE R. C. BROWN LEGHORN COCKerels, $1.50 each. Mrs. Griswald, Tecumseh, Kansas.

PURE-BRED SINGLE COMB WHITE Leghorn cockerels, one dollar each. Kate Skelley, Delia, Kansas.

100 EXTRA FINE SINGLE COMB WHITE Leghorn cockerels from my best laying and show winning pens. Order now and receive the choice. $1.50 and up. C. G. Cook, Lyons, Kansas.

TURKEYS.

PURE-BRED WHITE HOLLAND TURkeys. Winnie Litton, Peabody, Kansas.

CHOICE MAMMOTH BRONZE TURKEYS—Sadie Litton, Peabody, Kansas.

PURE BOURBON RED TURKEYS, ROSE Comb Red cockerels. Lily Robb, Neal, Kan.

GIANT BRONZE TURKEYS, TEN DOLlars. Jesse McMahan, Blackwater, Mo.

FINE PURE-BRED M. B. TURKEY toms, May hatched from high scoring stock. Oak Hill Farm, Route 3, Lawson, Missouri.

MAMMOTH BRONZE TURKEY TOMS, $7; hens, $4.50. Mrs. Elma Dooley, Eugene, Missouri.

DARK BOURBON RED TURKEYS, WELL marked. Priced right. Mrs. J. W. Warner, La Crosse, Kansas.

FOR SALE—FANCY MAMMOTH BRONZE gobblers from prize winning hens. Eight dollars a piece while they last. Alfred Carlisle, Mt. Hope, Kansas.

WYANDOTTES.

FOR SALE — GOLDEN WYANDOTTE stock. Frank Gould, Opolis, Kansas.

SILVER WYANDOTTES FOR QUICK sale. Hens, $1.50, $2; cockerels and cocks, $1.50 to $3. Mrs. Edwin Shuff, Plevna, Kan.

WHITE WYANDOTTE COCKS, COCKERels, hens and pullets, $1.50 to $5 each. Birds may be returned if not as represented. H. A. Dressler, Lebo, Kansas.

WHITE WYANDOTTES—FANCY BRED cockerels, $1.50 each. Also pure Barred Rock cockerels and pullets. I. B. Pixley, Wamego, Kansas.

LANGSHANS.

BIG BLACK LANGSHANS, UTILITY AND show stock. H Osterfoss, Hedrick, Iowa.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

The place that He willeth in love for me
That is the place for me;
I care not at all whether great or small
My work may seem to be
If only sometimes in a quiet hour
I may hear him say to me:
"My little child, thou art doing well
The task I have willed for thee."
—Selected.

The Tray of an Invalid

The care of the sick is a subject of interest to us all, as there is more or less sickness in every family, and efficient home nursing often does more to restore the patient to health than the doctor's medicine. The food eaten by the sick person can do much either to hasten or to retard his recovery, and little things which seem unimportant in health become important in illness when a capricious appetite must be coaxed. The following suggestions by Miss Loula Kennedy, instructor in domestic science at the Kansas Agricultural College, cover some of the points which those who work much with the sick have found to be helpful.

Scrupulous cleanliness and neatness are important factors to be considered in arranging the tray. Daintiness arouses the eye and creates an interest in the food. The best dishes and linens obtainable are not too good for the patient. The food should be so arranged that the patient can easily obtain it. Sometimes broth or other liquid food will be eaten when the chewing of solid food seems to require too great an effort.

Enough food should be given to satisfy the patient, but the plate should not be overloaded. It is desirable to have as great a variety as possible. Everything served should be fresh and of the best quality and cooked with the utmost care. Hot foods should be served hot, and cold foods cold. Nourishment should be given regularly. Serving meals on time is as important as giving medicine on time.

Silk for Dresses

Silk of good quality and conservative pattern is a desirable material for dresses for general wear in a climate like this, says Miss Ethel H. Jones, instructor in domestic art at the Kansas Agricultural College. Cotton must be conserved to make high explosives, desirable wools are scarce and hard to find besides being necessary for the army, and the supply of linen is practically exhausted.

Silk saves laundering, may be worn on more occasions than cotton, and will wear fully as well as cotton or wool if it is not weighted too much with the salts of tin and iron. The test for weighted silk is to fold and crease with the finger nail, pulling to see if the threads separate. If they do, the silk has been weighted too much. Taffetas are especially apt to be overweighted.

Shrinking Wash Material

Wash materials should always be shrunk before garments are made. Thus haphazard allowance for shrinkage is avoided and a better fitting garment is the result.

Place the folded material in a tub, cover it with cold water and then gradually add hot water. Leave in the tub over night. Then empty the water and press as much water as possible from the material with the hands. Do not twist and squeeze the cloth. Then hang it by one selvage on the line. Just before it is dry, press with a moderately hot iron so carefully that both warp and woof threads are absolutely straight.—Beryl Dixon, Colorado Agricultural College.

ORPINGTONS.

HAVE A FEW BUFF ORPINGTON COCKerels, $2 to $3 each. For quick sale. E. C. Ewing, Parsons, Kansas.

CHOICE BUFF ORPINGTON HENS, pullets, cockerels and cock birds. Write for prices. Myrtle Howard, Byron, Okla.

FINE BUFF ORPINGTON COCKERELS, $3 each. Mary E. Price, Route 7, Manhattan, Kansas.

BUFF ROCKS AND BUFF ORPINGTONS. Closing out sale, half price. Laying strain. Winners Texas and Kansas state shows. Eggs for hatching, fancy show pens. Write me. John A. Cragan, Kingman, Kansas.

Old-Time Recipes for Corn

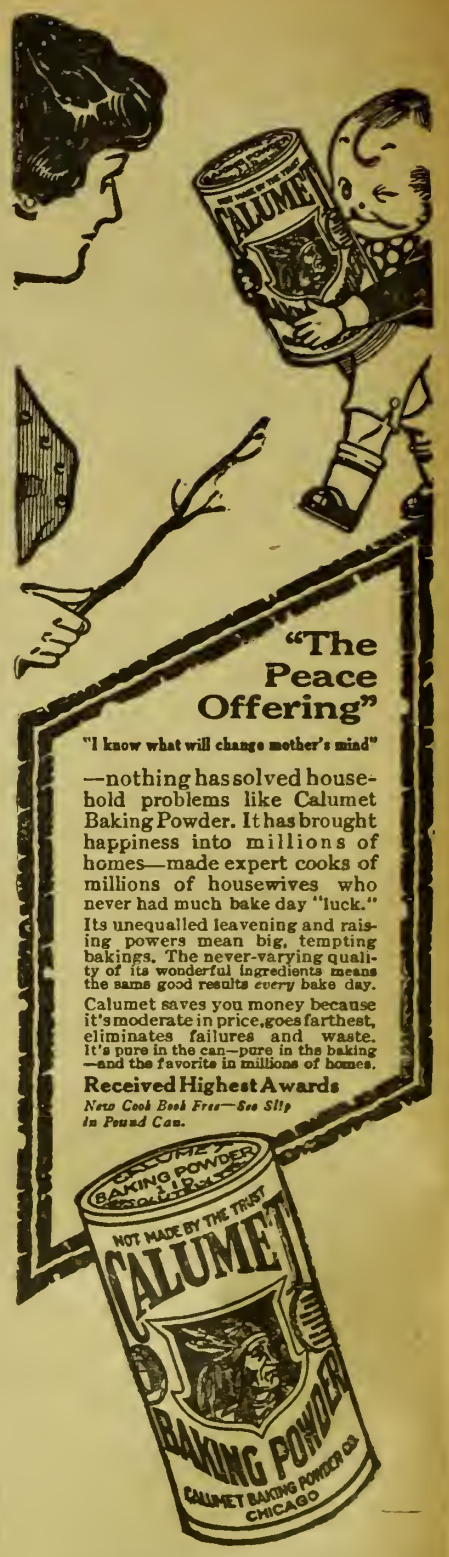
The early settlers in this country made large use of the good tasting flint corn they had learned to produce from watching the Indians produce this crop. The native flint corns were ground with buhrstone mills and the grind bolted to make a most delicious meal. It is claimed that the following recipes, compiled by Dr. H. E. Horton, agricultural commissioner of the American Steel & Wire Company, have been in constant use for 250 years.

Rhode Island Johnnycake or Hoecake.—The cornmeal, in a bowl, is salted, using one teaspoonful of salt to one cup of meal. The meal is then carefully and thoroughly scalded by the skillful pouring of boiling hot water on it, stirring the meal through and through to scald every particle. Use a long-handled spoon for this work. When the meal is thoroughly scalded it is mixed with sweet milk or thin cream to the proper consistency for making into cakes. A cast iron griddle is placed over the fire and kept well greased with bacon fat or drippings during the frying. With the long-handled spoon the scalded meal is transferred to the griddle in sufficient quantity so that when flattened down with a knife there results a cake of oblong shape about a half inch thick and four inches long by about two and one-half inches wide. The cake is cooked until on lifting its edge with the thin blade of a case knife, the color is found to be an attractive nut brown; when this point is reached, it is carefully turned over and the other side cooked in the same manner. The piping hot cakes are served on a hot plate. They are eaten to best advantage by splitting with a knife and buttering the two halves. Two cups of meal will make cakes to serve four people. Hoecakes were originally baked before an open fire on a board which, for convenience, had a long handle attached to it.

Hulled Corn.—In an old-fashioned cast iron kettle place four quarts of water and two heaping tablespoonfuls of concentrated lye. Stir well to dissolve the lye, then place one peck of corn in the water—yellow corn is thought to be best—and bring the mixture to a slow boil. After the corn has boiled perhaps an hour a sample is removed and rubbed between the hands to see if the hull is soft enough to separate from the kernel. Continue boiling and testing until the point is reached when the hull separates from the kernel. The corn is then poured into a collander, the alkali water run off, and the corn washed with water to remove the excess alkali. A handful of corn is taken at a time and rubbed to remove the hulls. The hulls are separated from the kernels by washing out with clear water. Wash until the lye is removed and then put into a kettle and boil until tender, changing the water several times till it shows no color and has no taste of lye. Into the last water put salt to taste. It will take five or six hours or more to cook until tender. Serve with a little butter or gravy or with a white sauce. In the early days it was eaten in a bowl with plenty of New Orleans molasses and rich milk.

Baked Indian Pudding.—Pour a quart of boiling water on two-thirds of a cupful of Indian cornmeal and stir until perfectly smooth. Cook in a double boiler for thirty minutes, stirring frequently. Remove from double boiler and add three-fourths of a cupful of New Orleans molasses, two tablespoonfuls of butter, one teaspoonful salt, one-half teaspoonful ginger, one well-beaten egg, and finally one quart of milk. Bake slowly for four hours in a deep dish. Serve hot.

Rye and Indian.—The early settlers in Eastern Massachusetts made a bread



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FINE TOULOUSE GEESE AND PEARL Guineas for sale. Emma Ahlstedt, Roxbury, Kansas.

PLYMOUTH ROCKS.

BARRED ROCKS—BIRDS OF QUALITY. Ben Vigus, Severance, Kansas.

WHITE ROCK COCKERELS, $2 AND $3. Nora Lamaster, Hallowell, Kansas.

WHITE ROCKS, SIZE AND QUALITY. Prices reasonable. G. M. Kretz, Clifton, Kansas.

BARRED ROCKS, BOTH LINES—LARGE cockerels from extra laying strains, $4 and $5 each. C. C. Lindamood, Walton, Kan.

BARRED PLYMOUTH ROCKS, ST. Louis, Wichita, Kansas City winners. J. K. Thompson, 205 The Drive, Topeka, Kansas.

PURE-BRED BARRED ROCK COCKERels, $1.50 and $2 each. Mrs. T. P. Fowler, Perry, Kansas.

SWAIM'S BLUE RIBBON BARRED Rocks. Big utility cockerels, $3 each; six, $15. C. D. Swaim, Geuda Springs, Kansas.

BARRED PLYMOUTH ROCK COCKERels. Parks' 200-egg strain, direct from prize winning layers. $2 to $5 each. Eggs in season. Gem Poultry Farm, Haven, Kansas.

RHODE ISLAND REDS.

ROSE COMB RHODE ISLAND RED cockerels for sale. Price, $1.50 each, six for $8. John Nelson, Stamford, Neb.

GOOD SCORING AND UTILITY R. C. R. I. Reds, heavy boned, long back, low tail, guaranteed. Highland Farm, Hedrick, Iowa.

BRAHMAS.

STANDARD BRED LIGHT BRAHMA cocks 2; cockerels 4; hens 36. Felton's strain. Prices reasonable. Mrs. Mark Johnson, Waldron, Kansas.

POULTRY WANTED.

CHRISTMAS FOWLS WANTED EARLY. Coops and cash offers on request. The Copes, Topeka.

called "rye and injun," and their descendants who live in that section of the country to this day enjoy eating this dish, although the old rule for making it has been improved upon by the addition of wheat flour and soda. As now made, the following ingredients are used: Four cupfuls cornmeal, one cupful rye meal, a half cupful wheat flour, two cupfuls sour milk, one cupful molasses, two teaspoonfuls soda, and salt to taste. If necessary, water is added to make a fairly thin batter. Bake in a shallow round iron kettle for three hours in a slow oven. In the old days a dish called "brewis" was made by toasting slices of this bread, breaking them up into a kettle of hot milk to which a piece of butter and a little salt had been added, and heating the mixture to nearly the boiling point.

An Efficient Kitchen

"A man may work from sun to sun,
But a woman's work is never done."

We have heard the old rhyme ever since we were children, and have taken it for granted that it must of necessity be true. But with the aid of modern conveniences and labor-saving devices and efficient planning of our work, the time has come when it is no longer necessary for the average housewife to spend all her time at household tasks.

Miss Margaret Haggart, professor of domestic science in the Kansas Agricultural College, says that poor arrangement of utensils in the kitchen is an important cause of wasted time. Many women double the time of making a cake because they do not group the ingredients all on the table at once.

Only small kitchens can be really efficient. The large kitchen necessitates hundreds of extra steps. If stove, sink, and tables are in the right relation to each other, much energy can be saved. In preparing a meal one should not have to retrace one's steps from sink to table and back again.

To make pancakes for breakfast in the properly arranged kitchen, the housewife takes the materials from the ice box, turns a step to the right where she beats the ingredients on the surface of the cabinet, and one more step to the right for the stove. With the last step to the right she lays the cakes on the serving table, to be carried to the dining room when enough are baked.

Washing dishes becomes an art when labor-saving methods are used, says Miss Haggart. The ideal arrangement of the sink provides a drain board on each side. The drainer does away with all wiping of dishes, except the glass, which must be wiped, of course, because hot water cannot be poured on it. Hot water gives to china a polish which will be destroyed if wiped with a cloth.

The sink, work table, and ironing board should all be of a convenient height for the woman who is to use them. For a woman five feet two inches tall, the proper height is twenty-nine inches. Energy can be saved and fatigue avoided by sitting down to work whenever possible. When one stands there is a strain to keep the body erect.

Pickled Pigs' Feet

Soak the pigs' feet for twelve hours in cold water. Scrape them clean and remove the toes. Boil until soft, four to five hours will usually be required. Salt them when partially done. Pack in a stone jar and cover with hot spiced vinegar. They are served cold or split and fried in a matter made of eggs, flour, milk and butter.

Many babies are constantly overstimulated by mothers who adore them. It takes a wise and unselfish mother to keep her baby quiet systematically, and relegate him to a "warm, safe, happy background."



No. 8401—Ladies' Overalls: Cut in sizes 36 and 40 inches bust measure. The overalls have separate trousers buttoned to a waist. **No. 8413—Ladies' Waist:** Cut in sizes 36 to 44 inches bust measure. The collar may be in either of two outlines and the sleeves may be long or short. **No. 8417—Boys' Russian Suit:** Cut in sizes two, four and six years. The blouse closes at the right side of the front and the pattern provides for straight trousers.

Twilight Animal Stories

Bumper The White Rabbit

By George Ethelbert Walsh

(Copyright, 1917, by George E. Walsh)

STORY V—BUMPER AND THE RED-HEADED GIRL

THE red-headed girl, with the freckles on her nose, and a dimple in her chin, didn't stop until she was on the top floor of the big house where Toby's howls couldn't be heard. She opened the door of a dark room, and went in, slamming and locking the door after her.

"There, now I guess he can't find us!" she exclaimed.

Then to Bumper, she turned and began crooning: "You poor little rabbit! Did Toby hurt you? Don't be frightened now. I won't let him have you again. I'll buy you if it takes all my Christmas money. You're mine now!"

You can never imagine how these words soother Bumper's ruffled feelings. It was like being rescued from a terrible giant who intended to dash out your brains and eat you for supper. Bumper's heart began to beat slower and slower until pretty soon it wasn't going any faster than the ticking of the clock outside in the hallway.

They sat there in the dark room for a long time, the girl rubbing Bumper's head and back and crooning gently to him. Then a noise outside—the sound of approaching footsteps—alarmed the white rabbit again.

"Edith;" a voice called. "Edith, are you up here?"

It was Mary, her cousin, calling, and the red-haired girl gently pushed open the door and whispered.

"I'm in here, Cousing Mary. Where's Toby?"

"He's looking for you. I think you'd better get out of the house before he finds you. Take Bumper with you, and we'll buy him something else to keep him quiet."

"Then I can keep him?—call him really and truly mine?"

"Yes, if you can get away with him. Toby isn't old enough yet for pets."

"He's old enough," sniffed Edith, "but he's been spoiled, and don't know how to treat them. If he ever lays hands on my rabbit again, I'll box his ears so hard he'll never forget it. That's what I'll do!"

Mary seemed to concur in this, for she smiled, and rubbed Bumper's head before adding: "He'd raise an awful howl, I suppose, if he knew you were here. You'd better go home now. You can get through the back yard without Toby seeing you."

"Let him see me if he likes," retorted Edith, shaking her red curls and tilting her freckled nose upward. "I won't let him have the rabbit. Aunt Helen ought to spank him. That's what he deserves."

Mary walked ahead down the stairs to see if Toby was around, and then when they reached the kitchen Edith climbed through an open window into the back yard. There was a thick hedge around the yard, and back of that another yard which smelt so sweet with flowers and green lawn that Bumper raised his head and sniffed.

My, what a whiff that was! There was a vegetable garden hidden back of the rose bushes, filled with crisp lettuce, golden carrots, emerald-green cabbages, blood-red beets, blanching celery, peas, beans, corn, potatoes, and green grass everywhere. It was a whiff from Rabbit Arcady, and Bumper forgot all the dangers he had been through.

"No, no, you mustn't jump out of my arms!" warned Edith when he struggled to get down and roll around in the green grass. "Toby might be looking."

There was an opening in the thick hedge, and through this the red-haired girl crawled into the second garden. If anything, this was a more wonderful garden than the first. The odors were intoxicating. There were flowers and birds and trees as well as succulent vegetables. A most wonderful elm tree spread out like an umbrella and shaded the whole lawn. Beneath this the girl stopped a moment, and let Bumper nibble at the green grass.

For a city rabbit who had never seen green grass growing, and had only tasted of vegetables several days or a week old, this visit to the garden was like a foretaste of what all rabbits must consider heaven. Nothing Bumper had ever eaten tasted quite so good as that grass, and when the girl picked a fresh, crisp carrot from the garden he couldn't believe it was anything but a magic carrot. It was so sweet and juicy that it made his mouth water.

"Now you must come in the house," Edith said after he had eaten so much that he was in danger of exploding like an overripe tomato. "I'm going to keep you right in my bedroom tonight. Then daddy will make a house for you in the morning."

Bumper spent the night in a box lined with fresh, green grass at the foot of the little girl's bed, but not until after he had met another person whom he feared and disliked almost as much as the bad boy called Toby. She was a cross old nurse, who looked after Edith, and she didn't like rabbits—not live ones. She admired Bumper's soft, white hair, and remarked:

"Wouldn't it make a handsome fur neck scarf? I wonder how much it would cost."

Edith snatched the rabbit from her hands. "You wicked old thing!" she exclaimed. "I believe you'd kill Bumper just for his fur."

"What a funny little girl you are," the nurse laughed. "What are rabbits for if you can't use their skins for furs?"

With that Edith clapped Bumper in the box, and sat on the lid. "I'm going to sit here until you go," she said.

The nurse laughed, and when she finally left the room the red-haired girl jumped up and locked the door. Then she patted Bumper again before slipping in bed for the night.

It was early morning before the rabbit heard another word from her. The moon peeking in through the window made Bumper feel quite at home, and with it came the sweet aroma of that garden, intoxicating smells of roses, green grass and succulent vegetables.

"Are you there, little Bumper?" the girl called just as the sun rose. She was in her thin nightie, with her wonderful braids of red hair streaming down her back. Bumper thumped on the box with both hind feet to express his delight at seeing her again.

"Now you're coming to bed with me," she added. And sure enough, she lifted the white rabbit from the box and carried him to her bed. It was soft and warm under the sheets, and Bumper began playing hide-and-seek with her toes, making her shout and giggle every time his whiskers rubbed against one. It must have been the noise they made that attracted the nurse, for she suddenly knocked on the door and tried to open it.

Edith sprang out of bed, and put the rabbit in his box before she opened the door. "Why was that door locked?" asked the nurse severely.

"Because," replied Edith saucily, "I didn't want you snooping in here in the night to steal bunny."

"Well, of all things! If you ever do that again, I'll tell your mother! Suppose the house took fire with you locked in here."

"I'd know enough to unlock the door, wouldn't I?" retorted the girl.

The nurse went t othe bed and threw back the sheets to air them. Then, in angry amazement, she exclaimed: "You've had that dirty beast in the bed! Now don't tell me a story."

"Yes, Nursy, and we had a beautiful time playing hide-and-seek under the bedclothes."

The nurse stared hard at Edith, and then shook her head. "You're a naughty girl, and I'll give the rabbit to Carlo. See if I don't."

This didn't frighten the girl a bit, and she laughed in the nurse's face; but it gave Bumper such a shock that he missed three heart beats and one of his whiskers, for he knew Carlo was the dog he had heard barking all night long.

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DOUBLE STANDARD YOUNG POLLED Durham bulls, $100 to $150. Heifers, $100 to $125. Good grade bulls, $75. Crown Prince at head of herd. Also good coming yearling Jack and one extra good coming three-year-old, at reasonable price. W. C. Baumgartner, Halstead, Kansas.

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SHETLAND PONIES. CHARLES CLEMmons, Coffeyville, Kansas.

MISCELLANEOUS.

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FOR SALE — PURE-BRED POLAND China spring boars, immune for life, ready for service, $35. Updegraff & Son, Topeka, Kansas.

DOGS.

COLLIE PUPS—U. A. GORE, SEWARD, Kansas.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

THE STRAY LIST.

TAKEN UP, BY AUGUST PETERSON, October 15, 1917, one heifer about 10 months old, black, no horns, no marks or brands. Taken up in Lost Springs Township, Marion County, Kansas, and appraised at $25. J. H. Alexander, County Clerk.

I HAVE THIS 10TH DAY OF NOVEMber, 1917, in Belmont Township, Woodson County, Kansas, taken up as a stray the following described animal: One red cow, white face, swallow fork in right ear and underbit in the left, weight about 800 pounds, branded with a blurred S on the left hip. John L. Gibbs.—C. V. Orendorff, County Clerk.

WANTED—TO BUY.

WALNUTS, HICKORY NUTS AND sweet clover, any quantity. State bottom dollar. Box 40, Virgil, Kansas.

MISCELLANEOUS.

THIRTY DIFFERENT MAGAZINES, late issues, value $3, yours for 25c prepaid. Eastern Bureau, New Egypt, N. J.

TREES, SEEDS AND PLANTS.

FOR SALE — SEVENTY-FIVE BLACK walnut trees, sound and clear. J. V. Rees, Jennings, Kansas.

FOR SALE—ONE CAR PURE TURKEY seed wheat, $2.25 per bushel. Alfalfa seed, $8 per bushel, f. o. b. Grantville, Kansas. S. E. Wilson.

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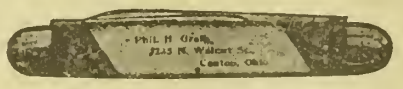

Length, 3¼ inches. Your own name on the handle.

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Send me your name on a post card and I will tell you how to get it for less than an hour of your time. Address

HARRY LEONARD, MANAGER

Kansas Farmer Bldg. Topeka, Kansas

It makes a fellow step higher when some big man says of him, "He is the smartest man in this town!" But that is nothing by the side of having a little chap snuggle up to your side and whisper softly, "I like you; you're so good to me."—Farm Life.

Our most active pro-Germans are those foes to health that lurk in polluted water, in contaminated food, in impure air, and in unsanitary homes.



Poultry and The War

ORDINARILY we consider poultry as meat, but in the call from the Food Administration to save meat we are permitted to report a meatless meal when some form of poultry is the only meat served. In the sense that poultry is not an exportable meat, its substitution for beef, mutton or pork is in line with our program of meat conservation. The humble hen can play a prominent part in preventing the progress of the Prussian peril. The quickest and cheapest way of adding to our meat supplies is to increase poultry and egg production. To double this production next year will give us 6,500,000,000 pounds of meat food in the form of poultry and eggs. By having this amount of poultry food for domestic consumption we will eat less pork and beef, and can send almost that many pounds of meat to Europe to feed our soldiers, the armies of the Allies, and the destitute civilians.

We can not increase any of the meat animals as rapidly or economically as poultry, not excepting hogs and increases in poultry save pork.

Those who have been studying the relation of poultry production to our war needs urge that we should make an effort to understand the importance of doubling our poultry production next year. It is a vital part of the general food production campaign, and that campaign must be carried out in all its details to insure victory in this war. The chief poultry increase will of necessity be made on the general farms of the country—on every farm in the country. Poultry is most profitable as a by-product of general farming. We should plan to get the flock to such size, in proportion to the farm, that all the waste and scraps, and land available for chickens to run on will be used, and the fowls kept up from these sources and a reasonable amount of other feed. No one who understands the true place of poultry on the farm would suggest that extensive poultry enterprises be taken up by the general farmer. In fact, this is a thing to be avoided. The practical thing to do is to keep just as many hens, and produce just as many chickens and eggs as can be economically produced as a by-product of general farming.

The average size of the farm flock in the United States now is forty hens. If the average is increased to one hundred hens next year the desired increase in production will result. Many farms, of course, can have flocks of several hundred, and some farms will have to keep less. A farm average of at least a hundred hens would mean a great deal in saving the red meats.

It is an astonishing fact that there are a million and a half eggless farms in the United States—an economic anomaly and an agricultural absurdity. Out of a total of 6,371,502 farms, 1,527,743 report no egg production in the last census.

Even if we had never been forced to go to war with Germany, this condition would be one demanding every effort at correction—for each farm can, at least, produce sufficient poultry and eggs for home consumption, and thereby be a more profitable farm. It would be to the self interest of every one of these million and a half farmers to commence poultry production, if there were no war. But because we are at war there is a more important reason why they should do so—the fact that they will be helping win the war—helping to preserve their own free existence in a free country.

Boiled Oats for Chickens

Owing to the scarcity and high prices of many grains, the feeding of boiled oats, which feed was previously used by only a few poultry keepers, has become very popular, particularly among the larger poultry keepers having much feeding to do.

Boiled oats are greedily eaten by chickens of all ages; make a good growing and a good laying feed and in results obtained or obtainable are proving to be a very economical grain.

Boiled oats have largely, too, superseded the sprouted oats so much exploited a few years ago, as they are safer, a better and a less fussy feed.

To prepare, soak good heavy oats for twelve hours or more (in hot weather or a warm room a fresh lot should be soaked daily), dissolve one tablespoonful of salt in each bucket of water used for this; boil two or three hours and so gauge the amount of water used for soaking that at the finish the water is boiled away. Feed warm but not hot. White Leghorn pullets can have these boiled oats twice daily, say at 10 A. M. and 4 P. M., and all they will eat up clean. For old hens or heavy weight pullets, one feed a day is enough, and not too much at that, lest they become too fat on this much-liked feed.

Keep Poultry Healthy

Sanitary precautions should be taken to avoid disease in the poultry flock. Prevention is better than cure.

When a contagious disease gains headway in a flock, it is almost impossible to combat it successfully, says N. L. Harris, superintendent of the Agricultural College poultry plant.

Roup proves disastrous. It is not so much a contagious disease as a condition. It is considered possible to breed a flock of birds of so strong and vigorous a constitution that roup cannot gain a hold. Roup is often caused by colds.

Colds are often the result of slight exposures, and if the bird were in a healthful condition would leave no ill effects.

Damp, filthy quarters tend to sap the vitality of the birds. As no better germicide is known than strong sunshine, it is desirable to have as much sunshine as possible penetrating all parts of the house and yards. Lice, while not a disease, tend to weaken the constitution, and so make the bird more susceptible to disease.

Sometimes flocks which receive the best possible care acquire disease from contamination by dogs, wild birds, or even the feet of visitors. This danger is largely avoided by applying some disinfectant and keeping the runs and the houses in sanitary condition.

The stuffy condition found in many poultry houses is avoided by building a house with a small loft above, in which is stored straw or hay. This absorbs moisture from the atmosphere, prevents frost from forming on the ceiling, and cuts off the direct rays of the sun from the roof of the roosting quarters. One serious disadvantage, however, is that a harbor is furnished for rats and mice. These pests often chew the straw into fine dust, which filters into the roosting quarters below.

A poultry show under the auspices of the Topeka Poultry Breeders' Association will be held in Topeka, December 17-22. In addition to the regular cash awards, special prizes to the value of $150 are offered by merchants. The entry fees are, for singles, 25 cents, and for pens, $1. W. B. Wolf, Topeka, is secretary, and will send premium lists to those interested.

Wonderful Egg Producer

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit maker, write E. J. Reefer, poultry expert, 4639 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1 (prepaid). So confident is Mr. Reefer of the results that a million dollar bank guarantees if you are not absolutely satisfied your dollar will be returned on request and the "More Eggs" costs you nothing. Send a dollar today or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—(Adv.)

Remember those boys in France are your boys. Do your bit in saving them and they will get their bite.

FARM AND HERD NEWS NOTES

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CLAIM SALE DATES.

Percheron Horses.

Jan. 25—Kansas Percheron Breeders at Kansas Agricultural College, Manhattan. Under management of C. W. McCampbell.

Jersey Cattle.

Dec. 12—A. V. Young, Palmyra, Mo. B. C. Settles, Palmyra, Mo., sales manager.

Poland Chinas.

Feb. 6—H. B. Walter, Effingham, Kan.
Feb. 7, 1918—W. H. Charter, Butler, Mo.
Feb. 8, 1918—W. B. Wallace, Buncetон, Mo.
Feb. 9, 1918—Will J. Lockridge, Fayette, Mo.
Jan. 29—Head & Moore, St. Joseph, Mo.
Feb. 18—Deming Ranch, Oswego, Kansas.
Feb. 13—H. L. Faulkner, Jamesport, Mo.
Feb. 19—Fred B. Caldwell, Howard, Kansas.
Feb. 20—B. E. Hodson, Ashland, Kansas; sale at Wichita.
Feb. 21—E. J. Erhart & Son, Ness City, Kansas; sale at Hutchinson.
Feb. 22—F. Olivier & Son, Danville, Kansas.

Poland Chinas.

Feb. 23—V. O. Johnson, Auine, Kan.
Feb. 28—Clarence Dean. Sale at Dearborn, Mo.

Durocs.

Feb. 14—B. R. Anderson, McPherson, Kan.
Feb. 27—R. W. Murphy, Dearborn, Mo.
March 7—W. W. Otey, Winfield, Kansas.

The dispersion sale of jacks and jennets by Ed Boen and L. M. Monsees was well attended by buyers from several states. Twelve head of jacks sold for an average of $587. Twenty-seven head of jennets sold for an average of $104. Some of the jennets were old and small and did not bring very high prices. The top jack went to J. C. Whittle, of Sandwich, Ill., for $1,200. The top jennet went to J. B. Stokes, of Bingleville, Texas, at $465. Nothing sold high, but the prices received were very satisfactory to both Mr. Boen and Mr. Monsees.

E. M. Wayde, of Burlington, Kansas, has made a great success breeding the big useful Poland Chinas. Mr. Wayde bought his foundation stock from the best herds in the country and the herd boars now in service are Big Tecumseh and Orange Wonder, two boars that have proven sires of the right type of Poland Chinas. The herd now numbers about eighty head and a feature of it at this time is the fine lot of young stock, including some extra good boars.

H. H. Holmes, Topeka, owner of the Alysdale herd of Scotch Shorthorns, reports his herd doing well. The herd is headed by a splendid two-year-old bull, Viscount's Stamp 2d by Wooddale Stamp by the Choice of All by Cholce Goods. This bull is an exact type of his grandsire, Lavender Viscount 124755, grand champion of America for two years in succession. He is one of the best bulls produced from the Leonard farm and is making good at the head of Alysdale herd. Viscount Stamp 2d is assisted by Clipper Brawith and Count Valentine, two promising Scotch bulls. The cow herd represents all the leading Scotch families, Orange Blossoms, Butterflys, Queen of Beautys and Violets, some of the very best Scotch families, and a feature of the herd at this time is a number of choice young bulls.

Andrew Kosar, of Grandview Farm, reports his herd of big-type Polands doing fine. Mr. Kosar owns one of the high quality big-type herds in Kansas. This year he raised a choice lot of spring pigs and also a number of very fine fall litters. These pigs were sired by boars weighing 1,000 pounds. One of the boars, Hercules 2d 77305, is by Hercules and out of a Colossal dam. The other boar in use in his herd is Grandview Wonder by Pfander's King and out of a Big Orange dam. The brood sows in this herd are practically all daughters of noted big-type sires.

G. Regier & Sons, of Whitewater, Kansas, owners of one of the heaviest producing herds of registered Holstein-Friesians in this state, report their herd doing fine. This herd has made some great records and Regier & Sons are demonstrating that in building up a nerd of dairy cattle it pays to start with foundation stock backed by production records and to use only herd bulls that have records behind them. By adhering strictly to this method they have succeeded in building up one of the great herds of Holsteins now assembled.

William D. Brigham, manager of Adams Farm, Gashland, Missouri, reports their Guernsey herd doing well and making a good record. This is one of the good Guernsey herds in this field. It has been built up along lines that insure a herd of producers that never fails to return a profit with ordinary care.

Ransom & Kissinger, of Homewood, Kansas, have built up one of the good herds of registered Guernsey cattle in this state. Their herd is made up of representatives of the producing families of the breed. They now have a number of cows on A. R. test. A feature of their herd just now is the choice lot of young stock.

Ira Romig, of Topeka, owner on Bonnie Brae Holstein herd, reports his herd doing well. Mr. Romig has one of the heavy producing herds with a line of breeding backed by high production records. This year he raised a choice lot of calves sired by a splendid son of King Segis Pontiac, whose four nearest dams averaged better than twenty-five pounds butter fat in seven days. These calves are from heavy producing dams, some of them milking seventy pounds per day.

H. B. Walter & Son, of Effingham, Kansas, have announced February 6, 1918, as the date for their bred sow sale. Sixty-nine head of large-type Poland China bred sows and gilts will be catalogued for this event. The offering is the best lot ever sold from the Walter farm and includes a number of the show herd bred to the great trio of boars, Big Bob Wonder, Walter's Jumbo Timm and Kansas Wonder, a promising son of Big Bob Wonder. Messrs. Walter & Son bred and showed one of the best herds of Poland Chinas that was exhibited at the National Swine Show last year, and Big Bob Wonder is the sire of Caldwell's Big Bob, the world's champion Poland China boar and one of the best boars of the breed.

R. W. Murphy, of Dearborn, Mo., has announced February 17, 1918, for a bred sow sale of his famous Durocs. Mr. Murphy is an old showman and has produced and grown many state fair winners. He owned and used in his herd for several years the great Duroc boar, King of the Pike, and now has at the head of his herd three great boars of the breed—Model Ally, a Grand Model bred boar; The Pal, a grandson of Old Pal Col., and Illustrator Chief by old Illustrator and a full brother to Illustrator 2d. This sale offering will comprise forty head of tried sows and gilts. Twenty head of the gilts are granddaughters of old Cherry Chief 1335-A and will be bred to the above mentioned boars for early spring litters. The entire lot will be one of the best offerings of Duroc sows and gilts to go through the sale ring during the winter sale season.

"Bumper, the White Rabbit," of the Twilight Animal series by George E. Walsh, has just come from the press of R. F. Fenno & Company of New York City. This story, which is for boys and girls from four to ten years of age, is now running serially in Kansas Farmer. The price of the bound volume, postpaid, is 60 cents.

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ALYSDALE HERD SCOTCH SHORTHORNS
Viscount Stamp 2d, Clipper Brawith and Count Valentine in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
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Vallant 346162 and Marengo's Pearl 391-962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

Can ship on Rock Island, Union Pacific or Santa Fe Railway.
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CLOVERDALE SHORTHORNS—For Sale, two roan yearling Scotch Shorthorn bulls. Exceptional quality and breeding. Also a few heifers. Wesley Jewell, Humboldt, Kansas.

Cedar Heights Shorthorns

For Sale—Three red bulls, 12 months old. A few cows and heifers. Priced reasonable. Come and see my herd.
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MULEFOOT HOGS.

KNOX KNOLL MULEFOOTS

Gilts and young sows, bred to champion boars at several state fairs. Ten extra fine gilts. Boars not related. Also Shorthorn cattle. Catalog on request.
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BERKSHIRE HOGS.

BERKSHIRE HERD BOARS
For quick sale—Two choice Berkshire herd boars, three winter boars and five spring boars, all choice.
E. D. KING - BURLINGTON, KANSAS

Silage Cheapens Cost of Beef

The Missouri Experiment Station recently published the results obtained from two feeding tests which should be of interest to every beef producer in the United States, especially with the present high cost of feeds and beef. Seventy head of two-year-old steers were fed in two tests conducted during two different years: First, to secure data concerning the possibility of fattening cattle by the extensive use of corn silage without the use of additional corn in the ration; second, to study the importance of a high protein concentrate when combined in a ration of shelled corn, corn silage and alfalfa hay; third, to compare the relative value of old process linseed oil meal and cottonseed meal in rations containing corn silage. The first test was conducted during the winter of 1915-16 and the second during 1916-17. The two tests lasted 133 days and 130 days respectively.

In both years the cattle which received a liberal allowance of corn silage with alfalfa hay and cottonseed meal or linseed oil meal made the cheapest gains. The steers in the first trial which received cottonseed meal, corn silage and alfalfa hay, made a profit of $9.87 per steer. The cost of gain per hundred pounds, with the gain on hogs credited at $8 a hundred, was $10.15. The cost per hundred pounds gain on the steers which received linseed oil meal, corn silage and alfalfa hay was $8.57, and the profit per steer was $14.56.

During the second trial the cheapest gains were likewise made by the steers which received cottonseed meal, corn silage and alfalfa hay; linseed oil meal, corn silage, and alfalfa hay. The cost of gain per hundred pounds on cattle, with the gain on hogs credited at $13 a hundred, was $14.28 in the case of the lot which received cottonseed meal, corn silage and alfalfa hay; and $14.06 in the case of the lot which received linseed oil meal, corn silage and alfalfa hay. The profit per steer was $11.59 and $15.62 respectively. With corn at $1 a bushel and silage at $6 per ton the profit per steer would have been $19.38 and $23.57.

The following is an extract of the conclusions drawn from the experiments by H. O. Allison, who conducted the investigations: "The records of feed as fed in the lots receiving cottonseed meal or linseed oil meal with corn silage and alfalfa hay show the possibility of fattening from three to four two-year-old steers per acre of corn. The average daily gains in live weight made by the cattle in the lots which received no corn other than that contained in the silage, while not as large as those in the lots where shelled corn was fed, were satisfactory for fattening cattle. The average daily gains in live weight on the cattle were increased by the addition of a high protein concentrate to shelled corn, corn silage, and alfalfa hay. The gain made by the hogs was greater in the lots which received linseed oil meal than in those which received cottonseed meal, both when combined with shelled corn and when fed without corn.

"The steers which did not receive shelled corn in their rations, although not the best, were sufficiently satisfactory to command a good price and to make a good grade of beef. As indicated by the net profit per steer. The difference in the market price of the cattle was not sufficient to justify the feeding of shelled corn in the first trial. In the second trial this difference was sufficient to justify the feeding of corn at $1 a bushel and silage at $6 a ton, but it was not sufficient to justify the feeding of corn at $1.50 a bushel and silage at $11.50 a ton.

"Judging from the two tests it may be said that it is ordinarily advisable to feed a high protein concentrate to fattening cattle which receive shelled corn, corn silage and alfalfa hay. The net profit per steer was greater in both trials in the lots which received linseed oil meal rather than cottonseed meal, both when fed with shelled corn and without corn."

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162 Head High Grade Holsteins at Auction near Cameron, Mo., on Monday, Dec. 17, 1917

The offering consists of fifty-eight head of cows and heifers that are fresh now, some have recently freshened; twenty head of yearling and two-year-old heifers, seventy-eight head of springers, some are due to calve within the next few weeks and some will calve with twenty to forty days; ten head of high grade Jerseys and Guernseys, and six head of registered bulls.

You will find this to be a very high class lot of cattle, and we consider most of the offering ATTRACTIONS to any dairy.

The cattle are all tuberculin tested, and will be loaded free on board the cars, free of charge to the purchaser.

The sale will be held in our own sale pavilion, one mile west of Cameron, and will commence at 10:45 a. m. Free conveyance to and from the farm. For other information, write

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Auctioneers—Col. Thos. E. Deem, Col. C. M. Nelson.

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DEMING RANCH QUALITY

Big-Type Poland China Hogs.

Fifty March boars for sale. All immuned. Bred sow sale February 18. Send for catalog.

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OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

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Outstanding herd boar prospects by 1,100-pound Missouri Jumbo 210461 and 1,000-pound Long Big Joe 227387, twelve-inch bone. Dams popular big-type breeding. If you want boars that will mature to 1,000 to 1,100-pound hogs, I have them, big high-quality fellows. Fall boars farrowed August and September, spring boars February and March. Will record in buyer's name. All immune.

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FAIRVIEW POLAND CHINAS.
Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.
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We are offering big stretchy March and April boars, bred gilts and fall pigs. Herd boar and brood sow prospects, fully guaranteed.
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FOR SALE—Twelve head extra good spring boars, ready for service. Few choice gilts, bred for March litters. Fall pigs, either sex, sired by Big Tecumseh, Orange Wonder, and out of my best herd sows. The best crop of boars I ever raised. Write or come and see me. E. M. WAYDE, BURLINGTON, KANSAS

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Sept. pigs, either sex, $20. One tried brood sow, $70. Chas. H. Redfield, Bucklin, Kan.

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150 HEAD IN HERD

Breeding stock for sale. Immune. Satisfaction guaranteed. Come and see me.
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FALL PIGS, ready to ship. Select Spotted breeding. Express paid on pigs.
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March and April pigs, sired by Big Wonder, first in class at Topeka; Mammoth Orange and King Price Wonder. Immune.
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For Sale—Ten head large growthy spring boars, sired by A Wonderful King, a state fair winner. Ready for service. Price, $35 to $75. Satisfaction guaranteed. First check gets choice. Write at once or come and see our herd.
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GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to seven months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

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Bull calves for sale, best blood lines. Some from cows now on A. R. test. RANSOM & KISSINGER, Homewood, Kansas.

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Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to twelve months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

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Percherons, Belgians, Shires
2, 3, 4 and 5-year stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
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Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes.
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For Sale—One Missouri State Fair prize winning boar. Seven yearling boars sired by champion boars that are real herd headers. Fifty spring boars that are fine prospects. Write for prices or come and see my herd.

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Thirty-five spring boars by G. M.'s Crimson Wonder, Crimson Wonder Again Jr., Critic D. and Great Wonder, out of my best herd sows. Priced to sell. Come and see my herd.

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Wilhelmina De Kol Netherland	30.15	Pussy Willow of Russell Farm	26.79
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Green Plain Wera Bell	21.45	Margaret of Wheat Hill	24.00
Locust Terrace Buttercup	22.00	Pearl Korndyke Burke	22.00
Tehee Changeling Abbekerk	21.11	Bellemore Topsy 2d	22.00
Bellemore Hengerveld Topsy, 2 year	19.05	Bellemore Mona Korndyke, 2 year	17.79

BULLS—Some of them ready for service, out of these and other dams, and by 30-pound sons of King of the Pontiacs.

HEIFERS of all ages, with similar breeding.
Many of these cows are fresh or will be fresh before March 1.

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IT WILL PAY YOU TO SEE OUR OFFERING
of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

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Registered Holstein Cattle
For Sale—Yearling and bred heifers, also young bull calves, mostly out of A. R. O. cows. Perfect satisfaction guaranteed.
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Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

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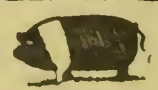

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I am offering this season's crop of bull calves from a few weeks to three months old. Their sire is a splendid son of King Segis Pontiac, whose four nearest dams averaged better than 25 pounds butter fat in seven days, are from heavy producing dams up to 70 pounds milk per day and are extra fine individuals. Call and see them, also their sire and dams, or write.
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We offer for sale choice, beautifully-marked heifer or male calves, 15-16ths pure-bred, and all from extra large, heavy-milking dams, as follows, crated f.o.b. cars: One to two weeks old, $15 each; two to three weeks old, $17 each; five to six weeks old, $20 each. First check takes them. Write
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GOLDEN BELT HOLSTEIN HERD
Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.
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Jas. T. McCulloch Live Stock Auctioneer. I make sales anywhere. Write for date. CLAY CENTER, KANSAS

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Fifteen years experience. Write for terms.
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SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.
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Twenty-five Extra Good Yearlings
Extra breeding and quality. Priced to sell.
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Prince Rupert Herefords

One carload yearling bulls; fifty head bull calves. Will price single lot or carload.

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For Sale—Ten to twenty cows bred, some now calving, also some yearling heifers and choice young bulls from six to twenty months old. Blood of Prince Rupert 52d, Generous and Don Perfect. Outstanding good cattle. Priced right.

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RED POLLED BULLS
Pure-bred Red Polled Bulls, old and young.
W. J. HARRISON, AXTELL, KANSAS

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KANSAS FARMER

For the improvement of the Farm and Home

Volume 55, Number 50. TOPEKA, KANSAS, DECEMBER 15, 1917. Established 1863. $1 a Year

FRANKLIN COUNTY FARM TOUR

Sociability Run of Farmers Most Entertaining and Instructive

ONE day last month about forty automobiles carrying over 160 people from Ottawa and farmers and their wives from various parts of Franklin County swept in a wide circle through the southern half of the county, covering in all sixty-five miles during the day's trip. This was the first of a proposed annual or semi-annual series of farm tours to include the representative farms of the county.

The trip was planned by the farm bureau, the details being worked out by F. Joe Robbins, the agricultural agent. Eight farm establishments, which were representative of the different types of farming and stock raising in the county, were visited. Some were general farms. Others produced live stock for market. Some specialized in pure-bred breeding stock, and others were devoted to dairying. At each stop plenty of time was allowed for looking over the equipment and studying the advanced methods practiced.

The first halt was made at the farm of S. N. Cooper, who has a herd of high grade Holstein cows, including five cows and three calves registered. Fourteen cows were being milked and from thirty to thirty-five gallons of milk a day marketed. Mr. Cooper pointed out one cow having a record at four years of age of over thirty-three pounds of butter fat in seven days. The former owner had refused $1,250 for her. The visitors also were shown sixteen Chester White hogs, fourteen of which were almost ready for market. They were May pigs, and were expected to average 225 pounds when sold about December 1.

The house on this farm was inspected with a great deal of interest, it being modern, having electricity, gas, steam heat, and hot and cold water. The barn, 54 x 96 feet, is especially arranged for handling the dairy work.

A. M. Lloyd's farm near Princeton was next visited. Here fifty head of high grade Shorthorn steers, averaging 1,350 pounds in weight, were being fed. They were given all the corn they would eat three times a day, silage once daily, and in addition cottonseed meal and oil meal. The silo was provided with a rather unique and efficient system of feeding, consisting of a car operated on a track the rails of which were the sides of the feed bunks.

"Pendleton Place," the farm of E. P. Pendleton, illustrates the success attained by a combination of intelligent management backed by persistent industry. This farm establishment is devoted almost exclusively to raising registered stock. The visitors were shown fifty head of pure-bred Herefords, including one of the best herd bulls in the state, an animal purchased of Robert Hazlett. Mr. Hazlett refused $25,000 for his sire. To illustrate the influence of the high class pure-bred beef sire, a steer was pointed out whose dam was a little grade Jersey cow. This steer, sired by the Hereford herd bull, was two years old and weighed 1,275 pounds. A guessing contest on his weight was proposed in which the ladies of the party were as much interested as the men. Miss Fern Baer guessed within fifteen pounds of the correct weight and was awarded a box of candy. W. L. Bennett made the winning guess among the men, receiving a box of cigars as his prize. Mr. Pendleton also specializes in Chester White hogs and Shropshire sheep. The up-to-date ideas on this farm are not confined entirely to the pure-bred stock. The buildings are all neat, comfortable, and well arranged. A wind mill with proper tanks supplies an abundance of water for household uses as well as water in all the yards for the stock.

D. R. Sisler's home ranch in the outskirts of Richmond was illustrative of the methods of the man who is primarily in the "feeding game." He has three barns, having capacity for ninety tons of hay, and three big silos. He sometimes handles as many as eight hundred head of cattle during the year. Cement feeding floors were characteristic features of his equipment. At the time of the visit he was feeding silage, cottonseed cake, and oats, expecting to add corn to the ration later.

At the Sisler home the women of the party were greatly interested in visiting a large concrete lined cellar where Mrs. Sisler exhibited the results of her industry in canning. She had over 300 quarts of fruit and vegetables of various kinds.

Mr. Sisler is an enthusiastic believer in the value of the silo since it eliminates so much of the waste and conserves the value of the feed. He has all his corn fields fenced hog-tight, and turns in the hogs to gather up the corn knocked off by the binders in harvesting.

On the Rubic ranch Hereford cattle and Duroc Jersey hogs are specialties. Mr. Rubic also has well equipped feed yards and sheds and a silo. He was feeding eighty-nine Herefords and about fifty of the "red hogs" at the time of the visit. He had one bunch of shoats that had been fed on pasture which he expected to turn off soon at an average weight of 270 pounds. He has a cleverly contrived feeding barn so arranged that the hay is brought down to the first floor very conveniently.

The next visit was to the dairy establishment of Ransom & Kissinger, at Ransomville, managed by Howard Kissinger. The visitors observed that the barn was constructed strictly with a view to the utmost cleanliness. It has stalls for forty head of cows and four box stalls. The floors are concrete and the stanchions are of steel construction. For saving labor in feeding and cleaning, a feed track and litter carrier has been installed.

The farm consists of 560 acres. Forty pure-bred Guernsey cows are being milked. The head of the herd is one of the best Guernsey bulls in the state. The average butter fat per cow last year was about 250 pounds. This farm is most completely equipped for the work of dairying and handling hogs. In addition to the barn and silos there is a hog house and a very complete poultry house. The residence also is thoroughly modern. Duroc Jersey hogs are handled and the visitors were told that $2,000 worth were sold annually.

G. D. Glidden & Sons, who were next visited, handle a high grade working herd of Guernsey cattle. They were expecting to milk about twenty-five cows the coming winter and had some fine two-year-old heifers and heifer calves coming on. They are endeavoring to constantly improve the producing capacity of the cows. A pure-bred Guernsey bull heads the herd. During the first ten months of this year they have sold butter fat to the value of nearly $1,400. Pork production always fits in well with dairy farming, and the visitors were shown a bunch of seventy-two shoats being fed for February market. Their attention was called to the fact that the ground feed was fed dry instead of in slop form. Poultry raising also seemed to be somewhat of a specialty on this farm, as the flock consisted of over eight hundred fowls of the two breeds, Leghorns and Plymouth Rocks.

The Homewood Stock Farm specializes in registered Shorthorn cattle. The owner is A. D. Flintum of Kansas City, the farm being managed by James Shirres. The herd bull was imported from Scotland. He weighed at the time of the tour 2,400 pounds. Another guessing contest was a feature of the visit to this farm. One of the ladies guessed within twenty-five pounds of his correct weight. There are forty females in this herd, a number of them imported cows. Two animals were being fitted for the International Live Stock Show. They were being fed stock beets mixed with oats and corn in order to give them the finest bloom and finish possible for the show. This farm has a very handily arranged barn and a silo.

At noon the party was served a fine dinner by the ladies of one of the churches in Richmond. Following the dinner, a half hour was devoted to speech making, this part of the program being presided over by Doctor O. O. Wolf, who introduced the other speakers with some pleasant remarks. Judge C. A. Smart, of Ottawa, E. P. Pendleton, L. C. Jones, and others made talks.

All who took part in this tour of representative farms of the county were enthusiastic over the result. They felt that they had been well repaid and in addition to the valuable things they had learned of what their neighbors were doing the trip had been a most enjoyable occasion from a sociability standpoint. At the conclusion of the trip Mr. Robbins, the county agent, said: "I am more than gratified at the undoubted success of this initial effort to start a 'get acquainted' movement among farmers and townspeople. Judging by the enthusiasm of those who made the trip and the reception along the route, it has been a grand success. No small part of this gratifying result is due to the work of the committee that assisted me and to the energy of the business men of Ottawa."



AUTOMOBILES PARKED AT ONE OF THE FARMS VISITED.—OVER FORTY CARS MADE THE TOUR



PARTY INSPECTING MODERN MILK HOUSE, DAIRY BARN AND EQUIPMENT ON FARM OF RANSOM & KISSINGER, RANSOMVILLE

One county superintendent of schools says that she has found no part of her work more worth while than the writing of a column of school notes each week for the county newspapers. This gives her an opportunity to call the attention of other teachers to some particularly good piece of work on the part of any one teacher or to make timely suggestions.

Thoroughly rotted manure scattered over the lawn just before snow comes helps to keep the snow on over winter and also adds much needed fertility to the soil.

IF YOUR SUBSCRIPTION HAS EXPIRED TURN TO PAGE 9

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According to an English dispatch, bacon is not procurable in many butcher shops in London. In shops able to secure supplies, the price ranges as high as 60 cents per pound for grades of bacon that before the war sold for 18 cents.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

IF YOU know what you will need in the way of farm implements next spring, you had better get in your orders now. Many will be disappointed next spring because of the inability of dealers to deliver farm machinery.

Professor Ekblaw, the new farm engineering man at our agricultural college, calls attention to the fact that no steel will be allowed to implement manufacturers except that which is reasonably sure of finding its way into some farmer's hand in the form of farm machines. This statement was made by a government official at a meeting of the factory representatives and dealers. The implied meaning is that unless the manufacturer can demonstrate that he has an actual order for a farm machine, he is not going to get the steel with which to make it. On this assumption manufacturers are urgently requesting that the farmers order immediately the machines they will need next spring in order that the manufacturing may be done this winter.

Even this does not insure an adequate supply of farm implements for the coming year when production must be speeded up to the maximum. We can do much toward relieving the situation by putting the old machines in the best possible state of repair in order to obtain the most efficient operation. Old discarded machines can be resurrected and put in operating condition. Every railroad company in the country has had to go to its junk heap and hunt out old operating equipment and put it in shape to use. It will be well for the farmer to do the same.

Pump Irrigation

William Robbins, who owns a truck farm at Cimarron, Kansas, tells in a recent issue of the Implement and Tractor Trade Journal of how he made a good profit pumping water with a gasoline engine. He has secured big crops year after year by pumping the "underflow" of the Arkansas River upon his crops during the dry, hot weather.

His crops comprise about six acres of sweet potatoes, an acre and a half of cantaloupes, one acre of cabbage, three-fourths of an acre of onions, half an acre of asparagus, half an acre of rhubarb and other small plantings. The land is heavily manured and furnished with an abundance of water throughout the growing season.

The water has to be lifted about twelve feet. This is readily done by means of a No. 3 Goulds pump, connected with an eight-horsepower gasoline engine. This outfit will deliver about 400 gallons a minute. The pump has been placed on the highest place on the farm and the main ditch leads the water along one side of the place. From the main ditch the water is let into the rows. With care there is no serious damage from flooding.

The land is given a thorough soaking about once in ten days. As soon as the soil becomes dry enough the cultivator is started. The plantings are so arranged that most of the cultivation can be done with horse tools, but hand cultivators are used to keep the tillage in first class condition where it is impracticable to work with the horses.

Mr. Robbins has found his irrigated truck farm a sure profit-maker. Quality vegetables must be grown quickly and to grow quickly they must have plenty of water. With this irrigation plant always at hand Mr. Robbins never has to worry about his water supply, no matter if the "sun sets red." Besides, he has good crops dry years when his neighbors who do not irrigate are short and prices rule high.

Irrigation is crop insurance and if more truck farmers realized how easily and inexpensively such a plant as Mr. Robbins has could be installed, there would be far fewer crop failures.

Electricity on the Farm

Modern conveniences which electricity makes possible, combined with the good, clean living that cannot be duplicated in any town, tend to make the country compete successfully with the bright lights of the city streets for both the boy and the girl.

It is now generally recognized that electricity furnishes the cleanest, safest, most effective and most convenient system of artificial lighting. It is especially valuable for use on the farm—in the house, stables, and barns where there is always danger of fire when oil, acetylene or gas lamps are used. Many of the farm chores must necessarily be done in the early morning or late evening and as a safe, convenient, and time-saving light the electric lamp far surpasses any other form of lighting.

A large percentage of fire losses in rural communities are due to the use of oil lamps and other dangerous illuminants. A fire once started in the country is certain to be more destructive than in town because of the lack of help and fire fighting facilities.

Probably the most common motor-driven device for the home is one of the many types of washing machines. The introduction of one of these into the home not only eliminates the greater part of the labor of wash day but saves a great deal of the wear and tear on clothes.

The sewing machine, the churn, and in fact all motor-driven devices for the home, use a surprisingly small amount of power—not more than that used by two or three incandescent lamps. The other useful and labor-saving machines are the motor-driven separator and grindstone. When the monotonous tasks may be quickly and easily finished, farm life becomes a real pleasure.

However much the farmer has appreciated the desirability of having electric lights, he has lived too far from any source of power to be able to buy it at a reasonable cost. The private lighting plant has for the most part been regarded as a luxury even for the wealthy city farmer.

Within the last few years, however, the electric lamp has been so improved that the size of the plant necessary to do the same amount of lighting as before has been reduced to approximately one-third the former required size. Thus new possibilities have been opened up to the residents of the country in the way of private lighting plants.

In general it is better, if possible, to buy current from a transmission line or from the town power plant, even if the farmer must pay the cost of extending the line rather than to generate his own power.

If it is impossible to obtain central station power, in selecting an isolated plant the future need should be carefully considered in order that the capacity of generator and battery will be sufficient to fill the requirements for several years to come.

If one plant is $50 or $100 higher than another, it may be depended upon that the manufacturer of the higher-priced plant has put that money into increased efficiency, quality, and reliability. Competition in the electrical industry is such that a difference in price is invariably determined by these factors.

If electricity is to be used more than 400 or 500 feet from the plant or if motors are to be installed, it is usually better to use 110 volts. If two buildings situated in close proximity to each other are to be lighted, 32 volts can be used.

Select a plant and battery, if possible, so that the lights can be operated from the generator during those periods of greatest use, for from one-fourth to one-half of all the energy used in charging the storage battery is lost and cannot be recovered again.—CLARENCE E. REID, Kansas Agricultural College.

The suggestion is made by W. H. Sanders, instructor in farm tractors at our agricultural college, that high school courses be so arranged that students may gain information relative to farm machinery and its operation. As agriculture is taught in 474 high schools in Kansas, it would be easy to devote part of the time allowed for the agricultural course to the study of farm mechanics. Local farm implement dealers would undoubtedly be glad to co-operate by loan of machines and sufficient other material for study, since most of their stock is not used during the winter. A large per cent of the plows used in Kansas are not properly adjusted, due to lack of knowledge on the part of the operator. This results in increased draft, excessive wear on machinery, less thorough preparation of the seed bed, and lower yields.

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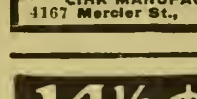

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LOYALTY TO OUR GOVERNMENT

There is no such thing as occupying a neutral position in supporting our Government in the prosecution of the war. Those who are not for our Government are against it. Loyalty is a positive position or attitude. Aroused by attempts on the part of interested persons to exploit the sale of meat in opposition to the Government's plans for winning the war, Herbert Hoover, United States food administrator, brands opposition to the federal conservation plans as comparable to opposition to the draft.

Opposition to the plans for conservation have been found here and there in Kansas, as well as in other states. One Kansas merchant, for example, heads his newspaper advertisement, "Meatless Day —What?" and goes on to say, "The country is full of cattle. What is more plentiful with us than beef? On Saturdays, instead of 'meatless days' we are going to establish real 'meat days' with bargains in chunks, quantities, loins, rounds, anything to suit the trade."

The following telegram from Mr. Hoover on this subject was received last week by Dr. H. J. Waters, food administrator for Kansas:

"Statements exploiting the sale of meat and protesting against wheatless and meatless days as unnecessary sacrifice by the American public are either malicious or emanate from personal interest obviously endeavoring to raise the price of meat. The results from meatless days have for the first time created a sufficient visible supply of meat to allow us to partially comply with the quantities requested by the Allies for shipments during the month of December. This should be a matter of satisfaction to the entire American people that their devotion in this matter now enables us to resume our duties to the Allies in this respect and our endeavors should in no instance be relaxed.

"As to wheat, we have already exported the whole of the surplus of the 1917 harvest over and above the normal demands of our own population until the 1918 harvest. It is necessary for the food administration to restrict the export of wheat so as to retain in the United States sufficient supplies to carry our own people until the next harvest. Therefore all exports of wheat from now forward are limited entirely to the volume of saving made by the American people in their consumption of wheat and wheat products. We are continuing wheat shipments for December as far as our situation allows, but even with all the conservation made we are still unable to load over 400,000 tons of foodstuffs urgently required by the Allies during the month of December.

"Statements given out for personal interest are in little accord with the spirit being shown by millions of homes in the United States in an endeavor to aid the food administration in its task of feeding our own soldiers abroad as well as our Allies, and stabilizing prices to our own people. In the critical situation of the world's good today, opposition to the Government's conservation measure is an action comparable to opposition to the draft, because any failure in saving food means direct and immediate loss of life aside from serious interference with our war service in the feeding of our Allies."

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OLEO TAX AGAIN

A news item has been going the rounds to the effect that Congress will be asked to remove or lower the tax of ten cents a pound on colored oleo in the interests of lowering the cost to the consumer of a valuable food product. It seems to be the fixed policy of the oleo interests to misstate or misrepresent the facts.

Producers of butter do not insist upon oleo selling upon its merits simply to keep up the price of real butter. What they object to is the selling of colored oleo as butter and at or near the price of real butter. Instead of lowering the price of oleo to people who cannot afford butter at its present price, the removal of the tax on colored oleo would have the opposite effect. The uncolored, which has all the food value of the colored, pays only a nominal tax, barely enough to bring it under the supervision of the revenue department. When colored it can be sold in competition with butter, and if anyone thinks the makers of colored oleo will not take advantage of that opportunity if given free rein, they have another guess coming. All there is back of the constant fight to get the tax removed from colored oleo is the fact that with that restriction removed more profit can be made from the product, and not one penny will go to the people who must use the imitation article.

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KANSAS JUDGING TEAM SECOND

The Kansas Agricultural College stock judging team, which Prof. C. W. McCampbell took to the International Live Stock Exposition, won second place in the judging contest conducted on the first day of the show. Teams from twelve of the leading institutions of the country competed. The team from Nebraska won first place, Texas Agricultural and Mechanical College third, University of Minnesota fourth, Iowa State College fifth, and the Missouri Agricultural College sixth.

The men comprising the Kansas team were: D. J. Borthwick, Great Bend; C. L. Reeve, Garden City; H. M. Birks, Hays; F. O. Blecha, Severy; Ford Haggerty, Greensburg, and A. C. Hancock, Stanley. The students visited a number of the leading stock farms of the country en route to Chicago, and whether they had won or not, the trip would have been of great educational value to them.

To make the team for the International has been one of the high honors of the animal husbandry department at the Kansas Agricultural College for a good many years.

MONEY FOR THE RED CROSS

WE ARE to be asked the coming week to open up our pocketbooks in response to the most beseeching and far-reaching appeal ever made for mercy and relief. The American Red Cross is organized to administer the relief to suffering humanity so generously contributed by the American people. Up to date approximately eighty-five million dollars has been collected for the war fund. Fully forty millions of this have already been appropriated. As the war progresses the need for relief increases with great rapidity and the hundred million dollar fund already subscribed will soon be gone.

The fine young manhood of our land has responded to the call of humanity and world-wide justice. The least possible sacrifice we who stay at home can make is to consecrate our money to the relief work of such a great humanitarian organization as the American Red Cross, which aims to mobilize the heart and soul of America toward binding up the wounds of a bleeding world.

The expense of collecting and administering the war fund is amazingly small. The national headquarters at Washington included on November 1, sixty-three officials, most of them men and women of great experience in large affairs, who are working without salary or living expenses. Over the country there are thousands of capable volunteer workers. The salary list has been reduced since last July from 700 to 423 in number, and the salaries paid have also decreased in average amount. In France the working staff numbers 864 persons, of whom only 347 are paid by the Red Cross. The remainder are either volunteers or are paid from other sources. The army controls and apportions transportation facilities for the American relief work. The army cannot deal with a great number of individual organizations, and the Red Cross, which is associated with the army and virtually under its control, is the logical avenue for economically conducting relief work.

Broadly speaking, the Red Cross War Council in its semi-annual report just issued announces its aims as follows:

To be ready to care for our soldiers and sailors on duty wherever and whenever that care may be needed.

To shorten the war—by strengthening the morale of the allied peoples and their armies, by alleviating their sufferings in the period which must elapse until the American army can become fully effective abroad.

To lay foundations for an enduring peace—by extending a message of practical relief and sympathy to the civilian population among our allies, carrying to them the expression of the finest side of the American character.

The Red Cross work is far more than relieving misery and suffering from a humanitarian standpoint. It is well worth while from that standpoint alone, but in addition its work becomes a most important war measure. Our boys are already being sent across by the thousands. All over this country in the various cantonments and camps they are being given the most intensive training in preparation for the task of taking over a large part of the actual fighting in the near future. A million or more will be in Europe by spring. Other millions may follow if the war lasts as long as some seem to think it will.

We can probably win the war by sheer force of numbers, but at what a cost! Shall we lavishly throw our boys into the breach and grudgingly dole out the money needed to keep up their efficiency to the highest point, or shall we who stay at home give lavishly of our money and thus conserve our boys who have made the supreme sacrifice? And we must not forget that the French soldiers and the British and Italian soldiers are holding the line for us while we are getting ready. Every dollar spent in increasing their efficiency is saving our own boys who must go in later. The soldier now in the trenches who hears only of the misery and suffering of his family at home, in the letters he receives, is not a good soldier. Red Cross relief to the civilian population keeps up his spirit and makes of him an efficient fighter, thus lightening the task for our own men.

We must give both men and money. Can we for a single moment weigh any sacrifice in money against the sacrifice made by those of our boys who are facing the unspeakable horror of warfare as it is now being conducted and the possibility of giving their lives for the cause or coming back home maimed and broken in body?

COAL SCARCITY

Statistical reports show that we have increased our coal production fifty million tons during the past year. We may wonder why coal is scarcer and higher than ever in price. The facts are that with the increased industrial activity in consequence of the demand for war supplies and munitions, we need one hundred million tons more coal than in normal years. We are thus fifty million tons short of our actual needs. Shortage of cars has also further complicated the matter. Apparently the only thing we can do is to try to economize in the use of the coal so as to overcome the shortage.

Those who have tried to lay in the usual supply of coal for the winter hardly need the reminder that something must be done to make the fuel available go farther. If we have only a ton of coal on hand and do not know just how soon we can get another ton, we will need no urging to economize in its use. On most farms there is considerable wood that can be worked up into fuel. In setting out our trees we nearly always make the mistake of setting them too thickly and have hesitated to thin them out when they began to crowd each other. There is hardly an old homestead —in Eastern Kansas, at least—where the trees do not need thinning out in order to permit the remainder to grow and develop properly. There are dead limbs that should be cut out to improve the looks of the trees, and limbs that should be removed in order to permit the air to circulate more freely.

Striving to save the coal by utilizing such sources of fuel is an act of patriotism, for the boys on the other side and in training camps cannot be equipped and maintained without an abundant supply of coal. Every bit of coal saved by the methods suggested helps in the successful prosecution of the war.

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K. S. A. C. AT INTERNATIONAL

The high-class live stock fitted by the Kansas Agricultural College and sent to the International at Chicago by special train, has won a liberal share of the premiums offered. Kansas may not be much of a sheep state just at present, but Prof. A. M. Paterson with his college entries has cleaned up some of the best prizes offered. On five fat wethers shown the college won first on yearling Dorset wether and champion Dorset wether, champion grade and cross-bred wether, and reserve champion wether of the show, also first prize wether special, second prize on pen of five wethers, pure-bred or cross-bred, and third prize on grade Shropshire wether.

In hogs the Kansas college won first and champion on grade barrows, first and third on grade barrows between 200 and 250 pounds weight, second on pure-bred barrows over six months of age and under twelve, second on pen of barrows over six months and under twelve, and second on a pen of pure-bred barrows over 200 and under 250 pounds in weight.

In cattle the college won in the Hereford classes first in two-year-old steers, fifth in senior yearling steers, first in junior yearlings, first in senior steer calves, and second on Hereford steer herd. In the Shorthorn classes it won fifth in two-year-old steers, fourth in senior yearlings, second in junior yearlings, and sixth in senior calves. In the Angus classification the college won fifth place on their two-year-old steer, fourth on the senior yearling, and second on the Angus herd. The Galloway winnings were first on yearling steer, first on steer under one year, and second on Galloway steer herd. In grades and cross-breds first was won on two-year-old and first on yearling steer. In specials the college took second in any or all breeds of steers, first on steer under twelve months, and third on steer herd.

With very few exceptions the stock exhibited was bred by the college, as well as fitted for the show.

FARMERS SOLVING PROBLEMS

Farm Clubs of Missouri Giving Producer Standing in Market Circles

By WILLIAM HIRTH, Publisher Missouri Farmer

MANY people are led astray by the idea that somewhere within the realm of politics there is an alchemy which will cure all the farmer's ills. Notwithstanding its delusions in the past, this idea has now apparently broken loose once more up in North Dakota, and, as in the past, is certain to lead its ardent pursuers into a slough of despond. There are several fundamental mistakes which such idealists, whether sincere or otherwise, make, and we have reached a place where we cannot afford any more mistakes; in the first place, there have been few western legislatures in which for years the farmer members have not been in the majority and hence the confession that our ills are political is a severe indictment against the efficiency of these men; on the other hand, if you say that they were ineffective merely because they did not have the entire machinery of a state in their hands, then what of the cyclonic sweep of the People's Party back in the early nineties which drove from power such titans as John J. Ingalls of Kansas and put in his place in the United States Senate William A. Peffer of whiskered fame, saying nothing about "Sockless" Jerry Simpson, Gen. James B. Weaver of Iowa, or Tom Watson of Georgia? Cast up on the crest of an upheaval, these men rendered valuable aid with reference to certain much needed reforms—but as a permanent constructive force they left nothing in their wake and this will ever be true of such movements which represent blind anger rather than deliberate and well directed effort.

As long as the issue is hot we become very much excited and throw our hats in the air, but when the band stops playing and the issue cools off, we usually cool off with it. Again, what difference does it make who holds the offices so long as those who do hold them give to the farmer the things to which he is justly entitled? In other words, it is power rather than offices that the farmer needs, and given the power, why should he want to bother himself about running a political machine and assume responsibility for the horde of demagognes and barnacles who will always hover in its wake?

Verily there are golden things which these dreamers could learn from Samuel Gompers, who came over this self-same road years ago and who has learned to care nothing for the empty husks of public office, so long as those who wear these trappings of authority give to the American Federation of Labor the things it wants!—and to which, on occasion at least, I am persuaded it was not entitled—at least not in the manner in which it obtained them.

In order for a farm or any other kind of organinzation to live it must be fundamentally constructive. It must come upon the scene with a program which will be stronger tomorrow than it is today—which has about it the aroma of the "fleshpots," for we are all human—which is something more than mere idealism—which will make it of positive advantage for farmers to be on the inside rather than on the outside — and such an organization can never be constructed out of mere political excitement or "issues" which are a roaring bonfire one moment and a mass of dying embers and ashes the next. As the reader has long since learned, the Farm Club leaders of Missouri take exactly the opposite view from all these propagandists. On the contrary they believe that the farmer's battles must be fought out in the market place—that it is a business and not a political problem, and hence, in a very matter of fact though tremendously earnest way, they are setting about to beat the other fellows at their own game!

THE NEW FARMERS' MACHINE

Therefore, for the last time I repeat that the Farm Club leaders of Missouri believe that the only way to put the farmer on an equal footing with the manufacturer, merchant, banker and organized labor and compel "production cost, together with a reasonable profit for the fruits of the farmer's sweat and toil," is to acquire the ownership and control of the agencies through which the products of the farm reach the distributor and consumer—that but a small fraction of the tribute which the speculator and monopolists have been exacting will in a few years pay for these agencies outright—that, in short, there is no hope for the farmer if he is to toil the whole year through and then finally pass through a narrow little lane with the "toll takers" stationed at the other end—and I believe the more the reader contemplates this new program, the more he will conclude that, at last, keen business acumen rather than mere sentimentalism has made its appearance in the forum of American agriculture.

In the meantime, as I have previously said, any farm organization program which is to get anywhere must have about it the aroma of the "fleshpots"—and while I mean this only in the wholesome sense of the word, I mean it nevertheless. The farmer as well as other men is human and therefore demands results—not at some dim and distant time, but today! Here and there the eyes of a far-seeing one may rest on the snow-capped summit of the mountain—but for the most part our gaze rivets only the level of the horizon immediately in front of us and therefore while the Farm Clubs intend deliberately to spare the life of the country town, their dealings in mill feed, flour, coal, cottonseed meal and cake, linseed oil meal, commercial fertilizers, binder twine, etc., is by no means a pink tea affair—and through the directors of the State Association they are buying these commodities by the hundreds of cars at prices which no ordinary local dealer can hope to touch—and these things serve to "prime the pump" and thus already we have inducements to offer which mean that the average Missouri farmer wants to get into a Farm Club every whit as much as the leaders want him in. A favorite slogan of the organizing squads is, "Your first barrel of flour will pay your annual dues." If you don't believe this sort of an appeal will be attractive, just call a bunch of farmers together at some little school house and try it; and once within the fold, it doesn't take them long to catch the larger vision—to see the distant peaks of the mountains and be willing to toil through the briars and brambles of the crags and canons that intervene.

In the past, the different farm organizations have organized here, there and yonder—wherever they could get a foothold. But the Farm Clubs work on a different principle. They try to make a "clean sweep" as they go; therefore, the moment one club is organized in a community, that club immediately invites in the farmers from the adjoining districts to a joint meeting at which time an order will perhaps be made up for a mixed car of mill feed and flour; but be that as it may, these adjoining districts are invited in in order that they may go back to their respective school houses and organize themselves. If there are some weak districts, these farmers usually "split up" and join the clubs closest to them. As soon as possible, a regular organizing squad is formed—for the first goal is always to organize solidly around a given shipping point in order that carload commodities may be handled to advantage. Plenty of literature is always supplied through the official organ and some months ago the writer prepared a Farm Club address which briefly sets forth the purpose of the movement, and the reading of this address is usually the first thing on the program wherever a new club is being organized. As soon as a given community has been solidly brought into the line, then the "organizing squads" begin to "set fire to the prairie" at some other shipping point—often driving eighteen or twenty miles in their automobiles after supper—when the above performance is repeated.

And here is the great and vital thing in the Farm Club plan—the fact that the work of organization is being done by farmers themselves! If you want the answer to the remarkable progress which this great movement is making, it is because back of it are thousands of farmers whose hearts and souls are aflame with the things they are doing—an enthusiasm which can never be brought into being by paid organizers or paid officers who work for so much per day or year. And it is intensely interesting to watch the new machine in motion. If tonight the reader could climb into an automobile with an "organizing squad," when they reach the "new school house" he would no doubt see from eighteen to twenty-five farmers — non-committal, hesitant and doubtful—but after two or three hours talk, entirely willing to fall in line; but should he return to this same school house two or three months hence, he is very apt to be astounded at the transformation which has taken place—to find the president delivering a real "address" with a half dozen others literally bursting with things to say on the subject of the evening. It is only through the "melting pot" of these school house discussions that we will ever be able to develop a militant farm leadership equal to the great tasks which confront us—and to this end, a series of Farm Club discussions have been prepared in pamphlet form, comprising such subjects as "The Packing House Situation," "Farmer Owned Flour Mills," "Dealing in Futures," "Co-operative Elevators," "Co-operative creameries," "Live Stock Shipping Associations" — and in order not to neglect the purely educational questions, there are such other subjects as "Rural High Schools," "Growing Alfalfa," "Cowpeas, Soybeans and Rape," "Commercial Fertilizers," "Balanced Rations," "Soil Fertility," "The Federal Land Bank," "Butchering on the Farm," etc. At the last meeting the pamphlets on the subject which is to be discussed at the next meeting are handed out to the different members so that they may prepare themselves in the meantime — and this means that every meeting night is full of vital interest—a veritable "night school" at which these farmers are discussing the great throbbing problems of American agriculture as they never discussed them before. Is there any wonder that such a movement should have heart and soul behind it? If it had started even ten years ago, would not the American farmer be an economic force overshadowing all other forces in the nation today?

THE COUNTY FARMERS' ASSOCIATION

As soon as a thousand or more farmers within a given county have been brought within the fold, a County Farmers' Association is formed with a president, treasurer, and usually a board of not less than fifteen directors; later on, these directors choose from among their number an executive committee of five who select a county secretary, determine his salary and also take charge of the general affairs of the association. The secretary, who is usually some bright young farmer, is the connecting link between the various clubs in the county and the State Association—that is, he finds out what the different local clubs need and then sees to it that they are supplied. But he does a good deal more than this; in practically all the counties where county associations have been formed thus far, the county secretary will open an exchange during the coming winter months where club members may list free of charge any live stock, feed, farm implements, seeds, poultry, etc., they have for sale—and the rendering of this service alone for 1,500 or 2,000 farmers in any average county will pay the secretary's salary of $75 or $100 per month. Already this exchange is being maintained in a number of counties in a small way and so useful is the service proving that it is certain to soon become a fixture in all of them.

During the coming winter a great deal of attention will also he paid to the building of farmers' elevators and the forming of live stock shipping associations—a number of which have been organized during the present year which already show savings of from $1,000 to $2,000 in their respective communities. Once the Farm Clubs have taken possession of a community, it is an easy matter to appoint a "shipping manager" who receives the live stock on appointed days, accompanies it to market, and in this way club members get exactly what their stuff brings at the stock yards, minus their share of the shipping and selling cost. Likewise, the clubs near a given shipping point usually appoint some capable secretary to look after incoming shipments of mill feed, flour, coal, etc. Thus the reader gets a better idea of what I mean by the "fleshpots"—for the Farm Clubs have a program which means the saving of money right from the start and therefore the members are not compelled to exist altogether on the noise of the band. At first local merchants were inclined to become panic-stricken, but when they learned that the Farm Clubs contemplated no assault upon the regular commercial lines, except that they proposed to take over feeds, flour, coal, etc., they were glad to become parties to the "compromise" and now, instead of looking askance at the movement, they frequently attend the Farm Club meetings.

THE STATE ASSOCIATION

The State Association is, in a word, the "big stick" of the county associations and the hundreds of school house Farm Clubs — a concentrated power which drives the big deals and which, as I have already said, in my humble judgment represents the greatest and best built farmers' machine ever constructed in the corn belt. In fact, taking the Farm Club organization plan from top to bottom, I doubt whether any aggregation of corporation lawyers could improve upon it very much.

Just now the directors of the State Association are perfecting the plans for a big Farm Club seed house in which all the good farm seeds of the state will be assembled, recleaned and tested, and then sold to Farm Club members on a basis which will "split" the seedsman's profit between producer and buyer; for this service, the man who has seed for sale and the man who buys it will perhaps pay between them a fee of 10 cents per bushel—or just enough to generously pay the cost of the expense entailed—and when one considers that 10 cents per bushel on 100,000 bushels of timothy seed will give the Farm Club seed house a margin of $10,000 for its services, it can be seen that this fee can no doubt be reduced rather than increased. In the meantime, not only will such a seed house save the farmers of Missouri hundreds of thousands of dollars annually, but they will at all times know where to get seeds that are clean and that will grow. Isn't it a wonder that somebody hasn't thought of this before — and doesn't it show the need of a powerful state organization of farmers in what we commonly regard as the "little things"?

Also, negotiations are now in progress to induce some of the large eastern loan companies to make farm loans direct to farm club members at 5 per cent net—thus saving them the 1, 2 or 3 per cent commission which for years has gone to

(Continued on Page Eight)



UNLOADING CORN IN DICKINSON COUNTY WITH MOVABLE ELEVATOR—A GREAT LABOR-SAVER

SPREAD IN CATTLE PRICES

Unusual Difference Past Year Between Tops and Bulk of Sales

By L. J. HORLACHER

ONE question concerning the cattle market which has been more often asked by feeders and cattle growers this year than ever before, is this: "Why is it that when the top cattle market was quoted at $16.50, my cattle sold for only $12.50?" It is true that there has been a wider spread this year than ever before between the top prices and the bulk of sales. While prime corn-fed steers were soaring toward the $18 mark the great majority of sales fluctuated little more than three dollars and continued on practically the same plane as before. Some of the factors which caused this unusual condition, and other factors which exert a steady influence from year to year, can be well set forth by taking for an example the great central market of Chicago as representative of conditions throughout the whole country.

The market for the year opened with a healthy undertone and a spread of less than two dollars between top and bulk sales. Competition was keen and there was an outlet for everything from quality to trash. The eastern demand for cattle was unseasonably broad. A good price was maintained because of the fact that fat bullocks weighing 1,400 pounds or more were unusually scarce. Orders for British and French army beef created a large demand among killers for steers of 1,200 pounds or more, regardless of quality. The supply could be classified as "a crop of bad cattle," with a low dressing percentage, most of which was at least sixty days short on the corn-crib cross. This liquidation was made possible because prevailing prices gave the feeders a profitable margin of two to three dollars.

There were a few fundamental factors which had a steady influence on the market for the whole year. The first of these was a scarcity of prime fat corn-fed bullocks. At the beginning of the year there was an unusual scarcity, but the returns for each succeeding week indicated a steadily decreasing supply. Reports showed that steers that had been fed corn only seventy-five days were sent in. Toward the last of January the following statement was made: "Prime bullocks have disappeared, $12 being a probable quotation for a load of blacks of the right weight and finish." This shows that the market was gradually swinging over to a place where the demand was for weight and a pinch of fat, a condition which actually occurred in a short time.

The high price of corn and other feeds was the big factor in the scarcity of prime bullocks. During the last of August and the first of September these feeds were so high and prime fats with lots of quality so scarce that top prices soared. A little fat on a drove of bullocks frequently made a difference of $2 per hundred. The demand for quality continually boosted the price until the crest of $17.90 was reached. The only thing that prevented an $18 sale of heavies was that at that time a set of Jewish holidays temporarily eliminated the New York kosher demand. With the kosher demand eliminated, weighty western stuff was made to do substitute duty for corn-feds. Prices declined and did not rise again because the public balked.

High prices cannot be paid for stuff that lacks size, quality, and finish. The bulk of the run consisted of steers that were sent to market from two to three months ahead of the time at which they should normally have been sent. During the first month a large crop of warmed-up stuff was sent in. From month to month conditions steadily deteriorated. A strong and steady liquidation of grassers served to hold down the price, with little fluctuation, although there was a slight gradual rise during the year. Although the war demand was great, yet because of lack of quality and finish the price could not rise any appreciable degree.

No market can stand up and be stable under excessive liquidation. High cost of corn and an apprehension that they would overstay a good market caused feeders to send in many western cattle prematurely. Toward the latter part of February prices showed signs of a severe break, due to the cutting off of eastern demand, milder weather, and other seasonable influences. But at this juncture the runs diminished greatly and prevented a break. The light run was attributed to feed lot depletion, a condition which the earlier excessive liquidation could not help but cause. Not one in ten feeders who had been running their cattle onto the market had reinstated the stock disposed of. If the demand has to be met by drawing on the future supply, then there is certain to be a scarcity later which will be keenly felt.

Another factor which at times threatened the stability of the market was car shortage. Although shippers could obtain the animals readily enough, yet eastern points to secure supplies.

Packers will pay good prices as long as they have a ready outlet for beef and by-products. The fact that the United States is practically the only country in a position to export beef in considerable quantities insures a continuance of high prices. Eastern demands and the demands caused by the war have given a steady outlet for the products of the packing houses. During the whole year each shortage in the run clearly showed that the demands upon the killers were very great. When the needs of the killers are great it is very seldom that a slight excessive run will send the price downward.

Reports and rumors will get started, and when once started they travel like wildfire. When the war came on and steps began to be taken toward food control, there was a great fear that the Government would arbitrarily fix prices. Because of the great advance in the price of corn and other feeds there was an apprehension that the price would be fixed below the cost of production. This caused a large run and liquidation with a resulting decline in price of one dollar per hundredweight.

During the fore part of June there is always a seasonal spread-widening. At this time liberal receipts of grass cattle begin to come in, especially in the southwestern markets. At this time speculators get out and vigorously prosecute the gathering, so that the price level must necessarily become proportionately lower. The continuous flood of light and grassy stuff that comes in is always demoralizing. This run is generally aggravated in July by drouth in Texas and the southwest states. At different times during the whole summer drouths occur in various sections of the range country and make it necessary for cattle to be sent to the market prematurely. In the latter part of August, when the movement from the Southwest has been reduced, the movement from the Northwest begins, thus tending to keep the market in a stable condition by maintaining the supply of grassers. If anything arises to prevent the smooth blending of these two movements, then the price will go up until a normal supply again comes on. By the last of September the regular fall avalanche of little ill-bred steers of the dairy type from Wisconsin, Minnesota, and the Dakotas, occurs. Most of these go to the killers without competition, so that they can practically set any price which they wish to pay.

"Unstable cattle markets are the result of gluts everywhere." Enormous receipts wholly out of proportion to demand must necessarily cause a decline. Whenever this congestion is relieved a tonic influence is felt throughout the whole market.

Kansas Wins Club Championship

THE champion agricultural club of the thirty-three northern and western states is the Glenwood Mother-Daughter Canning Club of Leavenworth County, Kansas. This information has just been received from O. H. Benson, States Relations Service of the United States Department of Agriculture, who has charge of the boys' and girls' club work in the northern states. This honor was competed for by corn clubs, pig clubs, canning clubs—in fact every kind of club supervised by the state club leaders in the northern part of the United States. Each club entering for the championship honor had to furnish certified copies of all its records and complete statements with supporting letters telling of its activities. In other words, the committee having the task of deciding which club had won the coveted honor demanded the most complete evidence that the clubs making claims for recognition had actually "delivered the goods" in the fullest sense.

KANSAS FARMER readers will recall that our representative who attended an exhibit and demonstration meeting of the Glenwood Club held in Leavenworth last December, told in our issue of December 30, 1916, of its remarkable achievements. Mr. Benson, who was present, said that he had attended big fairs and expositions all over the country, but up to that time had seen no community canning exhibit equal to the one made by this club at its Leavenworth demonstration meeting. He had recently visited the display of canned products at the Eastern States Exposition held in connection with the National Dairy Show at Springfield, Massachusetts, and this exhibit was not more than twice as large as that of the Glenwood Club, although $15,000 had been appropriated to get the products together and ten states were represented. The members of this club were competing for the national honors in mother-daughter canning clubs at that time, and later were given first place. Now it brings added honor to Kansas in being rated as the champion agricultural club of the United States.

This honor which comes to Kansas through the Glenwood Club was the result of work done in 1916 when with twenty-nine teams approximately 11,000 quarts of fruits, vegetables, and meats were canned. No team canned fewer than twenty-one varieties and one team put up 253 kinds of products. This year the club has thirty-seven teams, and it is expected that the final report on the work will show an increase over the number of cans filled last year. One mother and daughter have canned 1,023 quarts.

The Glenwood Club was the first mother-daughter canning club in the United States. It was organized in 1915 by P. H. Ross, then county agricultural agent of Leavenworth County, and Otis E. Hall, state club leader, and was composed of eleven teams of twenty-two members. These teams canned 2,900 quarts of products.

In the Glenwood community is a small frame church which stands in the open country four miles from a town, and school house a mile distant from the church. The Glenwood Club has made itself responsible for the renovation and repair of the church, for the improvement of the church and school yards, and for better paid teachers. The county farm bureau has been strengthened, a community club which includes all members of the families represented in the canning club has been organized, and the whole neighborhood has been united for work and for pleasure as a result of its activities. Members of the club are preparing and serving free of charge hot lunches for the school children. The school board provided the equipment.



Three years ago the women of the Glenwood Church community were canning only the common fruits and tomatoes. Today the accomplishments of the Glenwood Mother-Daughter canning club, the first of its kind in the United States, are known throughout the country. Its activities have been filmed and shown in moving pictures all over Kansas and in many other states, thus serving as a source of inspiration for hundreds of other similar clubs.

Glenwood Church had been abandoned for two years. The community spirit developed by this club has revived the religious life of the neighborhood. The church building has been repaired, a piano has been purchased, walls decorated, and carpets, stoves, light, and other improvements installed.

Case Against Rats and Mice

Rats and mice are among the worst animal pests in the world, according to biologists of the United States Department of Agriculture.

From their home among filth they visit dwellings and store rooms to pollute and destroy human food.

The rat carries bubonic plague and many other diseases fatal to man and has no doubt been responsible for more untimely deaths among human beings than all wars of history.

In the United States rats and mice destroy each year in homes, in factories, stores, and warehouses, in cars and on ships, crops, poultry, and other property valued at more than $200,000,000—an amount equivalent to the gross earnings of an army of 200,000 men.

Grain eaten and wasted by rats and mice on many farms would pay all the farmers' taxes.

Rats and mice breed from six to ten times a year, producing their destructive kind at an alarming rate.

They are parasites without a single redeeming characteristic.

A good many of our readers in Western Kansas tried Mexican Pinto beans the past season. We would be very glad to have reports of results, whether a success or failure, and particularly where one or more acres were planted. This information may be of value in future years.

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KANSAS FARMER DAIRY CLUB

Another Prize Record

BONNIE BELL, the cow milked by Glen Romig, of Topeka, in the first year's work of the Kansas Farmer Dairy Club, produced over 13,000 pounds of milk and almost 500 pounds of butter fat. We give on this page the summary of her year's record.

She was shipped in from Wisconsin and freshened the day after being unloaded in Topeka. She was rather low in flesh, and a considerable portion of the feed she consumed was used to build her up and get her into what dairymen call "working condition." The column in the summary giving the feed cost looks high, but we have reminded Dairy Club members a good many times that a cow takes what she needs of the feed for her own body before using any for milk. Bonnie Bell was doing this and closed the year in good shape to start off for an even better record.

The actual cost of the feed she consumed for the year was $120, the uniform prices used in the contest being somewhat lower on some items.

Glen won fourth place in the contest and has been awarded the No. 34 Empire cream separator offered by the Empire Cream Separator Company, Plamondon Building, Chicago, Illinois. He is now milking a registered heifer in the advanced class of the Kansas Farmer Dairy Club. Here is his own story of the year's work with Bonnie Bell:

"One year ago Mr. S. E. Cobb, vice-president of the Bank of Topeka, asked my father if he had a son who would like to join the Dairy Club. My father said he would find out, and when he came home he asked me if I would like to join. I answered that I would be glad to do so. In a few days my father and I went to the bank to see about getting the money. That was the first time I had met Mr. Cobb to talk with him. I am sorry I had not met him sooner, because it does one good to meet and do business with such business men. Mr. Cobb was glad to loan me the money with which to buy my cow.

"My father was dealing in Holsteins then, and was shipping from Wisconsin. April 9, 1916, he brought in a carload of fine cows and heifers and said I could have my choice for $125. That evening I picked out my cow and named her Bonnie Bell. She was a large, light-colored cow weighing about 1,200 pounds, and in poor condition because that day she had just finished a long, hard trip. I picked her out because of her good disposition, good points as a dair cow, and on account of her being young—only five years old. I thought I would have about two weeks to feed her up before she freshened, but to my great surprise she was fresh that night and had a fine heifer calf. Until I got her built up a little she was in no condition for the contest. I was glad to find she was a good feeder, and it did not take long to get her in fair condition, although she did not do as well as if she had had a longer wait after shipping.

Glen Romig's Year's Record

Month—	Total Milk	Test	Total Butterfat	Average Elgin Market for Month	Value of Butterfat Based on Elgin Market	Total Cost of Feed	Profit for Month
April—5 days	[illegible]	3.1	7.77	.3420	$ 2.66	$ .75	$ 1.91
May.	1,[illegible]	3.1	56.06	.2912	16.32	9.55	6.77
June.	1,68[illegible]	2.8	47.22	.2862	13.51	10.93	2.58
July.	1,299.[illegible]	.1	53.27	.2762	14.71	10.51	4.20
August.	992.5	4.2	41.68	.2988	12.45	7.62	4.83
September.	990.0	4.0	39.60	.3225	12.77	7.48	5.29
October.	1,068.5	3.4	36.32	.3462	12.57	10.99	1.58
November.	906.5	3.8	34.44	.3862	13.30	8.40	4.90
December.	913.5	3.8	34.71	.3850	13.38	9.33	4.03
January, 1917	913.5	4.5	41.10	.3825	15.72	8.77	6.95
February.	770.0	4.7	36.19	.4033	14.60	7.44	7.16
March.	859.0	4.5	38.66	.4100	15.85	8.64	7.21
April—25 days ...	654.5	4.7	30.76	.4275	13.15	5.94	7.21
Totals.....	13,112.83		497.78		$170.97	$106.35	$64.62

"I started my record April 26, and from that time on for about two months she gained slowly in milk until she reached sixty-two pounds a day. For the following two months she milked fairy well, from fifty-five to sixty-two pounds a day. I was then feeding a mixture of 100 pounds of corn bran, 200 pounds of wheat bran, 100 pounds of corn chop, and 25 pounds of oil meal, at the rate of 18 to 20 pounds a day, besides the bluegrass pasture, later in the season feeding her all the alfalfa and silage she would eat. I thought she needed more oil meal, so one day I mixed twenty-five pounds more in with the other feed, and she got too much, which knocked her off her feed. This caused her to go down to forty pounds of milk a day, and I did not get her back, but she did fairly well considering everything. For the entire period she gave a total of 13,112 pounds of milk containing 497.17 pounds of butter fat.

"The milk I sold at wholesale for $2.25 a hundred pounds. Over the cost of the cow, which was $125, and her feed, which was $120, I cleared $10, besides a fine heifer calf worth easily $75 and the cow, which was worth more at the end of the year than I had paid for her.

"I still have the calf and she is doing fine. When she was a young calf she had a nurse cow until she was six months old. She is due to freshen May 24, 1918. I do not know whether I will sell her before then or not.

"In July Claude Carter, from Meriden, Kansas, come down here with his father looking for a cow for the second Kansas Farmer Dairy Club. He liked my cow, and as I wanted to sell her in order to get a registered heifer for the advanced class of the Dairy Club, I offered Bonnie to him for $165. The following week he came down and took her home with him, well satisfied with his buy.

"I am sure Bonnie Bell, with the right kind of feed and care, will make a better record this year than last on account of being 'prepared.'

"In closing, I am glad to say that I was one out of the many boys and girls of Kansas to be in the first Kansas Farmer Dairy Club, and I am sure it was a great help to all of us. Even if some of us do not win one of the prizes given by different individuals and companies, we do win one prize—that is our cow and calf—so we should all feel satisfied, trying harder through the coming year."



BARN AND SILOS ON ROMIG DAIRY FARM.—NEW WING HAS BEEN ADDED AND MODERN EQUIPMENT INSTALLED

Persistent Milkers Profitable

Persistent milkers—the kind that milk well for a whole year, not the type that yield abundantly at first and then soon drop down in production—are the winners in the long run. The steady cow is usually the most profitable one. This is an important point for beginners in dairying to understand.

Some cows in the co-operative dairy work conducted by the Ohio Experiment Station have yielded considerably above the average at the first of their lactation periods, but within two or three months their yield would fall nearly a third and by the end of the period would be only a fourth of the original production. The average daily yield for the period was found to be more than seven pounds less than that of cows having a comparatively uniform record from month to month.

Cows tend to decrease in milk flow as the lactation period advances. The milk yield of ninety-six Jerseys fell 47 per cent and their fat record 42 per cent in ten months. Ninety-six Holsteins decreased their milk 49 per cent and their fat 47 per cent in the same time. The percentage of fat gradually increased as lactation advanced.

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Your money is on the way to you in 18 minutes after your shipment reaches us. We do the biggest hide and fur business in the Southwest. Deal with the house that stands back of every promise.

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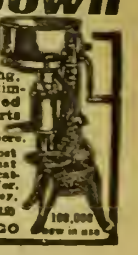
$29 Buys the New Butterfly Jr. No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime. Skims 95 quarts per hour. Made also in five larger sizes up to No. 8 shown here.



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During these times of high-priced feeds and high-priced live stock, a little figuring may mean a good many dollars saved on the feed bill this winter. One of our county agricultural agents was talking to a cattle feeder the other day and the question was brought up as to the relative costs of cottonseed meal and corn for wintering 700-pound calves as stockers. After looking up a few figures on the comparative nutritive value of corn and cottonseed meal for wintering calves, the feeder said that he considered the information worth many dollars to him. Are you feeding the most economical feeds for the class of animals in your lot? Are you furnishing material for maximum growth or are you fattening your animals at the expense of maximum growth?

Seed corn, acclimated to this locality, will sell at a premium next spring.

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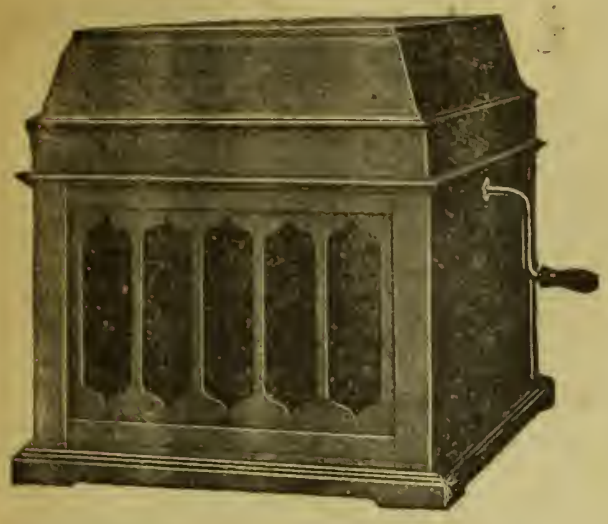

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If you will write the nearest Edison dealer *at once*, it may not be too late to have an Amberola in your home for Christmas. As a Christmas gift that will be appreciated by the entire family, the New Edison Diamond Amberola is ideal because there is hardly a person who does not like some kind of music.

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Here are a few selections taken at random from the Edison Blue Amberol Record Catalog. They will give you an idea of what a treasure-house of music you will have to draw on when you get your Amberola.

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Carnival of Venice—Vanations
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My Sweetheart Waltz

BAND
American Eagle March
Aida March
Coronation March—Prophete
Father of Victory March
Gems of Scotland
Invitation to the Waltz
Jolly Fellows' Waltz
Loin du Bal
March Religioso
Medley of War Songs
Messenger Boy March
Sextet—Lucia di Lammermoor

CONCERTINA
The Butterfly
Catch Me If You Can, Dance
Merry Widow Waltz

CORNET
Bride of the Waves
Come Sing to Me
A Dream
Nightingale Song
The Rosary

FLUTE
Hear Me, Norma—Norma
Long, Long Ago

HARRY LAUDER
I Love a Lassie
Just a Wee Deoch and Doris
Roamin' in the Gloamin'
She's My Daisy

MARIMBA BAND
Blue Danube Waltz
Garden Dance
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Sari Waltz

INSTRUMENTAL MEDLEYS
Hawaiian Hula Medley
Medley of Southern Plantation Songs
Money Musk Medley—Virginia Reel
Selections from Red Mill
When it's Apple Blossom Time in Normandy Medley—Turkey Trot

INSTRUMENTAL QUARTETS
Dream of the Tyrolienne (Herd Girl's Dream)
Flower Song
Hearts and Flowers
Serenade

OLD TIME SONGS
Carry Me Back to Old Virginny
Just Before the Battle Mother
Killarney Lost Chord
Love's Old Sweet Song

ORCHESTRA
Destiny Waltz
Every Little Movement—Madame Sherry
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OVERTURES
Morning, Noon and Night in Vienna Overture
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Rienzi Overture

PATRIOTIC
Battle Cry of Freedom
Star Spangled Banner
Where Do We Go From Here?
It's a Long Way to Berlin, but We'll Get There
We're Going Over
Over There Laddie Boy
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Good-Bye Broadway, Hello France!
I May Be Gone For a Long, Long Time
U. S. Army Bugle Calls—No. 2
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PICCOLO
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Little Cotton Delly
In the Golden Afterwhile
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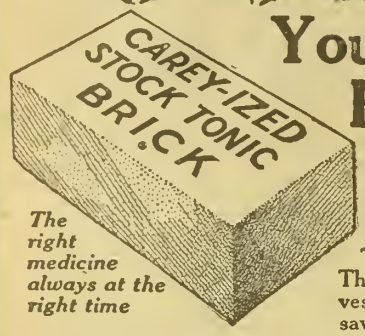

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Your hogs are in constant danger from worms, cholera, pneumonia, digestive troubles; germs in the air, in the dust, in the grass; danger in new corn, change of seasons, contact with other hogs, etc.

Take no chances with your hogs this year. They're too valuable. A few cents per hog invested in Carey-ized Stock Tonic Brick may save you hundreds of dollars.

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Is composed of powdered gentian root, sulphate of iron, bi-carbonate of soda, sulphur, carbonized peet, charcoal, quassia and pure dairy salt—all properly proportioned to insure a complete health prescription. Solid brick form makes it easy and economical—preserves its full medicinal strength to the last ounce.

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Equally good for hogs, cattle, sheep and horses. Supplies needed medicine, and salts animals at the same time.

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5A Storm King Horse Blanket

The old reliable and most popular medium-priced square Horse Blanket. Exceedingly warm and strong. Wears years and years. Very large and heavy—84 inches by 90 inches. Beware of imitations. Sold by the factory direct to your dealer.

WM. AYRES & SONS, Philadelphia, Pa.

Makers of a Superior Line of 5A Motor Robes

The slaughter of dairy cows in war-ridden Europe places upon the people of America an obligation not only to provide themselves and the American boys in the trenches with this indispensable article of food, but to provide also for their allies, that the war may be won for democracy. And, also, that when the war is over, and peaceful pursuits resumed, they may be able to restock the old world with dairy cattle. These obligations make imperative a greater interest than ever before in the business of dairy farming—make imperative a continued effort towards the stimulation of this important industry.—W. E. SKINNER.

FARMERS SOLVING PROBLEMS

(Continued from Page Four)

the local loan agent. The present plan is to negotiate these loans through the various county secretaries—and had not the war intervened the plan would unquestionably be in operation at this moment. This gives the Farm Club member who doesn't care to avail himself of the Federal Farm Loan Act a chance to get money for five, ten or more years at 5 per cent net—and had this plan been in operation in the corn belt during the last twenty-five years it would have saved our farmers millions of dollars in bonuses and commissions.

As soon as the State Association gets in good running order it is also intended to fatten and condition horses and mules in the various counties, and then, placing experienced horse and mule men in charge, ship and sell them direct to the southern planters and to other markets, thus saving to the farmer the margin of from $30 to $50 per head which from time out of mind has gone to the local buyer and to the big horse and mule dealers, some of whom have made millions of dollars out of this traffic.

To show that the directors of the State Association also are not unmindful of politics, at their last meeting it was decided to employ the biggest lawyer in Missouri to represent the Farm Clubs before a special session of the legislature which will convene during the coming winter to consider certain phases of the tax laws. And whoever heard of the farmers of a state going at things in this way—not with some little two-by-four lawyer, but with the ablest one available? Truly, it smacks of the methods of Wall Street! And mind you, these plans and things proceed from an organization not over eighteen months old!

THE ANNUAL DUES

And now the reader will naturally ask, what is all this going to cost the farmer, and the answer is, $1.50 per year. Of this sum 50 cents goes to the schoolhouse Farm Club, 50 cents to the County Association, and 50 cents to the State Association; about all the local club expense is confined to stationery, etc., the heaviest burden falling upon the County Association—and in order that the latter may not lack for funds, an assessment of 10 per cent is levied on the profits of the individual clubs, for in this way the heaviest expense falls on the members who have saved the most money; thus a cattle feeder who has saved $100 on cottonseed meal or cake will have to contribute $10 to the County Association, whereas the small farmer who has saved $25 will only have to pay $2.50. But mind you, these contributions are from profits, while the actual annual dues are only $1.50.

When the State Association has 100,000 members—and this time is not far off—the 50 cents per member will give it an annual fund of $50,000, and this the directors consider ample for the employment of a $5,000 secretary and a corps of able assistants, stenographers, office rent, etc. In fact they expect to have some "sinews of war" left over every year and it can therefore be seen that the idea that farmers should pay dues of from $5 to $8 per year is nonsense—unless they expect to feather the nests of a lot of "leaders" and paid organizers, and such gentry have no place in the Missouri Farm Club plan.

This, "in the rough," is the story of the Farm Club movement in Missouri, which, in my humble judgment, merits the serious consideration of every thinking farmer in the United States. Should the reader be impressed with the plan and desire to call a school house meeting in his district, he can get full details through the editor of KANSAS FARMER, so that the work of organization may begin at once; also, the wholesale prices of the various concerns which are supplying our Farm Clubs will be extended without charge to such new clubs in the states surrounding Missouri, or wherever freight rates make it practicable. In offering this temporary aid, it is not the intention of the Missouri Farmers' Association to extend the scope of its activities. On the contrary, we intend it only as a "first aid" measure—and once having made the start, through the assistance of the high class farm paper in your state you will no doubt soon be in position to build a working machine of your own. What the Missouri Farmers' Association is after is the co-operation of the farmers of other states—for only in this way will it be able to carry out the larger things it has in view.

In conclusion, let me impress upon the reader that along with the nation the American farmer is confronted by the gravest hour in his history. On the one hand the time has come when we can no longer submit to conditions which, like a malignant cancer, are eating into the very vitals of American farm life—things due to years of neglect—a neglect which has reduced the farmer to a station where he cuts little or no figure in the economic life of the nation and wherefore it was not a matter of much surprise when some months ago Congress compelled us to accept a maximum price on wheat without giving us any protection on the things we buy and for which the seller is at liberty to "get all he can while the getting is good."

On the other hand stand organized labor and organized wealth—deadlocked in a grapple which is more and more losing sight of the general welfare of the republic—a stranglehold which the nearly seven million farmers scattered far and wide alone have the power to break and thus not only save these forces from each other but the nation from both of them.

And then what of that hour when the bloody tragedy across the seas shall have ended—when the battle flags are furled and the soldier boys come marching home again—when a lot of bankrupt nations will begin a struggle in the world markets no less pitiless than is the present struggle in the trenches? In that hour, will be still be divided like so many sheep, or will we be found standing shoulder to shoulder for the just rights of the American farm home and exemplars of a humanity which henceforward shall remember that nations as well as individuals are their "brother's keeper"? Upon our answer hangs not merely the fate of American agriculture and the republic, but in no small degree the civilization of the future. And there is little time to doze beside the kitchen stove pondering our answer.

EDITOR'S NOTE—This concludes the series of articles by Mr. Hirth telling of the Farm Club movement in our neighboring state. We welcome correspondence from those of our readers who have been thinking along these lines.

Cane or Kafir Poisoning

There have been a good many reports of losses of cattle running in fields of cane, kafir or cornstalks. Deaths at this time of the year may result from one of several causes, says Dr. R. R. Dykstra of the veterinary department, Kansas Agricultural College.

It has been demonstrated conclusively that these fodders, especially when frosted or stunted, or when a second growth has taken place, contain the elements that form prussic acid in the stomach of the animal. If they are consumed by an animal, death is almost instantaneous and therefore treatment is seldom of avail.

The internal administration of large doses of ordinary molasses has been recommended to neutralize some of the elements that form the prussic acid. This treatment is of value only before absorption of the poison has taken place. As a precautionary measure, only one or two animals usually are turned into a suspected field. If no ill results follow, the chances are that the field will be safe for the remainder of the herd. A chemical analysis is not practical, because only a few stalks in a field may be poisonous.

A common cause of death of animals in stalk fields is an infectious disease known as hemorrhagic septicemia. In its acute form death takes place quickly, so that in many cases the owner observes no symptoms. This disease may be prevented by the use of a hemorrhagic septicemia vaccine injected under the skin. Such vaccines are for sale by all veterinary supply houses.

Thirty-five pure-bred Holstein calves have been shipped into Morris County through the efforts of A. L. Clapp, county agricultural agent, and the bank at Burdick. These calves range in value from $50 to $125 and were distributed to boys in the vicinity of Burdick at cost. At the time of distribution of these calves Prof. O. E. Reed talked to the boys on the selection and care of pure-bred dairy cattle.

In times of stress, freedom from disease is our country's most efficient defense.

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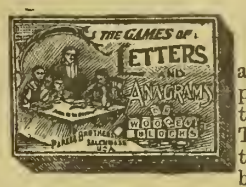
This knife is a fine present for a boy or a man. It is a two-bladed knife of best tempered steel and stag handles. Size of knife closed, 3¼ inches. The knife will make a creditable present for anyone, or it is a handy, useful article for any time. FREE with your subscription to Kansas Farmer.



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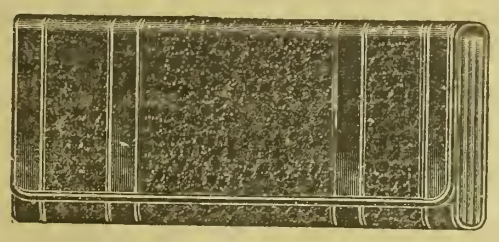

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FOR EXCHANGE

320 Acres of Good Improved Corn and Wheat Land

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EIGHTY ACRES, 4½ miles from Osage City; 45 acres in cultivation, balance grass, north slope; 4-room house and summer kitchen, cellar and good well; barn for 10 head with loft; wagon and cattle shed, two hen houses. Must sell. Price, $3,200. $1,700 can run four years at 5 per cent. 240 acres of grass, can be used for hay or pasture, 3 miles from shipping point. $40.00 per acre.

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James Kremer wrote that he would not take $2 for his knife.

John Streetor said it is easily worth $1.50. It is a real knife, with best steel.

Send me your name on a post card and I will tell you how to get it for less than an hour of your time. Address

HARRY LEONARD, MANAGER
Kansas Farmer Bldg. Topeka, Kansas

In feeding brood sows, ground alfalfa, alfalfa leaves or a good grade of alfalfa hay can be used to good advantage along with corn in place of meat meal tankage or skim milk. It is essential, however, that the pregnant sow eat from one to one and one-half pounds of the alfalfa per day if good strong litters are wanted. In case the alfalfa is not eaten from the racks to this extent, some substitutes should be provided, or else methods of alfalfa feeding adopted to insure this minimum consumption of hay. Such feeds as wheat middlings or linseed oil meal may sometimes be used to advantage, but as a rule the other feeds would be preferred.

The sleeping quarters for hogs must be dry, well-bedded and as free from draughts as possible.



Country's Call For Hogs

WILL Kansas meet the call of the nation for an increase of 25 per cent in hog production next year? Only the failure of this state or some other state to do its part can defeat the organized campaign for a 15 per cent increase in pork production the coming year. All over the country our attention is being directed to the need and further to the possibility of increasing our pork production without undue risk of loss.

From Missouri, which is asked for 50 per cent more hogs, to West Virginia, to which is allotted only a 5 per cent increase, the state quotas have been carefully and logically worked out according to the corn and other feed supplies being harvested.

If we do not reach the quotas set, a more acute shortage of pork products than now prevails is almost sure to result, extremely high prices for hams, bacon and lard will prevail, consumers will suffer from the high prices and the shortage of necessary animal fats, and only a few will benefit. On the other hand, if the systematized program is carried out, a market will have been provided for about one-third of the 1917 corn crop, the demands on the country for pork products can be met without strain, prices to the producer should be remunerative under assistance pledged by the Food Administration, and prices paid by consumers should be reasonable.

The figures given below in tabular form furnish some insight into the conditions as to hogs and the corn that will be available for finishing them.

HOGS ON FARMS SEPTEMBER 1

1916	65,645,000
1917	60,218,000
Decrease	5,427,000

THE CORN INCREASE

1917 crop, bushels	3,191,083,000
1916 crop, bushels	2,583,241,000
Increase	607,842,000

There is the gap—from a decrease of more than 5,000,000 hogs to an increase of more than 607,000,000 bushels of corn—that hog raisers are expected largely to close up. Closing it by breeding more hogs is not only one of the big opportunities but one of the big obligations of American farmers. Other equally convincing figures enter into the equation but these are sufficient for present consideration; they show the reason for the "more hog" campaign, now at its height, to urge that sows be bred in increased numbers now to insure the needed number of pigs next spring to eat the surplus of the 1917 crop.

That the farmers of the country will respond as "minute men" in the hog emergency is the belief of officials of the United States Department of Agriculture who are urging in conferences with live stock men definite hog increases by states, and who have just returned from a trip through the corn belt.

With the government backing them, through emergency legislation, as it never has before, farmers never have had greater assurance that their efforts would be justly compensated. The Food Administration has said that, until further notice, prices, so far as it can influence them will not go below the minimum of about $15.50 a hundred, for the average of the packers' droves on the Chicago market. Furthermore, it has said as to hogs farrowed next spring: "We will try to stabilize the price so that the farmer can count on getting for each 100 pounds of hogs ready for market thirteen times the average cost per bushel of the corn fed into the hogs." Experience has shown, point out experienced hogmen, that this ration of thirteen to one is liberal, and that it should stimulate hog breeding now. The Department of Agriculture, with increased forces, also stands ready to aid farmers in any way it can.

That is the immediate war duty of farmers: Breed sows now—and gilts if necessary. Breeding should be hastened. In the North it may be done until as late as February in some sections. But the sooner the new pig crop can be obtained, the sooner the urgent meat needs of the world can be met.

Turning Feed Into Meat

As a result of the strenuous and patriotic effort to increase the production of crops of all kinds, the nation as a whole has greatly increased reserves of animal feeds. According to the latest estimate, the increase in corn will be 607,842,000 bushels; oats, 328,722,000 bushels; barley, 20,732,000 bushels; rye, 8,661,000 bushels, or a total of almost a billion bushels of grain.

Will the largely increased feed crops be consumed and turned into human food? Will we breed sows now for a pig crop next spring large enough to take care of the hogs' share of the big 1917 corn yield? Can cattle raisers take their share of the feed harvest, especially the soft corn?

This is the first season of production in the war emergency and it shows marked increases in feedstuffs. We are asking ourselves about the next obligation—converting the feeds into meat and other food products—can this be successfully met? Upon the consumption of the 1917 feed crops depends the success of growing greater crops next year. Those who have produced are not likely to carry out proposed crop increases in 1918 if large surpluses of the 1917 harvest remain unfed in the bins.

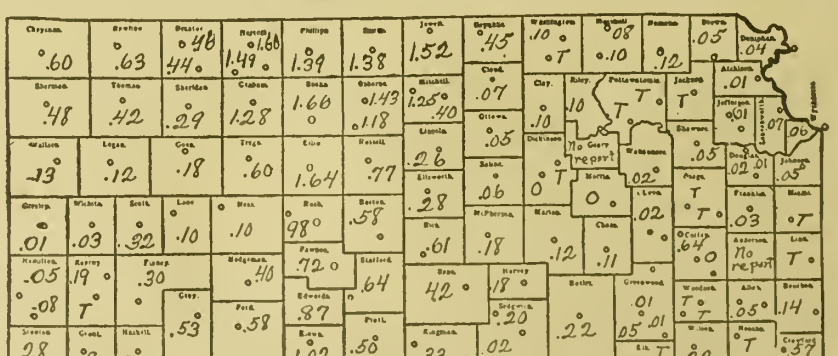
Live stock makes the corn crop marketable. Of the normal crop 75 to 80 per cent is annually fed to stock. When the yield is greatly above normal a still greater proportion must be fed in order to make the remainder marketable at a profit.

The Department of Agriculture estimates that 20 per cent of the corn crop this year will be soft. This soft corn can only be used for live stock. The increase in cattle feeding in the corn belt can be depended upon largely to take care of the soft corn situation in the states which are called upon for an increase in pork production. It is reasonably safe to assume, in view of the heavy southern corn crop, which is in unusually good condition, and the fact that most of the corn crop always is fed to live stock, that there will still be an abundance of corn of a marketable quality to meet the usual market demands and insure reasonable prices for corn to feeders who must purchase grain.

Department of Agriculture men who have just returned from conferences and campaign trips for more live stock believe that farmers of the country will rise to the present emergency. At the same time they realize that extra efforts must be made by all the live stock producers—beef and mutton producers as well as hog growers. Definite campaigns to promote increases in all live stock, particularly to urge the breeding of more sows at this time, are measures that should be kept to the front.

Rainfall Over Kansas for November

Reports Furnished by S. D. Flora, Meteorologist, Weather Bureau, Topeka



THIS was one of the driest Novembers ever experienced in nearly all of Kansas, except the north central and northwestern counties. Combined with September and October preceding, it had scarcely more than 50 per cent of the moisture that fell during the same period last year and makes the driest fall the state has experienced in the past twenty-nine years.

The weather was fine for outdoor work all month, but the ground dried out so much, both on the surface and in the subsoil, that wheat made little or no growth and was badly in need of a soaking rain or heavy snow in most parts.

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Government Buys Furs

The United States Government is in need of muskrat pelts for the lining of army clothing, aviators' coats, and for caps and coats of all branches of the military and naval service.

At the recent St. Louis fur sale, the allied governments bought 790,000 pelts of these animals on the closing day. Skins that formerly brought 5 to 10 cents sold for 30 and 40 cents each, exceptionally good ones bringing as high as $1.

The big fur houses report that every fur is being called for, and at better prices than for many seasons. Wildcat, skunk, muskrat, mink, and opossum are unusually high in price.

These conditions create a remarkable opportunity for the men and boys of the country districts to make more money than ever before. Trapping outfits are not expensive. Many former trappers are now enlisted in the army, which means the fur-bearing animals will be more plentiful and easy to catch. You can help serve your country and secure a splendid income trapping this year.

Bred sows can be made to exercise by feeding some distance from the sleeping quarters or by allowing them to work over manure piles. Care should be taken that they do not sleep here, especially if they are allowed to work over the manure from horse stables.



COST OF EGG PRODUCTION

FEED to produce one dozen eggs cost 10 cents with pullets, 14 cents with two-year-old hens, and 19 cents with three-year-old hens in a three-year feeding test recently reported by poultrymen of the United States Department of Agriculture. These were the cost figures of feed at the time of the experiment, which began in 1912, and must be corrected to present prices. Tables of rations and costs presented in the report enable poultrymen to make these corrections when compared to 1917 prices. In Bulletin 561, "Feed Cost of Egg Production," is described in detail this test, which was undertaken to compare the costs of various rations fed under general farm conditions. Much information relating to feeding under the various conditions also was learned in the experiment.

Starting with six pens of thirty pullets each, the test was enlarged to include sixteen pens containing 366 fowls. Most of the pens were made up of thirty standard-bred pullets, bred and reared under the same conditions and selected for vigor, standard shape, and color. Some flocks consisted of fowls of one breed while others contained more than one kind of pure-bred fowls of the general-purpose type. Pens of cross-bred pullets also were used.

With the exception of three flocks which were confined to good-sized yards, all the fowls were allowed free range over several acres of rough land. Detailed records were kept of the feed used, the weight of the eggs, and careful observations were made of the conditions which affect egg production, such as molting and broodiness. The test was conducted on the experiment farm of the Bureau of Animal Industry at Beltsville, Maryland. Summarizing the results of the tests, the specialists draw these conclusions:

The average egg yield for the first laying year in all pens was 131 eggs, and the highest pen average yield was 169.5 eggs. In the second year the average egg yield of all pens was 92.7 eggs, which decreased to 78.2 eggs in the third laying year.

The average value of eggs over feed cost the first laying year was $2.56 per hen, falling to $1.41 the second year, and to 79 cents the third year. The highest average value in any pen was $3.41.

The general-purpose fowls consumed annually seventy-two pounds of feed, which cost $1.13, while the Leghorns ate fifty-five pounds, which cost 87 cents.

Good results were obtained with rations both with and without oats. The use of this grain added variety to the ration without increasing the cost.

Fowls not fed any beef scrap or other animal protein laid only ninety eggs during their pullet year, compared with 137 eggs from the beef-scrap pens, and eighty-four compared with eighty-three in their second year. The eggs of the no-beef-scrap pens cost about 2.2 cents per dozen more to produce the first laying year, but these costs were about equal during the second year. The fowls not fed beef scrap laid very poorly in winter, thus materially reducing the value of their eggs.

Cottonseed meal used in place of beef scrap as a high protein feed in the ration produced brown or greenish spots on the yolks of the eggs, especially in warm weather, making a considerable proportion of them unfit for market. Eggs were produced more cheaply and at a considerably greater profit on the beef-scrap ration.

Fish meal at $7 a ton less than beef scrap proved to be a good high-protein feed, which can be used to advantage to replace beef scrap. The fish meal did not in any way affect the flavor or quality of the eggs.

General-purpose fowls allowed to select their own mash constituents ate a dry mash containing about 63 per cent corn meal, 19 per cent beef scrap, 9 per cent bran, and 9 per cent middlings. Leghorns ate a mash of about 66 per cent corn meal, 26 per cent beef scrap, and 4 per cent each of bran and middlings. No better results were obtained by this method of feeding than where the ground grains were mixed together in a mash.

Good mashes, as indicated by these experiments, may be made of 66 per cent corn meal, 26 per cent beef scrap, and 4 per cent each of bran and middlings, or two pounds of corn meal and one pound each of bran, middlings, and beef scrap, with a scratch feed in each ration of equal parts by weight of cracked corn, wheat, and oats, which is fed so that the hens receive about equal parts of scratch feed and of mash.

The Leghorns on free range gave a considerably greater egg yield than those confined to a fair-sized yard. This difference was no less marked in the general-purpose hens.

Sprouted oats fed as green feed to hens confined to yards cost about 10 cents per hen a year and 1 cent per dozen eggs, not including any charges for labor and equipment. The hens ate on an average in one year about 1.3 pounds of oyster shell and .7 of a pound of grit, which together cost about 1 cent per hen.

The Leghorns did not lay as well in the winter as the general-purpose breeds, especially during their second year, but the Leghorns produced eggs about 3 cents per dozen cheaper during their first year, 6.4 cents cheaper in their second year, and 9.8 cents cheaper in their third year than the general-purpose breeds. One pen of Leghorn pullets produced eggs in their first year at a feed cost of 6.7 cents per dozen, while the value of the eggs per hen for the year was $3.41 over cost of feed.

The average weight of a dozen eggs from the general-purpose fowls during their pullet year was 1.53 pounds, 1.60 during their second year, and 1.63 during their third laying year. The eggs from the Leghorns averaged 1.45 pounds during their pullet year, and 1.49 during their second and third years.

The egg production of the general-purpose fowls decreased 32 per cent in their second laying year. The decrease was considerably less in the Leghorns, their two-year average egg production exceeding that of the general-purpose breeds by nineteen eggs. The decrease in production from the second to the third year was only 4 per cent with the Leghorns, compared with 13 per cent in the general-purpose breeds.

The cheapest eggs are produced in the spring, during April, May, and June, while the greatest costs occur in October, November, and December. The lowest monthly feed cost of a dozen eggs in any of these experiments was 4 cents, while in some cases no eggs at all were produced during the month.

Wonderful Egg Producer

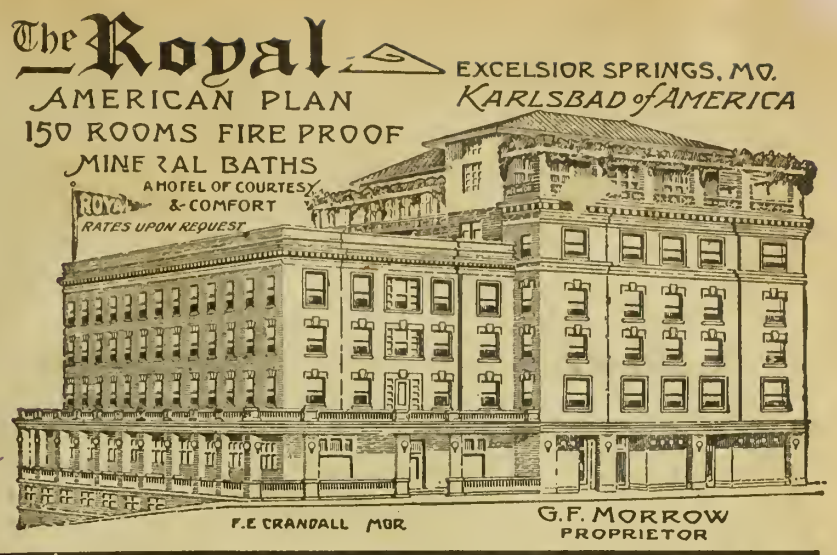
Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit maker, write E. J. Reefer, poultry expert, 4639 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1 (prepaid). So confident is Mr. Reefer of the results that a million dollar bank guarantees if you are not absolutely satisfied your dollar will be returned on request and the "More Eggs" costs you nothing. Send a dollar today or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—(Adv.)

Breed from Winter Layers

If winter egg production is desired, only winter layers should be bred. It is not difficult to select the laying hen. Her comb is bright and red and her pin bones will be well spread apart. By close observations during the winter the poultry keeper will know which of his hens are good layers. These should be marked so that they may be used for mating next spring.

It is folly to breed from the entire flock. By selecting a few of the best layers, the most progress will be made. Where no selection is made the poor producer will be used for breeding, because even the loafers will lay in spring. It is also a mistake to breed from the immature and under-sized stock. Overfat, coarse-boned hens or those which crop behind should never be put in the breeding pen. The best place for them is on the table. Pick out the good breeders and note the improvement. They should be placed by themselves with a good vigorous male when breeding time comes. By using a smaller number of males the poultryman can afford better stock.

One of the cardinal principles of feeding hens during the winter season is to make them dig their grain feed out of a clean straw litter six to eight inches deep. There is no more important factor in keeping fowls healthy than keeping them busy working for a portion of their feed.



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GENTLEMEN: MASON SOLD 18 SPRAYers and Auto-Washers one Saturday. Profits $2.25 each. Square deal. Write Rusler Co., Johnstown, Ohio.

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IF YOU WANT TO SELL OR EXCHANGE your property, write me. John J. Black, 15 St., Chippewa Falls, Wis.

SELL YOUR PROPERTY QUICKLY FOR cash, no matter where located. Particulars free. Real Estate Salesman Co., Dept. 77, Lincoln, Neb.

FARMS AT ATTRACTIVE PRICES IN oil fields, not leased, productive wells. Several oil and gas leases in proven territory. Write or come and see me. W. C. Bryant, Elk City, Kansas.

DON'T PAY RENT. $10,000 BUYS FINE 160, house, barn, silo, sheds, wind pump, cistern, cellar. A snap, fine 80 a., good improvements. Only $6,000. School lease only $3,000. Get list. O. K. Realty Co., Newkirk, Okla.

YOUR CHANCE IS IN CANADA.—RICH lands and business opportunities offer you independence. Farm lands, $11 to $30 acre; irrigated lands, $35 to $50; twenty years to pay; $2,000 loan on improvements, or ready made farms. Loan of live stock; taxes average under 20 cents an acre; no taxes on improvements, personal property, or live stock. Good markets, churches, schools, roads, telephones; excellent climate — crops and live stock prove it. Special homeseekers' fare certificates. Write for free booklets. Allan Cameron, General Superintendent Land Branch, Canadian Pacific Ry., 234 Ninth Ave., Calgary, Alberta.

SULPHUR FERTILIZER

SULPHUR PHOSPHATE ROCK GROUND proves wonderful new, cheap, rich fertilizer. Experiments prove an increase acreage yield almost one-third. Is cheap and easily applied. Company has large mine. Send for literature and experimental fertilizer reports. Scott Co., Houston, Texas.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

JERSEY BULLS—THREE CHOICE REGistered Jersey bulls, $50 each for quick sale. Address R. F. Dirst, Lafontain, Kansas.

"THE WILLOWS" OFFERS CARLOAD of springing grade Holstein cows, $115 head. S. D. Shambeau, Scandinavia, Wis.

FOR SALE—ONE REGISTERED SHORThorn bull 10 months old, white, out of Lord's Dale 395709. Two roan grade Shorthorn bulls. Fred Von Deylen, Byron, Neb.

FOR SALE — MY HERD BULL, SIR Slemke Korndyke No. 148726, born January 31, 1914, and two registered Percheron mares five and ten years old, black. J. M. Beach, Maple Hill, Kansas.

BABY CALVES, HOLSTEIN, PUREbred, either sex, priced right. Also a few choice grade heifer calves, practically purebred. Crated and express prepaid to you at $25 each. Sunnyside Farm, Route 1, Jefferson, Wisconsin.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked. $23, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

DOUBLE STANDARD YOUNG POLLED Durham bulls, $100 to $150. Heifers, $100 to $125. Good grade bulls, $75. Crown Prince at head of herd. Also good coming yearling jack and one extra good coming three-year-old, at reasonable price. W. C. Baumgartner, Halstead, Kansas.

DOGS.

COLLIE PUPS—U. A. GORE, SEWARD, Kansas

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

HOGS.

PEDIGREED BIG DUROC JERSEY gilts, bred to Valley King for April farrow, $35 to $40. Registered Shropshire ram lambs, $20. Little Valley Stock Farm, Phillipsburg, Kansas.

TANNING.

LET US TAN YOUR HIDE: COW, HORSE or calf skins for coat or robe. Catalog on request. The Crosby Frisian Fur Co., Rochester, N. Y.

AUTO TIRES.

TIRES — FORD, $6.50. LARGER SIZES equally low. "Wear like iron." Booklet free. Economy Tire Co., Kansas City, Mo.

MISCELLANEOUS.

BUY AN UNBREAKABLE MIRROR FOR the boys in the trenches. Made of steel, highly polished. Size, 2¾x4⅝, in khaki case to fit in pocket. Price, postpaid, 40 cents. Money returned if not entirely satisfied. Leclaire Novelty Company, 5055 Warwick Avenue, Chicago.

HORSES AND MULES.

SHETLAND PONIES. CHARLES CLEMmons, Coffeyville, Kansas.

THE STRAY LIST.

TAKEN UP — BY R. J. BOYER, OF Meade, Kansas, on the 29th of October, 1917, two 2-year-old steers, red, cross on left sides, value $65. W. W. Pressly, County Clerk.

TAKEN UP, BY AUGUST PETERSON, October 15, 1917, one heifer about 10 months old, black, no horns, no marks or brands. Taken up in Lost Springs Township, Marion County, Kansas, and appraised at $25. J. H. Alexander, County Clerk.

TAKEN UP—BY E. D. BIRD, OF MONtezuma, Gray Co., Kansas, on the first day of September, 1917, one 2-year-old red white-face heifer, H T connected on left hip, also one 1-year-old black white-face steer, no brands, value $75. W. W. Pressly, County Clerk.

I HAVE THIS 10TH DAY OF NOVEMber, 1917, in Belmont Township, Woodson County, Kansas, taken up as a stray the following described animal: One red cow, white face, swallow fork in right ear and underbit in the left, weight about 800 pounds, branded with a blurred S on the left hip. John L. Gibbs.—C. V. Orendorff, County Clerk.

The Corn Song

The sun shone hot upon our head,
The people mourned that we were dead,
And then it rained! No one complained.
The moisture filled each gaping crack
And we resolved we would "come back."

We did our best—man does not more—
The rain was due two weeks before.
Our life was run—or nearly run—
Our heads were whitened by the sun
And burnt our feet by deepening crack
Yet we resolved we would "come back."

In every joint we sprung a "shoot"
And tasseled out again to boot.
We said we'd pull the farmer through,
Therefore a lot of suckers grew!

Some people's faith in us was lost,
They said we would not beat the frost,
But overtime we worked each night
And didn't loaf and wait for light.

Wheat got her inning in the spring
And so the queen began to sing;
But we were king some years ago
And set a record new to grow.
We did our best—man does no more—
His cribs will now be bulging o'er.

We did our best; our state we prize;
In all U. S. there's none her size!
King Corn are we of Kansas state;
We're planted early, planted late,
And, given care in seed and field,
We never fail a handsome yield.
—John E. Hinshaw, Emporia.

I said, "Let my body dwell in poverty, and my hands be as the hands of the toiler, but let my soul be as the temple of remembrance where the treasures of knowledge enter and the inner sanctuary is hope."—GEORGE ELIOT: Daniel Deronda.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

"'Tis not the weight of jewel or plate,
Or the fondle of silk or fur;
'Tis the spirit in which the gift is rich,
As the gifts of the wise ones were;
And we are not told whose gift was gold,
Or whose was the gift of myrrh."

Disease germs in the house are more to be dreaded than alien spies.

Liberty Candies

What about Christmas candies? Must candy be omitted from the Christmas box for the boy at camp and the girl at school or from the little ones' stockings? Does the shortage of sugar mean no Christmas candy? Not if you are clever in combining fruits and nuts. Such sweets keep fresh a long time and are just the kind for Christmas boxes. They are delicious for desserts, are wholesome and liked by everyone. One cupful of white sugar is enough for five pounds of these Liberty candies.

CRYSTALIZED FRUITS. — Use your own peach, pear, apple, quince, or watermelon rind preserves. Drain from the fruit all syrup possible, cut any size desired, sprinkle with sugar, and dry in the warmer or a very slow oven. It may be necessary to sprinkle the fruit again with sugar during the drying. When dry enough not to be at all sticky, sprinkle with sugar and pack in layers with waxed paper between. This fruit may be dipped in bitter chocolate for bitter-sweets.

BITTER-SWEETS.—An attractive variety of candies may be made by dipping sweet fruits in bitter chocolate. Use for this purpose dates, citron, candied orange peel or crystallized fruit. Melt unsweetened chocolate in a double boiler. Keep the chocolate just warm enough to prevent solidifying. With a silver fork drop pieces of fruit in chocolate. See that each piece is completely coated, then remove to waxed paper to harden.

STUFFED DATES.—Use the best dates. Remove the stones. Fill with peanuts, walnuts, hickory nuts or any nuts available. Peanut butter makes a good filling that it different. Press dates into shape and roll in granulated sugar, chopped nuts, or a mixture of cocoa and powdered cinnamon.

FRUIT PASTE.—Put through the meat chopper enough cherry, peach, or quince preserves to make a half pint with the juice. Heat fruit and add two tablespoonfuls of gelatine, previously softened in a very little cold water. Stir well, and continue stirring until it begins to cool and thicken, then pour into oiled dish to make the layer one inch thick. Let dry slowly, sprinkle with sugar and place in box with waxed paper between the layers. A mixture of dried apricots and dates may be used for this paste. Wash apricots and soak over night in enough water to cover. Pour off water, bring it to a boil, pour over apricots, and let stand until cool. Put apricots and dates through meat chopper, and proceed with the proportions as given.

CHOCOLATE DAINTIES. — Put through the meat chopper one-half cupful each of dates, figs, and nut meats. Add one tablespoonful orange juice, a little grated orange peel, and one square of melted unsweetened chocolate. Mold into balls and roll in chopped nuts or granulated sugar. This mixture may be packed in an oiled tin, put under a weight until firm, then cut in any shape desired.

MAPLE CREAMS.—Boil one cupful maple sugar with one cupful water until it forms a soft ball when dropped in cold water. Remove from the fire and stir rapidly until it becomes creamy. Form into balls the size of marbles and put nut meats on either side. Lay on wax paper to cool.

POPCORN CANDY.—This is a good time to revive the old custom of making popcorn balls, using honey, maple syrup, molasses, white cane syrup, or corn syrup. To one cupful of syrup allow one tablespoonful of vinegar. Boil together until syrup hardens when dropped into cold water. Pour over freshly-popped corn and mold into balls or fancy shapes for the Christmas tree. Little popcorn men will please the children. Mark in the features and outlines with melted chocolate.

Food Conservation at College

The Kansas Agricultural College is practicing what it preaches in the matter of food conservation. At the cafeteria conducted by the home economics department of the college, where 900 students and faculty members eat each day —an average of 300 for each meal— Tuesday is observed as wheatless day. On this day no white flour is used even as thickening for soup. No crackers are eaten with soup, and there is no pie and no white flour cake. Corn bread and graham gems are used largely as substitutes, and a great many left-overs are disguised as dark war cakes and brown breads. Friday is meatless day, fish and other meat substitutes being served.

Brown sugar and graham flour are used in many of the cakes, and fillings and fruits take the place of icings. Left-over crusts, biscuits, muffins and bread crumbs are used as flour substitutes.

Peace on Earth

We cannot afford to sacrifice the Christmas spirit to the God of War. Many of us are lonely as we think of absent loved ones, but neither they nor our country will gain anything by our being morbid and sad. When so many hearts are heavy and when the future is so uncertain, expressions of friendship and sympathy are especially needed. The children, too, must be thought of. They must not be deprived of their Christmas, and we should not allow our selfish sorrow to shadow their merry hearts.

We must not let the disturbed conditions of the present moment make us lose sight of the ideal toward which we are striving. The angels' song of "Peace on earth" is not less sweet because it comes to us above the rumble of the cannons of war. On this birthday of the Prince of Peace when the realization of the angels' prophecy seems so far away, the world may really be nearer to its fulfillment than ever before; nearer to a peace that shall make war impossible on the earth; nearer to the time when the nations of the earth shall not learn war any more, but the lion and the lamb among them—the strongest and the most defenseless—shall lie down in safety together and the spirit typified by a little child shall lead them.

"This is our Father's world,
Oh let us ne'er forget
That though the wrong
Seems oft so strong,
God is the ruler yet."

Sugar-Saving Desserts

PEACH SOUFFLE

1 quart canned peaches
½ cupful honey or syrup
4 eggs

Drain and mash through colander one quart of canned peaches. Add one-half cup of honey or syrup and well beaten yolks. Beat thoroughly, then beat whites stiff and fold carefully into the peach mixture. Turn the whole into a greased baking dish and bake in a quick oven six minutes.

Apples and Dates

Steam until tender in a covered pan one and one-half quarts of sliced apples, with one-half cup of water, and the grated peel of one lemon. Add one-half cupful of chopped dates. Simmer the fruits together for six minutes. Serve cold.

Sausage and Mush

Mush and sausage mixed make a very palatable combination. The mush should be cooked in the usual way, with water, then allowed to cool. Slice the mush as you would do for frying. Put a piece of meat in the sausage grinder, then a piece of mush, and grind the meat and mush alternately until the required amount has been mixed. The mixture can then be patted into cakes or packed

PURE BRED POULTRY

LEGHORNS.

BROWN LEGHORNS, BOTH COMBS.—Breeding cockerels. Bred to lay strain. $2.50, $5.00. Plainview Poultry Farm, Lebo, Kan.

FOR SALE—PURE-BRED ROSE COMB Brown Leghorn cockerels, fine birds. $2.00 each. Mrs. H. B. Walter, Effingham, Kan.

S. C. W. LEGHORN COCKERELS (Young's strain). Elsie Thompson, Mankato, Kansas.

PRIZE SINGLE COMB BUFF LEGHORN cockerels, $1.50. Mrs. S. F. Crites, Florence, Kansas.

PURE-BRED S. C. BROWN LEGHORN cockerels, $2 to $5 each. Mrs. Jesse Crowl, Lane, Kansas.

PURE-BRED SINGLE COMB WHITE Leghorn cockerels all sold. Katie Skelley, Della, Kansas.

TRAP-NESTED EGG-BRED S. C. BUFF Leghorn cockerels from dams of high record. Pearl Haines, Rosalia, Kansas.

TWENTY-FIVE EXTRA QUALITY S. C. Brown Leghorn cockerels, $2 each while they last. Mrs. L. H. Hastings, Thayer, Kan.

TURKEYS.

PURE-BRED WHITE HOLLAND TURkeys. Winnie Litton, Peabody, Kansas.

CHOICE MAMMOTH BRONZE TURKEYS—Sadie Litton, Peabody, Kansas.

GIANT BRONZE TURKEYS, TEN DOLlars. Jesse McMahan, Blackwater, Mo.

FINE PURE-BRED M. B. TURKEY toms, May hatched from high scoring stock. Oak Hill Farm, Route 3, Lawson, Missouri.

QUALITY BOURBON RED TURKEYS. Write for prices. Mrs. Elmer Nicholson, Route 5, Wellington, Kansas.

MAMMOTH BRONZE TURKEY TOMS, $7; hens, $4.50. Mrs. Elma Doolcy, Eugene, Missouri.

DARK BOURBON RED TURKEYS, WELL marked. Priced right. Mrs. J. W. Warner, La Crosse, Kansas.

FOR SALE—FANCY MAMMOTH BRONZE gobblers from prize winning hens. Eight dollars a piece while they last. Alfred Carlisle, Mt. Hope, Kansas.

PURE-BRED BOURBON REDS, BIG rangy birds. Toms, $5; hens, $3.50. S. C. Rhode Island Red cockerels, $1.50. Mrs. R. E. Weeks, Phillipsburg, Kansas.

WYANDOTTES.

FOR SALE — GOLDEN WYANDOTTE stock. Frank Gould, Opolis, Kansas.

SILVER WYANDOTTES FOR QUICK sale. Hens, $1.50, $2; cockerels and cocks, $1.50 to $3. Mrs. Edwin Shuff, Plevna, Kan.

WHITE WYANDOTTE COCKS, COCKERels, hens and pullets, $1.50 to $5 each. Birds may be returned if not as represented. H. A. Dressler, Lebo, Kansas.

ORPINGTONS.

HAVE A FEW BUFF ORPINGTON COCKerels, $2 to $3 each. For quick sale. E. C. Ewing, Parsons, Kansas.

CHOICE BUFF ORPINGTON HENS, pullets, cockerels and cock birds. Write for prices. Myrtle Howard, Byron, Okla.

FINE BUFF ORPINGTON COCKERELS, $3 each. Mary E. Price, Route 7, Manhattan, Kansas.

BUFF ROCKS AND BUFF ORPINGTONS. Closing out sale, half price. Laying strain. Winners Texas and Kansas state shows. Eggs for hatching, fancy show pens. Write me. John A. Cragan, Kingman, Kansas.

DUCKS AND GEESE.

FINE TOULOUSE GEESE AND PEARL Guineas for sale. Emma Ahlstedt, Roxbury, Kansas.

PLYMOUTH ROCKS.

BARRED ROCKS—BIRDS OF QUALITY. Ben Vigus, Severance, Kansas.

WHITE ROCK COCKERELS, $2 AND $3. Nora Lamaster, Hallowell, Kansas.

WHITE ROCKS, SIZE AND QUALITY. Prices reasonable. G. M. Kretz, Clifton, Kansas.

BARRED ROCK COCKERELS, $2 AND $3. Good laying strain. E. M. Wayde, Burlington, Kansas.

WHITE ROCK COCKERELS, EARLYhatched classy birds, $2.50 each or six for $13.50. Perry S. White, Offerle, Kansas.

BARRED ROCKS, BOTH LINES—LARGE cockerels from extra laying strains, $4 and $5 each. C. C. Lindamood, Walton, Kan.

BARRED PLYMOUTH ROCKS, ST. Louis, Wichita, Kansas City winners. J. K. Thompson, 205 The Drive, Topeka, Kansas.

PURE-BRED BARRED ROCK COCKERels, $1.50 and $2 each. Mrs. T. P. Fowler, Perry, Kansas.

SWAIM'S BLUE RIBBON BARRED Rocks. Big utility cockerels. $3 each; six, $15. C. D. Swaim, Geuda Springs, Kansas.

BARRED PLYMOUTH ROCK COCKERels. Parks' 200-egg strain, direct from prize winning layers. $2 to $5 each. Eggs in season. Gem Poultry Farm, Haven, Kansas.

POULTRY WANTED.

PAYING FOR NO. 1 TURKEYS, 23c; hens, 18c pound; guineas, 40c each. Coops loaned free. The Copes, Topeka.

in a crock and sliced for frying. Season the mixture when grinding as you would season the meat alone.

Stuffed Potatoes

Now that potatoes are once more plentiful and cheap, they may well be given a prominent place on the dinner table. Then, too, one should not overlook the fact that, since both potatoes and wheat are very palatable sources of starch, by eating more potatoes one can diminish the amount of bread eaten and thus help to save wheat, which is such an important matter at the present time.

A good way to secure variety is to cut a slice from the top of each baked potato, or cut them in halves, and scrape out the inside with a spoon. Mash, season with salt, pepper, chopped parsley or chopped celery leaf, or onion juice, if liked, and butter, or savory fat, and heat in a little hot milk; add two well-beaten whites of eggs. Refill the skins, sprinkle with grated cheese or bread crumbs, and bake in a hot oven about six minutes.

Every cellar of vegetables is a trench of food preparedness.

Twilight Animal Stories

Bumper The White Rabbit

By George Ethelbert Walsh

(Copyright, 1917, by George E. Walsh)

STORY VI.—BUMPER AND CARLO.

THE little white rabbit found a home already waiting for him in the prettiest corner of the garden, but before that the red-haired girl harnessed him to a ribbon, and let him eat grass and vegetables to his heart's content wherever he took a fancy to go. Edith lost her appetite apparently in watching her pet eat, for she wouldn't go into breakfast even after the nurse had called her several times; but finally, when her mother came out, and took her by the hand, she obeyed.

"Can't I take the rabbit in with me?" she asked.

"No, dear, put him in the pen over there. He'll be quite content alone."

So Bumper found himself alone in the garden, or rather in a pen shut off from the rest of the garden by stout chicken wire. There was a box in back of the pen, filled with soft grass and straw, and a tin pan filled with fresh water. There was such a variety of things to eat that he kept nibbling first a carrot, then a cabbage, then a blade of grass, then some corn, then a piece of bread, then some crackers, then a red beet, then a spear of grass again, and so on through all the long list of good things.

It was such a mixture that he was never sure just what he had in his mouth. It was just as if a boy or girl had crammed the mouth full of gum drops, chocolates, fudge, lollypops, taffy, peppermint, lemon and wintergreen drops, and a few pieces of fruit cake by way of change. How could he or she tell just what the teeth were munching on?

Bumper tasted them all, and thought that each one was sweeter and better than the other; but when he got around to the end of his circle he had to begin all over again to see if they didn't all taste better the second time. My, it was a feast that made his eyes open and his stomach swell like a toad's trying to swallow a gnat.

Edith came out so soon that Bumper knew right away that she hadn't eaten much breakfast, and half of it was in her hands, and apparently the other half was on her face instead of being in her stomach where it should have been.

"Do you like bread and jam?" she asked, poking the bread she had been eating at Bumper.

Like a well-bred rabbit, Bumper stuck his nose up and sniffed at the dainty proffered him; but when he got some of the jam on his nose he hopped away and sneezed. It was gooseberry jam, and Bumper hated gooseberries, although he had never tasted of them before.

"Oh, you funny bunnie!" exclaimed the girl. "Why don't you like jam?"

Then she caught a reflection of her face smeared with jam in the pan of water, and she laughed happily. "I don't wonder you don't like it on your face, Bumper," she said. "It does look awful, doesn't it? My, I must have nearly a quart on my face."

Then she began cleaning her lips and chin, using Bumper's pan of water for a wash basin. Bumper didn't object to this, but he did hope she'd remember to change it, and give him clean water to drink. Even gooseberry-jam-water wasn't to his liking.

Early in the morning Edith was carried away by the nurse for her lessons, and then her music teacher appeared, and Bumper could hear her fine, small voice singing in accompaniment to the piano. After that she came into the garden again to play with him.

But she was soon called away to lunch, and then she had to go walking with her mother, and it was nearly sundown when she returned. Her first thought was of the rabbit, and she came running pell-mell across the garden to greet him.

"Have you missed me, Bumper?" she asked, squatting down on the grass in her new white dress. "I've been awfully lonely without you. I do hate music lessons and visiting. I wish I could stay here all the time with you, and maybe eat grass and green things, and grow fat and white like you. I wonder how it feels to be a rabbit. Yes, I believe next to being a little girl, I'd rather be a rabbit than anything else. Rabbits don't have to work or study or sing or do anything. Goodness! what an easy time you have of it."

Bumper thought so, too, and he began to swell up with pride. He was a very young rabbit, and he was easily flattered. He wanted to tell her that he would rather be a white rabbit than a girl with red hair, when the nurse called Edith to dinner, and she had to leave him.

It was a beautiful moonlight night, and Bumper wasn't a bit sleepy. What rabbit could be in such a wonderful garden with the moon shining down upon it? Bumper danced around in his small pen, and sat upon his hind legs as if praying to the moon; but in reality he was trying to see how high the wire fence was, and wondering if he could jump over it. He had tried all day to nibble through, and dig under it, but the wire had only hurt his teeth without giving way a particle. If he was going to get out so he could run around the garden, he would have to do it by jumping clear over the wire fence.

He tried it once, and fell short by several inches. He got a hard jolt in doing it, and rubbed his head where it hit the earth. But the next time he nearly reached the top.

"I can do it with a few more trials," he said, happy at the thought of his freedom. "I'll surprise the little girl when she hunts for me in the morning."

He hopped back a few feet, and then took a flying leap, and landed plump on the top of the fence. The wire caught him in the middle of the stomach, and there he hung for a moment undecided which way to fall. But he kicked with his hind feet, and that seemed to upset his balance, for he plunged headfirst down, and landed on the other side in a wild somersault.

"Well, that wasn't exactly graceful," he said, "but I'm here, and that's where I wanted to be. Now I'll explore the garden by moonlight."

First he ran to the vegetable garden, and nibbled at whatever he could find; but he was really so full he couldn't eat much more. Then he frisked around on the lawn, playing with his tail, and trying to jump as high up in the air as he could. It was great fun, and Bumper panted with joy.

Then suddenly out of the dark shadows of the garden something large, fierce and frightfully noisy came bounding toward him. Bumper stood stock still until a deep baying sound told him that it was Carlo, the big dog, whose barking under the bedroom window had disturbed his sleep the night before.

With a bound Bumper leaped over a rose bush, and started for his pen in the corner, but Carlo took the bush in a powerful leap and made a grab for his neck with his jaws. Bumper squealed with fright, and turned to the left to find shelter under some prickly gooseberry bushes. Carlo yelped with pain when the thorns of the bushes stuck in his nose, and from that moment Bumper began to like gooseberries.

But the chase was not over. Carlo drove him out of the bushes and chased him across the lawn into the garden. Bumper tried to hide behind a cabbage, but Carlo saw his white head, and pounced upon him. He missed by an inch, and Bumper, now terribly frightened, and panting for breath, made a dive for a big, dark hole that suddenly opened directly in his pathway.

He ran in this as fast as he could. Carlo followed a short distance, and then got stuck. The black hole grew smaller at the other end, and Bumper felt that he was safe for the present.

"My, what a narrow escape!" he said, panting for breath. "Now, how am I ever going to get out again! Carlo will pounce on me if I stick my nose out. I guess the best thing I can do is to sleep in here, and in the morning go out when Edith calls me. She'll keep Carlo away."

And with this remark, he rolled up in a ball, and went to sleep.

FASHION DEPARTMENT.

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8405—Girls' Dress: Cut in sizes four to twelve years. The dress is to be slipped on over the head and has a two-piece skirt. **No. 8414—Ladies' Skirt:** Cut in sizes 24 to 30 inches waist measure. The skirt is cut in two pieces. **No. 8411—Ladies' Dress:** Cut in sizes 36 to 44 inches bust measure. The dress has a two-gored gathered skirt.



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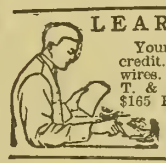

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LARGE BONED DEEP BRILLIANT S. C. R. I. Reds, guaranteed to suit. Lela Osterfoss, Hedrick, Iowa.

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MISCELLANEOUS.

GUINEA PIGS AT $1 EACH. WHITE Cochin and Seabright bantams, $1 each. Earl Scott, Belvidere, Kansas.

We had not supposed that apple pie could be improved until we were served a delicious one-crust variety a few days ago. The pared and quartered apples were fitted closely together inside the lower crust and sprinkled with sugar, cinnamon, and a few bread crumbs to thicken the juice, then baked to a delicate brown. The result was a more appetizing as well as a more wholesome dessert.

Take away the cow and our banks would close, our graveyards open and the wheels of business cease to turn. We will not try it; but stop a moment to think whether it is not so.

Kansas Herd Chester Whites

BOARS ALL SOLD. :: BRED SOW SALE. :: FIFTY HEAD.
LEAVENWORTH, KANSAS, FEBRUARY 2, 1918
MOSSE THIRTY HEAD :: MURR THIRTY HEAD
ARTHUR MOSSE, ROUTE 10, LEAVENWORTH, KAN.

POLAND CHINAS.

DEMING RANCH QUALITY

Big-Type Poland China Hogs.

Fifty March boars for sale. All immuned. Bred sow sale February 18. Send for catalog.

H. O. Sheldon, Herd Manager
OSWEGO, KANSAS.

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, also bred gilts and tried sows, bred, ready to ship. Priced right. Write your wants to

CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

BIG WONDER 281929

The outstanding spring yearling son of the noted Big Bob Wonder now at the head of my herd. This young sire was first in junior yearling class at Topeka; second at the National Swine Show in competition against the world.

I will sell fifty sows and gilts Saturday, February 23, 1918, and a number of the best sows will be bred to Big Wonder. Send name early for catalog.

V. O. JOHNSON - AULNE, KANSAS

White Oak Park Polands

Outstanding herd boar prospects by 1,100-pound Missouri Jumbo 210461 and 1,000-pound Long Big Joe 227387, twelve-inch bone. Dams popular big-type breeding. If you want boars that will mature to 1,000 to 1,100-pound hogs, I have them, big high-quality fellows. Fall boars farrowed August and September, spring boars February and March. Will record in buyer's name. All immune.

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Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.

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We are offering big stretchy March and April boars, bred gilts and fall pigs. Herd boar and brood sow prospects, fully guaranteed.

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FOR SALE—Twelve head extra good spring boars, ready for service. Few choice gilts, bred for March litters. Fall pigs, either sex, sired by Big Tecumseh, Orange Wonder, and out of my best herd sows. The best crop of boars I ever raised. Write or come and see me. E. M. WAYDE, BURLINGTON, KANSAS

SPOTTED POLANDS

Sept. pigs, either sex, $20. One tried brood sow, $70. Chas. H. Redfield, Bucklin, Kan.

The Lone Cedar Polands

Last Lot of Meyers' Orange Pigs. I will have either sex, some extra fine gilts. Cholera immune for life.

A. A. MEYER - McLOUTH, KANSAS

FALL PIGS, ready to ship. Select Spotted breeding. Express paid on pigs.

T. T. Langford & Sons, Jamesport, Mo.

Henry's Big Type Polands

March and April pigs, sired by Big Wonder, first in class at Topeka; Mammoth Orange and King Price Wonder. Immune.

JOHN D. HENRY, LECOMPTON, KANSAS

Faulkners Famous Spotted Polands

Late summer and fall pigs for sale. Buy them from the Fountain Head. Annual brood sow sale February 13. Ask for catalog.

H. L. FAULKNER, Box K, Jamesport, Mo.

Poland China Boars

For Sale—Ten head large growthy spring boars, sired by A Wonderful King, a state fair winner. Ready for service. Price, $35 to $75. Satisfaction guaranteed. First check gets choice. Write at once or come and see our herd.

OLIVIER & SONS, DANVILLE, KANSAS

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Boars ready for service, sired by King Wonders Glant 77326. A few choice gilts of popular breeding for sale. Everything immune and strictly high-class and priced reasonable. Chas. E. Greene, Penbody, Kan.

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TRUE SULTAN POLLED DURHAMS

A few heifers bred or open are offered. Some by or bred to the champion $2,200 True Sultan and Sultan's Challenger.

ED STEGELIN
STRAIGHT CREEK - - - KANSAS

Breeders' Directory

ANGUS CATTLE.
D. J. White, Clements, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

GUERNSEY CATTLE.

REGISTERED GUERNSEYS

Bull calves for sale, best blood lines. Some from cows now on A. R. test. RANSOM & KISSINGER, Homewood, Kansas.

GUERNSEY BULLS.

Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to twelve months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

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Percherons, Belgians, Shires
2, 3, 4 and 5-year stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
Fred Chandler, R.7, Chariton, Ia.
Above Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes. Illinois Horse Co., Good Blk., Des Moines, Ia.

DUROC JERSEYS.

TAYLOR'S DUROCS

For Sale—One Missouri State Fair prize winning boar. Seven yearling boars sired by champion boars that are real herd headers. Fifty spring boars that are fine prospects. Write for prices or come and see my herd.

Chas. L. Taylor - Olean, Mo.

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Cholera immuned. Sired by Taylor's Model Chief 126455, winner at Missouri State Fair and American Royal. Extra good breeding boars at prices to close them out. Also choice bred gilts. Dams well bred for years.

W. R. HUSTON - AMERICUS, KANSAS

DUROC BOARS

Thirty-five spring boars by G. M.'s Crimson Wonder, Crimson Wonder Again Jr., Critic D. and Great Wonder, out of my best herd sows. Priced to sell. Come and see my herd.

G. M. Shepherd, Lyons, Kansas

SHORTHORN CATTLE.

Shorthorn Bulls

For Sale—Thirteen Scotch-topped bulls, 8 months to yearlings, reds and roans, sired by Silver Knight, a pure Scotch bull. Come and see my herd.

J. R. ELY - - AULNE, KANSAS
Marion County

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Viscount Stamp 2d, Clipper Brawith and Count Valentine in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.

H. H. HOLMES, Route 28, Topeka, Kansas

Pearl Herd Shorthorns

Valiant 346162 and Marengo's Pearl 391-962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

Can ship on Rock Island, Union Pacific or Santa Fe Railway.

C. W. TAYLOR - ABILENE, KANSAS

CLOVERDALE SHORTHORNS—For Sale, two roan yearling Scotch Shorthorn bulls. Exceptional quality and breeding. Also a few heifers. Wesley Jewell, Humboldt, Kansas.

Cedar Heights Shorthorns

For Sale—Three red bulls, 12 months old. A few cows and heifers. Priced reasonable. Come and see my herd.

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Route 8 Topeka, Kansas

SHORTHORN BULLS

Two registered Shorthorn bulls, one fifteen months old.

F. G. HOUGHTON - DUNLAP, KANSAS

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KNOX KNOLL MULEFOOTS

Glits and young sows, bred to champion boars at several state fairs. Ten extra fine gilts. Boars not related. Also Shorthorn cattle. Catalog on request.

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REGISTERED HOLSTEINS FOR SALE

MORE THAN ONE HUNDRED HEAD, ALL OFFERED AT PRIVATE SALE.
Samples of Bulls:

NO. 1—Born March 15, 1916. Sired by a splendid 31-pound son of King of the Pontiacs, whose dam held a world's record and had three sisters with records from 31 to 33 pounds. This calf's dam made record of 27.95 pounds before maturity and has splendid prospects of making 30 pounds this winter. Her sire has four daughters and one granddaughter over 30 pounds out of seventeen daughters in all.

Several more good bulls, almost ready for service, by same sire and out of good dams.

NO. 5—Beautiful, almost white, nearly 12 months old. Sire, King Pontiac Hilldale, probably the most beautiful son of King of the Pontiacs, whose dam's record is 29.93. He is the first calf of his dam, who took a two-yaer-old record of 17.79 and is capable of a 30-pound record. She is by a 33-pound son of Pontiac Korndyke.

Other bulls by the same sire. Also good cows and heifers for sale.

DR. J. T. AXTELL - - - - - NEWTON, KANSAS

CLYDE GIROD, At the Farm — F. W. ROBISON, Cashier Towanda State Bank

HOLSTEIN FRIESIAN FARM, TOWANDA, KANSAS

BREEDERS OF PURE-BRED HOLSTEINS

We offer special attractions in choice young bulls, ready for service, both from tested and untested dams, at prices within reason. Let us furnish you a bull and improve your herd.

IT WILL PAY YOU TO SEE OUR OFFERING

of high grade young cows and heifers, all springers, in calf to pure-bred sires, large developed females, good udders, nicely marked and the right dairy type at prices that challenge comparison for Holsteins. A visit to our farm will convince you. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON - - - - TOWANDA, KANSAS

MAURER'S HOLSTEIN FARM is offering twenty-five pure-bred heifer calves from six weeks to eight months old; also a choice lot of yearlings, bred heifers and young cows, all with top-notch breeding and at prices that cannot be equalled elsewhere; grade cows and heifers. BUY YOUR NEXT PURE-BRED BULL FROM US. For description and prices, wire, write, or call.

T. R. MAURER & COMPANY - - - - - - - EMPORIA, KANSAS



HOLSTEINS AND GUERNSEYS

High grade cows and heifers, carloads or less. Calves crated and shipped anywhere, price $20.

F. W. WALMER
Way Side Stock Farm - Whitewater, Wis.

Butter Bred Holsteins

Buy your next bull calf from a herd that won the butter test over all breeds.

J. P. MAST - - SCRANTON, KANSAS

HOLSTEIN COWS

For Sale—Twenty head of registered cows, yearlings and calves; also twelve young high grade cows and heifers. All bred to a bull whose three nearest dams averaged near 26 pounds butter in seven days. One herd bull and four young bulls by Sunflower Sir Mutual 78654.

CHAS. V. SASS
1013 North Fifth St., Kansas City, Kansas

HOLSTEIN CALVES

Very high grade heifer calves, five weeks old, nicely marked, $25 each delivered to your station. We can supply you with registered or high grade Holsteins, any age or number, at reasonable prices. Clover Valley Holstein Farm, Whitewater, Wisconsin.

HOLSTEIN CALVES, 15-16ths pure, six weeks old, the cream of Wis., $25 each. Registered bull calves, $45, crated for shipment. Edgewood Farms, Whitewater, Wisconsin.

The Cedarlane Holstein Herd

For Sale — Registered cows, bred heifers, serviceable bulls, bull calves. Also my 3-year-old herd bull.

T. M. EWING, INDEPENDENCE, KANSAS

Oak Hill Farm's

Registered Holstein Cattle

For Sale—Yearling and bred heifers, also young bull calves, mostly out of A. R. O. cows. Perfect satisfaction guaranteed.

BEN SCHNEIDER, NORTONVILLE, KAN.

Segrist & Stephenson, Holton, Kan. Breeders exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

Regier's Holstein-Friesians

For Sale—Bulls from A. R. O. dams, sired by the great bull, Sir Rag Apple Korndyke De Kol. Also fresh cows and bred heifers.

G. REGIER & SONS, WHITEWATER, KAN.

HAMPSHIRE HOGS

HALCYON HERD HAMPSHIRE HOGS

Best breeding, best type. Stock for sale.

GEO. W. ELA, Valley Falls, Kansas



HAMPSHIRE BOARS—Outstanding quality. A few gilts, bred to Champion. Fall pigs, either sex, sold on approval.

F. B. WEMPE
Frankfort - Kansas

OLSON HAMPSHIRES.



For Sale—One spring yearling and one fall yearling boar, 8 spring boars, 40 head spring gilts, either bred or open. All immuned and registered to purchaser. Write or come and see our herd. Farm 12 mi. S of Salina.

OLSON BROS - - ASSARIA, KANSAS

CHESTER WHITE HOGS

CHESTER WHITE SPRING BOARS

Husky, growthy fellows of the best breeding. Cholera immune. Priced right.

HENRY MURR - TONGANOXIE, KAN.

Skim milk and buttermilk, which are available on most farms, bring better returns when fed to laying hens than when put to any other use. They may be fed either sweet or sour, but should not be given sour one day and sweet the next. Give your hens all the skim milk they will consume, but keep water before them in addition.

HOLSTEIN CATTLE.

REGISTERED HOLSTEIN BULLS

From A. R. O. cows. All our own breeding. Bred for milk and fat production.

LILAC DAIRY FARM
R. F. D. 2 Topeka, Kansas

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 165946, the long distance sire. His dam, grand dam and dam's two sisters average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

BRAEBURN HOLSTEINS—Senior herd bull, Walker Copia Champion, dam and sire's dam held world's records. Service bulls, bull calves.

H. B. COWLES, 608 Kan. Av., Topeka, Kan.

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Live Stock and Real Estate Auctioneer.

Fifteen years experience. Write for terms.
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GALLOWAY BULLS

SIXTY yearling and two-year-old bulls, strong and rugged; farmer bulls, have been range-grown. Will price a few cows and heifers.

E. E. FRIZELL, Frizell, Pawnee Co., Kansas

GOOD GALLOWAY BULLS

Twenty-five Extra Good Yearlings
Extra breeding and quality. Priced to sell.
J. M. HILL, SEDGWICK, KANSAS
Route 4, Box 65A

HEREFORD CATTLE.

Greenwood Hereford Farm

Prince Rupert Herefords

One carload yearling bulls; fifty head bull calves. Will price single lot or carload.

W. J. Brown, Fall River, Kan.

RED POLLED CATTLE.

RED POLLED BULLS

Pure-bred Red Polled Bulls, old and young

W. J. HARRISON, ANTELL, KANSAS

What Is a Free-Martin?

In the Live Stock Journal of London appears the following most interesting description of the origin of the term, "free-martin," as applied to a heifer born twin with a male:

"Again has that hoary-headed query reached us, 'What is a free-martin?' It is very curious, but still a striking fact, that all our best philological dictionaries give us no assistance whatever in arriving at a satisfactory answer. The New English dictionary says that the term is of unknown origin, and as illustrating its application quotes from Bewick's History of Quadrupeds (1807) as follows: 'When a cow happens to bring forth two calves, one a male, the other a female, the former is a perfect animal, but the latter is incapable of propagation, that is well known to farmers under the denomination of free-martin.' As will be seen, this quotation, though written over a hundred years ago, corresponds exactly with the ideas generally held at the present day with regard to female calves born twin with a male—viz., that they are free-martins and imperfect. But it must be said that all females so born are not imperfect; it is known that a small percentage breed normally on attaining maturity, and the meaning of free-martin must be ascertained before its correct application can be established. What, then, does the term free-martin signify?

"With regard to the words 'free' and 'martin,' through lack of knowledge of Anglo-Saxon we are unable to establish their derivation, but, nevertheless, equivalent words in the German language enable us to determine their meaning, and therefore the correct application of what has long appeared to many as a mysterious and unmeaning term.

"In German, merzen (for aus-merzen) is a verb meaning to cull, to weed, to separate any poor, unsound or defective beast from the herd or flock. As a noun merzen signifies a cull, a mart-beast; in compound words the inflection 'en' is dropped, and 'merz-vieh,' 'merz-kuh,' etc., are in English mart-beast, mart-cow, etc. —in short, beasts separated from the herd for some specific purpose.

"In English the word 'martin' follows the same course as the word 'merzen' in German, with the exception that it has lost its power of application as a verb. Martin, therefore, simply signifies a cull, a mart-beast; in compound words the inflection represented by 'in' is dropped, and mart-beast, mart-cow, signify cull-beasts—i. e., animals chosen from the herd for fattening purposes with a view to slaughter.

"In olden times it was customary for farmers to kill a fatted beast at the Martinmas term as winter provision for the family. The animal chosen for this purpose was always the least valuable member of the herd—a cow past its bloom it might be, or an animal which on account of some defect or infirmity rendered its retention in the herd no longer desirable. These animals were always grazed throughout the season on the best pasture available, there being no other way of fattening, and while at grass were known as martins or mart-beasts.

"Seeing that 'martin' is only another rendering of 'mart-beast,' it may be now explained why some of them were distinguished as free mart-beasts. In English no shade of meaning of the word 'free' throws any light on the point now under discussion; but the German 'fruh' (a cognate word, and almost identical in pronunciation) puts us at once in possession of the desired information. 'Fruh' denotes something which happens or arrives before its natural time—an untimely frost, a premature fall of snow, a death early in life are all spoken of as 'fruh.' The word 'free,' with the force of 'fruh,' indicates that the term of which we speak could only apply to a young animal—say, four years of age—to all appearance a heifer, but, unable to reproduce its kind, was destined for the family larder. Such animals were always found to have been born twins with a male, and being consumers merely, without giving anything in return, there was no reason for continuing their existence.

"Thus it may be stated that calves born twin with a male cannot be correctly described at birth as free-martins; neither can the term be correctly applied to an animal so born, at any period of its existence, which breeds normally as some do."

The home-garden campaign of last spring and summer, part of the effort to increase the nation's supply of war-time food, stimulated, it is estimated, the planting of from 200 to 300 per cent more gardens than ever before had produced food in the United States in one season, according to the annual report of the Secretary of Agriculture. This was particularly true in the South, where the work was a logical development of the "safe farming" program which has been advocated for several years. The time to begin planning for next year's garden is now. Spring is too late to start the campaign.

FARM AND HERD NEWS NOTES

C. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising
O. W. Devine, Field Representative

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CLAIM SALE DATES.

Percheron Horses.

Jan. 25—Kansas Percheron Breeders at Kansas Agricultural College, Manhattan. Under management of C. W. McCampbell.

Jacks and Jennets.

March 26—H. T. Hineman & Sons, Dighton, Kansas.

Poland Chinas.

Feb. 6—H. B. Walter, Effingham, Kan.
Feb. 7, 1918—W. H. Charter, Butler, Mo.
Feb. 8, 1918—W. B. Wallace, Bunceton, Mo.
Feb. 9, 1918—Will J. Lockridge, Fayette, Mo.
Jan. 29—Head & Moore, St. Joseph, Mo.
Feb. 18—Deming Ranch, Oswego, Kansas.
Feb. 13—H. L. Faulkner, Jamesport, Mo.
Feb. 19—Fred B. Caldwell, Howard, Kansas.
Feb. 20—B. E. Hodson, Ashland, Kansas; sale at Wichita.
Feb. 21—E. J. Erhart & Son, Ness City, Kansas; sale at Hutchinson.
Feb. 22—F. Olivier & Son, Danville, Kansas.

Poland Chinas.

Feb. 23—V. O. Johnson, Auine, Kan.
Feb. 28—Clarence Dean. Sale at Dearborn, Mo.

Chester White Hogs.

Feb. 2—Arthur Mosse and Henry Murr, Leavenworth, Kansas.

Durocs.

Feb. 14—B. R. Anderson, McPherson, Kan.
Feb. 27—R. W. Murphy, Dearborn, Mo.
March 7—W. W. Otey, Winfield, Kansas.

B. E. Totten has announced a sale of Holstein cows and heifers to be held at Nortonville, Kansas, December 17. This sale will be under the management of Ben Schneider, of Nortonville, and the offering will consist of fifteen head of pure-bred cows and heifers and fifty head of choice high-grade cows and heifers. Forty head of the offering will be bred to good Holstein bulls and will freshen between now and spring.

J. R. Ely, of Auine, Kansas, has developed one of the splendid herd of Shorthorns in Central Kansas. The herd comprises forty head of Scotch-topped cows, headed by a pure Scotch bull, Silver Knight, that is a proven sire of the right sort of useful cattle of the easy-feeding type. A feature of the herd at this time is a choice lot of young bulls.

Ed Stegelin, of Straight Creek, Kansas, has made a great success in breeding double standard Polled Durham cattle. Few breeders have in such a short time made the show record that Mr. Stegelin has made, with True Sultan at the head of the herd, who was made grand champion from Iowa to Oklahoma two years in succession and is today rated as one of the greatest bulls of the breed. True Sultan is now assisted in the herd by one of his sons, Sultan's Challenger, out of a pure Scotch Marr Emma cow. This young bull is a very promising herd bull prospect and will be heard from later in the leading fairs and cattle shows. The herd now numbers about ninety head of polled cattle and a feature at this time is the choice lot of young females either sired by True Sultan or bred to him.

The dispersion sale of Poland Chinas held by U. S. Byrne, of Saxton, Missouri, December 5, was one of the best sales ever held on the Byrne farm. Seventy head of bred sows and open gilts and eighteen spring boars and two herd boars sold for an average of $89. Long Jumbo 2d sold for $350, going to head the good herd of Ben Risk, at Weston, Missouri. B. Wonder sold for $200 and went to head the herd of A. B. Duncan, of St. Joseph, Missouri. The strong competition was made on the bred sows that were showing safe for spring litters.

The E. S. Engle Holstein sale held at Abilene, Kansas, December 6, was one of the good sales of the season. Seven head of registered cows sold for an average of $327.50, and thirty head of grade cows sold for an average of $158.90. Ten head of yearlings averaged $80 per head. A large crowd of interested bidders were present and the bidding was snappy all through the sale. At no time did the sale lack for interest. H. H. Dowds, of Wichita, Kansas, bought ten head for his dairy farm at Clearwater, Kansas. Nothing sold high, but prices were very even and the returns were very satisfactory to Messrs. Engle & Sons.

Arthur Mosse, of Leavenworth, Kansas, owner of the famous Kansas herd of prize-winning Chester White hogs, announces a bred sow sale for February 2. A draft of fifty head of select sows and gilts from the herds of Mr. Mossee and Henry Murr will be catalogued for this sale. They will be bred to some of the best boars of the breed and will be a choice offering.

F. G. Houghton, of Dunlap, Kansas, reports his herd of pure-bred Shorthorn cattle doinw well. Mr. Houghton is building up a good herd of ideal type Shorthorns. A feature of his herd at this time is the choice lot of young stock, including some fine young bulls.

H. T. Hineman & Sons, of Dighton, Kansas, well known breeders of high-class jacks and jennets, announce March 26 as the date of their annual sale of jacks and jennets. They will catalog the best lot ever sold from their herd for this sale.

F. C. Crocker, of Filley, Nebraska, owner of the famous Maple Lane herd of Duroc hogs, reports his herd doing well. He also reports a heavy demand for high-class Duroc boars. Mr. Crocker has bred a very large number of richly-bred sows and gilts to his famous boars for spring farrow and expects a heavy demand for bred sows and gilts.

Dr. J. T. Axtell, of Newton, Kansas, reports his Holstein herd doing well. Doctor Axtell owns one of the great producing herds in the Southwest. A feature of his herd at this time is the large number of heavy producing cows and the outstanding lot of record-bred young stock.

Smith & Hughes, owners of Lilac Dairy Farm herd of Holsteins, report their herd making a great record again this year. This is one of the heavy-producing herds now assembled and the herd is headed by one of the best bred Holstein bulls ever brought to Kansas. This bull, Sir Rag Apple Superba No. 207682, is a son of Rag Apple Korndyke 8th, No. 73416, and out of Sarah Baker Korndyke De Kol No. 226596, who is a very remarkable cow of quality, sired by Walker Korndyke Emporia De Kol No. 99384 and out of Sarah Baker Summit No. 168023, and having an official butter record of over 20 pounds as 3-year-old. She will again be tested as a 4 and 5-year-old, and will be expected to make a 30-pound or better aged cow, for she has the breeding back of her. Rag Apple Korndyke 8th is generally referred to as "the greatest bull in the world." He is the first and only bull in the world to have sired a 30-pound junior two-year-old daughter. He is the only bull in the world to have a 7-months-old son sell for $20,000 and one for $53,200 at public auction. He is a son of Rag Apple Korndyke No. 48020, who has twenty-eight A. R. O. daughters with records from 25.03 to 37.09 pounds to their credit, and out of Pontiac Lady Korndyke No. 92700, with a butter world record of 38.03 pounds of butter and milk 601.40 in seven days.

A. S. Alexander, of Cedar Row Stock Farm, Burlington, Kansas, owner of one of the best herds of old original Spotted Poland Chinas now assembled, reports his herd doing well and a heavy demand for Spotted Poland China breeding stock. Mr. Alexander has bred a large number of choice tried sows and spring gilts for spring farrow. They are all bred to his great herd boars that are among the great sires of that popular breed.

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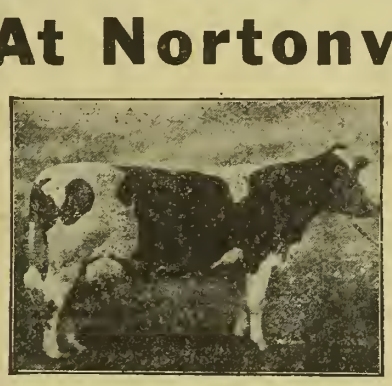

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Fifteen pure-bred cows and heifers.
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BEN SCHNEIDER, SALES MANAGER

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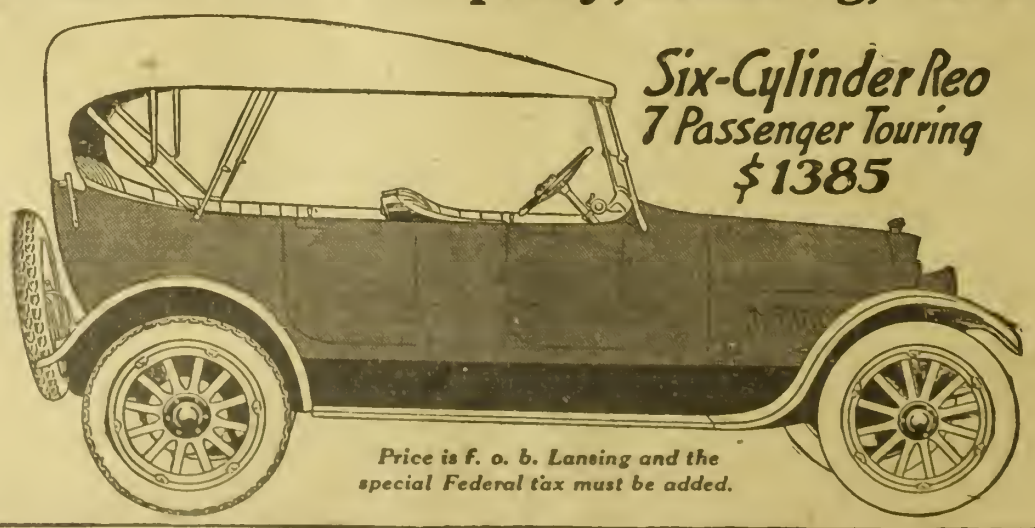

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CO-OPERATION IN PRODUCTION

Without Some Common Interest, Neighborhood Not Ready For Co-operation

By GEO. O. GREENE, Before Indian Creek Grange Institute

I REALIZE that the subject of co-operation does not mean as much now nor arouse quite as much interest as it did a few years ago. People are interested in other things—in increased production and in the better prices they are getting. Always when people get interested in these things they lose interest in co-operation, and always the condition of co-operation has fluctuated with farm profits.

You remember that when the Grange took up co-operation it was nearly the undoing of the organization and was not a small factor in the death of the Farmers' Alliance. Whether or not it will be the ruination of some of the other farm organizations is another question. Each one builds a little better and the time must come when co-operation is the rule rather than the exception. It seems to me that the reason for the failure of some of the co-operative organizations is that they begin at the wrong end. They usually begin at the back and work forward. I think you will find that in nine cases out of ten they take up some method of supply. There are few communities in the state where people have not found that they could successfully co-operate in selling. If you get together a load of cattle, for instance, you find that you have all the breeds under the sun in that carload—some men have them all in one cow. This means the best must sell too low in order to make a market for the poorest. Such products do not give desirable publicity to the community. You are not known to the outside world for high grade stock. Too many of us are like the man living in a community where everyone else raised White Leghorn chickens and this breed had been developed to a high state of perfection. This one man began breeding Golden Campines. When asked why he did it he replied that he wanted something different from what everybody else had. In other words he wanted to junk up the poultry production from the entire neighborhood for the sake of having "something different."

I have always believed that the community that cannot co-operate in production cannot co-operate in marketing. In talking co-operation, the organizations of the fruit growers of the West or the dairymen in Wisconsin are usually held up as an example. As a matter of fact the reason they are getting together is that everyone in the community is interested in that one line. They are co-operating in production first and they find it necessary to co-operate in selling later on.

We often hear the remark that no matter what the farmer has to sell, somebody else sets the price. How many farmers are able to place a price on their products? Do you know how much it costs to produce anything you grow on the farm? How many answers did the Government get to the question of what it costs to raise a bushel of wheat, and how many of those who did attempt to answer the question knew what they were talking about? I do not think many farmers know what it costs them to raise a bushel or a pound, nor the cost of distribution, so they are not able to say what their products are worth to them or to the community. When I hear people talking about price control and food conservation, I wonder why farmers do not wake up to their opportunity. I imagine that more criticism of the Food Administration has come from the farmers than from any other class, and yet after all the greatest advantage is to come to the farmer. I think we will grasp the opportunity and have some real organized co-operation before this thing is over. We are going to have some information that will be of value to all classes of society. While some of the preliminary work done along food control lines is going to hurt and will hurt the farmers as well as other people, yet in the end there are just two parties who will be considered—the producer and the consumer.

One of the points which a few years ago was often brought up in a discussion of co-operation was that we would secure better prices and greater profits for the farmer if we could organize in such a way as to produce a little less. The last year has disproved such argument. As a matter of fact, we got the higher price because of food shortage, but the price of the things the farmer had to buy came up before the price on his products. One of the principles of economics is that the farmer's products are the last to go up in price and the first to come down. The reaction of high-priced foor products hits the farmer before he is able to realize on the increased prices. His crop is in the majority of cases already sold at harvest prices, which are uniformly much lower than the high point. Those who are handling the products are going to get their pay out of it before the farmer gets his.

It is also argued that the way to make greater profits is to work for greater production. A great deal is being said now about the necessity of greater production on the farms. Sometimes the farmer resents the fact that everybody is interested in his business, forgetting that everybody lives from the products of his labor. As a matter of fact, the man who talks for greater production as a means of increasing farm profits and the man who talks for less production are both wrong. The farmer does not need either greater or less production as much as he needs better quality and cheaper production.

The man who can produce a crop more cheaply than his neighbors has a profit they cannot touch. When a community is well organized, the exchange of farm machinery and of experienced help enables cheaper production, and the high price goes to each one.

Community organization simply means that the community can produce more cheaply than where each man is working along a different line, and its products are of better quality. The thing in which we need to take more interest is better and cheaper production rather than greater production.

In 1899 the average meat production in the United States was 280 pounds per capita. That has fallen to 219 pounds at the present time, and you know whether it costs more to produce it. You can readily see why people interested in buying think the farmer is getting a big thing out of it at the prices be is getting now. Farmers are not organized to tell their end of the story and no one takes the trouble to show the increased cost in production. The man going on the farm today must produce several times as much per acre as his father or grandfather produced. To illustrate: Suppose a young man buys land now at $80 which his grandfather bought in the early days at $20 an acre. I believe at that time taxes were not more than three-fourths of 1 per cent. The interest on farm mortgages was perhaps about the same as now—around 6 per cent. You see what it means. With taxes at 1½ per cent, or more, the boy is paying 8 per cent on his grandfather's original investment in taxes alone, and 24 per cent in interest. Not only that, but the land will not produce what it would at that time. It costs more to produce every bushel and every pound. Labor is higher. Conditions have changed entirely. You can see why there is a difference of opinion as to how much profit the farmer is getting between people in the city and people in the country. Society in general thinks because the farmer has increased his price he must be getting away with a good slice, but when we begin to compare prices with the cost of production we can see how the margin of profit may be entirely eliminated.

The community that can work together to produce more cheaply than the individual farmer can produce is the one that is going to make the greater profit. How will organization in the community increase the profits? By greater community skill; perhaps that is the most important result. From the fact that the whole community is interested and working along the same line, the accumulated knowledge is greater in that community than where every man is working by himself. That is illustrated in a neighborhood where the people are all raising cows. They do not know anything but Holsteins or Jerseys, as the case may be, but they know them pretty well. The same thing is true where everyone raises fruit. They know nothing but apples, but they know them pretty well. If the people of this community were transported to a Troy, Kansas, hotel at apple-picking time, you would be bored with the conversation. The do not talking anything but apple picking, apple prices, apple packing, and apple marketing. But that community has obtained information that the average community does not have. There may be individuals in any section that know as much about fruit as any of these men, but it is not common knowledge, and the neighborhood as a whole has not made the same advance.

In many communities the farmers have put in an elevator and retail store of their own, but they find they have not gone very far yet in the solution of the problems of distribution. Looking into the future as they planned these enterprises, they had dreamed of never-ending trainloads of produce going away and never-ending trainloads of supplies being brought back. They thought there was no reason why their cattle should not top the market. But when the first carload of cattle came in for shipping some were fine and some were very poor, and of course the lot did not bring the top price expected. Some of the wheat shipped out was stack-burned and some the finest on the market, and it all had to go on the market together. The man with western high-grade milling wheat got the same price as the man who let his wheat get wet. Farmers are beginning to see the necessity of getting together in production, and that the community that can produce a good standard product is the one that will make the best profits.

The need for co-operation and some of its possibilities are readily seen by an outsider, but the fine points must be determined by the people living in the neighborhood. The first thing necessary is for people to be in the frame of mind to co-operate. The next question is, what is the land good for? What is the community best fitted for? What is the point of contact? Do not try to force the community into the things which are personal hobbies, for they will go the other way. Try to determine in what line of farming you and your neighbors have a common interest. If there is no project in which a common interest can be aroused, the neighborhood is not yet ready for co-operation of any kind.



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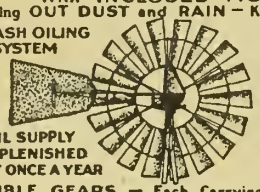

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Tractor Profitable in Iowa

Of 171 farmers interviewed by four senior engineering students of the Iowa State College, 158 gave replies warranting the conclusion that a tractor adapted to the size of the farm is almost always a success. The investigations covered seven counties of the state.

Of the 171 farmers visited, 158 said their tractors were paying propositions, and but thirteen said their machines were not a success. Six only of the thirteen gave reasons. Two, with 15-30 tractors, said their tractors were too heavy; and four, with 8-16 tractors, said they were too small. A 15-30 tractor is one which will give 15 H. P. at the drawbar and 30 H. P. on the belt.

The 10-20 is the most popular size, although it has not been on the market as long as the 8-16. Thirty per cent of the farmers had 10-20 machines, 26 per cent had 8-16, and some 15 per cent had 12-25. Regardless of the size owned, most farmers believed the 10-20 best adapted to the farm.

The number of horses displaced by the tractor is hard to determine. Some men use their machines simply to do belt work and plowing, and then they do not displace any horses. Others plan to reduce the number of work horses and do all the heavy work with the tractor. The 171 owners who figured horses displaced reported an average of 3.01 horses per tractor.

Very few of the machines were on farms as small as 120 acres, but from 160 to 240 acres was the most popular-sized farm for the tractor. Almost all agree that a tractor would pay on a 160-acre farm.

The most popular advantages of the tractor as given were: "plows deeper," "does better work," "used in hot weather," "longer days in rush season."

In New York, state funds have been invested in tractors which have been installed in central places and from these points distribute their work over the surrounding neighborhood.

FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

WHEN the motor refuses to start these cold mornings, the trouble can be traced usually to the carburetor, writes Dr. Leonard Keene Hirshberg in the current issue of the American Motorist. More gasoline is required in cold weather than in warm weather, and the adjustment should be made accordingly. The richer the mixture of gas going into the cylinders, the more heat will be generated.

The outside air is much colder, and consequently the heat will radiate much faster from the cylinders than in warm weather. To get the same results from the motor, this extra loss of heat must be made up by supplying an extra amount of fuel. The cooling system should also receive careful attention to prevent any damage arising from freezing. The radiator cells have very thin walls for rapid cooling, and the lightest freeze is liable to develop leaks. The system should be cleaned out with a solution of ordinary washing soda and water, and then an anti-freezing solution of some sort used.

A solution of calcium chloride in water has been found to be very satisfactory in all conditions. Alcohol is expensive and requires frequent renewal. Use chemically pure calcium chloride. The commercial form usually contains acid that is injurious to the metal parts. Get a strip of blue litmus paper from the drug store, and if it turns pink in the calcium chloride, put in ammonia or soda ash until it remains blue.

The amount of calcium chloride to use may be found from the following table:

Pounds of calcium chloride per gal.	Freezing point, degrees F.
2	18.0 above zero
3	1.5 above zero
4	17.0 below zero
5	39.0 below zero

Starting Engine in Winter

Nothing is more exasperating than spending half an hour or more trying to start a balky engine on a cold frosty morning. Gasoline does not vaporize readily at low temperatures and the logical remedy for difficulty in starting is to create a condition that will cause the fuel to vaporize and ignite readily. In cold weather it is always the safest plan to drain the cooling system over night and filling the hopper or radiator with hot water will often warm the cylinder sufficiently to vaporize the fuel quickly. It is much easier to crank an engine that has been well warmed, for the lubricating oil gets stiff with cold and causes the pistons to work hard.

Raymond Olney in Farm Power tells of a farmer of his acquaintance who starts his engine by mixing a few drops of ether with a priming cup full of gasoline. He says that when he does this, if there is a good spark, the engine will invariably start with the first cranking.

"Another good plan," says Mr. Olney, "is to have a can of high-test gasoline on hand, a little of which should be put into the priming cup for starting. The object in using this is that it will vaporize more quickly than the commercial gasoline, because it is of a better grade.

"Another farmer uses an oil can which he fills with gasoline and sets in a vessel of boiling water. This heats up the gasoline so that it will vaporize quickly. Then when some of this warm gasoline is poured into the priming cup or into the air intake, the engine usually starts quickly. In using this method, however, one has to be very careful not to put the can of gasoline into the hot water while near the fire, or even attempt to heat the gasoline over a fire of any kind, for it is extremely dangerous and liable to cause an explosion and a serious fire.

"Another very good method of starting an engine in cold weather is to hold the flame of a common kerosene torch or a plumber's blow-torch near the air intake. When the engine is turned over, the heated air around the torch is drawn into the carburetor, causing the gasoline to vaporize quickly. It does not take a great deal of heat to accomplish this.

"This method should never be used when there are any gasoline leaks or where the exterior of the engine is not kept free from oil and grease. Either of these conditions is very apt to cause a fire which might ruin the engine, to say nothing about destroying buildings and other property.

"Practically the same results can be accomplished by removing the spark plug or igniter and holding the flame of the torch at the opening. By cranking the engine the hot air will be drawn in and the interior of the cylinder heated sufficiently to ignite the fuel charge. But in this case also it is necessary to be careful to prevent setting the engine on fire.

"When ignition by dry cells is used, it is usually advisable to warm them up in winter before attempting to start the engine. In cold weather the current from dry cells is weaker than in warmer weather as the cold interferes with the chemical action inside the cells. When the engine is not in use it is a good plan to disconnect the batteries and keep the cells in a warm room so that they will produce a better spark when needed for starting. However, they should not be kept too warm, not over ordinary room temperature.

"The method employed by one farmer is to use acetylene gas which is drawn into the engine cylinders with the air and fuel. First, he drops a small handful (about an ounce or two) of calcium carbide into an empty baking powder can. Then when he is ready to start the engine, he pours a little water on the carbide, hangs the can under the air intake, and cranks the engine. The water on the carbide starts the chemical action which generates the acetylene gas. On the suction stroke of the piston, this gas is drawn into the cylinder with the air and fuel, and at the time ignition takes place the acetylene, being in the form of a perfect gas and very easily ignited, is readily fired by the electric spark.

"The heat generated by the burning acetylene helps to vaporize the gasoline quickly, which is also ignited. Two or three fuel charges containing the acetylene is all that is necessary to insure continuous running.

"This man says that no matter if the temperature is 30 degrees below zero when he uses the carbide, his engine always starts the first time it is turned over. He has used this method for three years and it has never failed.

"On many farms acetylene lighting plants are used, in which case it would be very convenient to use carbide for starting the engine. The method is so simple and effective that it would be advisable for any engine owner to buy a can of carbide especially for starting his engine. The amount required for each starting is so small that it would be quite inexpensive. Furthermore, the carbide itself is not dangerous to handle or have around farm buildings.

"The methods of starting which I have described are applicable to the tractor as well as the portable engine."



TRACTOR BEING USED TO CULTIVATE CORN WITH TWO-ROW CULTIVATOR.—ONE OF THE MORE DIFFICULT FARM OPERATIONS

Winter Care of Tires

If an automobile is used occasionally during the winter, it will not be necessary to remove the tires, but they should be partially deflated. The wheels should be supported by jacks.

Tires should not be left standing on greasy or wet floors. Grease is injurious to the rubber and moisture to the fabric.

If the car is stored for the winter, it should be jacked up and the tires removed. If there are any cuts in the rubber they should be repaired in order that moisture may not enter the fabric.

During the winter, after the casings have been wrapped in paper or burlap to keep them as dry as possible and to protect them from the sunlight, they should be placed in a dry room with a temperature ranging between 40 and 65 degrees. Inner tubes should be removed and either be deflated or rolled loosely with a slight air pressure left in them. The tubes should then be given the same care as the casings.

The importance of the tractor as a necessity of war has been recognized by the war industries board at Washington in granting priority of transportation to farm tractors second only to war materials, but the board has not yet been impressed with the gravity of the material situation. Tractor manufacturers must have priority of steel second only to war orders or they will have to discontinue making one of the most important implements of war.

DON'T WASTE YOUR MONEY



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BOARD OF AGRICULTURE PROGRAM

A war-time program is being prepared for the big agricultural convention to be held in Topeka January 9-11 under the auspices of the State Board of Agriculture. This will be the forty-seventh annual meeting of the board. Some of the foremost farm and live stock authorities of the country have been invited to make addresses. Herbert Hoover has written the secretary of the board twice that he would "make every effort to attend," to quote the national food administrator, but that his movements were governed by such rapidly changing developments that he could not definitely promise a date yet.

Live stock problems will be given prominent consideration throughout the program. A subject that farmers everywhere are interested in is that of farm labor. The Government has a plan for meeting the labor situation, particularly with respect to possible needs next year, and E. V. Wilcox, of the Farm Management Bureau of the United States Department of Agriculture, will attend to inform the state just how the Government proposes to solve the problem. The Grain Grading Standards Act, the administration of which causes so much dissatisfaction among Kansas wheat growers this year, will be discussed by Chas. J. Brand, chief of the Bureau of Markets of the United States Department of Agriculture. Other timely and important subjects will be presented by capable authorities, and one or two purely war lectures by men who recently have been on the battle fields of Europe, are being arranged for.

Under the new law extending representation in the convention the official attendance will be trebled if not quadrupled. The public generally is invited to attend and participate in the proceedings. It is expected that an unusually large number of farmers and stockmen from all parts of the state will be present because of the unusual conditions confronting the agricultural industry and the need for counsel in dealing with them intelligently and most effectively.

The responsibility of winning the war rests in large measure on the farmer. The importance of an adequate food supply cannot be over-emphasized. Not only our own consumers, but much the rest of the world must rely more completely than ever before upon the American farmer. Out of the Kansas convention will come measures and recommendations that will enable the men of Kansas to do their part and do it most efficiently, to make every stroke count. Every farmer and stockman of Kansas would be well repaid in attending this convention. Every Kansas man who can do so should take part in formulating these measures and recommendations.

PRICE OF WHEAT

In spite of the fact that producers of wheat were compelled to adjust themselves without any preliminary period to Government control of wheat prices, the results of a questionnaire sent out by the State Board of Agriculture indicate that farmers of Kansas are acquescing to this measure as a war necessity. The following question was asked all the crop reporters of the State Board of Agriculture:

"Do you regard the price fixed by the Government for this year's crop as reasonable?"

"It is interesting to note," says Secretary Mohler, in commenting on the replies, "that of the 903 who answered the question, 584 replied 'Yes,' without qualification; 72 said, 'No, because prices are not fixed on other commodities,' and 155 unqualifiedly said 'No.'

"The question really invited only a 'yes' or 'no' answer, and the replies indicate quite clearly that the big majority of Kansas farmers look on the price as a reasonable one for wheat when considered alone without reference to other commodities. When compared with prices of other commodities it is a somewhat different story, however, as suggested by the number of reporters who took the pains to qualify their answers. There is probably not a farmer in Kansas but who would agree that the fixed price is abundantly high provided prices on other commodities, as wheat products, cotton, machinery, and so on, were scaled similarly, and this feeling is doubtless general among the great growers of the country's wheat belt. President Wilson recognized the inequity of the situation in his recent message to Congress, when he said the farmers contend, 'with a great deal of justice, that, while the regulation of food prices restricts their incomes, no restraints are placed upon the prices of most of the things they must themselves purchase.'

"Replies to the board's inquiry show that the Kansas farmers are true patriots and bow with good grace to the mandates of the Government, even though such mandates may appear discriminatory. That our wheat growers have gone ahead and sowed the second largest acreage to wheat in the state's history suggests that the Kansas farmers are determined to do their part in full measure in this emergency and indicates their belief that in time the Government in its gigantic undertaking will adjust present inequalities to the end that all interests are dealt with fairly and justly. The Kansas farmer is charitably inclined and will await further developments with confidence."

GRANGE AND COLLEGE PRESIDENCY

The selection of a man to suceeed Dr. H. J. Waters as president of the Kansas Agricultural College came up for consideration at the Kansas State Grange meeting which was held in Burlington last week. The attitude of the State Grange on this most important matter was finally summed up in the following resolution:

"Be it resolved that this State Grange assembled at Burlington, Kansas, does urge upon the Board of Administration the importance of using all diligence in selecting a strong man identified with agricultural interests and pursuits and in sympathy with agriculture as president of the Agricultural College."

Knowing something of the circumstances surrounding the introduction and passing of this resolution, we read between the lines that the Grangers propose to check this job up squarely to the Governor and the Board of Administration, whose duty it is to select a man big enough for this place, and simply urge them to spare no effort in their search for the right man. The only additional specification they lay down is that they want a man thoroughly in harmony with agricultural pursuits. As pointed out by a prominent Granger in discussing the resolution to present to the Board of Administration, it is easier to go slow and avoid making a mistake than it is to correct one and overcome its harmful effects after it is made.

In view of the fact that one of the candidates commonly rumored to be strongly considered for the place has the backing of a number of men very prominently identified with state politics, this resolution of the Grange is rather significant and will probably be given most careful consideration by the Governor and the Board of Administration.

TREATMENT OF ENEMY ALIENS

More severe measures in the treatment of alien enemies in our midst who conspire against our peace and safety are imperative. We are glad to note that President Wilson devoted some attention to this subject in his address to Congress. He demanded that legislation should be enacted defining as a criminal offense every wilful violation of the presidential proclamations relating to alien enemies promulgated under Section 4067 of the Revised Statutes and providing appropriate punishments; and that women as well as men should be included under the terms of the acts placing restraints upon alien enemies.

"It is likely," said the President, "that as time goes on many alien enemies will be willing to be fed and housed at the expense of the Government in the detention camps and it would be the purpose of the legislation I have suggested to confine offenders among them in penitentiaries and other similar institutions where they could be made to work as other criminals do."

Our lawmakers should give prompt attention to the suggestions made. There is no excuse whatever for pampering the alien who attempts to interfere with our prosecution of the war.

KANSAS AND FOOD CONSERVATION

Kansas stands at the head of all the states in the Union in her support of the Food Administration's food conservation program. The food-saving pledges have been signed by 94 per cent of the families in the state. This is most striking evidence of the staunch loyalty of the people of Kansas.

The total number of signatures in Kansas reported to Dr. H. J. Waters, who has been until recently food administrator for the state, is 464,277. This is one and a half times the goal set in the campaign, which was only 300,000.

The percentage of families enrolled in the state is just double the percentage the United States over, which is 47. Next to Kansas stands Iowa, with 91 per cent. These are the only two states running 90 or over. Returns from states surrounding Kansas range from 56 to 70 per cent.

The high attainment in the Kansas campaign is attributed to the thorough organization maintained and to the whole-hearted zeal and co-operation of workers in all parts of the state, as well as to the general patriotic sentiment of the public.

STATE GRANGE SUPPORTS WAR

As the initial act of its first session, the Kansas State Grange sent the following message to President Wilson:

"The Kansas State Grange of the Order of Patrons of Husbandry in forty-sixth annual session assembled sends greetings and wishes to assure you that in this time of national need we are always ready, and pledge to the Government the unstinted support of the loyal Patrons of our state in carrying on to a successful conclusion this world struggle for better government conditions for all nations.

"Our feelings and attitude toward war are those of abhorrence and condemnation, but since war has been made the price of peace, we hope for its successful prosecution to the end that there may follow the nearest approch to permanent world-wide unarmed peace that the wisdom of men can devise.

"When peace shall have come we will have no sympathy with the idea of an armed peace, as the dismal failure of that plan, once so ardently advocated in Europe, now warns us to forever avoid such a delusion."

The State Grange which met in Burlington December 11 to 13, like the National Grange, took a decided stand on the matter of using cereals and other food materials for the manufacture of malt and spiritous liquors. In a strong resolution it appealed to the Federal Government for national prohibition, believing that a measure prohibiting the use of grains and sugar of all kinds in the manufacture of alcoholic beverages will be a great factor in helping to win the war.

Treat the well-selected brood sow kindly and intelligently, and she will respond in full measure with a fine litter of pigs at weaning time.

PROTEST FEED PRICES

There is no justification for the exorbitant prices being asked for bran and shorts. The farmers who are compelled to buy mill feeds in order to properly feed their live stock are rightly contending that millers should be compelled to adjust prices of wheat by-products on the basis of the Government price for wheat. The farmer was the one man who had to adjust himself to food price regulation over night. Other interests have had weeks and months even in which to get ready to conduct their business under the new order. Millers are now operating under federal license. Their profits in flour are rigidly fixed. Bakers are likewise coming under similar control.

In the matter of bran and shorts, however, the Food Administration has so far been silent. Dr. H. J. Waters has protested most vigorously to the food control officials in Washington against the serious injustice of regulating the price of wheat and profits on flour while permitting the by-products of wheat to be sold without regulation. The dairymen and the pork producers who are expected to do their part in supplying fat to the world are hard hit by the high prices of bran and shorts which now prevail.

Last Saturday night the Leavenworth and Wyandotte Dairy Association, which is a strong organization of milk producers in those two counties, held a meeting in Lansing and a resolution was introduced petitioning the representative in Congress from the Third District to use his influence with the Food Administration to put a stop to the sale of bran shorts at the present unjustifiable prices. Similar action should be taken by other organizations. If wheat is arbitrarily kept to a two-dollar basis and flour is sold accordingly, the farmer who must buy bran and shorts if he is to do his part in the production of live stock should have protection against the charges now being made for milling by-products. Kansas City millers quoted on Friday of last week, patent flour of established brands in bulk at from $9.50 to $9.80 a barrel. On the same day Kansas City mills quoted brown shorts at from $2.10 to $2.15 a hundred, sacked; gray shorts, $2.30 to $2.40; white shorts, $2.80 to $3, and bran to jobbers at from $1.95 to $1.98 a hundred.

It has been rumored in Kansas City milling circles that the Food Administration would soon fix prices on mill feed in order to prevent the present method of selling these products from interfering with the stability of flour prices. The contention of the dairymen and the pork producers that bran and shorts, which they must have, should sell at prices proportionate to the fixed price of wheat is fully as good a reason for taking this action as the one intimated.

WICHITA'S LIVE STOCK SHOW

The preliminary premium list for the second annual Kansas National Live Stock Show to be held in Wichita from February 25 to March 2, shows a complete classification for Shorthorn and Hereford cattle, also a complete classification for Shorthorn and Hereford cattle owned in Kansas and Oklahoma which have not won a first or second premium at the state fair or national live stock show. This will appeal to the smaller breeders who may have hesitated to show their stock in open competition.

Liberal premiums are also offered for Holsteins and Jerseys, Poland China and Duroc Jersey hogs, and horses. In all about $25,000 will be paid for premiums, entertainment, music, and other amusements. Some of the leading auctioneers of the country will be present to conduct the live stock sales which are an important feature of the show.

This exhibition of live stock is well worthy of the enthusiastic support of the people of Kansas and Oklahoma.

FARM TENANCY EVILS

The Good Farm, Good Tenant, Good Tools and Fair Contract Make Success

By CHAS. H. TAYLOR

TENANCY in this country has the reputation of depleting the fertility of the soil, lowering the crop yields, favoring the growth of weeds and washing of ditches, allowing fences and buildings to fall into decay, making poor roads, weak churches, and inefficient schools in the community, destroying neighborhood spirit, and bankrupting both landlord and tenant. In this country where statistics show that 40 to 45 per cent of our farms are operated by tenants, it has acquired this reputation because the system most commonly used here makes all of these charges more or less true. Whatever effects detrimentally so large a proportion of our people becomes at once more than a business transaction between two men. Since food production and the waste or conservation of our great natural resources of soil fertility are involved, it becomes a community, a state, and a national problem that must be solved. The sooner the problem is squarely faced, the better it will be for all concerned.

WRONGS AGAINST TENANTS

Our present tenancy system contains a number of features that are fundamentally wrong. Some of these things are wrong to the tenant, some are wrong to the landlord, some are wrong to society at present, and some to all of these and to posterity as well. So far as the farmstead is concerned, the tenant is a hireling and has no proprietary interest in the soil, the buildings, or the fences. Usually he is interested in caring for them only as that care helps him in his operations that year. Usually, too, the only financial inducement he has to do more is the hope that some man who owns a more desirable place will notice this care and offer this better place to him. If the tenant improves the place while on it, instead of being rewarded he is often penalized by having to pay higher rent or move. He is seldom paid for increased fertility he may have put into the soil, for pulling stumps, cutting brush, hauling off stones, or cutting weeds, except by the increase it brings to his crops while he stays on that farm. The owner shares in this increase, and if he notes that the tenant is doing well financially, may demand a larger share of the crop. At the termination of the lease the landlord accepts the place as it is, neither paying for added value that the tenant may have left nor collecting for damage that may have accrued from soil robbery, neglect, or actual vandalism such as using up the fences and buildings for kindling. True the landlord will punish the bad tenant by putting him off the place, but when he was unable to make a living by staying, what does that matter? Home conveniences are few, but the tenant will hire to a neighbor or remain in idleness in spare times rather than make many improvements. Obviously improvements made will be cheap and temporary, and children raised in such homes are deprived of some of the economic home training that every prospective home-maker should have. Add to all of this the fact that a large per cent of our tenants remain only one year on a place and that few of them stay five years, and we can readily see why the farm and the neighborhood institutions depreciate.

Building up fertility requires the use of a rotation of crops that includes a legume and the feeding of live stock, which in turn requires fences and buildings. This takes time and extra labor, and the tenant may leave before the place has ceased to absorb all of the work and begins giving greater returns. He may build up a herd of superior stock and then have to sell all of it because his next place has no pasture or equipment for stock. This being the case he refuses to begin. Of what interest to him are good roads when he will be miles away next year? Why should he care for schools, churches, or even people in this locality if he is to leave before he becomes really acquainted? We cannot deny that our present tenant system contains many depressing features. It discourages constructive work on the farm and encourages destructive work.

No system can long endure after it has been generally recognized as unprofitable. The thing that has helped to delay the general outcry and demand for reform in tenancy is the speculative value of land. So long as land is advancing rapidly in price the landlord will endure tenancy conditions that make tenancy alone unprofitable to him. If he can buy good land, keep it ten years without putting any expense into it, have a tenant work hard mining it, and then sell for more than first cost, he may not complain of tenancy. He has been prospering, but has done so largely by robbing the soil and so robbing posterity. New Zealand has eliminated this evil by increasing the rate of taxation as the acreage owned by one man increases, so that it is unprofitable to hold any large areas, and in that country tenancy is now practically unknown.

THE SHIFTLESS TENANT

The landlord is not alone in being able to get satisfaction out of the lease system as we ordinarily have it. Not infrequently we hear of the worthless scoundrel who is happy if he is alive and has something to grumble about, renting a good place worth $16,000 or more. With the place he secures a house that in the city would cost $10 to $20 per month, an orchard and plenty of ground for garden, all free. He feels under no obligation to make money for the landlord but is content if he makes or gets a living for himself. He raises hundreds of chickens or rather makes his wife do it, and to make sure that she is kept busy enough to support the family, has been known to spend as much as three or four days of the week in gathering up washings for her and delivering them after they had been cleansed. He may plant wheat, oats, or kafir near the poultry house and then delay the harvest in order that he may get his full share with the least expense. He may keep poor hog fences so the pigs he is raising can help harvest the partnership crops. If cash rent is to be paid, the landlord may let him move away quietly; or he may sue, get judgment, and then be unable to collect and have to pay the costs because the tenant is not worth it. True, the landlord may attach the whole crop, but if the tenant is a "thoroughbred" that may not make enough to pay the taxes. He has been known to sell the clover seed the landlord furnished instead of sowing it on the place. When assured that he must leave, he uses as fuel the picket fence and all detachable portions of the buildings, scatters tin cans and old rags in the front yard, loads up the landlord's wove wire, makes the house as dirty as he conveniently can, throws a dead cat into the well, and goes on to some other place. This is why some landlords say that good improvements do not pay, and some prefer to own land with no improvements, if they must keep it as tenant property.

SUCCESSFUL TENANCY CONTRACTS

Sentiment is fairly united against our present tenancy system, but business reform never comes from sentiment alone; it must arrive by the help of sound business principles. Tenancy is a partnership affair and no intelligent partners maintain this relationship long unless they have a business contract that is fair to both and by which both can make money. And no system of farming that fails to maintain the fertility of the farm can long be conducted profitably, so the land also becomes a partner.

In looking about, we find some men using systems of tenancy that maintain the fertility of the soil and give returns to both partners, so to them we turn for guidance. Their success is due to their correct contracts or to their personal ability or both, so we will note all items carefully. S. G. Turner owns a well-equipped stock farm near Lee's Summit, Missouri, stocked with high-class cattle and hogs. Having employed as farm manager a man who showed marked efficiency, he contracted to keep him at the same salary plus half of the net returns from the place.

Robert E. Booth, a Kansas City banker, was working his farm unsatisfactorily with hired help, tried renting it with like results, and then made a five-year partnership lease that has proven satisfactory. This lease was made with a man who had been working for him and had made good at the farming business. The tenant purchased half of the stock, implements, and feed; the expense of purchasing extra feed, seed, labor, etc., is shared equally, and net profits are divided equally. The interest on the owner's investment in the farm is accounted to be worth the tenant's labor and managerial ability, so the more valuable the farm from a producing standpoint, the better the manager it should be possible to secure. Inasmuch as many landlords have practically the same contract except that the tenant owns all of the implements and furnishes all of the labor, this may seem to be unfair to this landlord. However, the Booth farm is a dairy farm, while under these other contracts the places are operated as grain, hog, or beef farms, or a combination of these. In truck farming and in dairying the tenant cannot do all of the labor and divide profits equally and the more the product is worked into its final form and distributed to the ultimate consumer, the greater the injustice to the tenant, who furnishes all labor. This lease of Mr. Booth's is the only one I have noted that would be fair in a dairy or gardening contract, no matter how the produce was marketed. On the large place, representing a large "interest on investment" item, the landlord would of course prefer a manager who had children large enough to help with the work.

Another conspicuous example is that of John A. Cavanaugh, Des Moines, Iowa, who comes of a family that has been renting good Iowa land the past fifty years. He owns 1,000 acres with excellent equipment, tile drained, and heavily fertilized with potash and phosphorus where needed. He takes as tenants only men of excellent farm experience who own good farming implements and plenty of heavy work horses. His rent averages $10 an acre and in good years reaches $14. His tenants stay with him only a few years and leave to go to a farm that they have paid for. He has no trouble getting new tenants, for men of these requirements are always waiting for his places.

One Eastern Kansas man has established on his farms a five year rotation of corn two years, wheat, clover hay, and timothy-clover pasture. He gets as rent half of the grain. If the tenant uses all of the hay and pasture and returns the manure, the landlord receives no share of these crops. The places are increasing in fertility and both parties are satisfied. No better way of encouraging the tenant to keep up the fertility of the place has come to my notice.

Success in any manufacturing business depends upon the efficiency of the plant, equipment with good tools, suitable terms of contract, the quality of management and labor, and the co-operative spirit on the part of both owner and workmen. In most cases the owner makes the general plans for running the plant successfully, and in all cases he looks after its maintenance. If he is a wise manager, he adopts some device whereby the good ideas of the workmen are secured, and their loyalty retained by financial rewards. This is usually brought about by giving them a share in the profits. All of these principles operate in farm tenancy. The good farm, good tenant with good tools, and the good contract makes success. Lack of any one of these may spoil the whole thing. The landlord is the one in a position to adopt a good crop rotation; the tenant can do this only when he is assured of a long contract, at the close of which he shall receive pay for improvements including buildings, manures, fertilizers, etc., he has furnished and leaves for his successor. No other nation has a tenant system equal to that of Eng-

(Continued on Page Eight)



BUILDINGS AND EQUIPMENT OF FARM ARE USUALLY INDICATIVE OF THE PROFITABLENESS OF THE FARMING BUSINESS

ORCHARDISTS DISCUSS SOIL

Soil Fertilization and Choice of Orchard Location of Vital Importance

ONE of the questions drawn from the question box at the recent annual meeting of the State Horticultural Society was this: What substitute will the horticulturist get to take the place of barnyard manure for fertilizer?

"The question of fertilizer is of vital importance," said A. L. Brooke, president of the society, before turning the inquiry over to the audience for discussion. "We have to take hold of it right now. What is the best fertilizer that we can get? Of course we all know that barnyard manure is an excellent fertilizer for our soils, but we cannot get enough of it. Will the same fertilizer used in the East be the best for us to use here? In the East I have seen land that when I was a boy would not produce five bushels an acre, now producing good yields through the use of commercial fertilizers. Can we use commercial fertilizers successfully here? On fourteen rows of potatoes I used commercial fertilizer and I got no more potatoes from the fertilized ground than from the unfertilized."

Prof. Albert Dickens, who is a good all-round farmer as well as a good horticulturist, was the first man on the floor. "There is nothing that can take the place of barnyard manure," said Professor Dickens. "If there is one place where this association can get hold and do good work, it is in regard to this fertilizer question. Kansas City is preparing to burn barnyard manure. They have shipped out all they could get orders for. There is no other way you can spend money and get the returns that you can in buying barnyard manure. The transfer barns are anxious to get rid of the large amounts of manure produced. We must look for men who will haul manure. In many places the railroads are hauling manure at low rates because they know that if they haul manure into the community they will get plenty of something else to haul out. The Kansas Experiment Station has for several years conducted experiments in fertilizing potatoes, the fertilizer company furnishing the fertilizer with the understanding that if it produced an increased crop of potatoes they were to be paid; otherwise they were not to receive any pay. Ordinarily they have been paid, but you cannot get paid for commercial fertilizer unless your land is in the pink of condition.

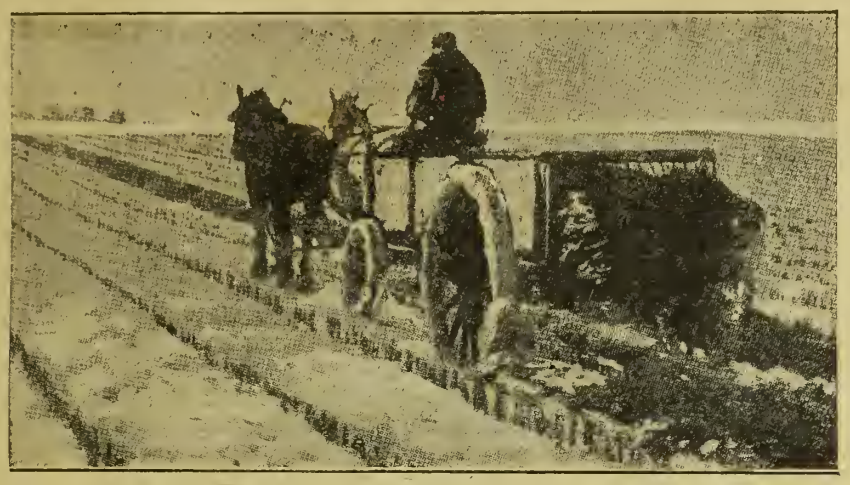
"Our high-grade potash fertilizer has in the past come from Germany. Germany now has millions of tons of potash piled up. You cannot buy it in the United States except as you buy wood ashes. Every pound of wood ashes—and we have got to burn a lot of wood if this war goes on—has fertilizing value. Every cord of wood has a fertilizer value in ashes—not very high, perhaps 5 per cent if it is good ashes, such as hickory or some of the harder woods.

"We must plan to get the manure to the place where it is needed. The problem is what to do with the barnyard manure from the transfer and horse barns in the cities and from stock barns, and how to get it out where it is needed when there are not men enough to do the necessary labor on the farms. It has often happened that after the application of commercial fertilizer you get three or four or five inches of rain the next week and your quick-acting fertilized is washed out unless the soil is well filled with decaying organic matter and thus in condition to absorb and hold the quickly-soluble commercial fertilizer. To use commercial fertilizer profitably you must understand soil and plant requirements thoroughly.

If the gardener is going to put $40 or $50 an acre into the soil of his garden, he had better spend most of it on barnyard manure. The orchards that had manure after the crop of 1915 and then again this year stood the dry weather better and carried their fruit better than those not manured. The orchardist can afford to put money into barnyard manure better than into any one other thing. In the Arkansas Valley the best returns have been made from land that has been well covered with barnyard manure and then well farmed."

Discussion brought out remarks to the effect that manure from the stock yards is sometimes unsatisfactory and is difficult to get on account of the shortage of cars. Someone stated that the Government had forbidden sending cars to stock yards for hauling out manure, on account of the shortage of cars for hauling coal. Another member spoke as follows:

"I consider this the biggest question before us today. If this world was properly fertilized it would produce and care for many times its present population. There is no place on earth where they cannot grow some kind of a leguminous crop and plow it in. I would like to see people raise a lot of leguminous crops every year and add to the lime they could use. Wherever you can raise good alfalfa there is plenty of lime still in the soil."



NO OTHER WORK DONE PAYS BETTER THAN SPREADING MANURE.—BEST TIME TO SPREAD MANURE IS AS IT IS MADE

Another said, "I am satisfied my own farm is 50 per cent better than it was when I bought it. The land on which I have had corn for several years I am sure will raise better corn than when I began. I have better corn on it this year than the first year I raised corn on it, because I have each year given a light application of barnyard manure."

Closely associated with the question of fertilization was the subject which Prof. R. I. Throckmorton presented to the fruit growers assembled, namely, that of orchard soils. This is a question of great importance. Numbers of orchards have died as the result of poor soil conditions. In his remarks Professor Throckmorton pointed out that the fruit trees that have died by thousands over the state of Kansas during the last few years are silent witness to the fact that there must be something radically wrong with our conditions. The causes may be summed up under these heads: 1, poor climatic conditions; 2, lack of care; 3, insect injury; 4, poor soil conditions. Soils have been of most importance in causing the death of these trees and have been responsible for many of the deaths from poor climatic conditions, and many of the deaths from insect injury were really due to poor soil conditions. Often a man will put his orchard on some hilltop or shale hillside because it is out of the way of his farming operations there. This is more often true of home orchards than of commercial orchards. We find many over the state planted with no thought of the soil adaptation of that place. Like any other farm crop, when put in the wrong conditions the orchard will not thrive and do its best.

"A fruit tree is even more particular than some of our farm crops in its soil requirements," said Mr. Throckmorton. "A great deal of attention is given to locating the proper soil for the growing of alfalfa, but we hear very little about the proper location of fruit trees, and this should be given a great deal more attention. Your alfalfa field can be changed in a few years, but your orchard will remain in the same place for a long time.

"One of the most important essentials for the orchard is a deep soil. The root development is as extensive as the development of the top. When you consider this you find that we have an enormous root extension. If the soil is not deep you will have a stunted root development and with that you will have a stunted growth of the top. That will cause poor fruit development, and the stunted root development and retarded development of the top will render the tree more susceptible to disease. Trees growing in shallow soils usually will drop their fruit early in the season and often the tree will die because of poor root development.

"Fruit growing must be considered in the light of a constant cropping process. In handling farm crops we are opposed to the constant growing of one crop in one place, but an orchard must be considered as a constant crop."

To emphasize this point Mr. Throckmorton gave some figures from the Cornell Experiment Station showing the enormous amount of plant food removed by fifteen crops of apples.



WELL-KEPT ORCHARD.—THRIFT OF TREES INDICATES PRESENCE OF PLANT FOOD IN ABUNDANCE AND A SUITABLE ORCHARD SOIL

Farmers' Co-operative Business

The activities of 5,424 farmers' co-operative organizations are reported in a recent publication of the United States Department of Agriculture. The Office of Markets and Rural Organizations, which conducted this survey, reports that there are about 12,000 farmers' marketing and purchasing organizations in the United States. Of the 5,424 furnishing reports of their operation, 1,708 are creameries and cheese factories. They do an annual business of $83,360,648, and have an average membership of 83 farmers. The 1,637 farmers' grain elevators and warehouses reporting were located in twenty-three states, doing a total annual business of $234,529,716. They have an average membership of 102 farmers. The 871 fruit and produce organizations do an annual business of $140,629,918. Tho annual volume of business of 213 cotton organizations is $34,392,258; of 275 co-operative stores, $14,552,725; of 43 tobacco organizations, $6,746,270; of 96 live stock associations, $9,482,592. The gross volume of business for all organizations reporting was $625,940,448.

Minnesota leads the states in the number of purchasing and marketing organizations among farmers. Of the total number reporting, 18 per cent were located in that state. Iowa stood second, Wisconsin and North Dakota next in order. Farmers' elevators, creameries and cheese factories and live stock shipping associations are the principal types of co-operative effort in these states.

Fruit and produce associations are the chief forms of co-operative activity in Oregon, Washington, Idaho and Montana. The farmers' grain companies are next in rank. In California 60 per cent of the organizations handle fruit and produce. Cotton associations lead in Texas, North Carolina, South Carolina, and Georgia, fruit and produce organizations second. Tobacco associations are found chiefly in Kentucky. Creameries form the larger share of farmers' co-operative enterprises of the New England States.

The new bulletin, No. 547, "Co-operative Purchasing and Marketing Organizations Among Farmers of the United States," contains much valuable information concerning the financing and business practices of various types of co-operative associations. It includes a summary of state laws relating to the formation of co-operative organizations. It discusses the bearing which Section 6 of the Clayton Amendment to the United States anti-trust laws has on farmers' co-operative associations.

Fertilizer with Manure

Barnyard manure is deficient in phosphorous and hence is not a balanced food for plants. Additions of this element return much more than their cost on soils of average fertility.

Eight tons of manure per acre applied to land at the Ohio Experiment Station at Wooster has produced a twenty-year average yield worth $24 an acre. Acid phosphate costing 85 cents annually has increased the value of the yield to $28 when used in addition to the same quantity of manure. At present prices the cost of the acid phosphate would be $1.20, and the value of the increased produce $18 over that produced by manure alone.

Animals take out of their feed the phosphorous necessary to build their skeletons or that contained in their milk. Unless the produce of the farm is supplemented with phosphatic fertilizers or feed brought in from outside, the soil will become exhausted of phosphorous as crop production continues. Acid phosphate or raw phosphate rock is commonly used at the rate of forty pounds to a ton of manure.

GENERAL FARM AND STOCK ITEMS

Something of Interest For All—Overflow From Other Departments

LOSS of soil fertility through erosion or soil washing is becoming more and more serious in the older and especially the more hilly sections of our state. Unless systematic measures are taken to check such losses a hilly or rolling farm can easily lose its capacity to produce paying crops. Measures to control soil washing might well be one of the projects kept to the front during the fall and winter season.

Large deep gullies in cultivated fields or in pastures may be filled with fodder, brush, weeds, or coarse straw, with rocks thrown on to weight down the material and prevent it from washing away. Soil gradually will wash in and be held by the vegetable matter and finally will fill the gully. Where such materials are not available a series of brakes or small dams across the gullies will aid in filling them and preventing erosion. The brakes or dams may be made by placing large stones in the gully, by fastening boards firmly in it by the use of stakes, or by making small concrete dams across the channel. The dams will check the current of water and thus cause it to deposit a part of the sediment it carries and fill in the depressions above each dam.

Wheat fields or fall-plowed land subject to washing during the winter or early spring may be held in place to a considerable extent by covering the field in the late fall or winter with a light dressing of straw or manure. This added organic matter will absorb large quantities of water and tend to break the force of small streamlets and prevent the formation of gullies.

A satisfactory method of stopping erosion on fall-plowed fields or fields that are to be plowed in the spring is by a shallow open ditch running diagonally to the direction of the natural flow of the water. The ditch should have a gradual fall sufficient to carry off the excess water of the field but not sufficient for the water to gain enough force to cause erosion in the ditch. The ditch should be placed far enough up on the slope to intercept the water before the streamlets have gathered enough force to cut the soil into ditches.

If the water cannot be carried away by one ditch, several ditches must be constructed close enough together to remove the water.

British Meat Prices

The following letter, received by John Clay from his brother, A. T. Clay, Edinburgh, Scotland, appeared in the Live-stock Report and throws light on the present meat market in the British Isles. For convenience the British values quoted by Mr. Clay have been reduced to their American equivalent. The letter reads:

"The government here, as you know, has been for some time restricting the price of food stuffs and is contemplating doing the same with meat. The only result so far seems to have been to make meat so high that ordinary people can hardly buy it. I understand an order will shortly be issued commandeering so many cattle in each district per week or per month. I have just had a talk with my butcher, who tells me that he bought bullocks in 1914 at $106 and the same class of bullocks he bought this week cost him $330. In 1914 sheep were costing him $12 and today they are costing him $36. In 1914 beef was $9.60 per hundredweight (112 pounds). Today it is selling freely at $26.40. Roast beef here today is selling at 44 cents a pound or over it, and mutton just about the same. Chilled meat coming from America is being sold to the public at about 30 cents per pound."

The several United States Shorthorn breeders who have imported Shorthorns from the British Isles this past season were obliged to turn back all animals that in the judgment of the British authorities had been purchased too close to the beef value, a ruling having been put into force prohibiting the exportation of meat animals unless there existed a decisive margin between the selling price and the beef value. A number of pure-bred herds have been disposed of by their owners for beef purposes, as the present values for killing purposes seemed sufficiently attractive.

It seems reasonable to assume, in view of the condition prevailing in Great Britain and which can scarcely fail to be emphasized in this country, that the producer of beef cattle has every encouragement to continue and expand his operations. The use of the registered sire will have the effect of increasing the number of pounds per head and shorten the period required for development. These are items that the cattle grower is obliged to consider in view of the increasing cost of maintenance.

A Prayer For Remembrance

God of the heart and hand,
Teach me to understand!
I have forgotten in the long, long years
All of my little childish hopes and fears;
It is so very, very long ago
Since I was in the world the children know;
I have forgotten what I used to play
And dream to do in that far yesterday,
All the wide wonder of my childish eyes
Since I have grown so old and worldly wise.
Yet now there comes with faces raised to mine
These little ones. Dear Father, they are Thine.
Teach me to lead them in Thine own true light,
Help me to guide their little feet aright!

God of the heart and hand,
Teach me to understand!
I know so little of the thought that lies
Back of the shining of those childish eyes;
I guess so little of the wonder there
Under the curling of the sunny hair,
It is so very, very long ago
Since I, too, knew the things that children know.
Yet hast Thou given them to me to lead.
Out of Thy wisdom grant me all I need—
Patience of purpose, faith, and tenderness,
Trusting Thy perfect love to lead and bless.
Help me to remember—ah! for this I pray,
Make me again the child of yesterday.
God of the heart and hand,
Teach me to understand!

—MARION B. CRAIG.

Raise Winter Rhubarb

Every one who has a patch of pie-plant or rhubarb in the garden, or who can get a few roots from a near-by commercial plantation, can easily force an abundant home supply of this delicious and healthful vegetable during winter. Forced rhubarb is more attractive, tenderer and more crisp than the spring garden product, and it also is much less acid, so that less sugar is necessary in cooking it.

Strong one-year-old or older root stocks may be used for forcing this winter, but J. T. Rosa, Jr., of the Missouri College of Agriculture, suggests that plants which have become too old to produce a profitable crop in the garden be used. These roots or crowns are dug separately with earth adhering to them, before the soil freezes hard. Leave them on the ground a few days, so that the roots will freeze and the rest period thereby be broken, and so that the plant will start vigorous growth when placed in a higher temperature. If the roots are left out too long, they may dry out too much.

A cool greenhouse, deep hot bed or cellar of any description, or a basement room with earth or cement floor, will do for the forcing place if it can be heated slightly or if light can be excluded, and water obtained. When the rhubarb is ready for forcing the clumps of roots should be stood as close together as possible on the floor, and spaces between the clumps should be filled with sand, ashes or earth. Water the bed thoroughly just after setting, and as often as necessary afterward. The temperature ought to be low at first, around 40 degrees, while later it may run up to 60 degrees Fahrenheit. Take care that it does not get too warm, for that causes the shoots of rhubarb to be slender and spindling. Three or four weeks after starting, a crop of heavy-leaf-stalks should be ready, and there should be an abundant supply for four or five weeks from the same roots. A half dozen roots should supply all that a family fond of this vegetable can consume, thus providing a cheap and appetizing relish for the family at a season when fresh vegetables have disappeared from the tables.

Mulch Strawberries

If you have a strawberry bed, do not neglect to mulch the plants in the early winter. This protects them from the severe cold and, what is more important, overcomes the alternate freezing and thawing of early spring.

Sometimes thawing begins when the soil is frozen one or two feet deep. If six or eight inches of the ground thaws out and a sudden change of temperature causes the ground to freeze two or three inches, the expansion is so great as to break the roots. Then the roots are exposed to the atmosphere, and if dry weather follows, many plants will be killed.

Coarse slough grass is the best material for mulching. Common straw is good, but packs closely around the plants and shuts out the air. If this material is used, it must be watched, and if it gets too compact it should be loosened.

Care should be taken in selecting straw that has been thoroughly threshed, if wheat or oats straw is used. If poorly threshed wheat straw is used, the berry patch will be transformed into a wheat field in the spring. Straw that has been in the stack for a year is good for this purpose, although new straw is better if it is threshed well, because it is more easily handled and does not pack so tightly around the plants.

The bed should be mulched the first of December, if conditions are favorable. A prevalent idea among old fruit growers is that the bed should be mulched when the ground is frozen hard enough to hold up a wagon. If the ground is not frozen by December, however, the mulch should be put on anyway, and earlier if the soil is becoming dry.

A covering three or four inches deep is a proper mulch, if wheat or oat straw is used. If coarse straw is put on, the covering may be thicker, and if the ground is likely to heave badly it is well to use a coarse thick mulch.

Farm Accounts Profitably Used

It requires some effort to keep accounts of various farm operations. That accurate figures on the farm business are worth all they cost in time and money is the testimony of many of our most successful farmers. We have the report of a Missouri farmer who has been keeping accounts for several years and has found his figures most useful in assisting him to decide on changes in his business that would likely prove profitable.

For several years this farmer has been raising beef cattle and fattening them out on a farm of about 160 acres in North Missouri. He selected that enterprise as a man part of his business largely because he liked it. However, soon after starting, he said since he was a young farmer and had to make his way, he was going to apply the "acid test." He began keeping strict account of his whole farm business, paying particular attention to his cattle business. His record on cattle for 1915 is quite typical of what his records showed for the last several years. He found the average cost of keeping his breeding cows to be $22.62 per head per year. The cost of the calves for the first six months was $3.96, and for the second six months $7.58, making a total of $11.54 for the year. The calves were spring calves. Their cost of $11.54 a head added to the cost of keeping the cow, $22.62, made a total cost of $34.16 for a twelve-months-old calf. Sixteen steers raised at this average price and therefore worth $546.56 total, were carried as stock cattle on pasture for five months and then fed 107 days on corn, alfalfa hay, silage and oil meal. The total cost on the sixteen steers for the eight months and a half was $1,136.59, or about $71 a head. The steers sold at the end of the feeding period for $1,130.50, and weighed 16,150 pounds. Included in the cost was interest on $546.56 at 5 per cent for eight months and a half, 238 hours of man labor at 14 cents an hour and 52 hours of horse labor at 8 cents an hour. As this farmer did his own work and did not actually pay out the interest, he had this money left. He also had left the money charged for pasture as he used his own pasture, but the pasture charge made represented about $3 an acre rent on the land, or about what would have been paid in cash rent for such land at that time.

The figures quoted are not the average of a number of farms and as they represent only one instance, prove nothing about the profitableness or unprofitableness of such an enterprise in general. They do show that farm accounts are of vital interest to every farmer in sizing up his own particular business problems. Every progressive farmer is interested in proof of what can be done and what ought to be done, but the first step in reform is to get the facts about what he is doing. The farmer referred to in this article has made some radical changes on the basis of his own findings. He is keeping equally close account of the changes, and the next few years' records will be of interest in showing the value of these changes. In the future both producer and consumer must know more about the facts of production.

Experiments have proved that silage is the best and cheapest form in which a succulent feed can be provided for winter use. A given amount of corn in the form of silage will produce more milk than the same when shocked and dried. Good silage when properly fed is all consumed, and there is less waste in feeding silage than in feeding fodder. Where such heavy protein feeds as cottonseed meal are used, silage should be fed liberally in the roughage part of the ration. Its succulence makes it palatable, and it has a beneficial effect on the digestive organs. Silage is the best roughage for dairy cows, not only under present extraordinary conditions but at all times.

KANSAS FARMER DAIRY CLUB

Judging Dairy Cows

ONE of the Dairy Club members in Lyon County wrote of being very much disappointed because they did not learn why the cows were judged as they were at the Emporia show held in November. In other words, this member wanted to know exactly why a certain cow was given first place, another one second, etc. We were not there when the cows were judged, but in all probability there was not time to conduct a judging class where all the boys and girls interested could be present and ask questions and be given instruction on the points to look for in a dairy cow. We will hope that at some future time we can get together the boys and girls in the communities where there are a number of members and have some real lessons in stock judging.

Some of you have learned already that dairy cows do not look like cows that have been bred and developed for making meat. A real high-class dairy cow does not look good to one who has always been used to feeding and handling beef cattle. The dairy cow looks too scrawny and bony. She does not have that square, blocky appearance that we admire in the beef animal. Her hip bones are wide and the points stand out prominently. Instead of having hind quarters that are thick and meaty, the dairy cow's thighs are thin and hollowed out, especially on the inside where the udder is carried.

There are a good many points that an experienced dairyman notes in picking out a dairy cow when he is compelled to select one without having any production records to study. If he can look over genuine records of what the cow has done, he will not worry so much about the points of the cow herself. It is not very hard for a real dairyman to distinguish cows capable of producing 300 to 350 pounds of butter fat a year from those producing only 150, but even the best judges fail when they attempt to pick out the cows that will produce 400 or 500 pounds of fat in a year, simply by looking at them.

Keeping accurate records is the only sure method of selecting high-producing cows, and that is the reason we are so anxious to have you learn early in life how to keep milk cow records and what they mean to profitable dairy business. You should try and learn the main points to look for in dairy animals. Here is what Professor Reed of the Agricultural College wrote on this subject especially for Dairy Club members:

"The first impression one gets when viewing a high producing cow, or a photo of a high producer, is the marked angularity and thin, loose-jointed appearance. The thin appearance is not a condition caused by lack of feed, but the animal is well-muscled and neat, with the hair and skin in good healthy condition. The angular conformation is best described by the term 'wedge-shaped.' A dairy cow has three wedges. A wedge is noticed when the cow is viewed from the front, from the side, and also from above. The first wedge mentioned is formed by the withers being sharp at the top and the chest being wide at the base. The depth through the rear part of the barrel and udder tapering to the neck and head forms the wedge as viewed from the side. The wedge, as seen from above, is formed by the extreme width through the hips gradually tapering to the sharp withers. The wedge shape is not extremely pronounced in all dairy cows, but is usually found in the best animals.

"The heart girth should be large, indicating lung and heart capacity. The back should be long, strong and loose-jointed, but not necessarily straight. The ribs should be long, wide and far apart. The abdomen or barrel should be long, wide and deep, especially just in front of the udder. A cow must have capacity of barrel to be able to handle large amounts of food. Often a cow will not show a great depth of barrel but may have a large capacity for food by having a greater width of barrel and wide spring of ribs. A strong jaw, keen eye, large muzzle and capacious barrel are the indications of ability to consume and digest large quantities of food, which is necessary for high production. The loin should be broad and strong, with roomy coupling.

"The hind quarters should show the leanness characteristic of other parts of the body. The hips should be far apart, prominent, and level with the back. The rump should be long and wide, with a roomy pelvis; the pin bones high and wide apart. Such a conformation of this region affords plenty of room for the generative organs and reproduction. The thighs should be long, thin and wide apart, with plenty of room for the udder. The legs should be fine, straight and far apart.

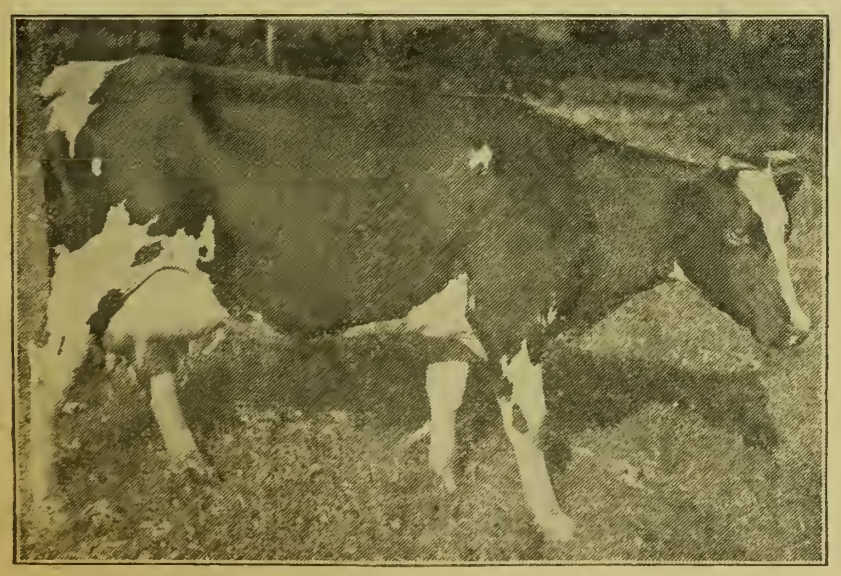
"The udder of the cow is one of the most essential organs, and is largely used as a determining factor of the ability of the cow as a producer. The udder should be capacious, free from flesh, and when empty should be soft and flexible. Capacity of the udder should be gained by length and width rather than depth. It should be attached to the body high behind and far forward toward the navel and show plenty of width throughout. This conformation permits of more surface for the blood vessels to spread over as they pass through the udder. The udder is the milk factory, where the nutrients are taken from the blood and made over into milk.

"By some unknown process in the udder the food materials taken from the blood are changed to the substances found in the milk. The milk veins serve as an index to the amount of blood that flows through the udder. These veins carry the blood from the udder back to the heart. They can be noticed leading from the fore quarters of the udder and running forward just underneath the skin and entering the abdomen near the center of the body. The milk wells, through which the milk veins enter the body, should be large. There may be more than one milk well on each side of the body. In some cases the milk veins branch as they leave the udder and enter the body in several places. Cows have been known to have as many as five milk wells on each side and it is not uncommon to find cows with two or three milk wells on each side of the body.

"The quarters of the udder should be even in size and not cut up; but the base or sole of the udder should be flat. The teats should be even, of good size for milking conveniently, and set squarely on each quarter of the udder. The hair on the udder should be fine and soft, indicating quality.

"The brief description given of what to look for in a good dairy cow, is based on the experience the writer has gained in studying dairy cows in a good many high-producing herds. One who follows these suggestions can be reasonably sure of selecting cows that are above the average in dairy production."

Study your cow and see if she fits with Professor Reed's description as to what a dairy cow should be. By doing this you can learn a great deal about the conformation or appearance of cows that are especially bred for milk production.



BESSIE DE KOL WALKER, REGISTERED HOLSTEIN TWO-YEAR-OLD HEIFER BELONGING TO GLEN ROMIG, TOPEKA, BEING MILKED IN ADVANCED CLASS OF KANSAS FARMER DAIRY CLUB

Keep Milk Clean

During the winter season when cows are housed much of the time, it is especially difficult to keep milk clean. The only practical way is to prevent the cows as far as possible from becoming dirty. The best method of doing this is to use the modern stall. This stall consists of a platform of proper length—fifty-four inches for Jerseys, and sixty inches for Holsteins; a stanchion—preferably a swinging stanchion—which will prevent forward and backward movement, and a gutter in the rear of the cow at least nine inches deep and sixteen inches wide to catch the droppings.

When the cow is tied in such a stall most of the droppings fall into the gutter, the platform remaining reasonably clean so that the animal does not become coated with manure every time she lies down. The manure should be removed at least twice each day, and plenty of bedding should be used on the platform.

If the udder and flanks are dirty at milking time, use a brush and wipe the udder with a damp cloth. A covered milking pail, which can be purchased at any dairy supply house, will keep from 60 to 70 per cent of the dirt out which otherwise falls into the milk from the cow during milking.

Filth in milk is sure to cause it to sour or spoil, and no one likes to use dirty milk. The strainer can remove only the insoluble portions. One of the most objectionable practices in milking is that of wetting the hands in milk. You should learn to milk with dry hands and use a covered bucket. Cleanliness is the essential factor in producing milk of good quality.

Growth of Test Associations

That co-operative cow testing associations are successful in this country is shown by the fact that since 1906, when the first association was organized, in Michigan, the number has increased steadily to 459 associations, in forty states. On July 1, 1917, there were 11,720 herds, with a total of 211,966 cows being tested regularly in these associations. The total number of milk cows in the United States at that time was 23,372,200, of which less than 1 per cent were numbered in these organizations.

The first cow testing association was organized in Newaygo County, Michigan, in January, 1906, is still in existence, and now has thirty herds with a total of 304 cows. The following year three new associations were organized in that state. In 1908 three were organized in Maine and one in New York. The next year five other states entered the list.

Wisconsin now leads in the number of associations, eighty-one being in operation in that state. Other leading states are Vermont with 47, New York with 43, Iowa and Ohio with 30 each, Minnesota with 26 and Pennsylvania with 24. During the year ended June 30, 1917, 95 new organizations were established.

Kansas has only four cow testing associations.

The following are things that go to make good cows: Good breeding, good sires, proper development of the heifers, not breeding heifers too young, liberal and proper feeding, [illegible] records, good care, healthy co[illegible]



Somewhere in America

Laying submarine cable, hundreds of miles of it, to scores of isolated lighthouses is one of the telephone tasks made necessary by the war. The Bell System has also built lines connecting some two hundred coast guard stations.

It has built complete telephone systems for fifteen National Guard cantonments and fifteen National Guard camps, each a city in size, and also at many naval, officer's reserve, mobilization and embarkation camps and at army and navy stations.

It has provided an enormous increase in long distance facilities throughout the country, that satisfactory service may be maintained between cantonments, training camps, guard outposts, military supply stations, war industries, the National Capital and other centers of Government activity.

The Government facilities at the National Capital have already been increased three-fold and there has been a tremendous increase in local and toll facilities.

Fifteen thousand miles of telephone wire have been taken from other uses for the exclusive service of the Government and some 20,000 miles of telegraph facilities also provided.

Meanwhile the Bell System has given generously of its man power, until over seven thousand men are in service or recruited for military duty.

Members of the Bell System whether they have already gone to France or whether they have stayed at their posts to help mobilize the country for victory, are equally in the service of the Nation.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
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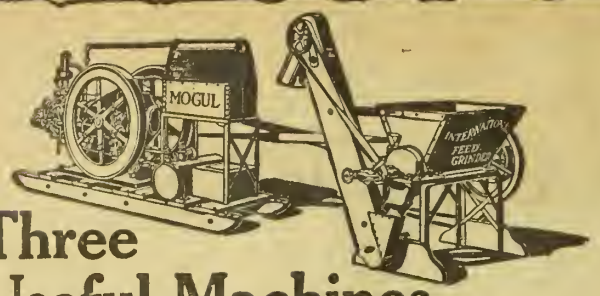
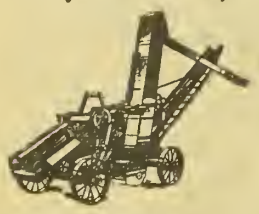


Three Useful Machines

THREE International machines that will pay their way on any farm where there is corn to market or livestock to feed are:

An International Feed Grinder
A Keystone Corn Sheller
A Mogul Kerosene Engine

International Feed Grinders, for grinding small grain, corn on the cob, or corn in the husk, come in three styles with regular or special plates, 6", 8", and 10" in diameter. Capacities from 5 to 30 bushels per hour.



Keystone Shellers, adaptable to large or small ears, shell hard or soft corn clean without cracking the kernels or crushing the cobs. There are eight styles in 1, 2, 4, and 6-hole sizes, with capacities from a few ears shelled by hand, up to 4,000 bushels per day.

Mogul Kerosene Engines furnish steady, economical power for these and other farm machines. They operate on the cheapest fuels. Mogul kerosene mixers; built-in magnetos that make batteries unnecessary; enclosed crank cases; full equipment, ready to run; are features of all Mogul engines, from 1 to 50-H. P.

Equip your farm with a set of these three useful machines. See the local dealer or write the address below for complete information.

International Harvester Company of America
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CHICAGO U S A
Champion Deering McCormick Milwaukee Osborne

Unprofitable Cows

Farmers are now selling their cows, and they are advised to sell their unprofitable cows. We wonder if any cows will be left in the country if all the cows are sold which are unprofitable now.

I recall a time when my father sold his cows and bought others which also failed to make profits. Finally, he planted red clover and pastured the cows on clover. At once he found several cows in his herd that paid well. From that time he studied feeding and soon had a herd of profitable cows without selling many.

We suggest that the "unprofitable cow" be properly fed for a time before she is sent to the block.—J. E. PAYNE, Oklahoma.

Dairy Feeds This Winter

Never has it been more necessary for dairymen to study the relative values of feeds and the actual nutrient requirements for milk production than at the present time. The dairyman who does not avail himself of all the information possible on dairy feeding is lost in so far as profit is concerned.

Suggestions coming from the dairy department of the Missouri Agricultural College may help some of our readers. First of all they say it is important that some succulent feed be given a dairy cow at all seasons of the year. This can easily be done during the summer months, but in winter it is difficult. There is no better means of furnishing a succulent feed in winter than through the use of corn silage. It must be remembered that corn silage is not a complete ration, for it is high in carbohydrates and low in protein content. Furthermore, experience has shown that silage should not be fed as the only roughage in the ration. It is always advisable to feed some hay and the legume hays such as alfalfa, clover, cowpea, or soybean are best adapted for use in producing milk. It is a question just how much alfalfa hay should be purchased at prices which range from $32 to $36 a ton. Some legume, however, should be fed if possible.

A good ration of roughage would be what silage and legume hay the cows will readily consume. This will probably be about thirty to forty pounds of silage and eight to ten pounds of legume hay for a good sized animal.

In addition to the roughage the dairy cow should receive a grain mixture. Corn even at its present price is one of the cheapest and best sources of digestible food and can hardly be left out of the ration. While it is a valuable feed and is very palatable, it must not be fed as the only grain in the ration, because corn, like silage, is relatively high in carbohydrates and low in protein. Silage and corn should furnish the greater part of the feed nutrients in the ration, with a small amount of a high protein feed added to give the necessary protein. Cottonseed meal and linseed meal are the cheapest sources of protein. Corn and cottonseed meal mixed together would furnish the necessary nutrients, but the mixture of these two grains is so sticky and pasty when it reaches the stomach that the digestive juices cannot readily act upon it. It is advisable for this reason to lighten it in some way, and this is usually done by feeding it on the silage with which it becomes mixed when eaten, or by adding a light feed such as wheat bran or beet pulp to the mixture.

A good grain mixture to be fed with the silage and legume hay would be one composed of four parts corn, one part wheat bran and one part cottonseed or linseed meal. These should be mixed together and the mixture fed at the rate of one pound grain per day for each three pounds of Jersey milk, or one pound grain for each four pounds Holstein milk produced. Another rule is to feed one pound of the grain mixture per day for each pound of butterfat produced in a week.

Stock hogs can now be bought in public stock yards, vaccinated, dipped, and shipped out the same day to any state except Missouri. The Missouri live stock sanitary authorities still require them to be held fourteen days. Stock hogs and pigs are coming to the central markets in large numbers and with such simple provisions for immunizing them and getting them out safely, more of these immature pigs should be going out to be finished on the soft corn which will never be marketable in any other form than as meat. Buyers from Nebraska and the Northwest have been taking the cream of the stock hogs so far offered at our big markets. Small farmers living near Wichita or Kansas City have apparently not taken advantage of this opportunity to get stock hogs.



Testing Increased Profits

SIX Jackson County, Missouri, dairymen, who have been members of the cow testing association for the last three years, were able to increase milk production 1,605 pounds, and butterfat production 81 pounds for each cow over the average production of their herds the first year. The increased income from each cow was $46.90. The average production of their herds for the year before they joined the cow testing association is not known, but it is safe to assume that it did not exceed 175 pounds of butterfat per cow. The average production of their herds the third year of cow testing association work was 310 pounds of butterfat per cow.

This means that the butterfat production was increased 135 pounds per cow as a result of three years of keeping records and testing, and because of improved methods of feeding and management and a closer study of the business, which has been brought about largely through the cow testing association. At 53 cents a pound for butterfat, the average price received by the association members during the last year, this increase was worth $71.55 for each cow. There was an average of 131 cows in these six herds which meant an increase of $9,373.05 a year for their dairy products above what they received from the same number of cows before they became members of the cow testing association. Also, this does not take into account the increase in the value of the herd because of its higher average production and the consequent increased selling price of the cows and their offspring.

Real Food Producer

A high-producing dairy cow is a wonderful manufacturer of food value.

Following are some figures which reveal in a very concise manner the real worth of a good dairy cow. It is a foregone conclusion that even a good average dairy cow will produce food nutrients in a year's time in excess of that contained in the average steer.

The figures used in showing these valuations are those of the productions, both butter and milk, of the famous Holstein cow, Katy Gerben. In seven milking periods this cow produced an average of 674 pounds of butter from 16,446 pounds of milk, or a total of 4,715 pounds of butter and 115,120 pounds of milk. It is a fact of considerable significance that in these seven milking periods she has produced food nutrients in her milk equal to 39,879 pounds of beef. To produce this amount of beef would require forty-seven steers weighing 1,400 pounds each.

A word about the total valuation of the product of Katy for this period of time. At 10 cents a quart, the milk would be worth $5,317. Her seven calves if valued at only $150 each would bring in $1,050. A total of $6,367 would therefore accrue from her products in these seven milking periods. Still further significance would be attached to the valuation of her products, if the actual worth of the offspring of her descendants, also the value of the milk production of the females, were added to the foregoing figures. This would bring the total up to $18,703.10. This cow was developed by the Nebraska Experiment Station and the figures are from its records.

Why Cows Are Unprofitable

There are a number of reasons for cows being unprofitable; they may lack breeding and individuality, many are underfed, frequently heifers are bred too young, poor care makes even good cows unprofitable, and disease, especially abortion, reduces profits. Any of these factors or a combination of several may result in low production. Conclusions of this kind can be drawn from the records of any cow test association.

To increase the production of herds it is evident that records must be kept, and those cows which do not have the ability to produce profitably must be eliminated to give the others a fair chance through proper feed, care and management. Experience has taught that few are able to keep these records without help, and that the most practical means of getting assistance is to organize a cow testing association and employ a tester.

Improvement in dairy cattle increases the actual value per cow, decreases the cost of production and increases the profit.

The dairyman's winter feed problems are becoming more and more acute every day. Only the man with plenty of silage can enjoy untroubled dreams, for he knows that his cows are sure of the roughage part of their ration, and if necessary it will be possible to tide the herd over on silage along with a minimum amount of grain. Legume hays have reached almost prohibitive prices, and there is no indication that the maximum has been reached. No relief can be found in substitutes, for prices of other hays show the same upward trend. Straw and corn stover help some, but both lack palatability, and cows will not consume sufficient quantities of either to maintain a profitable milk flow. The only relief is the liberal use of silage, which is safely stored in the silo and no longer subject to price fluctuations.

FARM TENANCY EVILS

(Continued from Page Four)

land's, and in England the law protects the tenant in the ways just mentioned. Though the English farm remains in the hands of the same tenant family for generations, usually no long-time contract is made.

THE LONG-TERM LEASE

In this country we repeatedly hear the statement that we can make no great improvement in our tenancy system without adopting a five to ten-year lease. This is assuming that landlords are incapable of or unwilling to adopt a system that will be successful and that tenants are able and willing to build up the place if given time. Few good tenants can be induced to take up the worn-out farm and spend years in building it up for the owner. They can secure better places and generally do so. I have never seen anyone begging for a ten-year lease for an unprofitable farm. If the landlord has adopted a correct rotation, and has his place in good condition, the tenant may desire a long lease, but this will be of minor importance. No landlord will care to contract for a long period unless thoroughly satisfied that the tenant will continue honest, capable, and industrious. The good tenant who accepts that long-time but indefinite-time lease of "You may keep it as long as we get along well," is usually a sadder and a wiser man at the end of the period. As soon as the place is built up to a good state of fertility, the owner sells it or rents to a son-in-law, nephew, or second cousin.

The landlord can best make the tenant keep stock by offering terms whereby it is more profitable for the tenant to keep stock than to sell the crops. In every case, someone must make plans that are good for a series of years and someone must do the work necessary for the carrying out of these plans, and both land and labor must bring a reward or the business will cease. This will be equally true whether the land be farmer by the owner or the tenant. As farms vary indefinitely as to what crops will be most profitable, depending on soils, climate, market facilities, acreage of farms, cost of labor, prices of produce, etc., no specific recommendations can be made that will fit all cases. We can only point out the general principles involved, tell how some others have put these principles into working shape,. and leave each one to work out his own problem with the help of these principles and examples.

NOTE.—Mr. Taylor, the writer of this excellent article on farm tenancy, is agricultural agent of Atchison County, Kansas.

About 100,000 manufacturers, wholesalers and other distributors of staple foods are now under the licensing provisions of the Food Control Act.



FALL PIGS MONEY MAKERS

CONDITIONS are favorable for feeding out fall pigs to good weights. Putting more weight on the present crop of pigs is the first measure toward increasing the supply of pork. Keep the pigs growing and in a healthy condition. Clean, warm pens with ample ventilation should be provided. Their shelter should be so arranged that they can get plenty of sunshine and exercise. Pigs should run to self-feeders as soon as they are large enough to eat grain. They should be allowed to help themselves to alfalfa meal, tankage, and corn.

"It costs approximately 11 cents a pound to produce pork under present conditions, with alfalfa pasture and corn at $1.68 a bushel, according to experiments carried on at the Kansas Experiment Station," says Prof. J. I. Thompson.

"Although there is a large corn crop this year, the farmers have been bearish about feeding hogs. They have feared that the packers would weaken the market after they had responded to the call for more pork. The shortage of hogs should warrant high prices for the next year.

"The Government has attempted to stabilize the hog market and will use its influence so far as possible to keep the price above 15½ cents a pound, or a relative price of 100 pounds of pork to thirteen bushels of corn.

"With the support which the Government has given and with a large corn crop on hand, there is sufficient incentive to warrant not only breeding additional sows but developing fall pigs in good shape."

Safeguarding Beef Supply

It becomes more and more evident each week that there is a well-founded concern in regard to the maintenance of the beef supply. Information is current to the effect that in the British Isles the government has decreed that it is more important that the acres available for crops serve the immediate needs of the country in this extraordinary time by producing grains for human food than for the maintenance of the herds. We are informed that three millions of acres are being put under the plow—sod that has in many cases never known the plow before; pastures that have raised grass and grass only for generations, and meadows of long standing will be converted into tilled fields that wheat, oats, barley, corn and other crops suited for human food may be produced. The argument is that the British Isles can better rely upon the United States and other cattle-producing countries where land is cheaper and range more abundant. It is argued that dressed beef can be advantageously imported; that under the circumstances it will be a real economy to do so.

And so it is that the British Isles will promptly reduce its cattle supply, if we are correctly advised and there seems no doubt of it, and that the market of the United States beef producers is increased proportionately. Time will come when these pastures and meadows to be broken up must be again seeded and the fertility restored by means of herds and flocks, but that will be in the days to come after the war, and the replenishing process will be slow indeed.

That the cattle stocks of Germany, France and other European nations affected by the war are being steadily diminished has had official recognition and in the United States there is every indication that we are barely holding our own. The prices available to the beef producer induces him to sell closely. The cost of feed has reached such a high plane that the cattle producer inclines to dispose of his surplus and hold his stock to the minimum. It induces many to dispose entirely of their herds in order to take advantage of the present available prices for hay and grains. The farmer is willing for the time being to draw and draw heavily upon the fertility of his soil, that he may take advantage of these alluring prices.

What does it all mean? It means the depleting of our cattle supply; or, if not actual depletion, it prevents the increase of which the world now stands so much in need.

With this condition everywhere recognized and with the appetite for beef being encouraged among the men composing the armies of all the warring countries, it is inevitable that there will be a permanent and growing inclination to beef consumption after the war. We do not need to be told that beef consumption at present in America is being held to a minimum level at the urgent request of the food conservation department. Meatless days are becoming more frequent and we conform to the request the more cheerfully because of the high prices we are compelled to pay over the counter. But when these meatless days are no longer demanded and when prices settle a little, how eagerly we will anticipate the juicy steaks and roasts. We will not hesitate to gratify our appetites and beef consumption in America will tremendously expand. It is apparent to any observer that a decrease in meat prices of 20 per cent would increase beef consumption 50 per cent, were the food conservers' restrictions to be removed, as in time they will be.

So the producers of beef cannot be otherwise than encouraged by the prospect for the demand that will continue not alone through the duration of the war, but for that long reconstructive period that will follow in its wake.—FRANK D. TOMSON.

Corn and Skim Milk

Poor results are sure to follow feeding corn alone to young pigs, and seldom is there any profit in feeding corn alone to fattening hogs. The Ohio Experiment Station recently reported on the results of feeding skim milk to pigs with corn. Two pigs weighing forty-three pounds gained a third of a pound daily for fifteen weeks when fed only corn. Then for eight weeks on corn and skim milk they gained one and three-fifths pounds daily.

Nearly seven pounds of corn was needed to produce a pound of gain in live weight when only this feed was given to the pigs. Only two pounds of corn was fed, along with eleven and one-fourth pounds of skim milk, for a pound of gain during the second part of the experiment.

Feed cost 8.56 cents per pound of gain from corn alone, and only 4.88 cents from the corn and skim milk ration.

Tankage and linseed oil meal have also proved profitable to feed in combination with corn for hogs. Relative prices, feed required for a unit of gain, and rate of gain that may be expected, the bulletin points out, will determine which supplement to use.

Care of Brood Sow

The successful raising of a crop of pigs requires that much forethought and attention be devoted to various phases of brood sow management.

The brood sow, if a gilt, should be as growthy as possible, medium to good in condition, but not fat. It is well that the gilt make a reasonable gain during the breeding season. If the sow is mature and has been carried along on good pasture during the summer with only enough grain to keep her from losing excessively in weight, an increased grain ration and the addition of a fifth to a third of a pound of meat meal tankage will be of benefit at breeding time. The sow which is gaining is more liable to conceive with less services and produce a larger litter than a sow which is barely holding her own or losing weight.

Dry, well-bedded sleeping quarters are in order. Exercise is to be encouraged. Lice must be controlled. Water and feed in sufficient amounts to keep the sow gaining during the entire pregnancy period must be provided.—RUSSEL DUNN, Iowa Experiment Station.

Merry Monarch, the grand champion Shorthorn steer at the International Live Stock Show, was purchased in the auction ring by the American Shorthorn Association at $2.05 a pound, a record price for an International champion. This pure-bred Shorthorn steer weighed 1,610 pounds, making the gross price $3,300.50. The Shorthorn Association immediately instructed the auctioneer, Colonel Gross, to resell the champion, the proceeds to go to the American Red Cross. He was sold the second time to Armour & Company for $2.10 a pound.

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RENSTROM'S AGENCY, Osage City, Kansas

"One hundred hens on every farm—100 eggs to every hen." This is the slogan adopted by some of the Government poultrymen in charge of the work under way to encourage greater production of poultry meat and eggs. The average size of the farm flock in the United States is only forty hens. It is estimated that an average of 100 hens would increase the poultry supply 6,500,000 pounds this coming year. Some farms can have several hundred while others should keep less. There should be at least enough to produce poultry and eggs for home consumption and thereby add to the profit of the farm. A pound of poultry meat can be produced more quickly and with less cost for feed than any other. The average chick will increase its weight from twenty to twenty-five times or more in the first twelve weeks. Can you beat it with hogs, or cattle, or sheep? Do you wonder that the Government is urging maximum poultry production?



Storage Poultry Being Sold

ONE of the important acts of the Food Administration was that of enforcing the law and compelling storage stocks of poultry to be moved before the quality could be materially lowered. People will not buy poultry which is unpalatable, and if the price is too high they will reduce consumption.

In an open letter addressed to the president of the American Poultry Association, the writer, who is connected with the American Incubator Association, comments on this order to sell out stocks of storage poultry. He says:

"Doubtless these storage men feel that they are being discriminated against because they are bound to lose some money in consequence of the order from Mr. Hoover's department, and no one will withhold a passing vote of sympathy to them. But the facts are that the storage men committed a great commercial error within the past year. They stocked heavily with frozen poultry at rather high prices a year ago expecting to unload at a good profit during the usual season. The market did not advance as they expected so they concluded to carry the stock over still another season for disposal in 1918. This accounts to a large extent for the heavy storage holdings November 1, 1917. Between 25 and 35 per cent of these holdings were 1916 stocks, which laws in nearly all states say should be sold within twelve months.

"With the knowledge of these conditions and prompted by the recently enacted federal law, directed at speculators, prohibiting the hoarding of foodstuffs, the Food Administration advised the storage men to get busy and unload stated percentages during each month to clean up by March 1, next. This order went out November 15. The alternative provided by law is for the Food Administration to seize and sell at auction.

"For the storage men to think that the whole poultry industry would be demoralized, that the consumer would not buy frozen poultry now while fresh stocks continue to arrive in market and that the producer would suffer, etc., is all 'tommyrot.' As a matter of fact it is bound to work out just conversely.

"I will not take the time to tell you how surprisingly well the matter had developed in the two weeks preceding Thanksgiving Day—how the big State of Texas cheerfully submitted to an embargo against shipping out live turkeys until December. The one thing alone has resulted in increasing the Texas turkey crop 500,000,000 pounds more meat for the nation. In November, 1916, their shipments totaled 250,000 carloads of fresh turkeys. Through the Housewives' League the women of the land were urged to ask for and buy frozen turkey this Thanksgiving instead of fresh stock and whereas the holders had previously been most insistent in their contention that 'it couldn't be done,' a letter from the head of the largest wholesale distributing house in the country, in New York, stated that they expected that all turkeys in storage would be gone before Thanksgiving and that chickens would move quite as readily.

"In the name of all that is patriotic and from the standpoint of the producer and the consumer alike, I ask you not to be influenced by the foolish argument of interests which are not given over to the common cause. The Food Administration were well aware of the fact that they would be the subject of severe criticism from the holders, but the law was plain and it was for them to call attention to the law. It was for them to prevent the further holding of frozen poultry which constantly—and rapidly at such a stage—loses its quality and may even become poisonously unfit for use, and most of all to see that storage stocks are cleaned up in plenty of time to create a healthy active condition in the market next spring when all producers will be scanning the quotations to see how far they shall let their patriotism carry them in responding to the nation's call for record poultry production."

Kansas State Poultry Show

The premium list of the Kansas State Poultry Show is now ready for distribution and a copy can be had by applying to the secretary, Thomas Owen, Route 7, Topeka, Kansas. The show is to be held at Wichita, January 7 to 12, 1918, and will be one of the largest and best poultry shows in the West. Liberal cash prizes will be given, as well as several specials in cash and silver cups. The educational features of this show have been made more prominent than ever. Several expert poultrymen from the Kansas Agricultural College and Washington, D. C., will deliver lectures, and practical poultry demonstrations will be given.

Prepare for Big Business

My advice is to get ready for a big poultry business in the spring of 1918. With corn, corn meal and other poultry feed on the decline and with eggs and poultry prices advancing to a reasonable figure compared to the cost of production, I feel certain that the time is at hand when poultry and eggs are going to be in demand for hatching, breeding and market purposes, and at profitable prices. At no time in the past few years has it seemed to me that poultrymen could go into the season with a greater assurance of success and a reasonable profit than just now.

The Government is sending out a large force of men to help educate the public and to encourage production. They insist upon every back yard and every general farm being used to the limit for the purpose. The U. S. Department of Agriculture says that no kind of live stock can be produced so rapidly or economically as poultry and eggs. The food administrators say that poultry feeds will be from 25 to 40 per cent lower than they were last fall. These facts should interest and encourage every one interested in any branch of the industry.

Begin now to get ready for a good season's business. Don't wait until the hatching season is on, but get out your old incubator and clean it up. See that the parts are all there, that the tank don't leak and that the burner and everything is clean and in first class condition. If you are going to need a new incubator you may not be able to get one if you wait until the last minute. There is going to be a big demand, so place your order now.

Take a final look at the breeding stock. See that they are all in good health and lay eggs with firm shells. Cull out those which lay small-sized and off-colored eggs. Every poultryman should have his breeders all selected and mated by January 1. Don't breed from the whole flock if you have a large number from which to select, but pick out your choicest females and mate with your choicest males. That is the only way to make real progress.

See that the water in the drinking pan does not remain frozen. Plenty of water is just as important in producing winter eggs as is the right kind of feed.

If you are going to need a male to head your pen, or will need eggs for hatching, you had better place your order now. The demand is going to far exceed the supply. The earlier you place your order, the better selection you will get.—T. E. QUISENBERRY, Leavenworth.

Poultry House Floors

A floor of earth in a poultry house needs to be renewed at least once a year. If the droppings that fall upon the floor are carefully removed at frequent, regular intervals, much of the earth is removed with them. If the regular cleaning of the floor is superficial, the earth of the floor to a depth of several inches becomes so mixed with droppings that its condition is very insanitary.

If used on the garden, the manure obtained by removing the earth floor of the poultry house will compensate for the labor of renewing the floor, and the new earth required can be taken from a convenient spot on the farm. When the poultry keeper must pay someone else to take away the old earth and bring in new, the cost will in a few years exceed the cost of a cement floor.

The principal fault of a cement floor is that it is likely to be cold and damp. These conditions may be corrected by covering the floor to a depth of an inch or two with dry earth or sand, using over this scratching litter of straw or wood shavings. Floors so treated require as much routine work to keep them in good order as earth floors, but the supply of clean earth required is much less and the work of annual renovation is eliminated.

Incubators and Brooders

No farm equipment is complete in this present day and age without a good incubator and brooding device. In the words of W. F. Priebe, of the United States Food Administration: "Farmers without incubators are like an army without arms."

We do not as a rule make sufficient effort to hatch early so that the chicks will have the advantage of a longer and more favorable growing season. Late-hatched chicks rarely, if ever, attain the size of those hatched earlier. Early hatching likewise influences early maturity and that means early egg production. Hens do not generally go broody early in the season. They cannot be depended on for early hatching. It is the profitable bird, the winter layer, that is showing the early broodiness. She has been laying during the season of short production and high prices and is following Nature's instinct to want to set and raise her young. Incubators are essential, therefore, both to hatch early when broody hens are scarce and for the added important reason that the hens which are broody early in the season should be broken up and returned to laying so that their eggs may be used for hatching. It is the winter layer whose blood should be perpetuated.

Poultry needs green feed. Mangels, beets, carrots and cabbage are very good. These furnish food and act as a conditioner. Hang them up or nail to wall which will keep them clean and at the same time be convenient for the birds.

Make This Your Money Year

POULTRY and eggs are going to be the big money-makers this year. Hoover is beseeching little and big poultry raisers to double—triple—quadruple their products. We should raise twice as much poultry and eggs as we did last year. And prices will remain high—and go higher. The demand will take care of that. Why, New York City alone consumed annually One-Half Billion More Eggs than the greatest egg-producing state in America yielded last year! Get wise. Get hatches started quick! Plan for bigger hatches of better chicks. Get a hatch-increasing wonder—a

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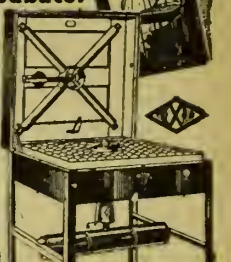

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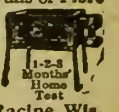

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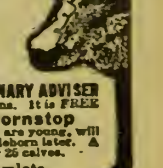

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Large Wheat Acreage Sown

ONLY once before has a larger area been seeded to winter wheat in Kansas, and that was a year ago, when 9,587,000 acres were sown. This statement is made by Secretary J. C. Mohler of the State Board of Agriculture in reporting on the acreage and condition of the winter wheat sown in Kansas this fall.

The total acreage as reported is 5.18 per cent less than the ten-million-acre stake set by the Government for Kansas, but the official assessors' returns next spring may reduce the difference, as sowing is still under way to some extent in thirty or more western counties where dry weather has been protracted.

Correspondents of the board, who are always cautioned to be conservative, estimate that 9,482,000 acres were sown to winter wheat in Kansas this fall, or 1.1 per cent less than the average seeded in the autumn of 1916. Based on 100, the general average condition of the state's growing wheat is given as 70.1 per cent. This is lower by 5.8 points than was reported for the wheat of a year ago, and is under any fall condition reported by the board in recent years. Dry weather is the cause. Conditions have been inhospitable for the sowing, germination, and growth of wheat in the western two-thirds of the state, excepting in a half dozen counties or so. In the eastern third conditions have been quite favorable.

In counties where the acreages sown to wheat are less, growers attribute the falling off mainly to lack of moisture, high price of seed, and insufficient labor. The price of seed, however, is infrequently given as a cause outside the territory where the crop failed this year and seed had to be imported. In a few counties the increased acreage planted to corn last spring cut down the area for wheat this fall, and now and then reporters credit reduced sowings to dissatisfaction with the government price.

Of the eleven counties leading in wheat acreage sown a year ago, having 200,000 or 300,000 acres or more each, all except one report less sown this fall. A largely increased area has been seeded in the eastern third of the state, Allen County reporting the greatest percentage of gain, or an acreage nearly doubled. It is in this region, too, where the best conditions are found. Johnson leading with 94, followed by Anderson with 92, Atchison, Crawford, Linn and Wabaunsee 91, and Bourbon 90. It is here also that any considerable pasturage has been provided by the fall-sown wheat. Elsewhere there has been little or no wheat pasturage. In many western fields the wheat is not yet up.

Considering the disappointing crop year in the major portion of the wheat belt, and the handicaps of the situation this fall, to sow the second largest acreage of wheat in the state's history does the Kansas farmers great credit. It suggests a determination to brook no obstacles that human agencies can overcome in the discharge of their obligations to produce food in maximum quantities. A heavy initial investment, represented in facilities, funds, time and labor employed, and amounting to millions of dollars, has been made to provide the first essential toward supplying the world with bread next season, a large wheat acreage. This expenditure on a single crop, the outcome of which now rests largely with Providence, is splendid evidence, if any were needed, that the farmers are whole-heartedly assuming their responsibilities in the present food crisis.

Wheat Needs Rain

A. P. Ridenour, of Seward County, writes as follows regarding crop conditions in that section of the state:

"Early-sown wheat came up, but is perishing from lack of moisture. The late-sown has not sprouted. A few are still sowing. We must have rain soon or there will be no wheat in this locality.

"The milo, feterita and kafir are being threshed. Yields are running low, from two to eight bushels to the acre. Broom corn is about two-thirds of an average crop and is selling for from $150 to $300 a ton, depending on the quality.

"Eggs are bringing 40 cents a dozen and butter 45 cents a pound. The cattle are pretty well sold out and few are being fed for the beef market. Very few hogs are ready for market. All kinds of stock are healthy and doing fine and prices are good except for horses, which are low."

Saving Soft Corn

Soft corn constitutes a considerable per cent of the crop this year. In every field there is more or less corn that is too immature to crib without seriously endangering the keeping qualities of the whole crop. We have already learned of instances where it was necessary to spread out corn which had begun to heat. How to handle the crop under these conditions is one of the serious problems confronting the corn grower this year. C. W. Raymond, of Raymond Stock Farm, Illinois, makes the statement that much of this soft corn can be saved by proper ventilation of the crib and the use of eight quarts of common barrel salt to the forty-bushel load of corn. This is an entirely new idea to the writer, and one concerning which we have had absolutely no personal experience. It is supported, however, by letters from quite a number of Illinois farmers who have tried this method of saving an immature crop from spoiling in the crib.

The Illinois Experiment Station has investigated this matter, and reports as follows: "From the investigation of the experience of many farmers and of the results of a few fairly comparable trials, the Illinois Experiment Station encourages the application of six to eight quarts of salt over each fifty bushels of corn when placed in the crib."

Prof. L. E. Call, of the Kansas Experiment Station, advises that corn too soft to crib be utilized as rapidly as practicable for feeding hogs or cattle. The dry matter in soft corn is practically equal to that of well matured corn for feeding purposes, and when properly fed produces satisfactory results. Soft corn, however, that has been allowed to mold or rot is unsafe to use as feed. He warns against attempting to crib or store soft corn—corn that contains 30 per cent or more of moisture. Such corn is sure to spoil.

If stock is to consume the crop, the best way to handle soft corn is to allow it to remain in the field or shock and husk it as it is needed for feeding. Less waste will take place if the corn is in small shocks, so constructed that the air will circulate freely through them.

Corn that contains from 20 to 30 per cent of moisture may be safely stored in narrow cribs that permit of a free circulation of air through the sides and bottom. It is dangerous, however, to crib corn containing that amount of moisture in large bins unless some provision is made for ventilation.

Corn that contains a small per cent of soft ears but is otherwise in condition to crib may be safely stored by sorting out the immature ears. This will require considerable extra work and expense, but under the present conditions this practice will be profitable in most cases. If the soft ears are cribbed with the good corn, they will rot and possibly will injure the sound corn in contact with them. Such spoiled corn would be dangerous for feeding purposes and would have to be sorted out before it is used for feed. Furthermore, soft corn can be utilized to advantage if fed as fast as it is sorted, thus avoiding loss from rotting.

Sorting out the soft ears can be done to the best advantage when the corn is cribbed, although it can be sorted at husking time. A box attached to the wagon makes a convenient place to put the soft ears when the sorting is done in the field.

Origin of Domestic Hen

From the small wild jungle fowl the highly efficient domestic hen of today, with a production of 200 eggs, has been developed.

The jungle fowl of India is a small sized bird with little meat and lays only a clutch or two of eggs a year. Increased production is the most notable effect of domestication. Most breeds average approximately 100 eggs a year. In modern breeds the birds are heavier, making them excellent for food purposes. The reason for this change in life habits and actual make-up is intelligent selection for size and number and size of eggs, better feeding, and general environment resulting from domestication.

Through use of incubators the hen is losing the desire to sit. In fact some breeds have already so completely lost this instinct that they are termed "non-sitters." In the wild state the birds had the tendency to mate in pairs or at least in small groups, but the conditions of domestication have developed a polygamous nature.

Granulated charcoal is of great value in the poultry ration. It absorbs gases and corrects digestive disorders. It may be mixed with the mash or fed alone in hoppers or boxes. Do not fail to keep grit and oyster shell before your hens either in a self-feeding hopper or in boxes. At this season of the year fowls cannot pick up grit and mineral material needed as readily as in the summer.

The vitality of the race has been lowered largely through artificial conditions and inbreeding. The domesticated bird is not so hardy and is less disease-resistant than the jungle fowl—a condition not surprising in view of the artificial conditions under which the birds have been forced to live.—F. E. Fox, Kansas Agricultural College.

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TAKEN UP — BY R. J. BOYER, OF Meade, Kansas, on the 29th of October, 1917, two 2-year-old steers, red, cross on left sides, value $65. W. W. Pressly, County Clerk.

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To become a human beast, thinking only of one's own interests and living only for one's self, is a worse fate than to be killed by German shrapnel in No Man's Land.

Christmas candy that requires little or no sugar is a gift to our allies as well as to the recipient.

The sign on the door of opportunity reads, "Push."—I. F. K.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

They all were looking for a king
To stay their foes and lift them high.
Thou cam'st, a little baby thing
That made a woman cry.

O Son of Man, to right my lot
Naught but thy presence can avail,
Yet on the road thy wheels are not
Nor on the sea thy sail!

My how or when thou wilt not heed,
But come down thine own secret stair
That thou may'st answer all my need,
Yea, every bygone prayer.
—George Macdonald: That Holy King.

Christmas in War Time

How much should our Christmas giving be curtailed in the present emergency? Dispensing with the usual holiday gifts altogether would certainly not be a necessary or wise economy. On the other hand the extravagant and often thoughtless giving of which we have all been more or less guilty in the past is clearly out of place. Let us give more of our hearts and less of our pocketbooks this year.

The children must not be denied their Christmas, but they will be just as happy if their presents are not too many and elaborate and if some of the gifts are not entirely useless.

The Children's Holiday

Christmas is peculiarly the children's day. "For one little child's sake all the world is glad." It is the children who enjoy the holiday most and who contribute most to the pleasure of the grown-up members of the household in the festivities of the season.

What should Christmas mean to the wee ones, and how can we help them to get the most out of it? We should not foster selfishness by teaching them to think of Christmas merely as a time of receiving. Let them share the pleasure of giving also. And let us not fail to teach them the real meaning of Christmas. Tell them if you wish of Santa Claus, but do not fail to tell them also the wonderful story of the Babe in the manger, the angels appearing to the shepherds as they watched their flocks at night, and the wise men who followed the star. They will lose their faith in Santa Claus after a while, but the real Christmas story will mean more to them with each succeeding Christmas.

Ways to Use Left-Overs

In the elimination of waste and the utilization of odds and ends left over from the table, the average home has much to learn from institutions, which of necessity must be run on a strictly economical and business basis. In most institutions the waste is carefully watched, and in some cases this work is considered worthy of the services of a highly paid person.

The grease, for instance, does not go into the garbage pail, but separate pails are kept for this purpose, one being used for the raw suet trimmed from meat before it is cooked, another for the solid fat that has been used for frying, and another for scraps and bones. Waste is also reduced by judicious serving. Small portions are served at first, and second helpings given if desired. Skin, bone, gristle, and fat, which will not be eaten, are not served, because if not served they can be used for soups and the like. If more food is prepared than is needed, it is used in a tempting and appetizing way for a later meal.

The housewife in her own home, cooking for the same number of persons each day, will be able to reduce the amount of left-over food to the minimum by learning about how much will be used by her family and planning to serve only as much as will be eaten. She should also study to make the best use of what is left.

The most common left-overs are meats, vegetables, cake, bread, and fruits. Miss Flora S. Monroe, manager of the cafeteria at the Kansas Agricultural College, suggests that left-over meats be utilized by making croquettes, hashes, stews, or scalloped meats. If only a small quantity of meat is left it may be combined with potato, rice, macaroni, or cheese. Variety may be given by using a tomato or creamed sauce. The acid of the tomato is not only appetizing, but it also aids in the digestion of the meat. Combinations of vegetables may be scalloped, made into croquettes, vegetable hashes, creamed vegetables, or used in soups. Cake that is a little dry may be served with a lemon, chocolate, or custard sauce.

Stale Bread in Dressing

In our home a favorite use for dry bread is in meat dressing. The bread is broken into small pieces, moistened with rich chicken or meat broth, or hot milk, and one or two beaten eggs added, according to the amount of bread used. If served with chicken, the giblets are cooked, run through food chopper, and mixed with dressing. Salt, pepper, and seasoning are added to taste. The seasoning may be sage, fresh or dried parsley, celery salt, or fat in which an onion has been fried, the onion itself being removed so that the flavor is delicate. The dressing is baked until a delicate brown. It may be served without meat, in that case adding cove oysters, moistening the bread with the liquid from the oysters instead of broth, and using a little butter.

Cold toast may be used in dressing. Some people prefer dressing made from toasted bread.

Vegetable and Cream Soups

A French writer has said that soup should be to a dinner what the overture is to an orchestra or the porch to a house. It is a good introduction.

The meat extractives contained in a clear soup promote the flow of gastric juice and so prepare the stomach for the entrance of solid food. Milk soups or cream soups, which are prepared by adding to thin white sauce an equal amount of vegetable pulp, are both nutritious and appetizing. They furnish an excellent means of using skim milk. Vegetables are necessary to keep the body in health because they are relatively rich in mineral matter. Vegetable soups or purees are made by boiling potatoes, tomatoes, beans, peas, corn, or a combination of vegetables until soft, mashing them through a sieve, heating with water, milk, or meat stock, and seasoning. Their use is often a real economy since they afford a way of utilizing odds and ends of vegetables, especially left-overs and parts which would otherwise be wasted.

TOMATO SOUP I

2 cupfuls tomato juice
2 slices onion
¼ teaspoonful pepper
1 teaspoonful salt
Bay leaf.

Mix ingredients together and heat, strain and serve.

TOMATO SOUP II

2 cupfuls tomatoes
2 teaspoonfuls sugar
1 teaspoonful salt
2 slices onion
4 cupfuls milk
¼ teaspoonful soda
4 tablespoonfuls flour
4 tablespoonfuls butter
Bay leaf and spring of parsley if desired.

Scald milk with onion, remove onion, make white sauce of milk, flour, and butter. Heat tomatoes, add soda, and rub through a sieve. Stir tomato into milk, add seasonings, and serve. The onion and the sugar may be omitted if preferred. Instead of flour, twice the amount of bread crumbs may be used.

POTATO CHOWDER

6 medium-sized potatoes, cut in small cubes
¼ pound salt pork, diced
1 tablespoonful onion, chopped
1 tablespoonful fat
1 pint milk
1 pint water
1 teaspoonful salt
1 tablespoonful flour

Cook the pork and onions together until a delicate brown. Add this mixture and the water to the potatoes. Cook until potatoes are tender but not mashed. Make a white sauce of the fat, flour, and milk, and add it to the potatoes. Serve hot.

CORN CHOWDER

Add one can of corn to potato chow-

der in which the amount of potato is reduced.

Nut Maple Loaf

2 cupfuls brown sugar
2 ⅔ cupfuls boiling water
½ cupful cornstarch
½ cupful cold water
2 cupfuls cut nut meats
Pinch of salt
4 egg whites
1 teaspoonful vanilla

Pour boiling water on sugar, add cornstarch wet in one-third cupful of cold water. Cook over direct heat until mixture thickens. Return to double boiler and cook fifteen minutes, stirring occasionally. Add cut nut meats, flavoring, and stiffly beaten egg whites. Mold, serve with whipped cream or with the following foamy egg sauce:

1 egg
¾ cupful sugar
1 teaspoonful vanilla
1 cupful hot milk

Beat egg until very light, add sugar, and continue beating. Just before serving add the hot milk, beating the egg as the milk is slowly poured in.

Twilight Animal Stories

Bumper The White Rabbit

By George Ethelbert Walsh

(Copyright, 1917, by George E. Walsh)

STORY VII—BUMPER MEETS THE SEWER RAT.

BUMPER was so young and inexperienced that he didn't know a drain-pipe from an ordinary hole in the ground, nor for that matter a tree trunk that was hollow inside from a rabbit's burrow. Bumper was a city-bred rabbit, born in the back yard of a tenement house, and how could you expect him to know much of the things that ordinary wild rabbits learn by heart before their whiskers begin to sprout?

When he opened his eyes the next morning, he stretched himself, and blinked hard at the circular roof over his head, wondering what sort of a house he was in now. It took some time for his brain to recall the events of the previous night. Then he sat up and smiled.

"Ho! ho!" he laughed. "Carlo must have had a long, cold wait outside for me. I think I'll take a peek at him."

He was really anxious to see if the little girl was up yet, and if she had missed him. He had perfect confidence in her, and knew that she would call of the dog the instant she saw him.

Bumper could see that it was morning, for the bright light shining through the big end of the drain-pipe proved that. He crawled along cautiously, making as little noise as possible. If Carlo was waiting at the entrance to pounce upon him, he wasn't going to be caught napping.

Another thing which drew him toward the mouth of the pipe was the fragrant odor of good things from the garden. In spite of the big feast of the night before, Bumper was hungry again, and he longed to get back in the garden and devour a few more carrots and crisp lettuce leaves.

He was within a few feet of the mouth of the drain-pipe, quite confident that Carlo had grown tired of watching and left, when a shadow came between him and the light. Bumper caught sight of a head and forelegs thrust into the opening, and then, without stopping for further investigation, he turned tail and ran back. There was a wild scampering and scraping behind him, and he knew that Carlo was pursuing him in the hole.

But Carlo couldn't follow him far. The pipe narrowed so that there was just room for Bumper to squeeze through, and no dog, certainly not a big dog like Carlo, could catch him in there. When he reached the place where he had spent the night, he stopped to look around him.

Horror of horrors! Carlo or some other animal was close behind him, blocking the entire entrance to the hole. Bumper could hear him scraping along, and could almost feel his breath. A shiver of terror went clear through him. In some strange manner the hole had been enlarged over night, or Carlo had shrunk in size, or what seemed more probable, another dog much smaller had taken up the pursuit.

With a little yip of fear, Bumper scrambled onward again, making his way through the drain-pipe as fast as his feet would permit, which, after all, was not so very fast, for he slipped and lost his footing a dozen times, and once fell all in a heap where an elbow in the pipe brought him to an abrupt stop. There were two holes opening before him, one leading to the right and the other to the left.

Bumper chose the one to the right, and so did the animal pursuing him. The race continued until the rabbit came to another branch where there seemed to be three holes leading off into different directions. Bumper chose the middle one blindly, and ran through it for dear life.

It was very dark, and it was impossible for him to tell where he was going. His one great desire was to escape the pursuing dog or other animal close behind him. Consequently he was unprepared for the sudden climax of his adventure.

The narrow tunnel came to an abrupt ending, and when Bumper shot out of it he landed in a big, circular space that gave him plenty of opportunity to turn around and look at his enemy. He had no more idea what kind of a place he was in now than before. It was all so strange to him.

"Hello!" a voice called to him out of the small hole.

Bumper looked up, and saw a big Sewer Rat grinning at him from the mouth of the drain-pipe.

"I never saw a rabbit run faster in all my days," laughed Mr. Sewer Rat. "I couldn't keep up with you. What did you think was after you?"

Bumper was very angry and indignant now that he realized his flight was all unnecessary. He disliked Mr. Sewer Rat and all his tribe, for they had often made their way into the old woman's back yard to annoy the young bunnies. Besides his bad manners and uncouth ways, the Sewer Rat was disgustingly dirty in his habits. How could he be otherwise when he chose to live in sewers rather than in clean quarters above ground?

"Why were YOU running so fast?" asked Bumper, not willing to admit the rat had frightened him.

"Just to frighten you," was the retort. "I wanted to give you the scare of your life, and I guess I did."

"Oh, no," replied Bumper, assuming an air of dignity. "I wasn't really frightened so long as I knew you were behind me. Carlo couldn't catch me until he nabbed you."

"Carlo! Who's Carlo?" demanded the Sewer Rat, pretending ignorance.

"Oh! ho!" laughed Bumper. "Don't pretend that Carlo, the dog, wasn't after you. Didn't I see him chase you in the hole? And how frightened you looked! Why, it nearly made me die with laughter."

Mr. Sewer Rat puffed up his cheeks and gnashed his long, white teeth angrily. Bumper's fling had hit the mark.

"If Carlo ever touches me," he said, "I'll bite his nose so he'll remember it. Who's afraid of an old dog like Carlo?"

"You are, I should say," smiled the white rabbit.

The Sewer Rat started to deny this, and then thought better of it. "Well, I wasn't more frightened than you, Mr. White Rabbit. You're as pale as a ghost this very minute."

"That's a good one," laughed Bumper. "Pale as a ghost! Why, I'm whiter than snow all the time. How could I get paler?"

Mr. Sewer Rat gnashed his teeth again, and swished his long tail. He was plainly angry and discomfitted. So he retorted maliciously:

"You're not white at all. You're so dirty your own mother wouldn't know you. White! Oh! ho! ho! I wish you could see yourself."

Bumper did see himself, or, at least, a part of himself. Both front paws were muddy; his long ears were covered with iron rust; his fat cheeks were dusty and cobwebby, and to the ends of his whiskers clung specks of dirt. In his progress through the drain-pipe he had accumulated sufficient dirt to change his color from pure white to a rusty gray.

"I can soon clean myself," he remarked, "and the little girl with the red hair will help me. Is that the hole that leads back to the garden?"

The Sewer Rat suddenly blinked his wicked little eyes. "Yes," he replied, "if you know the right turns to take. If you don't you'll get lost, and never find your way out."

"I think I know my way back," said Bumper, hesitatingly. He hated to ask favors of the Sewer Rat, but when the latter volunteered information he was grateful for it.

"You'll find a better way back to the garden by following the abandoned sewer you're standing in. Keep straight on to the end. It's much better than crawling back through this small drain-pipe."

"Thank you!" replied Bumper. "I believe I'll go back that way!"

"All right, then. I must be going to my family. I haven't had my breakfast yet. Good morning!"

Bumper thanked him again, and turned to follow the sewer back to the garden, not realizing that the Rat had purposely deceived him out of revenge.

FASHION DEPARTMENT.

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8372—Girls' Dress: Cut in sizes 8, 10, 12 and 14 years. The dress is cut in one piece, has side pockets and long or short sleeves. **No. 8368—Ladies' Skirt:** Cut in sizes 24 to 32 inches waist measure. The skirt is cut in two gores and has a slightly raised waist line. **No. 8388—Ladies' Apron:** Cut in sizes 36, 40 and 44 inches bust measure. The apron is cut in one piece.



The Biggest Help on the Farm

—the farmer's family is robust, healthy, strong. They want the *best* of everything to eat.

The farmer's wife is an expert cook. She'll use only the best—that's why so many country housewives use Calumet Baking Powder.

They insist on absolute purity—they know Calumet is pure in the can and pure in the baking—the most economical to buy and use.

Try Calumet—if it isn't by far the best Baking Powder you have ever used, your grocer will refund your money.

Received Highest Awards—*New Cook Book Free—See Slip in Pound Can.*

Reliable Poultry Breeders

PLYMOUTH ROCKS.

BARRED ROCKS—BIRDS OF QUALITY. Ben Vigus, Severance, Kansas.

WHITE ROCK COCKERELS, $2 AND $3. Nora Lamaster, Hallowell, Kansas.

WHITE ROCKS, SIZE AND QUALITY. Prices reasonable. G. M. Kretz, Clifton, Kansas.

BARRED ROCK COCKERELS, $2 AND $3. Good laying strain. E. M. Wayde, Burlington, Kansas.

BARRED ROCKS, BOTH LINES—LARGE cockerels from extra laying strains, $4 and $5 each. C. C. Lindamood, Walton, Kan.

BARRED PLYMOUTH ROCKS, ST. Louis, Wichita, Kansas City winners. J. K. Thompson, 205 The Drive, Topeka, Kansas.

SWAIM'S BLUE RIBBON BARRED Rocks. Big utility cockerels. $3 each; six, $15. C. D. Swaim, Geuda Springs, Kansas.

BARRED PLYMOUTH ROCK COCKERels. Parks' 200-egg strain, direct from prize winning layers. $2 to $5 each. Eggs in season. Gem Poultry Farm, Haven, Kansas.

LANGSHANS.

BIG BLACK LANGSHANS. UTILITY AND show stock. H. Osterfoss, Hedrick, Iowa.

ORPINGTONS.

BUFF ROCKS AND BUFF ORPINGTONS. Closing out sale, half price. Laying strain. Winners Texas and Kansas state shows. Eggs for hatching, fancy show pens. Write me. John A. Cragan, Kingman, Kansas.

Many think that potatoes are at their best when prepared in the simplest ways—that is, baked or boiled—but even so some variety is possible, for they may be baked in their jackets, or with the skins rubbed or scraped off, or pared and baked in the pan with meat, the juice they absorb improving their flavor. Potatoes may be boiled or steamed in the jackets, peeled entirely, or with only a ring peeled around the center. The boiled potatoes may be served as they are, or mashed, or riced. Such simple changes as these help to give variety.

The sugar left in the bottom of American teacups would help to sweeten the life of many a French home. Some housewives have found it possible to avoid useless waste by making a syrup of the sugar and using this to sweeten the coffee before serving, thus making sure that the sugar is dissolved before the coffee is brought to the table.

Corn Meal Mush with Gravy

For an addition to roast loin of pork or roasted fowl, prepare a corn meal mush a little thicker than usual and transfer it to a deep, long baking dish to form. Invert the dish and shake out the loaf. Serve hot in the form of slices, pouring gravy over them.

The call of the hour is for sane minds in sound bodies.

The patriot's credentials are a willingness to serve and a fitness and capacity for service.

LEGHORNS.

FOR SALE—PURE-BRED ROSE COMB Brown Leghorn cockerels, fine birds. $2.00 each. Mrs. H. B. Walter, Effingham, Kan.

S. C. W. LEGHORN COCKERELS (Young's strain). Elsie Thompson, Mankato, Kansas.

PRIZE SINGLE COMB BUFF LEGHORN cockerels, $1.50. Mrs. S. F. Crites, Florence, Kansas.

TWENTY-FIVE EXTRA QUALITY S. C. Brown Leghorn cockerels, $2 each while they last. Mrs. L. H. Hastings, Thayer, Kan.

SINGLE COMB BUFF LEGHORN COCKerels from egg-bred matings, $1.50 up; $15 dozen. Chester Hines, Emporia, Kansas.

SINGLE COMB WHITE LEGHORN COCKerels, $2 to $5 each. Mrs. Howard Rodecape, Grove, Okla.

TURKEYS.

PURE-BRED WHITE HOLLAND TURkeys. Winnie Litton, Peabody, Kansas.

CHOICE MAMMOTH BRONZE TURKEYS—Sadie Litton, Peabody, Kansas.

YOUNG WHITE HOLLAND TOMS, $6; hens, $4. Bertha Ballinger, Garden City, Kansas.

FINE PURE-BRED M. B. TURKEY toms, May hatched from high scoring stock. Oak Hill Farm, Route 3, Lawson, Missouri.

MAMMOTH BRONZE TURKEY TOMS, $7; hens, $4.50. Mrs. Elma Dooley, Eugene, Missouri.

DARK BOURBON RED TURKEYS, WELL marked. Priced right. Mrs. J. W. Warner, La Crosse, Kansas.

CHAMPION BRONZE TURKEYS, SIRED by sons of my 52-pound champion tom. Winners America's largest shows. Have pleased customers in thirty states. $7.50 up to $25 each. Ike Hudnall, Milan, Mo.

GIANT BOURBON RED TURKEYS—Toms, $6 and $7; hens, $4.50. Single Comb White Leghorn cockerels, $2 (Barron-Askerman strain). White Wyandotte cockerels. $2. Demand great. Mrs. Joel Smith, Amorita, Okla.

WYANDOTTES.

SILVER WYANDOTTES FOR QUICK sale. Hens, $1.50, $2; cockerels and cocks, $1.50 to $3. Mrs. Edwin Shuff, Plevna, Kan.

WHITE WYANDOTTE COCKS, COCKERels, hens and pullets, $1.50 to $5 each. Birds may be returned if not as represented. H. A. Dressler, Lebo, Kansas.

RHODE ISLAND REDS.

GOOD SCORING AND UTILITY R. C. R. I. Reds, heavy boned, long back, low tail, guaranteed. Highland Farm, Hedrick, Iowa.

FOR SALE—GOOD ROSE COMB RED cockerels, red to the skin. $2 each. Mrs. B. F. Weigle, Winfield, Kansas.

SINGLE COMB RHODE ISLAND RED cocks and cockerels. Our birds have won ten firsts, seven seconds, five thirds, three fourths and one special in the last three years. James Sisters, Olathe, Kansas.

DUCKS AND GEESE.

FINE TOULOUSE GEESE AND PEARL Guineas for sale. Emma Ahlstedt, Roxbury, Kansas.

POULTRY WANTED.

PAYING FOR NUMBER ONE TURKEYS, 24c; hens, 18c per pound; guineas, 40c each. Coops loaned free. The Copes, Topeka.

PERCHERON MARES AND STALLIONS

Thirty Head from Which to Select

Ton mares, big handsome fillies either by or bred to Algarve by Samson. Algarve's colts have great bone and size. His weight is over 2,200 pounds and his get proves beyond doubt his great ability as a sire. A nice lot of young stallions, several coming three-year-olds. Priced for quick sale. Farm four miles east of town. Call on or write

D. A. HARRIS - Route 6 - GREAT BEND, KANSAS

Kansas Herd Chester Whites

BOARS ALL SOLD. :: BRED SOW SALE. :: FIFTY HEAD.
LEAVENWORTH, KANSAS, FEBRUARY 2, 1918
MOSSE THIRTY HEAD :: MURR THIRTY HEAD

ARTHUR MOSSE, ROUTE 10, LEAVENWORTH, KAN.

HORSES AND MULES.



Percherons, Belgians, Shires
2, 3, 4 and 5-year stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
Fred Chandler, R.7, Charlton, Ia.
Above Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes.
Illinois Horse Co., Good Blk., Des Moines, Ia.

POLAND CHINAS.

BIG-TYPE POLAND CHINA BRED sows, also open sows. Herman Schmale, Dewitt, Nebraska.

DEMING RANCH QUALITY

Big-Type Poland China Hogs.

Fifty March boars for sale. All immuned. Bred sow sale February 18. Send for catalog.

H. O. Sheldon, Herd Manager
OSWEGO, KANSAS.

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, also bred gilts and tried sows, bred, ready to ship. Priced right. Write your wants to

CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

BIG WONDER 281929

The outstanding spring yearling son of the noted Big Bob Wonder now at the head of my herd. This young sire was first in junior yearling class at Topeka; second at the National Swine Show in competition against the world.

I will sell fifty sows and gilts Saturday, February 23, 1918, and a number of the best sows will be bred to Big Wonder. Send name early for catalog.

V. O. JOHNSON - AULNE, KANSAS

White Oak Park Polands

Outstanding herd boar prospects by 1,100-pound Missouri Jumbo 210461 and 1,000-pound Long Big Joe 227387, twelve-inch bone. Dams popular big-type breeding. If you want boars that will mature to 1,000 to 1,100-pound hogs, I have them, big high-quality fellows. Fall boars farrowed August and September, spring boars February and March. Will record in buyer's name. All immune.

Henry Koch, Edina, Missouri

FAIRVIEW POLAND CHINAS.
Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.
P. L. WARE & SON - PAOLA, KANSAS

GRAND VIEW POLANDS

We are offering big stretchy March and April boars, bred gilts and fall pigs. Herd boar and brood sow prospects, fully guaranteed.

ANDREW KOSAR - DELPHOS, KANSAS

POLAND CHINA BOARS
FOR SALE—Twelve head extra good spring boars, ready for service. Few choice gilts, bred for March litters. Fall pigs, either sex, sired by Big Tecumseh, Orange Wonder, and out of my best herd sows. The best crop of boars I ever raised. Write or come and see me. E. M. WAYDE, BURLINGTON, KANSAS

SPOTTED POLANDS
Sept. pigs, either sex, $20. One tried brood sow, $70. Chas. H. Redfield, Bucklin, Kan.

The Lone Cedar Polands

Last Lot of Meyers' Orange Pigs. I will have either sex, some extra fine gilts. Cholera immune for life.

A. A. MEYER - McLOUTH, KANSAS

FALL PIGS, ready to ship. Select Spotted breeding. Express paid on pigs.
T. T. Langford & Sons, Jamesport, Mo.

Faulkners Famous Spotted Polands

Late summer and fall pigs for sale. Buy them from the Fountain Head. Annual brood sow sale February 13. Ask for catalog.
H. L. FAULKNER, Box K, Jamesport, Mo.

Poland China Boars

For Sale—Ten head large growthy spring boars, sired by A Wonderful King, a state fair winner. Ready for service. Price, $35 to $75. Satisfaction guaranteed. First check gets choice. Write at once or come and see our herd.

OLIVIER & SONS, DANVILLE, KANSAS

TOWNVIEW HERD

Boars ready for service, sired by King Wonders Giant 77326. A few choice gilts of popular breeding for sale. Everything immune and strictly high-class and priced reasonable. Chas. E. Greene, Peabody, Kan.

CHESTER WHITE HOGS

CHESTER WHITE SPRING BOARS

Husky, growthy fellows of the best breeding. Cholera immune. Priced right.

HENRY MURR - TONGANOXIE, KAN.

Breeders' Directory

ANGUS CATTLE.
D. J. White, Clements, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

DUROC JERSEYS.

TAYLOR'S DUROCS

For Sale—One Missouri State Fair prize winning boar. Seven yearling boars sired by champion boars that are real herd headers. Fifty spring boars that are fine prospects. Write for prices or come and see my herd.

Chas. L. Taylor - Olean, Mo.

THIRTY DUROC JERSEY BOARS
Cholera immuned. Sired by Taylor's Model Chief 126455, winner at Missouri State Fair and American Royal. Extra good breeding boars at prices to close them out. Also choice bred gilts. Dams well bred for years.
W. R. HUSTON - AMERICUS, KANSAS

WOOD'S DUROCS

For Sale—Choice bred gilts, bred to a son of Great Wonder. Spring boars ready for service. Fall pigs of both sexes at right prices. Come and see my herd.

W. A. Wood - Elmdale, Kan.

DUROC BOARS

Thirty-five spring boars by G. M.'s Crimson Wonder, Crimson Wonder Again Jr., Critic D. and Great Wonder, out of my best herd sows. Priced to sell. Come and see my herd.

G. M. Shepherd, Lyons, Kansas

Durocs of Size and Quality

Herd headed by Reed's Gano, first prize boar at three state fairs. Special prices on spring boars from champions Defender, Illustrator, Crimson Wonder, Golden Model and Critic breeding.
JOHN A. REED & SONS, LYONS, KANSAS

SHORTHORN CATTLE.

Shorthorn Bulls

For Sale—Thirteen Scotch-topped bulls, 8 months to yearlings, reds and roans, sired by Silver Knight, a pure Scotch bull. Come and see my herd.

J. R. ELY - - AULNE, KANSAS
Marion County

ALYSDALE HERD SCOTCH SHORTHORNS
Viscount Stamp 2d, Clipper Brawith and Count Valentine in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Pearl Herd Shorthorns

Valiant 346162 and Marengo's Pearl 391-962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

Can ship on Rock Island, Union Pacific or Santa Fe Railway.

C. W. TAYLOR - ABILENE, KANSAS

CLOVERDALE SHORTHORNS—For Sale, two roan yearling Scotch Shorthorn bulls. Exceptional quality and breeding. Also a few heifers. Wesley Jewell, Humboldt, Kansas.

Cedar Heights Shorthorns

For Sale—Three red bulls, 12 months old. A few cows and heifers. Priced reasonable. Come and see my herd.

HARRY T. FORBES
Route 8 Topeka, Kansas

SHORTHORN BULLS
Two registered Shorthorn bulls, one fifteen months old.
F. G. HOUGHTON - DUNLAP, KANSAS

Do You Feed Scrub Stock?

There is little satisfaction or profit in raising or selling inferior live stock. The same amount of feed and effort will yield much larger returns when put into animals that have been bred and developed for specific purposes. Along with the high prices now being realized for live stock comes the high-priced feed necessary to make the stock ready for market. The greater cost of maintenance of breeding animals and the fattening of market animals must be followed by a satisfactory return on the market, else the breeder and feeder must cease to produce and feed. Returns that completely overbalance the cost of production in fattening are not to be had from inferior animals. No manufacturer would attempt to make an inferior, low-grade product from high-priced raw materials in this time of expensive labor and working equipment. Regardless of this fact, we sometimes overlook this particular point and feed scrub animals on high-priced feed. The result of such methods is to gradually eliminate a certain type of live stock farmer, thus giving the better class of breeders and feeders an opportunity for greater returns from the better class of live stock they produce.

It is generally recognized that in spite of the outstanding advantages of producing live stock of well established classes and types, there are on the market today more "misfits" and inferior grades than animals of superior market qualifications and it is impossible to estimate the loss to the producer due to this condition. The parent stock used on farms is responsible for this state of affairs.

The need of the markets can be met only by a general improvement within the herds and flocks on general live stock farms. This improvement may be brought about by the use of the pure-bred sire and the careful culling of breeding herds and flocks. Ample proof of the efficiency of these methods may be had by close observation of practices followed by the most progressive and financially successful live stock men.

A report issued by the Federal Farm Loan Board indicates that up to November 1 farm loan bonds to the amount of $21,500,000 had been disposed of to investors of the United States. During October the twelve Federal Land Banks received applications for loans amounting to $27,416,463, and approved loans amounting to $20,119,240. This brings the total applications for loans in the hands of the twelve Federal Land Banks up to a grand total of $193,250,945. This represents the applications only of organized farm loan associations, totaling approximately 3,000, one-half of which have actually been chartered and the other half of which awaits action by the Federal Land Banks. In addition the Federal Land Banks estimate that there are approximately 2,000 other farm loan associations being organized in the United States, which, when their applications are filed, will bring the grand total of applications to nearly double the present amount. In amount of loans closed the Wichita bank heads the list with a total of $5,869,700.

Fur Prices High

Any boy living in the country should know how to trap fur-bearing game. It is great sport and it is profitable, for American pelts are bringing unusually high prices.

Write to some reliable fur house and get what information you need in regard to traps, methods of attracting and smoking out fur-bearing animals, and so on.

Find out what the prospects are in your neighborhood and then start systematically to work. A boy can look after his traps and go to school at the same time, and Saturday he can clean and dry his skins and ship them to market.

The fur-bearing animals are in excellent condition now, due to the cold weather and the fact that there has been less trapping done than usual. Many of the regular trappers are in the army or working at other things. This leaves a profitable field open for the young fellows, and for the old fellow, too, who needs to get out into the open.

General Apathy and Private Interest are two enemies of our national welfare. Each is as dangerous as a kaiser's agent and should be excluded from every American home and industry.

AYRSHIRE CATTLE.



In cold climates, or rugged hills and with scanty feed—

AYRSHIRES

make record production. On good pasture and high feed they are unequalled. They are Healthy, Vigorous, Beautiful and, best of all, PROFITABLE, no matter what the cost of feed. MILK is 3.96 per cent grade. Passes all state and city requirements. Just cows won't do in these times—you must have PRODUCERS. Send for information and list of breeders.

AYRSHIRE BREEDERS' ASSOCIATION
C. M. WINSLOW, Sec'y, 33 Park St., Brandon, Vt.

BERKSHIRE HOGS.

BERKSHIRE HERD BOARS
For quick sale—Two choice Berkshire herd boars, three winter boars and five spring boars, all choice.
E. D. KING - BURLINGTON, KANSAS

MULEFOOT HOGS.

KNOX KNOLL MULEFOOTS

Gilts and young sows, bred to champion boars at several state fairs. Ten extra fine gilts. Boars not related. Also Shorthorn cattle. Catalog on request.
S. M. KNOX - HUMBOLDT, KANSAS

GUERNSEY CATTLE.

REGISTERED GUERNSEYS
Bull calves for sale, best blood lines. Some from cows now on A. R. test. RANSOM & KISSINGER, Homewood, Kansas.

GUERNSEY BULLS.
Buy a grandson of Imp. May Royal, whose dams are granddaughters of Imp. Masher Sequel. One to twelve months old. ADAMS FARM, Gashland, Mo., 12 miles from K. C.

POLLED DURHAM CATTLE

TRUE SULTAN POLLED DURHAMS

A few heifers bred or open are offered. Some by or bred to the champion $2,200 True Sultan and Sultan's Challenger.

ED STEGELIN
STRAIGHT CREEK - - - KANSAS

RED POLLED CATTLE.

RED POLLED BULLS
Pure-bred Red Polled Bulls, old and young.
W. J. HARRISON, AXTELL, KANSAS

RED POLLED BULLS

For Sale—Thirty head coming yearling bulls. Come early and get the best. Our experience has been those that come late found us sold out. Write or come at once.

E. E. FRIZELL
FRIZELL, (Pawnee County), KANSAS

Ask your dealers for brands of goods advertised in KANSAS FARMER.

FARM AND HERD.

The Standard Dairy Company, Wichita, Kansas, report their big herd of Holsteins making a fine record. This is one of the choice herds in the Southwest and is headed by Sir Johanna De Kol 19th. This bull weighs 2,500 pounds and has a large list of A. R. O. daughters, some of which at three years old made better than twenty-eight pounds of butter in seven days. He is a half brother to Johanna De Kol Van Beers, who made more than 40 pounds butter in seven days. She sold at public auction for $7,000, and two of her sons sold for $45,000. A feature of their herd is the large number of choice cows and heifers that are of record breeding.

L. W. Terwilliger, of Fernwood Farm, Wauwatosa, Wis., reports his Holstein herd doing well. Fernwood Farm is one of the Holstein farms in Wisconsin that is drawn upon heavily for foundation stock, and many of the good herds in the Southwestern States were started with foundation stock from this farm. A feature of the herd at this time is the fine lot of young stock sired by sires of record breeding and from heavy producing dams.

Herman Schmale, of DeWitt, Neb., owner of one of Nebraska's good herds of pure-bred Poland Chinas, reports his herd doing well. Mr. Schmale has all of the popular big-type lines in his herd and has bred a large number of choice sows and gilts for early spring farrow.

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising
O. W. Devine, Field Representative

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CLAIM SALE DATES.

Percheron Horses.

Jan. 25—Kansas Percheron Breeders at Kansas Agricultural College, Manhattan. Under management of C. W. McCampbell.

Jacks and Jennets.

March 26—H. T. Hineman & Sons, Dighton, Kansas.

Miscellaneous.

Feb. 25-28.—Kansas National Live Stock Show, Wichita, Kan. Draft, coach, standard-bred horses and jacks; Shorthorn, Hereford and Holstein cattle; Poland and Duroc hogs. F. S. Kirk, sales manager, Wichita.

Poland Chinas.

Feb. 6—H. B. Walter, Effingham, Kan.
Feb. 7, 1918—W. H. Charter, Butler, Mo.
Feb. 8, 1918—W. B. Wallace, Bunceton, Mo.
Feb. 9, 1918—Will J. Lockridge, Fayette, Mo.
Jan. 29—Head & Moore, St. Joseph, Mo.
Feb. 18—Deming Ranch, Oswego, Kansas.
Feb. 13—H. L. Faulkner, Jamesport, Mo.
Feb. 19—Fred B. Caldwell, Howard, Kansas.
Feb. 20—B. E. Hodson, Ashland, Kansas; sale at Wichita.
Feb. 21—E. J. Erhart & Son, Ness City, Kansas; sale at Hutchinson.
Feb. 22—F. Olivier & Son, Danville, Kansas.

Poland Chinas.

Feb. 23—V. O. Johnson, Auline, Kan.
Feb. 28—Clarence Dean. Sale at Dearborn, Mo.

Chester White Hogs.

Feb. 2—Arthur Mosse and Henry Murr, Leavenworth, Kansas.

Durocs.

Feb. 14—B. R. Anderson, McPherson, Kan.
Feb. 20—W. T. McBride, Parker, Kan.
Feb. 27—R. W. Murphy, Dearborn, Mo.
March 7—W. W. Otey, Winfield, Kansas.

B. R. Gosney, of Mulvane, Kansas, a member of the Mulvane Cow Testing Association, owns one of the heavy producing herds of Holsteins in Kansas. Cows in this herd are leading in the Mulvane Cow Testing Association this year with records up to 85 pounds of milk per day and 111 pounds butter fat in thirty days. A feature of the herd at this time is the fine lot of young stock, including young bulls sired by the grand champion bull at the International Wheat and Stock Show, 1916.

Fremont Leidy, of Leon, Kansas, held one of the successful Shorthorn sales of the season at his farm on Tuesday, December 6. Sixteen yearling bulls sold for prices ranging from $110 to $290 and the twenty-six head of Scotch-topped females averaged $222. Mr. Leidy had raised all these cattle on the farm and they were sold without any extra fitting right off the pastures at these prices, which were very satisfactory to Mr. Leidy.

E. E. Frizell & Son, of Frizell, Kansas, have made a great success of the Red Polled cattle. They exhibited at the Kansas State Fair last year one of the best herds shown and won a large part of the premiums. Messrs. Frizell & Son have been breeding this famous breed of hornless cattle for about eighteen years and have found them a great source of profit. They are profit-producers both for milk and beef. The demand for females has been greater than they could supply. A feature of the herd at this time is the fine lot of young bulls.

D. A. Harris, of Great Bend, Barton County, Kansas, has made a great success breeding Percherons. He has shown horses at a number of the leading fairs and always has taken home a good share of the premiums. The herd stallion, Algarve, is one of the best speciments of the breed in the West and has proven a sire of the right kind of drafters. The mares in this herd comprise a splendid lot of regular breeding mares that are worked on the farm most all the year and also raise fine colts.

L. J. Lindsey, of Reece, Kansas, held a very satisfactory sale of Angus cattle at his farm near that place on Tuesday, December 11. Twenty-eight head of yearling bulls, cows and heifers sold for an average of $115, which was very satisfactory to Mr. Lindsey.

John A. Reed & Sons, of Valley Vitw Farm, Lyons, Kansas, owners of one of the great herds of Duroc hogs in the Southwest, report their herd doing fine. Reed & Son raised the best lot of spring pigs this year they have ever had on the farm. Many of the boars will now weigh around 275 pounds and they have some fine herd header prospects. They were sired by the great boar, Reed's Gano, first and champion at Topeka, Hutchinson and Oklahoma State Fairs, heading the prize herd. This boar weighs 900 pounds in breeding condition. They also have a very fine lot of herd sows richly bred and weighing from 600 to 650 pounds.

H. B. Cowles, of Topeka, reports Braeburn herd of Holsteins doing fine and a good demand for high-class breeding stock. Among recent sales of cows and heifers reported are the following: One to Glen Romig, Topeka; two to A. W. Nelson, Ellis; four to Kansas Agricultural College, Manhattan, and one to Theresa O'Mara, Colony, Kansas; and sales of service bulls to Jesse Nichols, Iola; L. L. Grassnickle, Onaga; M. E. Scholes, Council Grove, and J. A. Patterson, Topeka.

W. A. Wood, of Elmdale, Kansas, has made a success with Duroc Jersey swine. A line-bred Crimson Wonder boar has been used in the herd for a number of years and a large part of the herd is of the Crimson Wonder family. At the head of the herd at this time is a son of Great Wonder, a very promising young hog that is making good as a breeder. A feature of the herd is a choice lot of spring gilts bred for spring litters, also some choice spring boars.

UNCLE SAM MUST WIN THE WAR!



THE WORLD NEEDS MEAT, MILK, FATS AND WOOL
INCREASE PRODUCTION—CONSERVE RESOURCES

$25,000 IN CASH FOR PREMIUMS AND AMUSEMENTS $25,000

SECOND ANNUAL KANSAS NATIONAL

LIVE STOCK SHOW

AND THE FIFTH ANNUAL CONVENTION OF THE

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$900 will buy four heifers, about 28 months old, that will soon freshen. They are bred to Sir Johanna De Kol 19th, who weighs 2,500 pounds and has a big list of A. R. O. daughters. They are also related on sire's and dam's side to Segis Fayne Johanna, the world record cow. $550 will buy two cows about six years old, that are bred to Sir Johanna De Kol 19th and will soon freshen. Do not stop to correspond, but see us at once, as this is an unusual offer.
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For the improvement of the Farm and Home

Volume 55, Number 52. TOPEKA, KANSAS, DECEMBER 29, 1917. Established 1863. $1 a Year

BREED FOR IMPROVEMENT

Produce Mightly and Breed Highly, Advises Prominent Dairyman

LEADING daiymen in attendance at the fifth annual meeting of the Southwest Jersey Cattle Breeders' Association, which convened in Kansas City December 15, held out to the breeder the hope of a greater demand for the dairy products and also a greater demand for the dairy cow. E. E. Knoche, the retiring president of the association, in concluding his address said:

"It has been a source of gratification to this association that the sales conducted during the fall have been largely attended and the buyers have been numerous and the prices satisfactory. It shows that in these times of stress the public is gaining confidence in the Jersey as a bread winner, for from the purchasers comes the news and the feeling that the pure-bred high-producing Jersey cows are in demand and are filling a place in the economic production of foodstuffs, which subject, the conservation of food and food values, is engaging the attention and thought of the best minds in the world.

"Looking to the future, I cannot undertake to predict for anyone other than myself. This is a day of problems and prophesies. The current opinions as presented in the public prints indicate that all sorts of solutions are proposed for carrying the burdens that are upon us. With the national capital filled with self-appointed wise ones willing and anxious to tell the Government how the battle should be fought, both on land and on sea, and just what sort of material should be used in the construction of war supplies, and I would be bold indeed to predict the future of the Jersey breed. Upon this subject I have some fixed opinions and will, in a brief way, give expression to them, and if nothing else is accomplished, discussion may follow which perhaps will be enlightening for all.

"The war in which the world is engaged can only mean one thing to European countries, upon which the American countries in the past have relied for breeding stock. If the war should cease with the close of this calendar year, which no one predicts, it is problematical that breeding stock could, or would, be allowed to come to the Americas. But with the war continuing, what is the duty of the American breeder? What is the duty of the Jersey breeders? What is your duty and mine?

"The object of the Jersey breeder is self-evident. It spells improvement, it commands the doing of those things which will foster the products of the Jersey cow, because the public demands them and at the same time demands of the breeder that he do everything which will increase the high productive records that have been, and are, making. Don't breed in a haphazard manner. Don't merely try to keep your heifers and cows in milk. Fix your plan of breeding. Have an aim. Organize your business so that you can better your herd with each successive generation. This you cannot do unless you are a consistent patron of the scales and Babcock tester. Put as many of your cows and heifers in the Register of Merit class as you can, but in every case keep the records in pounds of the quantity of milk given and know, not guess at, the percentage of butter fat. It is not a difficult task and it pays when you come to sell. I am not arguing theories with you about this. I know, for I did it, and I am telling you it pays. Join a cow testing association, if for no other reason than as an audit upon your own work. Every business concern rightly run has an annual audit of its affairs by men skilled in that line of work, not because they suspect their employes are being dishonest, but as an assurance that they are honest and capable.

"We are all more or less liable to drift into ruts, be contented with what we are doing, but Mr. Cow Tester will come once a month and verify our work and may dispel some of our illusions and should have ideas worthy of our consideration in the manner of feeding and breeding, which are worth while even if they do nothing else but provoke discussion. The plan working, not dreaming, but knowing what your females are doing, get a sire that suits the fancy and get one that is right both on the sire's and dam's side, not for one generation, but for many, and then breed sires for others and for ourselves. No one can accurately forecast the future, but my judgment is that the North American breeders of all kinds of live stock will immediately after the war be called upon to furnish breeding stock to rehabilitate the war-depleted herds of the Old World, and it may be a far cry to even hint that North American-bred Jerseys will be exported across the Atlantic to the home of the breed. I am not afraid to predict that it will be a long time before importations of the Jersey-bred cattle will come to us in very large numbers.

"So my recommendation is that we adopt as our slogan, 'Produce mightily and breed highly.' By 'mighty production' I mean that production which shall place the Jersey breeder in the rank of those who are striving with every possible effort to do that which shall keep our fighting forces in the best trim, and our civilian population in such health and strength that the best that is in every man and woman can be turned to patriotic advantage to our country and to our Allies, for this war must be won, and can be won if we all will, as we can and must devote all of our strength and resources to sustain the army abroad and our civilians at home in the highest state of efficiency. To this end let us as producers of food values devote our best thought in practicing economy in production and conservation. Our thought should be, 'Produce to conserve and conserve to produce.' "

Farm Orchard and the Tenant

The value of fruit upon a farm is generally recognized by all, especially those who have had to buy the fruit they put up, or, even worse, have depended on the factory-canned product bought at their grocer's. On nearly every farm blessed with even a small orchard, the thrifty housewife shows with pride her shelves filled with the attractive jars of fruit which add variety to the table in the winter months at comparatively small cost. Converse with most any land owner and he will admit the good of an orchard. But—there is always a but—the most of these will tell you that they have tenants on their farms and "tenants, you know, will never take any care of fruit, so it does not pay to arrange any orchard."

The question naturally arises whether that statement is not an unjust criticism on the tenant farmer. Among the many who farm places that they do not own, we find numbers who are as good farmers and as worthy citizens as their landlords. Their neighbors show their confidence in them by selecting them as their school trustees and by looking to them as well as to others for aid in progressive movements for the benefit of the community. The renter of today is in many cases so good a farmer that he becomes the owner of tomorrow. Is it true that such men, who are quick to see the advantage in any course of crop rotation or new way of treating a crop, or raising of domestic animals, are unwilling to go to the trouble of giving proper attention to a few trees and vines when there is a good prospect that the returns from them will make it well worth while? Is there any reasonable doubt that to the intelligent wide-awake renter, a farm well stocked with fruit is more attractive than one lacking in this respect?

It seems to the observer as though the plea on the part of the landlord for not equipping his place with fruit, may possibly be simply an excuse covering the reluctance to incur whatever expense and trouble he might be at, shouldering the matter onto the tenant, when he says if he were farming the place himself, why then he would like nothing better, to be sure, than to plant trees and set out vines for at any rate a family orchard. "But you know how it is; you can never get a renter to take care of such things."

How about this? Is it a fair statement of the attitude of the renter?—H. C. HAMMOND, Harvey County.

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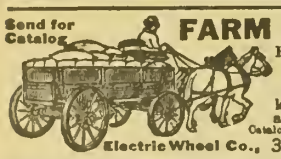
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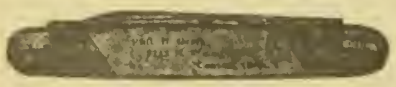
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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

THE easiest way to overcome starting difficulties with an automobile in cold weather is to apply heat to the intake manifold. This suggestion is from E. V. Collins, instructor in steam and gas engineering in the Kansas Agricultural College.

Trouble in starting a car in cold weather, points out Mr. Collins, is generally due to the fact that the ordinary low grade of gasoline will not vaporize readily at low temperatures.

The intake pipe leading from the carburetor is usually vertical so that gasoline will not pass through unless it is vaporized. The velocity of air through the carburetor and intake pipe will hold the atomized gas in suspension when the motor is once started.

By applying heat to the intake manifold enough liquid will be vaporized so that the motor will start readily. In this case the entire mixture is warmed rather than just the gasoline. Better results will be obtained than where the motor is primed with heated gasoline and the air is allowed to enter the cylinders cold.

The simplest way to apply heat to the manifold is to pour hot water over it, care being taken not to get it into the carburetor. Putting hot water into the cooling system warms the cylinder walls but does not help to get the mixture from the carburetor to the cylinder and should not be necessary if the intake is warmed.

Source of Motor Complaints

Cutting out the lubricant in the cylinders and the working of the gasoline into the crank case brings about a great many conditions causing complaints, for which there is no apparent cause and which the owner is unable to comprehend, writes Dr. Leonard Keene Hirshberg in the current issue of American Motorist. Repair men and motor mechanics advance many theories and reasons as to the cause. Some of the conditions which can be directly attributed as a result of action of this sort taking place, due to the cutting out of the lubrication in the cylinder, are the following:

1. Hard starting.
2. Premature piston wear.
3. Premature cylinder wear.
4. Premature piston-ring wear.
5. Connecting-rod bearings burning out.
6. Crank-shaft bearings burning out.
7. Excessive gasoline consumption.
8. Smoking due to the abnormal increase in the level of the crank case on account of the gasoline working into the base of the motor.
9. Excessive carbon in cylinder.
10. Tendency to overheat, due to lack of lubrication.
11. Very poor or no compression.

All of the above resulting in the lack of power and poor performance.

In view of these conditions, it is not difficult to understand why the theory is advaneed that the workmanship is really at fault; that there is poor material in the pistons, rings and cylinders, which wear prematurely; poor bearing metal and poor workmanship, and poor piston and ring fits.

Experience has shown that it is very difficult to convince an owner of a car of these conditions, and the best way is to take a motor which has been misbehaving, drain all the contents of the crank case, and let it settle in a long tube or bottle, and the results which will follow will be plainly evident.

The Tractor in War

The tractor is helping to win battles on the firing line as well as assisting materially in food production.

"The tractor will be called on for more exacting work as the weeks go by," says A. A. Potter, dean of the engineering division of our agricultural college.

"The famous Hindenberg line was finally broken by the fortified tractor or tank and not by the heaviest British guns. Trucks and automobiles saved Paris. They are used to rush great masses of soldiers to threatened points, to carry almost unbelievable quantities of powder and shell for the guns and the supplies of all sorts for the soldiers on the fighting line.

"The chances of those who are qualified to handle such machinery for being of service to their country are far beyond those of the average Sammy in the trenches."

Because of this opportunity of performing national service, both at the front and on the farms of Kansas, a large enrollment is expected for the traction short course which will start at the agricultural college January 7 and will close March 2.

Farm Lighting Systems

A farm lighting system will add greatly to the comfort and convenience of the farm home. Lighting systems have been developed which are as greatly superior to the kerosene lamp as the kerosene lamp was to the tallow candle. For persons who cannot afford a more expensive light the kerosene mantle lamp is a great improvement over the old-style flat wick kerosene lamp. The first cost of the mantle lamp is considerably more than that of the old-style lamp, but the mantle lamp gives a better light, does not use so much air and produces practically no odor. The mantle lamp will give more than four times as much light as one of the ordinary tubular wick type lamps on the same quantity of fuel.

Folks who want a better light have the choice of four common systems—acetylene lighting, blaugas lighting, gasoline lighting and electric lighting.

Go to Manhattan Farm and Home Week and learn all about the different systems of lighting.

Economical Use of Fuel

Methods whereby thousands of tons of coal might be saved are given in a recent bulletin of the Kansas Engineering Experiment Station at Manhattan. These methods include careful firing of stoves and heating plants, proper regulation of the temperature and ventilation in rooms, and others. It is pointed out that the stove or heating plant should be fired at regular and frequent intervals, care being taken not to allow the fuel to burn too rapidly.

The title of the pamphlet is "Economical Use of Fuel in the Home," and copies may be had upon request.

Some persons are in the habit of forcing the fires, overheating their dwellings, and then opening doors and windows in order to maintain comfortable temperatures. This is a waste of fuel and results in depressing the vitality of the occupants of such homes. An overheated smoke pipe usually indicates poor fuel economy.

Living rooms should be kept at a temperature of approximately 68 degrees and bedrooms 60 degrees. A temperature of 68 degrees is sufficient for health and comfort if the air has the proper humidity. To maintain a temperature of 75 degrees requires about 10 per cent additional fuel. An even temperature within the rooms promotes fuel economy and contributes to the good health of the occupants.

The fire of a furnace or hot water boiler should burn evenly over the whole grate and should be kept free from bright spots. The fuel bed should be kept free from clinkers. Excessive shaking of grates should be avoided in order to prevent loss of fuel.

All radiators, says a writer in the current issue of American Motorist, have an overflow arrangement to accommodate the natural expansion of the water upon being heated during the operation of the motor; frequently they are also equipped with blow holes to allow the escape of steam. If, through the accumulation of sediment or dirt, these outlets become clogged and don't fulfil their functions, the result is that the internal pressure generated will follow the line of least resistance and force a leak at a point where the radiator is weakest. Therefore, it is absolutely essential that these outlets be open at all times.

It matters infinitely what we think about life, for what we think of life we shall surely make it.—JOHN JOWETT.

Representatives Wanted



You can make more money for 1918 by becoming a representative of Kansas Farmer. Many of our active field workers have left us for service with Uncle Sam. We need others to fill their places.

You want more money, we need your time, either part or full time. Let's get together. Our agency plan is making good money for our representatives. Drop us a line and let us tell you about our work. Address



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KANSAS FARMER

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REGULATE FEED PRICES

We are to have some measure of relief in the matter of prices for mill feeds. We had something to say about this matter in last week's issue, mentioning the rumor that the Government was about to take a hand in the game. The Food Administration could not consistently urge increased meat and dairy production and then permit millers to sell bran and shorts for whatever they could get. All milling companies doing a business of over a hundred thousand dollars a year are now operating under federal license, and the Government has been given ample authority to regulate them in the interests of justice and equity to all parties concerned.

The millers have claimed that the law of supply and demand was regulating the price of mill feeds, but with a fixed price on wheat the law of supply and demand has been eliminated for the period of the war. It was giving an unfair advantage to millers to permit them to sell feeds on the basis of the unusually strong demand. They were evidently going on the same theory that was formerly held to in the matter of fixing freight rates and charging all the traffic would bear.

The new regulations in addition to putting maximum prices on bran and shorts, prescribe the per cent of flour that must be taken from the wheat. It is claimed that this regulation may effect a saving of sixteen million bushels of wheat a year. The restrictions will not seriously change the present quality of flour, and consumers will not suffer any hardship.

The following statements are quoted from the order issued by the milling division of the Food Administration:

"Increasing difficulties of transportation and uncertainty of the future emphasize the importance of providing surpluses of wheat against future needs and constitute the reasons for the new regulations. Agricultural reports indicating the harvesting of large quantities of all kinds of cereals during the present crop year demonstrate the present as the proper time in which measures should be taken to safeguard future needs Proceeding on this theory, the food administration is bending every effort to effect a maximum saving in wheat products to the end that ample supplies may be available for home, war and allied requirements.

"No licensee shall, after December 25, use more than 264 pounds of clean wheat in making 196 pounds of 100 per cent flour. From the 100 per cent flour so produced, the licensee may, at his option, remove not more than 5 per cent of the clear or low grade flours, none of which may be mixed with or sold as feed. The 95 per cent of the 196 pounds of flour remaining shall not be subject to further separation or division."

Millers have been ordered to establish from time to time prices on the different grades of flour sold in carload lots for a period of twenty-four hours after such prices have been announced, or until a new price is named. During this period all flour sold shall be at the quoted figure, with the exception, however, that a margin of 25 cents a barrel above or below this figure is to be permitted for mills to use "in making a price to meet competition of mills in various territories."

The instructions provide that bran cannot be sold for more than 38 per cent of the cost to the miller of the wheat from which it is made. Shorts and common middlings are to be sold at approximately $2 a ton above bran, mixed feeds at not more than $4 a ton more, and fancy middlings cannot be sold for more than $9 a ton above the price of bran. If the wheat costs the mill $2.15 a bushel, which is approximately the maximum price mills in this territory have to pay, the bran price would have to be $1.46 a hundredweight, or less than $30 a ton. Shorts or middlings would sell for $2 a ton more or about $1.60 a hundredweight. Such prices seem a little more reasonable than the ones dairymen and pork producers have been paying for some weeks past.

On the day the order was given publicity bran was still being quoted in Kansas at from $1.95 to $1.98 a hundred and shorts at from $2.10 to $2.40 a hundred. The day following, according to the market report in the Daily Drovers' Telegram, three cars of bran were sold at $1.80 and a car of shorts for $2 a hundred.

Dairymen and pork producers, who have been the ones most seriously affected by the extremely high prices of mill feeds, see in this order evidence of the desire of the administration to compel fair treatment to those who are trying to respond to the serious need and continue the production of meat and milk.

PRESIDENT'S WAR MESSAGE

In the clear-cut statement to Congress of the war aims of the United States, President Wilson emphasized the one purpose which we have in this war, namely, the continuance of unremitting warfare until an international peace can be obtained which will insure justice to all nations and all peoples. No matter what our political affiliations may be, we cannot do otherwise than acknowledge the greatness of the views expressed by our President.

From the standpoint of internal affairs what he said of the Food Control Bill and needed amendments is of special interest to farmers. The farmer was the first man touched by the food control. It came on him over night, and while other interests are gradually coming under control, they have had time to adjust themselves to the change. There has been unrest and criticism because the producers of food have been preyed upon by uncontrolled interests. The President said:

"Recent experience has convinced me that the congress must go further in authorizing the government to set limits to prices. The law of supply and demand, I am sorry to say, has been replaced by the law of unrestrained selfishness.

"While we have eliminated profiteering in several branches of industry, it still runs impudently rampant in others. The farmers, for example, complain, with a great deal of justice, that, while the regulation of food prices restricts their incomes, no restrains are placed upon the prices of most of the things they must themselves purchase, and similar inequities obtained on all sides."

ANOTHER MILEPOST PASSED

With this issue KANSAS FARMER closes fifty-five years of service in the agricultural development of our state. Through all these years its constant aim has been to throw its influence in the direction of better agriculture and better farm living. As we look back over the issues of the past year we have a feeling of satisfaction in that each weekly visit of KANSAS FARMER to your homes has contributed its bit of inspiration and helpfulness.

The great overshadowing event of the year has been our entrance into the World War. We cannot keep it from entering into every phase of life. We have no apologies or excuses to make because we have given so much space to war issues. We have tried to look at every question first as a loyal American citizen and with the feeling that the people of the open country of Kansas are squarely behind the nation in this crisis, and second to do our part in harmonizing differences of viewpoint due to the fact that so many people necessarily are working on our war program who do not appreciate the difficulties of the farmer's position. We take a great deal of satisfaction in the fact that only two of our more than 60,000 subscribers have asked us to discontinue sending KANSAS FARMER to them because of our stand on the war question.

Let us turn our faces resolutely forward and spare no effort that will hasten the day in which we can have a universal peace and a guarantee of personal liberty to all peoples.

INVESTIGATE BIG PACKERS

Live stock men have been confident for a long time that something was decidedly wrong in the relation existing between the big packing companies and the stock yards companies. After several years' effort, the Federal Trades Commission seems to at last have made a start on a real investigation. The noted anti-graft attorney, Francis J. Heney, is in charge of the investigation which began at Chicago last week Thursday. The reports in the daily papers up to the date of this writing indicate that some startling revelations have already been made. It has been brought out that stockholders in the old Chicago Stock Yards Company lost $3,600,000 in accrued surplus as the result of a secret deal involving the forming of a Maine holding corporation, the putting up of dummy directors, and the use of other high finance methods.

The probe has reveiled a threat of the packers to move their plants away from Chicago as one of the coercive measures used to get a grip on the Stock Yards Company. It looks as though these powerful interests were about at the end of their careers of lawlessness and defiance of effective regulation and public sentiment.

A news item from Washington, D. C., states that the Food Administration has revoked the license of Morris Singer & Company, a wholesale handler of foodstuffs, the reason being that this firm had rejected two carloads of potatoes consigned to them, thereby allowing them to seriously deteriorate in value. The canceling of the license means that the firm will not be permitted to handle any foodstuffs subject to license, and in addition they have been warned that any violation of this order will make them liable to a fine not exceeding $5,000 or two years imprisonment or both. It certainly looks as though the Food Administration means business in its treatment of firms or individuals who attempt to make unlawful profits as the result of war conditions.

KANSAS FOOD ADMINISTRATOR

The appointment of Walter P. Innes as Federal Food Administrator for the State of Kansas, to succeed Dr. Henry J. Waters, resigned, has been approved by President Wilson. Mr. Innes is the head of a large department store in Wichita. As president of the International Wheat Show, which is held in Wichita, Mr. Innes has been brought into close touch with the farming and agricultural interests of the state. He will make his headquarters at Wichita.

A man can now walk across the United States of America without touching a state which has a legalized saloon. He would pass through the states of Georgia, Alabama, Mississippi, Arkansas, Oklahoma, Kansas, Colorado, Utah, Idaho, Oregon or Washington. That's a fine streak of white across the American Republic, and some day it will be all white.

Dr. A. D. Melvin, who has been chief of the Bureau of Animal Industry of the U. S. Department of Agriculture for a good many years, died early in December. Dr. John R. Mohler, who has been acting chief, has just been appointed to fill the vacancy. Doctor Melvin's name was known to stockmen, farmers, and others over the whole country. He was largely instrumental in obtaining the passage of our present meat inspection laws.

HELP WITH TAX REPORTS

How many income tax payers will there be in your community? If you can guess how many married persons living with wife or husband who have net incomes of $2,000 or over and how many unmarried persons will have net incomes of $1,000 or over, then you know.

It is the duty of the tax payer to report to the Government, through the Internal Revenue Collector. He is not required to hunt you up. Failure to make a return before March 1, 1918, if liable to the income tax, makes one subject to a penalty ranging from twenty to a thousand dollars, or even a term in jail.

The blanks for making the returns which are based on the income for the year 1917, are furnished by the Internal Revenue Department. Because a great many people probably do not understand the law and will not know how to make out their returns, the Government is sending an expert to do it for them. This service will be rendered without cost to the tax payer.

If you are not sure whether you are subject to a tax or not, you had better look up the local income tax man and find out. Notices are being sent out from the Internal Revenue Office for Kansas, giving the dates when men will be found in the different counties. We have just been notified in Shawnee County that a federal income tax official will be stationed in the federal building in Topeka, January 3, 1918, to February 26, 1918. Notices will be printed in the various local papers so tax payers in the various counties will know when they can have this expert assistance.

NATIONAL PROHIBITION

We are one step nearer national prohibition as a result of the passage last week by Congress of the resolution submitting to the states for ratification the amendment prohibiting the manufacture and sale of intoxicating drink. The House resolution which passed by a large majority is the same as that passed by the Senate during the last session, except that it gives the states seven years in which to ratify instead of six as did the Senate resolution. The Senate, however, has concurred in the amendment, so it is now up to the states to go on record.

Such a resolution probably could not have come at a more opportune time from a psychological standpoint. People are thinking as never before of the enormous waste in both food and human material caused by the liquor traffic. Restrictive measures of various kinds have been passed because of the fact that we are at war. Similar action has been taken in Europe. Already twenty-seven states of the Union have prohibition, either constitutionally or through local option. Recent votes in some of the states have been very close. It requires thirty-six states to make the three-fourths majority.

The present drift is strongly toward prohibition, but the battle is not yet won. Kansas, ever in the front rank in the fight against the liquor traffic, may have a chance to head the list of states in ratifying the proposed amendment. It is no longer a debatable question in Kansas, but the people of this state should not forget that there are places where the most powerful influences will be brought to bear to defeat the ratification of this prohibition amendment and in these sections we in Kansas can be helpful by furnishing moral support and plenty of the right kind of ammunition for making the campaign against the opposition.

Hogmen who complain that the "thirteen to one" arrangement does not leave them any profit will do well to study their own methods more closely.

MISSIONARY OF CONSERVATION

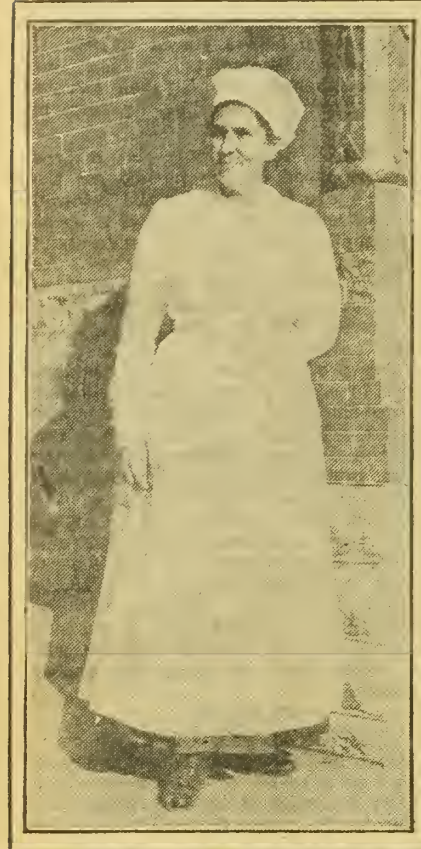
Capable Leadership of Industrious Loyal Woman Inspires Community

By OTIS E. HALL

IF ANY woman is doing a greater work in her own home and away from home in behalf of food conservation than is Mrs. Edith Kilbuck, of Pomona, we should like to know about her and her work. Mrs. Kilbuck is president of the Pomona Mother-Daughter Canning Club, has canned 902½ quarts for her own family, and has helped dozens of others can. She has not only taught how to can in the usual way in order to save surplus food products, but has taught members of the community how to do this canning by making use of empty tin cans which most people throw away. By melting the bottom off the used cans, she makes this bottom become a top for the second can. In other words, she makes two cans into one good one. When one sees her do this and examines the products when the work is complete, a better appreciation of her work can be gained than from simply hearing someone else tell of it.



GREENWOOD MOTHER-DAUGHTER CANNING CLUB, POMONA, KANSAS.—ONE OF THEIR PUBLIC MEETINGS



MRS. EDITH KILBUCK, PRESIDENT OF GREENWOOD MOTHER-DAUGHTER CANNING CLUB, IN CLUB UNIFORM

This little trick of canning in used cans means more under present conditions than it did a year or two ago when tin cans were cheap and easy to get. Last fall many found it difficult to get containers of any kind. In the cut on this page Mrs. Kilbuck and her junior partner are shown making use of the tin cans as referred to above. Several of the neighbors have been saving their tin cans and will use them in this way instead of allowing them to become a nuisance in the back yard or elsewhere. Mrs. Kilbuck even teaches them how to clean the cans thoroughly. She exhibited products canned in tin cans that had been used a third time, and they looked just as appetizing as products canned in new cans just from the factory.

Mrs. Kilbuck prefers to can meats in tin cans, even if they have been used once or twice, rather than in glass jars right from the store, and no one who has examined her products will doubt that she can make the old cans serve her purpose effectively. Aside from all this Mrs. Kilbuck has developed one of the champion canning clubs of the state. She is not only an expert canner, but she is a leader of rare ability. A visitor going into the Pomona community and hearing the different housewives tell about the large quantities of fruits, vegetables, and meats they have canned, is sure to compliment these housewives on their splendid work. Such compliments are invariably met with the statement: "Well, we owe it all to Mrs. Kilbuck; she has not only taught us how, but has inspired us."

The influence of this community leader has been just as valuable in church and Red Cross work as it has in the canning work, and best of all, she is a plain, modest, unassuming Christian woman, always ready and willing to do something for her church or her neighbors. Little stories that worry housewives, such as the report that the Government might confiscate all canned goods over so much found in any home, have no weight with Mrs. Kilbuck. She believes that it is her patriotic duty to conserve all the food that she can conserve and help others to do likewise.

Several years of her life have been spent in missionary work, and it is safe to say that she is now one of the best missionaries that the State of Kansas has. Her own story of her life hurriedly written at my request—for she is an exceedingly busy woman—is so interesting that I give a portion of it, although she did not furnish this material with the understanding that it was to be published. She says:

"My daughter lives with me and in canning 902½ quarts of products which we have stored we worked together, although most of it I did myself. You asked a number of questions about my work along various lines. I will speak of these in order. For about thirty years I did missionary work in Alaska among the Eskimos, going there in 1885. The work included teaching, medical work, sanitation, cooking, sewing, canning, and curing and smoking fish, venison, and other game. We also taught gardening.

"My husband is still in Alaska, superintending a large school district extending over thousands of miles of territory. He is also supervising the erection of a hospital, the first we ever had in that region. When I was sick in 1907 we sent for medicine to the nearest doctor 600 miles away. The messenger was gone ten weeks traveling with reindeer team, and when he returned he found me quite recovered. Mr. Kilbuck also has charge of the reindeer industry of that section of the country. This is under government control. He has 15,000 deer with their numerous camps and herders to look after. I have traveled hundreds of miles with him by dog team, going from village to village, visiting the people in their miserable little underground huts, caring for the sick, teaching the use of soap and water, insisting on better ventilation in their homes, battling with filth, vermin, and gross ignorance, but we won their hearts in time.

"Two years ago I returned to my home near Ottawa because of broken health. Mr. Kilbuck will come home next August. Here of course we have church work to do. This is an old Indian reservation and although the Indians have become citizens and many of them are well educated and fine people, these go out into the world to take their places beside their white brethren. The older ones remain here with numerous whites who have intermarried with them. My father, who is living with me, is eighty years old. He was a missionary here when I was born in 1865. He and I and my son and his wife keep up the church work of the neighborhood save for more or less irregular preaching by the Methodists who come from Ottawa. The people are poor and cannot afford to pay a minister regularly. We gladly do for them without any compensation.

"I belong to the Red Cross branch located at Pomona and we are working to send off a box in the near future.

"I have given a good many lectures on our work in Alaska. Last year I lectured in the South and East—Philadelphia, New York, and other places—raising funds to repair our little church, buy a new organ, new hymn books, stove, lighting plant, and other Sunday School equipment.

"I was born in the house where I now live—a missionary baby—but have spent much time elsewhere, going to school and in Alaska. We run the place. It is our home. I have been here now almost two years since my forced return from Alaska. Our family consists of my father, myself and husband, my son and his wife and baby. Our son is a graduate of the Agricultural College of Washington State, as is also his wife. We do all our own housework.

"Our farm of 240 acres is half bottom land and half upland. We have a tractor and good teams and machinery. We usually keep several hired men, but only one steadily. During harvest and this fall when we were building a barn we cooked for from six to ten and even more men.

"My junior partner in the mother-daughter canning club is Miss Zula Hummel, of Pomona, Kansas, a high school graduate sixteen years old. She comes of a fine family, has a sensible, practical mother—a widow—who keeps a hotel. Zula is a little worker and spent some days in our home this summer when we were canning vegetables. I was much pleased with her interest and ability. She is bound to be a good home-maker. It is a delight to work with her. I am proud of our club and have reason to be proud of all of its members. They have been a great help to me."

Remodeling Old Garments

Does a survey of the family wardrobe reveal a number of garments which are no longer fit for wear in their present condition and yet by no means worn out? If so, you will be interested in some suggestions made by Miss Hazel Manning of the extension service of the University of Wisconsin.

Miss Manning has given considerable time and study to this problem, and states the results of her work in a little pamphlet entitled "New Clothes at Small Cost." She says that shirts with worn places around the neck, waists with holes under the arms, worn night gowns, and other white garments have a wealth of possibilities, while all woolen clothing should be treasured on account of the scarcity and high price of wool at the present time. All old clothes should be thoroughly cleaned and pressed and if necessary dyed before being made into new garments. Dyes used in the home are more reliable now than they were a few months ago.

Miss Manning suggests that two garments may frequently be combined to excellent advantage, silk being used with silk and wool, and cotton with cotton, wool or silk. Soft white about the face will invariably give the best effect. A white collar not only reflects light on the features, but gives a neat, smart finish to almost any dress.

With the present vogue for military braid, a woolen skirt, after the belting and hem have been removed, may be washed, turned wrong side out, and pressed, and the raw seams covered with military braid, thus doing away with the work of turning all the seams. A suit may be made into a one-piece dress, or may be made into a presentable suit by combining new or contrasting material with it. A woolen suit of good material and simple style may be altered to fit a girl of fifteen to eighteen years without much change save a fresh facing for collar and cuffs. Coats and dresses for little girls may be made from partly worn skirts, the dull colors being brightened up with a touch of gay plaid or a plain material in a bright color. Stylish collars, cuffs, buttons, belts and pockets of plaid or striped goods may be used with solid colors, or vice versa.



MRS. KILBUCK AND JUNIOR TEAMMATE, SHOWING USE OF OLD TIN CANS SECOND TIME

Muslin and knitted underwear may be cut over if it has not been too much worn. The ruffle of a woman's cotton petticoat will often make the whole skirt for a child. A good quality of lace or embroidery nearly always wears longer than the garment, and may be used on another. Seams should be made as flat as possible and the neck, bottom, wrists, and arms' eyes may be finished first by stitching on the machine, back-stitching or binding. A shell crochet or a blanket stitch may then be used as a final finish. This is easier than making a hem.

Hose should never be thrown away because the feet are worn out. New feet may be cut from old uppers. Tops of old stockings may be used to reinforce tops of new ones. The ingenious mother sews the tops of two stockings together and draws them on her creeping baby. In this way the underclothing is kept clean much longer. The folded leg of a long stocking makes a first rate holder for use in the kitchen. Fold into the desired size and shape, overcast about the edge, or even buttonhole it, and then quilt a few times and you will have a useful article. Old stockings make good soft dust cloths or dust mops. To make these, rip the stocking up the back and cut in neat oblongs. Sew several of these together, hem, and dip in paraffin oil. They may also be used as sleeve protectors when working in the garden. Men's clothing may be cut over into smaller garments. Overcoats make good top coats for either small boys or girls, or a whole suit for a boy. The lower part of a good woolen shirt will make a warm petticoat for a child. The lower part of a partly-worn shirt may be used to make a dress for a little girl or a blouse for a small boy. By using plain white goods for the collar and cuffs, a shirt of silk or other good material may even be used for a woman's shirtwaist. It will be necessary to finish the lower part with a belt or peplum, since there will not be enough material to extend below the waist line. The sleeves may also have to be shortened. Bias bands for trimming plain colors may be cut from striped shirts. Pretty collars and cuffs for plain dresses or suits may also be cut from these partly-worn garments.

FARM AND HOME WEEK

Grand Roundup of Year at Agricultural College, January 21-29

FARM and Home Week at the Agricultural College at Manhattan is one of the big agricultural events of the year in Kansas. It should be of peculiar interest this year. In the introduction to the official program, it is pointed out by Dean Edward C. Johnson that to win the war is our supreme object. We are being urged to produce abundantly, to conserve carefully, and to utilize wisely. In the broadest sense these are our methods for accomplishing the desired result. Our soldiers must be fed and equipped, likewise our allies and ourselves. Can there be greater privilege than the opportunity to help? It is Dean Johnson's hope that the meeting of the Farm and Home Week will give encouragement for our work. If it will make possible greater results from our efforts, if it will give greater inspiration for our task, it will achieve its purpose.

The people of the state are heartily welcomed at their institution, the Agricultural College. All sorts of associations and organizations meet at the college at this time and are made most cordially welcome. The afternoon programs and some of the morning's work are under the direction of these associations. Farm bureau officers, institute officers, members of the Grange and the Farmers' Union are especially invited to be present and to attend the special conferences arranged for them.

There are no fees for the week, so the cost will be only the traveling and living expenses. The dates are January 21 to January 26, 1918.

The programs for the week are arranged in groups as follows: Agriculture, rural organization, home economics, engineering, boys and girls, special, state associations, potato growers' conference, and farm bureau conference. All the numbers in each group are arranged by days. The agricultural programs are all planned so that each one may get all the numbers in two different subjects, such as agronomy and dairying, poultry and animal husbandry, etc. Each one will be much more satisfied with the week's work if he pursues only two subjects. The general meeting at 11 o'clock each day and the evening programs are for all who attend, there being nothing else going on while these programs are being given. During the afternoon when the various associations are meeting, each person in attendance may go to the meeting in which he is most interested. The complete program giving all the details will be ready to mail in a few days. Requests for this program should be sent to Dean Edward C. Johnson, Extension Division, Kansas State Agricultural College, Manhattan, Kansas.

In order that our readers may know at the earliest possible date something of the rich treat in store this year, we give a brief synopsis. Monday afternoon, the first day, A. C. Hartenbower, superintendent of farmers' institutes, will speak on Universal Service, following which Dr. R. R. Dykstra will give an illustrated lecture, Preparedness in Animals.

The feature of the evening program will be an address, Rural Institutions and the World War, by Paul Vogt, rural work secretary of the Methodist Episcopal Church, New York City. The moving picture film, Winning with Wheat, will also be given.

Tuesday forenoon the following numbers will be given in the various sections: Crop and Soil Experiments in Co-operation with Farmers, C. C. Cunningham; Diseases of Potatoes and Sweet Potatoes, L. E. Melchers; Selecting and Judging Sorghums, G. E. Thompson; Poultry Houses, Ross M. Sherwood; The Economic Control of Some Diseases of Live Stock, Dr. L. W. Goss; Kanred Wheat, Its History and Record, Dean W. M. Jardine; The Adjustment of the Church to the Community, Paul Vogt; Gardening in War Times, Prof. Albert Dickens; Judging Demonstrations with Dairy Cattle, Prof. J. B. Fitch; How to Judge Swine, Ray Gatewood; The Fertility of the Soil, Alfred Vivian, dean College of Agriculture, Ohio State University; Theory and Practice in Horticulture, by E. C. Hoover, one of the practical orchardists of Wichita; Vocational Education in a World at War, Prof. E. L. Holton. At the general assembly, 11 o'clock Tuesday, Dr. H. J. Waters, former president of the college and now managing editor of the Weekly Kansas City Star, will give an address, Rural Community Action in a Government at War.



CAMPUS SCENE, KANSAS AGRICULTURAL COLLEGE, WHERE PEOPLE OF STATE GATHER FARM AND HOME WEEK

Governor Capper will speak Tuesday afternoon and there will be meetings of the Kansas Crop Improvement Association and the Kansas Swine Breeders' Association, a conference of rural leaders, and demonstrations in the manufacture and use of iron and steel in the engineering building. Tuesday evening Dean Vivian, who is one of the leading soil experts of the country, will give an illustrated lecture, "Farming in the Far East," and there will be a moving picture film showing agriculture in the time of Moses.

Wednesday forenoon's program will include Controlling the Codling Moth, J. H. Merrill; an address by William Newlin, president of the Kansas State Dairy Association; Experimental Work with Cattle, Prof. O. E. Reed; a demonstration illustrating the impurities in commercial seeds, by R. K. Bonnett and Mrs. E. P. Harling; The Breeding of Poultry, Prof. W. A. Lippincott; The Call for Leaders, Paul Vogt; The Horticulturist's Opportunities Today, Dr. J. C. Whitten of the Missouri Agricultural College; a sheep judging demonstration by Prof. A. M. Paterson; a demonstration lecture in the prevention of some of the diseases of horses and cattle, Dr. J. H. Burt; How to Advertise Fruit, Frank Pyle, Osawatomie; Vocational Education in the Rural High School, Prof. E. L. Holton. At the general assembly meeting at 11 o'clock Major General Leonard Wood, commandant 89th Division, United States Army, Camp Funston, will deliver an address, Our Nation's War Machine. During the afternoon Wednesday there will be meetings of the Kansas State Dairy Association and the Kansas Sheep Breeders' Association, demonstrations in farm, field, and power machinery at the engineering building, an address, The Farmers' Union in War Times, by Maurice McAuliffe, Salina, Kansas, president Farmers' Union, and an address by Edward C. Johnson, Government Action in Rural Organization.

At the evening session Wednesday Charles L. Hill, Rosedale, Wisconsin, ex-president of the American Guernsey Cattle Club, will give an illustrated lecture, Dairying in the Island of Guernsey, and Dr. Roy B. Guild, New York City, associate secretary of the Federal Council of Churches, will speak on Economizing Community Energy.

The program Thursday forenoon will include a great variety of subjects, among them being Birds and Their Relation to Fruit Growing, J. E. Ackert; Why We Cultivate the Soil, L. E. Call; Methods of Cultivation that Have Produced the Highest Yields in Corn, S. C. Salmon; Feeding Poultry for Economical Production, N. L. Harris; Tuberculosis of Cattle and Swine, Dr. J. B. Gingery; The Rural Church Program, Paul Vogt; Potatoes, L. D. Sweet, United States Food Administration, Washington, D. C.; The Pacific Coast as an Influence on Live Stock, J. I. Thompson; How to Improve the Dairy Herd, J. B. Fitch and L. H. Fairchild; How to Judge Horses, a demonstration lecture, by Dr. C. W. McCampbell; Educating the Workers, Prof. E. L. Holton; Bees, Charles D. Mise, president State Bee Keepers' Association, Mount Hope, Kansas; Grass as a Factor in Live Stock Production, Prof. W. A. Cochel. The address at the general assembly will be by Hon. Dwight B. Heard, Phoenix, Arizona, ex-governor of Arizona, the subject being The Live Stock Industry and the War.



VISITORS AT KANSAS AGRICULTURAL COLLEGE STUDYING EXPERIMENTAL CATTLE FEEDING

During the afternoon Thursday there will be demonstrations of tractors at the engineering building, a potato growers' conference, a meeting of the Kansas Improved Stock Breeders' Association, an address, The Patrons of Husbandry Contributing to the Cause of Democracy, L. H. Tabor, Barnesville, Ohio, master Ohio State Grange; and an address by Walter Burr, The Rural Community in Relation to the Government After the War.

The Thursday evening program will be of special interest to women. The program will consist of an address by Miss Marion Birdseye of the States Relations Service, United States Department of Agriculture, and an address, Civilization's Anchor, by L. H. Tabor, master of the Ohio State Grange.

Some of the features of Friday morning's program are: An address by Wayne Dinsmore, Chicago, secretary of the Percheron Society of America; Some Reasons Why Flour and Feed Prices Fluctuate in Spite of a Fixed Price on Wheat, Prof. L. A. Fitz, head of the milling department of the college; Dairy Judging, lecture and demonstration with four principal breeds, W. E. Peterson and L. H. Fairchild; Incubation and Brooding, F. E. Fox; Cornstalk Poisoning, Dr. R. R. Dykstra, head of the veterinary department of the college; Institutional Co-operation for the Community, Paul Vogt; an address by E. T. Robbins, Washington, Illinois, secretary Tazewell County, Illinois, Percheron Breeders' Association and county agent of Tazewell County; Feeding the Dairy Cow, O. E. Reed, professor of dairy husbandry; How to Judge Beef Cattle, lecture and demonstration, and How to Grow Them Big, by J. N. Bishop, Towanda, Kansas. At the general assembly Dean A. A. Potter of the division of engineering will preside. The name of the speaker has not yet been announced. Besides the addresses mentioned, a farm bureau conference and a general conference on rural institutions led by Walter Burr will be held Friday forenoon and those desiring to do so will visit the college orchard, storage house, and packing plant, taking dinner at the old college farm.

In the afternoon the visitors may choose between the Kansas Breeders' Percheron sale, a demonstration with gas engines, farm lighting sets, home power equipment and automobiles at the engineering building, and a farm bureau conference.

At 6 o'clock Friday evening the Farm and Home Week banquet will be given at the First Presbyterian Church. This will be followed at 7:30 by a popular concert in the college auditorium by the Department of Music, and the moving picture film, Percherons in Peace and War.

The home economics work for women and girls is deserving of special mention. The whole program centers around the theme of conservation, the following different phases being treated: Conservation of life, conservation of food, conservation of health, conservation of energy, and conservation of clothing. Under the first will be taken up what the United States Government is doing toward conservation, what Kansas is doing as a state, and what Kansas women are doing. Under conservation of food such topics as Feeding a Family the Square Meal, When Is It Extravagant to Economize? The One-Dish or Piece Meal, and Buying the Family Food Supply.

In the matter of health Major Charles E. Banks, United States Army, will speak on How the Rural Community May Help. Miriam Birdseye of the States Relations Service, United States Department of Agriculture, will conduct class work on this subject. Others will tell how the women may help.

In conserving energy the pressure cooker, the fireless cooker, home canners, electrical appliances, gasoline appliances, and drying machines will be studied, each topic being presented by a specially trained leader. The arrangement of rooms and the selection of furnishings and the working out of schedules and systems will be discussed in their relation to the saving of the time and energy of the woman worker in the home. Other topics will be Clothing Relation to the War Situation, Patriotic Work in the Home, Dyeing, Renovating,

(Continued on Page 8)

JERSEY BREEDERS MEET

Instructive Dairy Program Given at Annual Meeting of Association

FEED for Milk Production was the theme of Sam Jordan's message to the breeders and dairymen in attendance at the fifth annual meeting of the Southwest Jersey Cattle Breeders' Association held at the Coates House in Kansas City, December 15. One of the best programs ever presented was offered for the instruction and education of Jersey breeders or other dairymen. Mr. Jordan is Missouri's famous "corn man," now county agent of Chariton County. His address was the first of the meeting.

It was entirely fitting to have Mr. Jordan address a Jersey Breeders' Association for the reason that it is through his line of breeding that the foundation stock for some of Missouri's best cows was laid, and while he did not long continue in the Jersey breeding business, it was long enough to demonstrate that he had visions of breeding, and a skill in this line of work which entitles him to a high place in the ranks.

Mr. Jordan told his audience that the bluegrass pastures were not rendering to their owners the service of which they were capable if rightly treated.

His statement is that bluegrass must be manured, fertilized and cultivated with as much intelligence as is displayed in handling any other crop if the best results are to be accomplished from the service rendered and expected and which can be made to result if the proper methods are practiced.

The mowing machine was placed first in the treatment of bluegrass pastures for the purpose of ridding the pasture of weeds, and the weeds must be cut before they go to seed if any benefit is to be derived from the use of the mower. Cut the weeds before the seeds are matured, and better yet before the seeds have formed, and mow the pastures not only once but often during each season if the weeds persist in growing.

Bluegrass should be fed and to do this no better method can be followed than to drill into the bluegrass sod with a seed drill an equal portion of redtop, alsike clover, timothy and alfalfa seed, and then when the hot weather of summer shall have burned down the bluegrass the other grasses will furnish pasture but at the same time will furnish nitrogen to the soil which will be of great benefit to the bluegrass roots.

Another of his recommendations for the dairy farmer was the planting of soy beans in the corn for the purpose of improving the quality of the silage, the soy beans furnishing the legume hay which is of great advantage for feeding the dairy cow when fed with corn silage and at the same time putting back into the soil that which the corn crop took out.

Prof. C. H. Eckles, head of the dairy department of the Agricultural College of Missouri, read a paper discussing the proper method of raising and feeding dairy heifers and discussed the experiments conducted by the department in connection with the methods of feeding dairy heifers.

Professor Eckles gave the results of the experiments conducted through a series of years, and the results upon the offspring of the heifers by grain feeding of heifers and feeding only a liberal supply of roughage.

He did not give other than the result of the experiments conducted, leaving the listener to draw his own conclusions as to the method which each individual breeder should follow.

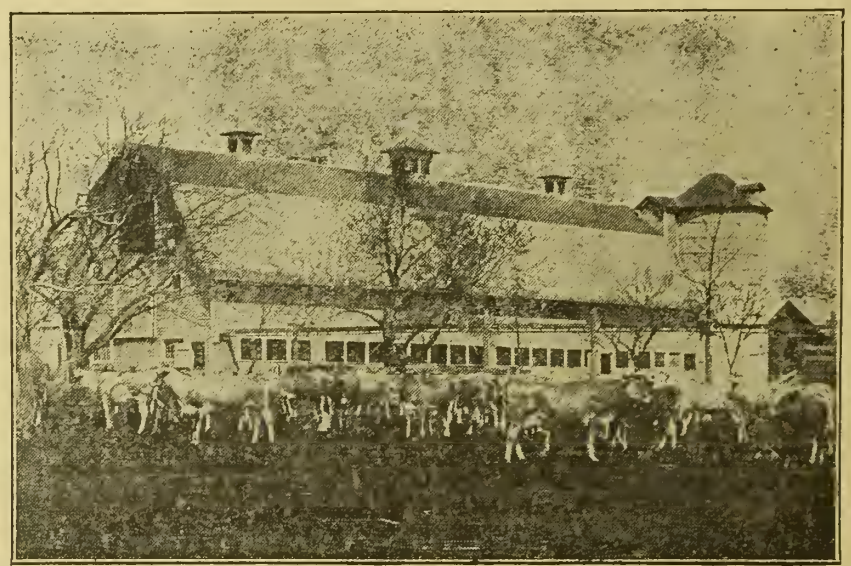
The experiment was conducted with heifers of the four dairy breeds and the information given showed the results from feeding and breeding at an early age and at later periods.

C. A. Ragsdale, extension representative of the Missouri Agricultural College, gave a fine talk upon the advantages of the cow testing associations in the United States and told of the great growth that this line of work had made in the eleven years since the establishment of the first association in Michigan in 1906.

He told of the establishment of the first association in Missouri, to wit, the Jackson County Association, and gave the results of the work in that organization during the three years in which the records are complete. From these records it is shown that there has been a great improvement not only in the quantity of milk given by the several herds but also that the cost per pound of butter fat to the producer has been reduced notwithstanding an increase of cost in feed. When the quantity of butterfat can be increased by the careful methods followed in cow testing work and the resultant cost of the feeds given to the herd be decreased, it seems that no dairyman should hesitate to join a cow testing association and thereby gain the benefits of increase in production and at the same time gain the benefit of a lower cost in the feed bill. It is a gain both ways and the method should be followed by every dairyman.

While the growth of the cow testing associations has been remarkable, there still remains a large field to cover for the reason that at the present time not much more than 1 per cent of the dairy cattle in the United States are being tested, either by cow testing associations or Register of Merit tests.

Prof. O. E. Reed of the Kansas Agricultural College had a paper on the Jersey in Kansas and came with the gratifying news that the Jersey was holding her own in the Kansas field; that there was a large demand for good cows and her products were leading with the people of that state.



MODERN DAIRY BARN, SILOS AND PURE-BRED JERSEY HERD.—H. C. YOUNG, NEBRASKA

Experiments have been conducted at the Kansas college showing the cost of producing a 1,200-pound steer and the amount received as a result of the feeding and raising of an animal of the beef breed to that age and then slaughtering him, and the cost of feed given a dairy animal, and comparing the results in income received from the steer with the income received from the products of the dairy cow. The advantage was with the dairy animal and the steer had to be slaughtered while the dairy cow was yet ready to continue her work of producing food for human consumption.

His recommendation was to continue the work of the breeding of more dairy cattle and he held out to the breeder the hope of a greater demand for the products and also a greater demand for the dairy cow.

R. A. Murray, of Adrian, Missouri, gave an interesting talk on the subject of cheese making, and said that the value of milk in cheese making was directly proportionate to the amount of butter fat content, and strongly recommended the value of Jersey milk, high in butter fat content, for use in the manufacture of cheese.

Miss Louise Caldwell of the Kansas extension service was on the program to speak of milk as a food and gave a very interesting discussion of the relative value of milk in the diet of the human family.

Her statement that if she were in position to devote her time and fortune to something that would be of incalculable benefit to the human race she knew of no finer thing to be done than the establishment of dispensaries for the furnishing of pure milk at prices within the reach of all those who have children but are not always able to pay the price demanded for milk of first quality by those who are engaged in the sale of milk for a profit.

This, of course, was her dream, and she prefaced her discussion of the subject by saying, "If I were a millionaire and philanthropically disposed." It is fair to presume that she is not in the former class but wishes she were.

In speaking of the relative value of milk products as a diet, she said that the speech she was delivering was not prepared specially with the idea in mind of addressing Jersey breeders, but was such a one as she delivered in the course of her work as lecturer in the extension service.

It may truthfully be said that she is a strong advocate of the food value of milk as compared with any other form of diet and the Jersey dairymen and milk producers generally should hear Miss Caldwell and see that the information which she has at hand is properly distributed throughout the country and particularly that heads of families should know the value of dairy products for the human family and particularly for infants and growing children.

E. G. Bennett, state dairy commissioner of Missouri, gave an interesting discussion of the growth of calf clubs in various sections of the state. There is no better method of establishing the dairy interests in any community than through this method.

There is no finer method of activity to be followed in any community that has a commercial club than to foster the growth and permanence of calf clubs. No organization ever lost a dollar in money invested and the benefits to the community can not be measured in dollars and cents. It teaches responsibility in the youth and redounds to the happiness and well being of the community as well as returns profit to the organizers through the increase in activity in farming methods which are certain to be profitable.

C. J. Tucker of Longview Farm gave a very interesting talk upon his experiences upon the show circuit during the past season and strongly recommended to his auditors the value of showing the best in their herds, thereby bringing their herds to the attention of the buyers and persons interested in Jersey and other dairy cattle, for when it comes to placing dairy cattle in competition with other breeds there is never a failure of the Jersey to give a good account of herself.

F. J. Bannister, of La Cima Farm, read a paper on the subject, "Why We Should Have an Annual Dairy Show," and expressed the opinion that much benefit had been derived from the shows here given and strongly advocated that arrangements be made at once to revive the show business in Kansas City and arrange to get a place in the show circuit.

E. F. Knoche, president of the association, officiated as the officer in command of the proceedings and presented his official performances during the past year in a manner which was well received by those in attendance and showed that much had been done during his administration to keep the interests of the Jersey before the world. In this work he has had the active co-operation of J. M. Axley, the secretary, and both officers were extended a rising vote of thanks for what they had done in the furthering of the work of the association.

The following were elected as officers for the ensuing year: J. E. Jones, Liberty, Mo., president; A. L. Churchill, Vinita, Okla., vice president. Directors—E. E. Knoche, Kansas City, Mo.; F. J. Bannister, Kansas City, Mo.; E. G. Bennett, Carthage, Mo.; J. M. Axley, Kansas City, Mo.; J. C. Hisey, Kansas City, Mo.; Hal C. Young, Lincoln, Neb.; John Speer, Adrian, Mo.; M. M. Sweetman, Kansas City, Mo.; J. M. Taylor, Le Loup, Kan.; F. W. Barber, Lee's Summit, Mo.; B. C. Settles, Palmyra, Mo.

President Jones was introduced and made an address outlining his plan for the coming year and asking the hearty co-operation of the members, promised a year of activities in connection with the association. His idea is to keep alive the work of the association by using all the force of the organization in promoting the interests of the Jersey breed, by keeping in close touch with the members and doing all in his power to keep before the public the advantage of her products for food, and when a member is in search of customers or in the market to purchase, the association hopes to be able to render valuable services.

Prof. C. H. Eckles invited the association to meet at Columbia, Missouri, during "Farmers' Week," and fixed Thursday, January 17, 1918, as the day set apart by the Missouri College of Agriculture for the meeting. The association accepted the invitation and the officers were requested to call a meeting of the association for that day and arrange a program.

The form of the certificate of transfer as now issued by the American Jersey Cattle Club was discussed at length and a resolution was adopted directing the officers of the association to suggest to the directors of the American Jersey Cattle Club that a form of certificate be adopted which shall show a complete record of ownership from birth to date of the annual transfer.

The association further adopted a resolution authorizing the president to attend the annual meeting of the American Jersey Cattle Club as its representative and in the event of his inability to attend to appoint an alternate.

One of the recent acts of the Food Administration was to request the Elgin Butter Board to close for the duration of the war. A half century ago Elgin was the center of a great creamery industry in that section of Illinois. The small creameries in this territory, which was generally known as the Elgin district, were pioneers in the practice of offering their butter for sale at meetings of the Elgin Board of Trade, which was attended by buyers from Elgin, Chicago, and other cities. For many years the quotations on creamery butter were the basis on which creameries generally sold their butter and purchased their butter fat. Chicago, however, has gradually absorbed the dairy products from the Elgin district in the form of milk and it has ceased to be a creamery center. Those interested in the operation of the Elgin board have been more interested in prices than in production, and the sales made on this butter board have not been based on actual commercial conditions governing butter or butter fat. This action of the Food Administration would suggest the thought that they consider it advisable for prices to be more dependent upon actual market conditions.

One of the most profitable uses for soft corn will be in feeding hogs and steers. One would be justified in feeding considerable protein supplement in conjunction. Oil meal and cottonseed meal are relatively cheap, taking into consideration the cost of good corn. Experiments have proven that they are worth more than their own weight in corn for feeding cattle.

KANSAS FARMER DAIRY CLUB

Heifer Making Good Growth

WE HAVE tried to make it clear to Dairy Club members that young heifers must use part of the feed they eat for growth, and therefore they do not give as much milk in proportion to the feed they eat as older cows. The heifers, however, are increasing in value, because they are developing a larger capacity for milk production as they grow. You must not forget this point for if you do you might be tempted to pinch down too much on the feed if you are milking a young heifer. A good many well-bred dairy cows are spoiled in the making, or do not become as valuable as they should because they are starved while they are growing. Just remember each month as you strike your balance between feed cost and value of products sold that you can add to the credit side the increase in value of your heifer. This is really a part of your profit when you buy a two or three-months-old heifer and develop her into a mature cow. To get this profit, however, you must feed her enough so she can grow as well as give milk. You may say you cannot get this profit unless you sell your cow after she is full grown. That is one way to get it, and with the demand for good dairy stock growing out and developing dairy calves and heifers can be made a very profitable business. If the heifer is a real dairy animal—that is, if she has back of her cows of high production and sires with high-producing cows back of them—you can get back what you put into the calf or heifer after she is full grown and producing a large flow of milk.

Esther Nicklin, of Emporia, is having some experience along this line with a young heifer, and she writes as follows: "My cow is growing a whole lot, but she is very nervous and excitable yet When they first caught her in the yard at Emporia, the rope went down behind her front legs and around her neck, and she was almost scared to death, and we had to rope her when her calf was born. Doctor Richards, the veterinarian at Emporia, saw her soon after I got home, and he said that she was very small and had not had good feed or care when she was young. But she is growing now and is so tame you can go right up to her and put the halter on and she doesn't budge at all. If you go in the lot with a bucket or a box, she is right after you trying to get into it. I named her Bluebell when I got her, but she is such a cute little thing that I call her 'Cuter' or 'Sweeter' all the time. Papa keeps remarking about her fine udder. She is always feeling good and kicks and plays all the time. She ought to feel good for at night we put the cows up in the barn which has a cement floor and roomy stalls, and they stand up to their knees and sometimes to their 'tummies' in straw.

"Brother John's cow had a very fine calf November 20. It weighed exactly 100 pounds the next morning, but it was a male calf, which was not so good. However, its mother gives from two to two and one-half gallons of milk, and is gaining all the time. John is going to get rid of the calf next week."

Member Makes Large Payment

Thelma Adams, Parsons, Kansas, who is milking a grade Holstein cow costing $110, has already made some large payments on her note. She began her record October 1. She writes as follows:

"I have neglected my papers because I have been sick, but will try to get them in on time after this if you will please forgive me this time. I missed milking my cow for a few times when I was sick, but I hope I won't have to any more. I have paid $68.30 on my cow and I think I will have her paid for by the first of February. I will send you one of her pictures when I can get one taken."

This is doing remarkably well. We wonder if Thelma has been able to make all these payments from the proceeds of her cow's milk after deducting the cost of the feed. She might write and tell how she sells her milk and how much she gets for it.

Charge for Rye Pasture

In sending in his November records, Floyd Gerardy writes that he made no charge for rye pasture because no price was given for it on the schedule. He says his father is letting him run his cow on the rye without charge. He asks how he should figure this pasture in his month's record.

Floyd is most fortunate in having rye pasture. We have often called attention to the use of rye as a pasture for dairy cows. Many dairymen find it saves a great deal of expensive feed to have a patch of rye which they can pasture during the winter and early spring. Club members who pasture rye or wheat can figure it at the regular schedule price of pasture, one dollar per month. At present prices of grain and mill feed, good rye pasture is really worth more than that, but we will not change the pasture schedule. All will be figuring alike and we would only suggest that club members keep in mind the fact that under present circumstances good rye pasture is saving them considerably more than a dollar's worth of mill feed.

A Feeding Problem

Lucile Radcliffe, Carbondale, writes that she is not getting very much milk now. She and her brother Clarence were the first to start in the new club. She says:

"I only milk my cow once in a while. Both our cows are about dry. Clarence's cow gives more milk than mine. I think our cows will soon have calves.

"You asked me about the corn we are feeding our cows. It is the ear corn on the cob. We feed about two pounds each night and morning. Papa said we could let the hay and straw they ate during November go as pasture, as they were on pasture part of the time and did not get very much hay. The hay is partly clover and bluegrass mixed with some weeds. We do not have any alfalfa hay. Do you think it would pay to buy some? Papa is going to town today and I think he is going to get some bran. Do you think the corn, silage, hay and straw and bran is enough? We have kafir, wheat, and rye we could use if you thought best."

We wrote a letter to Lucile as soon as we received her inquiry. We told her it was all right to have the cows go dry if they are to be fresh soon. It is hard to figure out just what is best to do when feed prices are as high as they are this winter. Alfalfa is so extremely high that it would hardly pay to buy it unless it could be purchased near home. Bran and all mill feeds are extremely high, but it will be hard to get along without feeding a little, and we suggested to Lucile that she really ought to have some oilmeal. This is a very rich feed and a very little in the ration helps a great deal. Sometimes the cows do not like oilmeal, and when that is the case it is not best to feed it. The prices for bran will probably be lower in the near future. The Food Administration has just recently issued orders to the big millers which will compel them to sell bran at lower prices. It would not be patriotic to feed wheat or rye, because these grains are so badly needed for human food and our Government is urging us to save all the bread grains we possibly can, so that we may have more to ship to our allies in Europe. Kafir might be fed if it can be ground. It has about the same feeding value as corn except that it is not so necessary to grind corn as it is kafir.



OWL'S DESIGN, IMPORTED COW OWNED BY KANSAS AGRICULTURAL COLLEGE.—TYPICAL OF JERSEY BREED

Another Cow Pays Out

The highest priced cow in the Dairy Club last year cost $450. Elise Regier, the owner of this cow, is milking her in the second year's work of the club. She writes as follows: "I have paid the $450 on my cow and the interest, which was $18.44, in eighteen months, and have $10.38 cash on hand. I have read the stories of some of the members in KANSAS FARMER and think they are very interesting. I hope we will get to read them all.

"I wish you a Merry Christmas and a Happy New Year."

Silage alone does not constitute a balanced ration. It is comparatively rich in carbohydrates and fats, but deficient in protein and mineral matter. For this reason the best results will follow the use of feeds comparatively rich in protein, with silage. Alfalfa and clover hay, linseed and cottonseed meal, and feeds of like nature, go well with silage.

Any surplus time at this season of the year may be profitably utilized in pruning the trees about the place. The dead wood and crowded branches of course must be removed. Smooth, clean wounds should be made and then smeared over with lead paint. Spongy tissue from old cavities should be cut away. The cavities should then be washed with creosote and filled with cement. This latter operation had best be undertaken on one of the warm days at this time of year.

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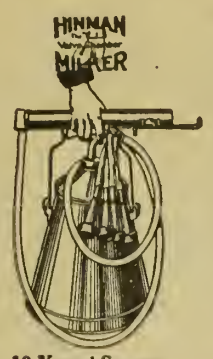

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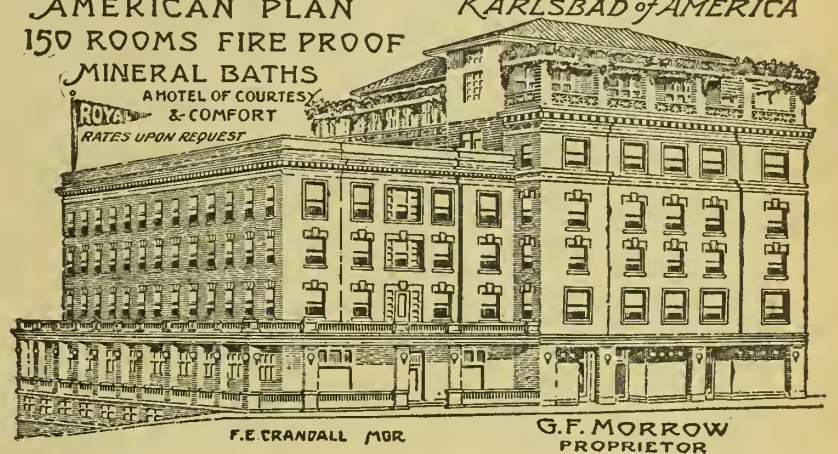

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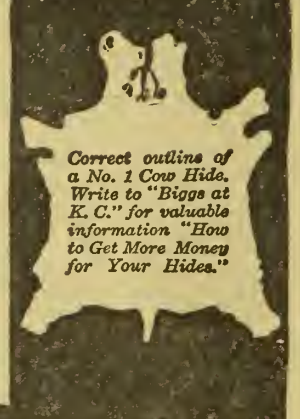

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Why Not Ship Corn?

THE question, "Why not ship our corn to Europe and keep our wheat at home?" is still being asked in many quarters. In a meeting of wheat producers a few weeks ago we heard a member of the audience ask Dr. H. J. Waters this question and in connection offered the suggestion that the people of Europe might just as well learn to eat corn meal as to insist on having wheat.

The answer involves many interesting economic problems:

As to shipping, corn meal is not a stable product—it spoils easily in shipping. Corn itself before grinding will not solve the problem, as there are few mills in Europe for grinding corn. Again corn meal and corn are less compact, and therefore take more cargo space than wheat flour.

Corn bread is a home product and cannot be handled by bakers. To be liked it must be eaten when freshly baked. It cannot be made into a durable loaf. Therefore America, where 60 per cent of the baking is done at home, can increase consumption of corn bread; while Europe, where practically all bread is baked by bakers, cannot adopt the American corn bread unless housewives reconstruct their homes, for the ovens for baking do not exist in the average European home.

Our allies are already using a mixture of wheat flour with potato, rice, rye flour and some corn, but this mixture cannot go beyond 25 per cent (or 50 per cent at the outside) and produce a good bakery product. Corn flour as a further adulterant is, therefore, neither necessary nor advisable.

Still another reason for shipping wheat instead of corn is to supply the need of the American troops in France. Military necessity does not permit experiments. Moreover, it is neither fair nor reasonable to call upon people under the pressure of war times, to make radical changes in their eating habits.

These reasons must be kept clearly before us, for an understanding of facts means a complete co-operation on the part of America.

We cannot greatly increase our export of corn to Europe for the use of our allies there; they are already mixing with wheat flour a much higher percentage of other cereals for bread making than Americans are asked to use. All the nations which have facilities for grinding corn are using that cereal as fully as possible.

For the others, it is practically impossible to increase their present consumption. Nations which before the war were not accustomed to its use have no time now to put in the necessary machinery for its milling. Corn meal already ground does not ship well and is likely to spoil in transit. These nations stand at the very edge of starvation. Their armies are fighting our war. Soldiers cannot fight, even if they themselves are well fed, if they are harrassed by the fear that their women and children are not being cared for. We must send them food. We must use more of our surplus corn in order that we may release wheat to send them.

We have the corn, the mills and the cooks, who, doing their "bit" in American kitchens, can prepare dishes from corn products as appetizing as they are nutritious. More corn in the American diet will make it possible for us to export the wheat that is so essential to properly feed our troops in France and maintain the fighting strength of the Allies.

Facts About War Insurance

Any man or woman of any age in the active military or naval service of the United States can obtain Government insurance. It has been ruled that members of officers' training camps are under the act and can obtain insurance. The cost for each thousand dollars of insurance is from sixty-five cents a month to persons at the age of twenty-one to one dollar and twenty cents a month to those of the age of fifty-one.

The beneficiaries are limited to wife, husband, child, grandchild, brother or sister, stepbrother or stepsister, adopted brother or adopted sister of the insured, as well as parent, grandparent, or stepparent either of the insured or of his or her consort.

The insurance is not compulsory, but the cost is low and the protection great, and not only are all persons eligible afforded every opportunity to obtain this insurance without trouble or extra expense but they are specially urged to do so.

General Pershing and thousands of other officers and tens of thousands of soldiers have already taken out insurance. Up to date policies of insurance have been issued aggregating $1,032,938,000.

Uses of Corn Meal

In view of this year's enormous corn crop, estimated at over three billion bushels, uses of corn in the United States are extremely interesting. The United States Food Administration has gathered information showing that over 86 per cent of the entire corn crop in normal years is fed to animals, about 3.6 per cent is used as human food, and the remainder is used for various trade purposes, and for seed.

In years of large production the excess has generally been fed to live stock. This year's crop is nearly half a billion bushels above the normal crop and as a war measure a greatly increased use of corn and corn products for human food is urged.

Waters Cure for Meat

The recipe for curing meat generally known as the Waters cure, for the reason that Dr. H. J. Waters first published it and recommended it, is as follows:

To 1,000 pounds of meat take 40 pounds of common salt, 10 pounds of New Orleans sugar, 4 pounds of black pepper, 1 pound of saltpeter, ½ pound of cayenne pepper.

Weigh the meat and take such parts of the ingredients as that is a part of 1,000. Let the meat cool thoroughly. After thoroughly mixing the ingredients, one-half of the amount should be rubbed well into the meat. Put the meat in a cool, dry place, and let it remain two weeks, then rub on the remainder of the cure and let it lie about six weeks, when it is ready to hang.

Rub the meat well each time the cure is applied and force plenty of it into the hocks and around the joints. Use less cure on thin sides than on the thicker parts. The best time to kill hogs is between December 1 and February 1. The best size of hog to kill is one weighing from 175 to 225 pounds. Smoking should be done slowly. It should occupy four to six weeks, a little each day and with very little heat.

FARM AND HOME WEEK

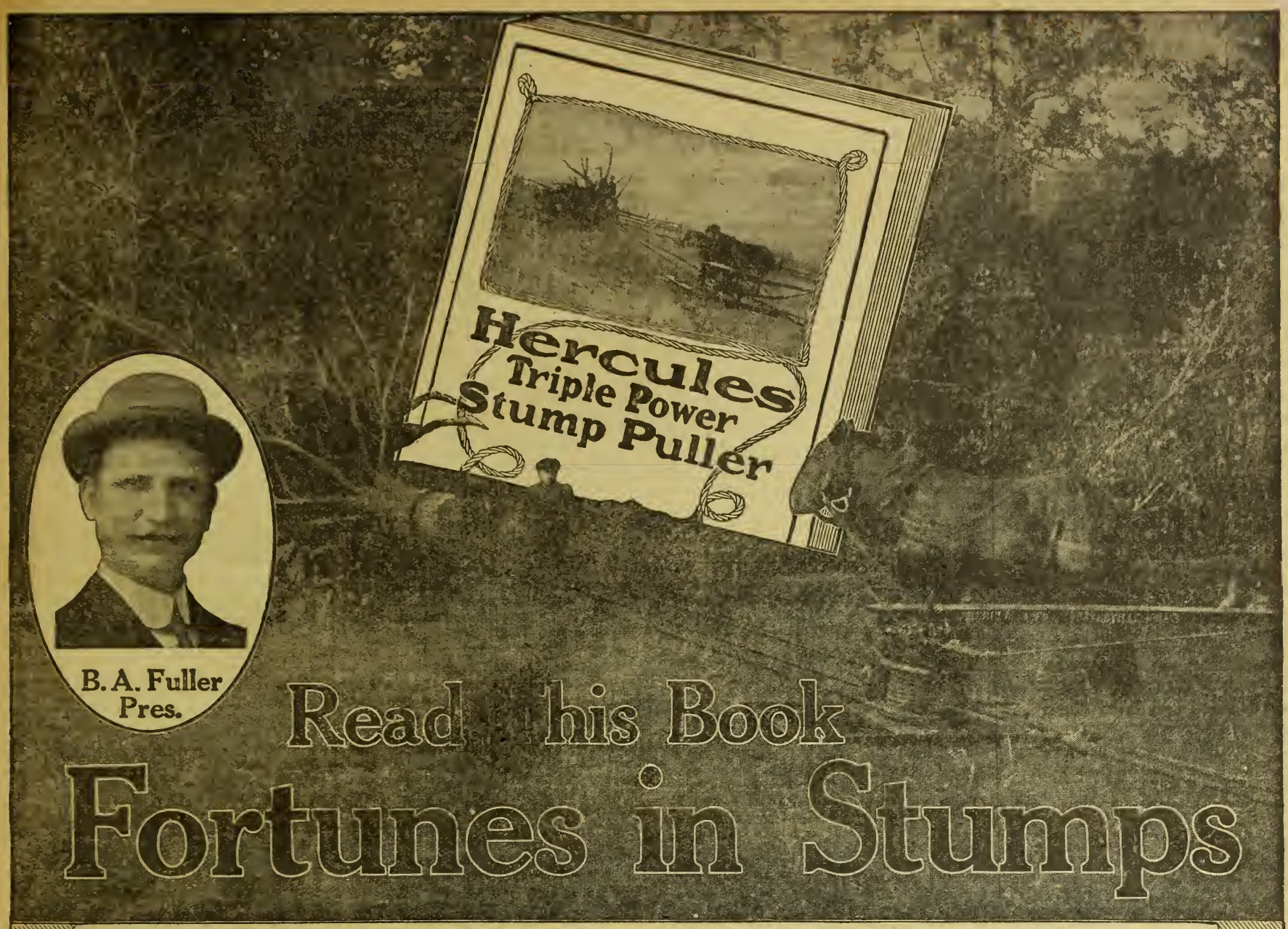
(Continued from Page Five)

and Remodeling. It will be a week of intensely practical work for the women and girls who attend.

The work to be given by the engineering division will be of great practical value to the men of the farms, and especially so at the present time. There will be work on automobiles, gas engines, tractors, adjustment of farm machinery of all kinds, and the selection and housing of farm implements. Farm lighting and power plants will be studied, and in fact almost every phase of modern farm equipment. It is our prediction that there will be no more popular place on the campus during Farm and Home Week than the engineering laboratories and lecture rooms.

At all the general sessions the department of music of the Agricultural College will furnish appropriate musical numbers, these being given by individuals and organizations associated with that department. From our knowledge of the splendid work being done by Arthur E. Westbrook, head of the music department, and his able assistants, we can assure our readers that it will be a rare treat to listen to the musical numbers that will be given.

Do not fail to send for the detailed programs and make your plans to spend the whole week of January 21-26 at the college.



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The new Portable is equipped with a solid steel bed-plate and broad steel wheels. There isn't a land clearing job in the country but that can be done cheapest and quickest the Hercules Way.

It's the low-down constructed puller that has self-anchoring and stump-anchoring features—the one with double safety ratchets that insure the absolute safety of men and team. I want to send you a Hercules on

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so you can see how powerful it is and how easy it works. I want you to know for yourself that the all-steel construction means 60 per cent less weight and 400 per cent greater strength than cast-iron or "semi-steel." Besides that, I want to save you big money on the cost. I'm making you a brand new offer now.

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Just simply send your name and address on the coupon or on a postal so I can send you the convincing facts about the superiority and efficiency and value of this wonderful new Hercules Stump Puller.

Only 1000 of these machines will be sold at this remarkable introductory price, so get your name in now.

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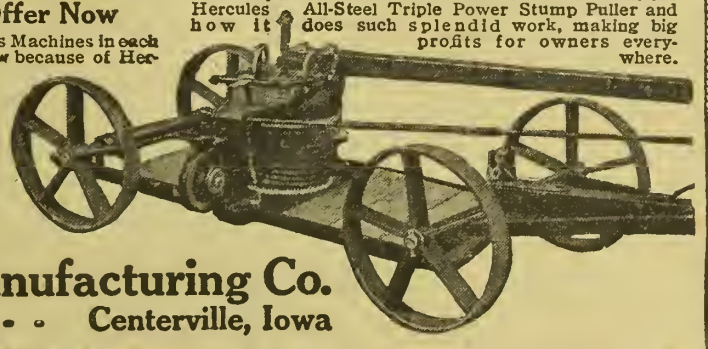
I want you to know the facts. Just mail coupon or postal now. I'll send the book and price by return mail. I'll tell you the best crops to raise on virgin land where stumps were before.

I simply want to get my free book to you at once, so that you can read the remarkable facts about the Hercules All-Steel Triple Power Stump Puller and how it does such splendid work, making big profits for owners everywhere.



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EIGHTY ACRES, 4½ miles from Osage City; 45 acres in cultivation, balance grass, north slope; 4-room house and summer kitchen, cellar and good well; barn for 10 head with loft; wagon and cattle shed, two hen houses. Must sell. Price, $3,200. $1,700 can run four years at 5 per cent. 240 acres of grass, can be used for hay or pasture, 3 miles from shipping point. $40.00 per acre.

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Dogs Menace Sheep Industry

Twenty-four thousand of the three million sheep in Ohio last year were killed or injured by dogs. Damages paid to the owners of these sheep amounted to $112,620, the records of the auditor of state show. Damages have been decreasing in amount since 1890, when the number of sheep killed or injured reached 52,779. Dogs are therefore a liability to every taxpayer.

The cost of feeding a dog a year has been estimated at $34. Many dogs are a dead loss to their owners and some evidently are positive detriments to be classed with insect pests, plant and animal diseases, and other menaces.

Have you selected any seed corn for next spring? Is it being taken care of?



Records Show Cost of Pork

SINCE the pork production campaign began various opinions have been expressed concerning the cost of pork production. Most men seem somewhat hazy on the question. They know in a general way whether or not they can produce pork profitably when corn and hogs are at given prices, but very few can give definite figures. Very few know the cost of production, because they do not keep records. The information called for by the following questions is necessary to the intelligent conduct of the pork production business. The answers in this case were supplied hy a Missouri farmer who kept records during 1916.

1. How many pounds of pork can you produce from a bushel of corn? "In 1916 I produced 15,054 pounds of pork, using corn at the rate of 6.4 bushels per hundred pounds of pork. I produced 15.65 pounds of pork per bushel of corn fed."

2. What does it cost you to produce 100 pounds of pork? In 1916 it cost me $8.09 per hundred pounds of pork; $7 for feed and $1.09 for other expenses.

3. How many pounds of tankage, if any, do you feed per bushel of corn? "In 1916 I fed 3.7 pounds of tankage with each bushel of corn."

4. What average price do you get for 100 pounds of pork and what price per bushel do you get for the corn fed hogs? "In 1916 my hogs were marketed at an average price of $9.72 per hundred pounds. I received $1.11 per bushel for corn fed to hogs. Had I sold the corn I would have received 85 cents per bushel. Had I received the following market prices, as many farmers did, I would have received the following price per bushel for corn fed to hogs: $10 per hundred for pork equals $1.14 received per bushel for corn; $10.69 per hundred for pork equals $1.25 received per bushel for corn; $11.20 per hundred for pork equals $1.33 received per bushel for corn."

5. Do you believe the use of hog pasture crops would cheapen your cost of pork production? This question has been answered hy one group of thirty farmers who kept records of their business during 1916 in co-operation with the Office of Farm Management Demonstrations, U. S. Department of Agriculture. The average cost of production per hundred pounds of pork was $7.05; 6.7 hushels of corn were required to produce 100 pounds of pork; the farmers received $1.33 per bushel for corn fed to hogs; and their margin of profit was $3.64 per hundred pounds of pork. The average market price for hogs was $10.69.

The average of seven farm records making most expensive gains follows: On these farms the only availahle pasture was bluegrass and timothy, which seems to account for higher cost of producing pork. In this case the production cost per hundred pounds was $9.38; 8.2 hushels of corn were required to produce 100 pounds of pork; corn was sold in the form of pork at $1.03 per hushel, and the margin of profit was $1.82 per hundred pounds of pork. The average market price for hogs was $11.20.

The average of seven farm records making cheapest gains follows: On these farms alfalfa, clover or rape pasture was used and seems to account for the low cost of production. In this case the production cost of 100 pounds pork was $5.20; 5.2 hushels of corn were required to produce 100 pounds of pork; corn was sold in the form of pork at $1.66 per hushel; and the margin of profit was $4 per hundred pounds of pork. The average market price for hogs was $10.

It is interesting to note that the good fortune in striking a higher market, in the case of the group where only hluegrass and timothy pasture was available, could not overcome the higher cost of production, and that despite a lower market the group using pasture crops obtained far greater profits.

The foregoing figures do not represent the average cost of producing pork and, therefore, have no particular hearing upon the hog market discussion, as the costs shown are exceptionally low and the risk of death losses from cholera and other causes have not been considered therein. These figures merely hring to the surface the value of keeping records and of using them as a guide in shaping one's business toward increased profits. Figures of equal value may he had on any enterprise within the farm business if records are used.

Insure Valuable Animals

Pure-hred live stock should be insured. Live stock is too valuable and the average man cannot afford to carry the risk himself. Thus advises C. W. McCampbell, associate professor of animal husbandry in the Kansas Agricultural College.

"Before they are insured," said Doctor McCampbell, "such factors as capital invested, quality of live stock involved, size of herd, and financial resources should be taken into consideration.

"There are a few reliable live stock insurance companies, and many whose reliability might be questioned. Information relative to the reliability of any insurance company may be obtained from the state insurance commissioner.

"The rates usually charged by reliahle insurance companies for pure-hred stallions under ten years old and jacks under eight years range from $8 to $10 for each $100 of insurance. The charges for mares under twelve years old and hulls and cows under eight years is from $6 to $8. Cattle rates may run lower. These rates apply for insurance against death for any cause. Insurance runs for one year."

Prevention of Milk Fever

G. A. L., Reno County, writes as follows: "I have a five-year-old Holstein cow that has had milk fever twice. Can she he cared for so as to avoid it at her next freshening, or had she better be sold to the hutcher?"

Dr. R. R. Dykstra, of the veterinary department of the Kansas Agricultural College, offers the following suggestions: "Milk fever in cattle may he prevented by keeping the animal's bowels in a more or less relaxed condition by the feeding, amongst other things, of one or two handfuls of flaxseed meal daily. If the animal is at all costive, it is well to give her from one-half to one pound of Epsom salts. Immediately after calving the animal should be gradually, instead of suddenly, milked out. This is accomplished hy removing only a very little of the milk, an hour later removing a little more, and keeping up this hourly milking, removing only a little at a time for the first day or two. The intervening periods may he gradually increased so that finally the animal is milked in the regular way. I am satisfied that if this is carefully carried out, there will be no trouble from milk fever."



THESE THRIFTY YOUNG BROOD SOWS WERE PURCHASED FOR BOY'S SOW AND LITTER CONTEST IN PHILLIPS COUNTY LAST YEAR.—BOYS WERE GIVEN MUCH VALUABLE INSTRUCTION

Do Not Plunge in Sheep

No one should enter extensively into the business of sheep raising without having had thorough and practical experience. Many men think that after spending a month learning the theory of sheep husbandry, they are capable of pursuing practical management. The symptoms of the chief diseases may be known to a man and also the methods of control, but cases arise in the herd which can only be handled satisfactorily by experienced men.

It is best to begin business on a smaller scale and build up a flock. As the flock increases in size the owner will acquire practical knowledge, and learn for himself the art of caring for a flock. By careful selection through culling and choosing new breeding stock, a beginner may surmount the difficulties connected with building up a flock with the least expense.—A. M. Paterson.



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PURE-BRED STOCK PAYS

IT IS frequently claimed that mixed or mongrel stock is more profitable than pure-bred stock. Plenty of people on the farms are able to refute this statement from their experience with good-quality pure-bred stock.

"Taking the state as a whole, standard-bred farm flocks are giving better results than are mongrel flocks, because they are receiving better care," said Prof. W. A. Lippincott of the Kansas Agricultural College. "The original cost is greater. It seems to be human nature not to give much care to stock that costs little or nothing.

"When a farmer is proud of his flock of poultry one can be sure that it is receiving good care. This is in itself reason enough why standard-bred flocks give better results, but it is not the only reason."

Since the numerous laying contests of recent years have turned interest toward egg production, many breeders of standard-bred poultry are devoting their attention to increasing egg production of flocks by careful selection of mating, according to Professor Lippincott.

While it is entirely possible to get good production with mongrel flocks, there is probably not a poultryman in Kansas who is carrying on breeding operations with mongrels for increased egg production.

Although a considerable proportion of the standard-bred poultry has not been carefully selected from the standpoint of egg production, the number of constructive breeders along productive lines is constantly increasing. These breeders offer to the farmer his only opportunity for improving his flock in respect to production.

"Recent experiments seem to indicate that a pullet inherits high productive qualities from her sire," said Professor Lippincott. "This means that the way to increase the productivity of a flock is to obtain standard males from reliable breeders who are selecting for high production. It must be understood that breeding for high production is comparatively new and has not been brought to so high a state of perfection as breeding for high milk production with dairy cows. Not every cockerel which a reliable breeder sends out can be guaranteed to sire nothing but high producers.

"The farmer can get more money for poultry from a uniform flock when sold to a first class commission man than he can for a miscellaneous mixture. It is possible to build up a fairly uniform and attractive flock by buying pure-bred males each year and mating them with the descendants of a mongrel flock. A farmer will do better, however, by purchasing a few standard-bred females along with a good cockerel of a high-laying strain, and thus build up a standard-bred flock, than by trying to grade up a mongrel flock.

"It should be understood that one cannot have satisfactory production without great physical vigor. The pullets must be active and vigorous. A dozen standard-bred pullets purchased at $1 to $1.50 each will form a nucleus for a large pure-bred flock which will more than repay the initial cost, if they are from vigorous stock."

Save the Hens

Thrifty young hens and pullets should not be marketed at this time or during the winter months. They should be kept for stock next year, when there must be a very large increase in poultry and egg supplies as an essential part of the food production campaign which must be carried out if we are to win the war.

Already this year the poultry stock of the country has been dangerously reduced by sales of pullets and young hens during the late summer and fall. These have been eaten, or killed. Each of these fowls represented a potential egg production of from five to twelve dozen eggs next year and each young hen marketed for food this winter may mean a reduction of next year's possible egg supply to that extent. The U. S. Department of Agriculture urges farmers, dealers, shippers and all who are interested in poultry affairs, to save fowls of producing qualities so that they may be on hand for stock in the early spring.

Next year poultry should be produced on every farm in the United States, and in every back yard in town, where conditions permit. On farms where poultry has not been grown the growing of such next year will be in order, and those who have been producing ought to increase the number of fowls in their flocks. By this general increase, and the putting away of eggs for winter use, there will be millions of pounds of beef and pork released for use in Europe. No meat supply can be increased as rapidly and economically as poultry, and its increase, so far as food reserves for the war are concerned, will be almost as valuable as though a proportionate quantity of animal meat stuffs had been quickly obtained. It is possible to double poultry production in one year. That year must be 1918. It will help win the war. Raise poultry and do your part.

Prepare for Early Hatch

Early hatching next spring will be necessary if the desired increase in poultry production is attained. It is also necessary, during the winter, that we save young hens and pullets, so they will be on hand for stock in the spring. The stock of the nation has been reduced considerably this fall by a widespread sale, for market, of young hens and pullets. Therefore it is necessary to conserve stock now, or else the shortage may interfere seriously with the production program. In view of the stock shortage, to kill a good hen now is to reduce the potential egg production next year anywhere from five to twelve dozen eggs.

Early hatching in the spring will increase the number and size of fowls and the number of eggs produced next year. It will result in bigger birds, and birds that will lay in the winter months.

The early hatched chicken has a longer growing season, before cold weather. It has more time in which to develop—simply gets an earlier start—and grows larger. One of the principal reasons that the farm flocks of the United States show a low average weight of fowls is that the cycle of late hatching has become established. That custom can be displaced and early hatching established by killing off the late-hatched birds and retaining only the earliest hatched birds for stock. Once the cycle of early hatching is effected it will perpetuate itself. The impulse of the early-hatched chicken to sit early herself and produce more early-hatched chickens having the same impulse will continue on and on.

Late-hatched pullets may be used for breeders but the plan should be to grow them out as well as possible and then not use them in breeding pens until the second season.

Wonderful Egg Producer

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit maker, write E. J. Reefer, poultry expert, 4639 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1 (prepaid). So confident is Mr. Reefer of the results that a million dollar bank guarantees if you are not absolutely satisfied your dollar will be returned on request and the "More Eggs" costs you nothing. Send a dollar today or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—(Adv.)

Emergency Campaign

The United States is in need of meat to help win the war. Poultry and eggs in the United States can take the place of the beef sent abroad. The Department of Agriculture has mapped out a campaign covering the United States. The country is divided into eight districts. In each important poultry producing state a picked able poultryman has been placed in charge of the emergency work. In some states two men are to be employed. Over these men in each district a man is placed to keep the work correlated and give new ideas to the man in various states. As the conditions vary in each state, each man will have to work out the best method of carrying on the work in his state.

L. W. Burby has been appointed by the United States Department of Agriculture to supervise this work in Kansas. He is located at Manhattan, and will welcome any suggestions that may be made in regard to the work. He is to work in co-operation with the college poultry department and will work through all existing organizations as much as possible, such as county agents, domestic science agents, poultry associations, granges, unions etc. All are asked to help. Mr. Burby has a supply of United States Government bulletins which he is to distribute and anyone desiring the same may have them sent free by writing him. The poultry situation is serious as the stock on the farms is much lower than normal at a time when they should be higher. Poultry can be raised on the farms at a profit. Do your duty and help defeat the kaiser.

Extra Fertile Upland Farm

Large hay barn, concrete silo, 1,000 forest trees. Convenient market, good roads, two wells and wind mill. 160 acres. Price $8,000. Write

Emmett State Bank, Emmett, Kansas

Located in Lincoln Township, Pottawatomie County

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Kansas Farmer wants one woman in each rural district or small town for pleasant work which you will enjoy. Write for particulars, stating about how much time each week you can give us. WRITE TODAY.

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Kansas Farmer, Topeka, Kansas.

Gentlemen: Please find enclosed $.....for which send me

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One year for $1.00; two years for $1.50; three years for $2.00.

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Are you already taking KANSAS FARMER? .....

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement here reaches over 60,000 farmers for 5 cents a word per week. No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms, always cash with order.

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

HELP WANTED.

WANTED — MARRIED MAN, COMPETent to take full management of young orchards. Yearly contract to right man. Drawer D, Sand Springs, Okla.

WANTED, IMMEDIATELY — MEN-WOmen, 18 or over. U. S. Government positions. Hundreds clerical positions obtainable. $90 month. Quick increase. Easy work. Write for list positions. Franklin Institute, Dept. K-82, Rochester, N. Y.

REAL ESTATE.

FOR SALE — HATCHERY AND WHITE Leghorn farm worth $10,000. Price now $8,500. Colwell, Smith Center, Kansas.

IF YOU WANT TO SELL OR EXCHANGE your property, write me. John J. Black, 15 St., Chippewa Falls, Wis.

EXCHANGE BOOK, 1,000 FARMS, ETC. Trades everywhere. Graham Bros., El Dorado, Kansas.

SELL YOUR PROPERTY QUICKLY FOR cash, no matter where located. Particulars free. Real Estates Salesman Co., Dept. 77, Lincoln, Neb.

CATTLE.

120 HEAD OF HIGH GRADE HOLSTEIN cows and heifers, priced for quick sale. H. F. McNutt, Oxford, Wisconsin.

JERSEY BULLS—THREE CHOICE REGistered Jersey bulls, $50 each for quick sale. Address R. F. Dirst, Lafontain, Kansas.

"THE WILLOWS" OFFERS CARLOAD of springing grade Holstein cows, $115 head. S. D. Shambeau, Scandinavia, Wis.

FOR SALE — MY HERD BULL, SIR Siemke Korndyke No. 148726, born January 31, 1914, and two registered Percheron mares five and ten years old, black. J. M. Beach, Maple Hill, Kansas.

HIGH-GRADE HOLSTEIN CALVES either sex, 15-16ths pure, beautifully marked and from high producing dams, four to seven weeks old, $25 crated. Express paid to any station. Reliance Stock Farm, Whitewater Wisconsin.

BABY CALVES, HOLSTEIN, PURE bred, either sex, priced right. Also a few choice grade heifer calves, practically purebred. Crated and express prepaid to you at $25 each. Sunnyside Farm, Route 1, Jefferson, Wisconsin.

FOR SALE—THREE REGISTERED JERsey cows, bred to Owl's Pogis Tomo. His dam's year record 764 pounds butter. His sire's dam 816 pounds. Also one bull calf sired by this bull. R. O. McKee, Marysville, Kansas.

HIGHLY BRED HOLSTEIN CALVES; either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked. $23, crated and dellvered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

DOUBLE STANDARD YOUNG POLLED Durham bulls, $100 to $150. Heifers, $100 to $125. Good grade bulls, $75. Crown Prince at head of herd. Also good coming yearling jack and one extra good coming three-year-old, at reasonable price. W. C. Baumgartner, Halstead, Kansas.

DOGS.

COLLIE PUPS—U. A. GORE, SEWARD, Kansas.

MERRY CHRISTMAS COLLIE PUPPIES, $5. One grown, $10. Frank Barrington, Sedan, Kansas.

AIREDALES AND COLLIES—GREATEST of all pups. Grown dogs and brood matrons. Large instructive list, 5c. W. R. Watson, Box 128, Oakland, Iowa.

THE STRAY LIST.

TAKEN UP — BY R. J. BOYER, OF Meade, Kansas, on the 29th of October, 1917, two 2-year-old steers, red, cross on left sides, value $65. W. W. Pressly, County Clerk.

TAKEN UP, BY AUGUST PETERSON, October 15, 1917, one heifer about 10 months old, black, no horns, no marks or brands. Taken up in Lost Springs Township, Marion County, Kansas, and appraised at $25. J. H. Alexander, County Clerk.

NOTICE IS HEREBY GIVEN THAT I have taken up one stray steer, coming two years old, on my farm three miles north and seven miles west of Yates Center, Kansas. Said steer is red with white face, branded "J O" on left side and with a "V" and "P" on left hip, left ear split and right ear clipped. Dated at Yates Center, Kansas, November 23, 1917. Henry Welde. C. V. Orendorff, County Clerk.

TAKEN UP—BY E. D. BIRD, OF MONtezuma, Gray Co., Kansas, on the first day of September, 1917, one 2-year-old red white-face heifer, H T connected on left hip, also one 1-year-old black white-face steer, no brands, value $75. W. W Pressly, County Clerk.

Our three-billion-bushel corn crop puts a larger crown than ever on the king of cereals. And, if used right, it will help to put the kaiser in the discard.

When Writing to Advertisers, Please Mention Kansas Farmer

TANNING.

LET US TAN YOUR HIDE: COW, HORSE or calf skins for coat or robe. Catalog on request. The Crosby Frisian Fur Co., Rochester, N. Y.

HORSES AND MULES.

SHETLAND PONIES. CHARLES CLEMmons, Coffeyville, Kansas.

PERCHERONS FOR SALE — ONE TWOyear-old and two yearling registered stallions, cheap to move quickly. Also purebred Duroc baby boars and gilts. Oscar T. York, Vinland, Kansas.

MISCELLANEOUS.

GENTLEMEN: MASON SOLD 18 SPRAYers and Auto-Washers one Saturday. Profits $2.25 each. Square deal. Write Rusler Co., Johnstown, Ohio.

SEEDS

WHITE SWEET CLOVER AT FARMERS' prices. John Lewis, Madison, Kansas.

FOR SALE—TWO CARS CHOICE EARLY Ohio seed potatoes at 90 cents per bushel, and a million Everbearing strawberry plants at $6 per thousand. Wickham Berry Farm, Salem, Nebraska.

SITUATION WANTED.

MARRIED MAN, SMALL FAMILY, wants job on farm. Experienced farmer. Good references. Or would run farm on shares with everything furnished. R. B. McGinnis, Dillon, Kansas.

WANTED

WANTED—CARLOAD BRED EWES OR a few registered Shropshires. Have some nice Berkshire boar pigs for sale. F. U. Dutton, Penalosa, Kansas.

Chain Letters

Few of us have not been annoyed by receiving chain letters asking us to send a quarter or a dime somewhere and to write all the way from four to ten copies of the letter received by us and inflict these copies upon as many of our acquaintances and friends. Always the letter closes with the appeal that if we fail to carry out the request made the chain will be broken and we will be responsible for having "blocked" a very worthy cause.

Just at this time there seems to be an unusual numher of these chain letters and many of them embody the appeal in the name of the American Red Cross. Many of these letters have been sent by well-meaning people to the Red Cross headquarters for explanation. The American Red Cross Association wishes to impress upon the puhlic that no chain letter project has its approval and no one sending such letters has the right to make the plea in the name of that association. The public is warned that there is no assurance that money sent in response to these chain letter appeals will reach the Red Cross and people are urged to pay no attention to these letters.

Those wishing to have a part in the splendid work being done by the Red Cross should make their donations through the recognized channels, which are the local chapters of this association or the national headquarters in New York City.

How Old Are You?

Can you prove that you are under twenty-one or over thirty-one, or must you forever be suspected of having falsified your age? Perhaps a fond mother, to save her son from the horrors of the trenches, may swear that he is below the age limit; perhaps years later proof will be found that this man should have registered; imagine his chagrin at not having done his part in the war. Perhaps there are slackers who in the absence of birth records may be able to shirk registration. Surely on this day the need of complete birth registration is evident to all.—U. S. Bureau of the Census.

Conscription has emphasized the necessity for regular physical examination of child, adolescent, and adult, that the great army of the unfit may be made over into material suitable for efficient American citizenship.

'Tis something, after all, to jog
Along and be a first-class cog.
—John Kendrick Bangs.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

The Captain of the Port will ask
Not—How fared the soul through the trials she passed?
But—What is the state of that soul at the last? —Owen Meredith.

A Resolve

To stand by one's friend to the uttermost end,
And fight a fair fight with one's foe;
Never to quit and never to twit,
And never to peddle one's woe.
—George Brinton Chandler.

When we set our tahles shall we not remember the serving, suffering millions of the world as well as our own national food scarcity and not spread elahorate tables just because we can?—The Earth.

An objectless life circles around itself like a chained dog around a post.—The Christian Herald.

A Backward Look

Many people make a practice of taking a pencil and paper at the end of the year and taking account in a spiritual way in much the same manner that a business man takes an inventory of his business and makes plans for the coming year. The gifts and experiences of the preceding year which have meant the most and desires and resolutions for the future are briefly noted. This helps in keeping a definite goal in mind. Of course it is a bit discouraging to look over these at the end of the year and see how far short we have come of the ends at which we aimed, but it is interesting to compare them from year to year and to note which of the things that seemed important at the beginning of the year still appear so after the passage of a year or of several years. The change in our desires and ambitions from year to year is a striking illustration of the "flying goal," which is perhaps one of the hest indexes to spiritual growth.

A Mother's Prayer

Great God, my Father, I thank Thee that Thou hast honored me with the richest gift ever bestowed on woman—the gift of motherhood. I thank Thee for the heights of its joys; I thank Thee for the depths of its travail. I thank Thee for the enrichment of my life that has come from the wealth of mother-love I give my sons. I thank Thee that through that love I can realize thy love for me. And as Thou, Heavenly Father, didst in Thine infinite compassion, look on the woes of an unredeemed world and give Thy Son, Thine only Son, to die that men might learn the way to salvation, so help me, O God, to look on the woes of these terrible times and give my sons even to die, if need be, that bloodshed may end and men again turn their weary feet to paths of peace. From my Gethsemane of mother-love, hear Thou my prayer of thanksgiving and supplication. — American Thresherman and Farm Power.

Heroic Women of France

My words are not powerful enough to do even scanty justice to the most heroic figure in the modern world, and of ages past—the woman of France.

Of the healthy men who are not engaged in the military service in France, practically all are engaged either in transportation or in the manufacture of munitions, leaving the agriculture ahsolutely to the women. Not only this, but they have stepped into the place of work animals; you can go into any section of France today and see women of magnificent, nohle womanhood hitched to the plow and cultivating the soil. All of the agriculture rests upon their shoulders. The home, always an extremely efficient home, maintains a few old men, the wounded and the tubercular. Uncomplaining, with high devotion, with an attitude that amounts almost to religious exaltation, the woman of France bears the burden.

Now, conditions being as they are, does it lie within the heart of the American people to preserve and hold to every convenience of our life at the expense of adding an additional burden to the womanhood of France? This is the exact question that is involved in our substitution of other cereals in place of wheat.

The women of France must be enabled to hold up the morale of the French soldier until next spring. The morale of the house decides the morale of the soldier in the fighting line. We can do this by giving them the greatest possible freedom in their food supply, and of this wheat is the chief factor.—Dr. Alonzo Taylor.

Dairy Products Necessary

According to Miss Josephine Perry, assistant in domestic science at the Kansas Agricultural College, a family of six should use ahout three quarts of milk a day. Miss Perry says: "Dairy products are expensive, but the return is greater than for a similar amount of money invested in meat, and they contain the protein hest used by the hody. A dish made from skim milk and cheese would make a good meat substitute and at a lower cost.

"Nuts are a fairly good substitute for meat, but are not as easily digested. The legumes are often offered as substitutes, but their protein is not capahle of being as completely used as that of meat. These dishes should be served occasionally for the sake of furnishing variety in the diet. Children require plenty of milk and eggs—legumes are not an adequate substitutc."

As Others See Us

Judge Henry Neil, of Chicago, is now in England for the purpose of interesting members of the House of Commons in the mothers' pension system, which he has helped to introduce into thirty out of the forty-eight states of the Union. He wrote on the subject to George Bernard Shaw, and received the following characteristic reply:

"Child poverty is the only sort of poverty that matters. The adult who has been poor as a child will never get the chill of poverty out of his bones, but he will make room for a better-nourished generation.

"There are no doubt property owners in America who tell Judge Henry Neil that it is confiscation to tax one man's property to pay for the education of another man's children. We have scoundrels of that sort in England, too. Some day they will perhaps have the opportunity of saying it to a higher judge than Henry Neil. He will send them to the place he reserves for those who have learned to say, 'Our Father,' hut have not learned to say, 'Our Children.' The one without the other is a blasphemy. Also it is unhusinesslike folly. Neglected children eost more than well-nourished ones to everybody except their immediate parents.

"The principal business of a policeman at present is to prevent hungry children from obtaining food. The proper primary business of a policeman is to seize every hungry child and feed it, to collar every ragged child and clothe it, to hand every illiterate child over to those who will teach it how to read and write.

"If America can not see this, there is no future for America. And it is because she has been slow to see this that much of her past is shameful and so much of her present miserable."—From Pearson's Magazine for August, 1917.

Apple Candy

Otis E. Hall, state club leader, sends the following recipe for a most delicious confection. We know whereof we speak, for at the annual meeting of the State Horticultural Society we were permitted to sample some of this apple candy made by Mr. Hall and Mrs. Clydia Greene, emergency food agent for Shawnee County, during a demonstration lecture on the home use of horticultural products.

Use any good cooking apple. Pare, cut into quarters, core and then cut

each quarter into four to six pieces, depending upon the size of the apple.

Prepare a syrup in the proportion of two cups of sugar to one cup of water, bring to a boil and drop all the apples in this syrup that it will cover. Cook the apples in the syrup until they are transparent and perfectly tender, which will require from twenty-five to sixty minutes, depending upon the quantity being cooked and the variety of apple used.

Remove apples very carefully from the syrup and place them in single layers on plates. Let them stand until cold and somewhat dry. In most cases it is better to let the apples stand in the plates from twelve to twenty hours, then roll in granulated sugar. Place them again on the plates and from twelve to twenty hours later roll them the second time in sugar. They are then ready to serve, unless it is preferred to roll them in sugar the third time.

The more the apples can be dried while waiting for the sugar, the better, especially when it is desired to keep them for some time. When properly cooked and dried and then rolled as much as two or three times in sugar, these candied apples will keep indefinitely.

"Fifty-Fifty" Biscuits

2 cupfuls corn meal, ground soy beans or finely ground peanuts, rice flour, or other substitute
2 cupfuls white flour
4 teaspoonfuls baking powder
2 teaspoonfuls salt
4 tablespoonfuls shortening
Liquid sufficient to mix to proper consistency.

Sift together the flour, meal, salt, and baking powder twice. Have the shortening as cold as possible and cut it into the mixture with a knife, finally rubbing it in with the hands. Mix quickly with the cold liquid (milk, skim milk, or water), forming a fairly soft dough which can be rolled on the board. Turn onto a floured board; roll into a sheet not over one-half inch thick; cut into rounds; place these in lightly floured biscuit tins (or shallow pans) and bake ten to twelve minutes in a rather hot oven. If peanuts are used, the roasted and shelled nuts should be finely crushed with a rolling pin.

In making the flour and peanut biscuits the flour and other dry ingredients should be sifted together twice and then mixed thoroughly with the crushed peanuts.



Your Grocer Believes in Good VALUE -- That's Why he SELLS

Golden Sun Coffee

NO need to send your money out of town when you want good coffee. Just ask your grocer for Golden Sun. He gives you what you want and keeps your money in town where part of it returns to you in the form of better streets, better schools, etc.

Golden Sun Coffee is made clean, and comes to you clean, without even the natural dust and chaff that make ordinary coffee so muddy and bitter. Try a pound. You will like its delightful aroma and flavor.



The Woolson Spice Co.
Toledo, Ohio

Baked Pinto Beans

A delicious dish of baked beans may be made by using pinto beans as follows: Soak two cupfuls over night, and in the morning add one-half teaspoonful of soda and enough fresh water to cover them, and put them over the fire. As soon as they come to a boil, drain and pour cold water over them, rinsing thoroughly. This gives them a firmness which keeps them from getting mushy. Lay a thin slice of salt pork in the bottom of the pan. Add a small chopped onion to the beans, and pour all into a pan or baking dish with a slice of pork or bacon at the bottom. Take a few more slices of pork or bacon and press them down into the beans. Add a little salt, a pinch of ground mustard, and a tablespoonful of molasses. Cover with water, set in a slow oven, and bake six to eight hours. As the water boils away, add more, being sure it is always boiling, as the addition of cold water will retard the cooking. They will be a beautiful brown when cooked, moist and tender.

"The gods we worship write their names on our faces."

Twilight Animal Stories

Bumper The White Rabbit

By George Ethelbert Walsh

(Copyright, 1917, by George E. Walsh)

STORY VIII—BUMPER RUNS INTO A NEST OF BATS

THE way back to the garden seemed a long one, and Bumper soon began to entertain doubts about the kindness of Mr. Sewer Rat. It was an old abandoned sewer, with plenty of room in it for a whole colony of rabbits, but it was terribly dirty and damp. The musty odor was so different from the pleasant fragrance of the garden he had recently left.

"I must have traveled miles and miles," he thought after a while, stopping to clean off some of the dirt that clung to his white fur. "Either that Rat didn't know what he was talking about, or he told a whopping fib. They always were sneaky animals, the Sewer Rats, and I shouldn't have listened to him."

He stopped to consider whether he shouldn't turn around and retrace his steps; but he was disturbed by the fear that he could never recognize the mouth of the drain-pipe he had come through. He had passed a number of these black holes on his way, all looking alike.

"I should have counted them, and then I'd know which one was mine," he reflected.

But there was no good crying over spilt milk. He was in the abandoned sewer, and he had to find his way out somehow. Meanwhile, he was getting desperately hungry. Oh, for a mouthful of the succulent grass that grew in the garden, or a cabbage leaf or a piece of celery—anything, in fact, that would satisfy that gnawing at the stomach!

"Ah, well!" he sighed. "I must keep going until I find something to eat. There must be other gardens, and this sewer must lead somewhere."

In a little while he became so thirsty that a drink of water seemed even more desirable than a bite of food. He tried to lick some of the moisture from the sides of the sewer, but that was only aggravating. It seemed to increase rather than diminish his thirst.

One hopeful feature of his adventure was that the big sewer seemed to grow lighter as he proceeded, and he was sure he was coming near the end. But before this hope was realized he stumbled upon something that gave him a shock.

Just ahead of him something long and black hung from the roof of the sewer, reaching down almost to the bottom. Bumper stopped to gaze critically at it, his little heart beating with apprehension. Was this the shadow of some strange animal, or was it simply an innocent log of wood that had got wedged in the sewer?

As it didn't move, and was perfectly noiseless, Bumper concluded that it was harmless, and so he approached it and after sniffing at it began nibbling the lower part. Suddenly there was a loud squeak, and the big shadow seemed to part in the middle and fly in every direction. It took wings so strangely that Bumper was more astounded than frightened.

The sewer was filled with black shadows that flitted all around him. Then followed a babel of noisy squeaks. Some came so close to his ears that he dodged and ducked in fear. One pair of sharp beaks caught him on the tip of his nose and made him squeal, and another nipped the back of his head. He was too surprised and frightened by this time to run, and he tried to defend himself with his two front paws.

"It's the Sewer Rat! Bite him! Tweak his nose! Snap his tail! Tear out his eyes!"

The air was filled with these faint cries before Bumper began to realize just what he was up against. He had run into a big bunch of bats sleeping in the abandoned sewer, and his nibbling at them had alarmed and angered them. It was apparent from their remarks that they mistook him for Mr. Sewer Rat, who perhaps had annoyed them many times before, and had even threatened to devour some of them.

"I'm not the Sewer Rat!" cried Bumper. "Please don't snap out my eyes! I didn't mean to disturb you! Wait! Wait, until I can explain!"

"Who are you? And what are you, then?" cried the biggest and fiercest of the bats, coming so close that his eyes looked like pin-points of light.

"I'm Bumper, the white rabbit!"

There was a pause, and the fluttering of wings seemed to stop beating the air.

"Bumper, the white rabbit! Who ever heard of a white rabbit! All rabbits are brown or gray."

It was the big bat speaking for the others, but they all joined him in gnashing their teeth and in whipping the air with their soft, almost noiseless wings.

"But I assure you I am a white rabbit," replied Bumper. "Come and look at me."

This challenge seemed fair, and some of the smaller bats approached nearer, but the leader warned them back. "Keep away! It's the Sewer Rat in disguise. It's a trick of his to catch you."

"Is the Sewer Rat white?" interrupted Bumper.

"No, not unless he's been whitewashed or been sleeping in a barrel of flour."

Bumper had to smile at this, for he recalled once how a big rat had been caught in a bag of flour by the old woman who kept rabbits, and his hair was as white as that of the whitest rabbit.

"I can assure you, Mr. Bat, I haven't been whitewashed, and I haven't been sleeping in flour. Look at my ears. Does Mr. Sewer Rat have long ears like mine?"

"No, but he could disguise them by using pieces of white paper. I wouldn't trust him a minute."

In desperation, Bumper then added: "But look at my tail! Did a Sewer Rat or any other kind of a rat have a tail like mine?"

"Where is it?" asked the big Bat. I don't see any tail at all. All rabbits have white tails, and you haven't any at all."

Bumper wagged the stump of tail that he thought would convince the bats, but for a moment he wasn't exactly sure that he saw it himself. Instead of a white, fluffy stub of a tail as soft as cotton, he saw the dirtiest, blackest wad of hair waving in the air that had ever disgraced a rabbit. The truth flashed upon his mind in an instant. What he had supposed to be the blindness of the bats was nothing more than a most natural circumstance.

He was so black with the dust and mud of the drain-pipe that it was misleading to call himself a white rabbit. He was far from it. He was as dark as any wild rabbit of the woods—darker, in fact, for there was no white fur under his stomach or around his stubby tail.

He was so confused by this discovery that he could not find his tongue to reply. The Bats, accepting his silence as proof that his deception had been found out, suddenly beat their wings and set up a terrible uproar.

"It's the Sewer Rat in disguise!" shouted the big leader of the Bats. "Now we'll punish him! Drive him out of the sewer! Peck out his eyes!"

Bumper stopped just long enough to realize that he had no chance in a fight against all those whirring wings and little gnashing teeth. If he was to escape at all, he had to get a start on the bats. Even though flight seemed to confirm the suspicions of the Bats, he turned and fled as fast as his four legs would carry him.

There was plenty of room in the sewer, and Bumper made such tremendous strides that he outdistanced all but a few of the leaders. They tried to land on his back and claw him, but he shook them off, and dodged this way and that, until the light ahead suddenly became so strong and blinding that the bats gave up the chase.

When Bumper finally came to the mouth of the sewer, he was all out of breath, but the view ahead compensated for a lot of his troubles. He could see the blue sky; green fields and waving trees, and near-by the rippling surface of a lake or river. It looked like Paradise after the darkness of the sewer; but all things that glitter, he found out, are not gold, and every earthly Paradise seems to have its serpent lurking somewhere around in the grass.

FASHION DEPARTMENT.

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8364—Ladies' Waist: Cut in sizes 36 to 42 inches bust measure. The waist is tucked at the front and the sleeves may be long or short. **No. 8376—Ladies' Dress:** Cut in sizes 36 to 42 inches bust measure. The waist is plain and the two-piece skirt is gathered to yokes. **No. 8362—Girls' Dress:** Cut in sizes 6, 8, 10 and 12 years. The dress closes at the front and the skirt is cut in one piece.

PURE BRED POULTRY

PLYMOUTH ROCKS.

WHITE ROCK COCKERELS, $2 AND $3. Nora Lamaster, Hallowell, Kansas.

WHITE ROCKS, SIZE AND QUALITY. Prices reasonable. G. M. Kretz, Clifton, Kansas.

BARRED ROCK COCKERELS, $2 AND $3. Good laying strain. E. M. Wayde, Burlington, Kansas.

CHOICE BARRED ROCK COCKERELS and pullets from my prize winners, $2, $3 and $5 each. H. F. Hicks, Cambridge, Kan.

BARRED ROCKS, BOTH LINES—LARGE cockerels from extra laying strains, $4 and $5 each. C. C. Lindamood, Walton, Kan.

BARRED PLYMOUTH ROCKS, ST. Louis, Wichita, Kansas City winners. J. K. Thompson, 205 The Drive, Topeka, Kansas.

SWAIM'S BLUE RIBBON BARRED Rocks. Big utility cockerels. $3 each; six, $15. C. D. Swaim, Geuda Springs, Kansas.

BARRED PLYMOUTH ROCK COCKERels. Parks' 200-egg strain, direct from prize winning layers. $2 to $5 each. Eggs in season. Gem Poultry Farm, Haven, Kansas.

ORPINGTONS.

CHOICE BUFF ORPINGTON COCKERels, $2.50, $3, $4, $5 each. Cock birds, $4 each. Myrtle Howard, Byron, Okla.

FINE BUFF ORPINGTON COCKERELS, $2 and $3. Mary E. Price, Route 7, Manhattan, Kansas.

BUFF ROCKS AND BUFF ORPINGTONS. Closing out sale, half price. Laying strain. Winners Texas and Kansas state shows. Eggs for hatching, fancy show pens. Write me. John A. Cragan, Kingman, Kansas.

LEGHORNS.

TWENTY-FIVE EXTRA QUALITY S. C. Brown Leghorn cockerels, $2 each while they last. Mrs. L. H. Hastings, Thayer, Kan.

S. C. W. LEGHORN COCKERELS (Young's strain). Elsie Thompson, Mankato, Kansas.

SINGLE COMB BUFF LEGHORN COCKerels from egg-bred matings, $1.50 up; $15 dozen. Chester Hines, Emporia, Kansas.

SINGLE COMB WHITE LEGHORN COCKerels, $2 to $5 each. Mrs. Howard Rodecape, Grove, Okla.

TURKEYS.

PURE-BRED WHITE HOLLAND TURkeys. Winnie Litton, Peabody, Kansas.

CHOICE MAMMOTH BRONZE TURKEYS —Sadie Litton, Peabody, Kansas.

YOUNG WHITE HOLLAND TOMS, $6; hens, $4. Bertha Ballinger, Garden City, Kansas.

QUALITY BOURBON RED TURKEYS. Write for prices. Mrs. Elmer Nicholson, Route 5, Wellington, Kansas.

FINE PURE-BRED M. B. TURKEY toms, May hatched from high scoring stock. Oak Hill Farm, Route 3, Lawson, Missouri.

CHAMPION BRONZE TURKEYS, SIRED by sons of my 52-pound champion tom. Winners America's largest shows. Have pleased customers in thirty states. $7.50 up to $25 each. Ike Hudnald, Milan, Mo.

WYANDOTTES.

GOOD COLUMBIAN WYANDOTTE COCKerels from prize winning strain. Mrs. R. L. Hammond, Hope, Kansas.

FOR SALE—PURE-BRED WHITE WYandotte cockerels at $1.50 each. A. W. Cline, Route 2, Box 27, Guide Rock, Neb.

SILVER WYANDOTTES FOR QUICK sale. Hens, $1.50, $2; cockerels and cocks, $1.50 to $3. Mrs. Edwin Shuff, Plevna, Kan.

WHITE WYANDOTTE COCKS, COCKERels, hens and pullets, $1.50 to $5 each. Birds may be returned if not as represented. H. A. Dressler, Lebo, Kansas.

RHODE ISLAND REDS.

LARGE BONED DEEP BRILLIANT S. C. R. I. Reds, guaranteed to suit. Lela Osterfoss, Hedrick, Iowa.

SINGLE COMB RHODE ISLAND RED cocks and cockerels. Our birds have won ten firsts, seven seconds, five thirds, three fourths and one special in the last three years. James Sisters, Olathe, Kansas.

DUCKS AND GEESE.

FINE TOULOUSE GEESE AND PEARL Guineas for sale. Emma Ahlstedt, Roxbury, Kansas.

400 DUCKS—ROUEN, MOSCOVY, ORPington, Runners. Silver-laced Wyandotte and Rhode Island Red cockerels. Fred Kucera, Clarkson, Neb.

POULTRY WANTED.

PAYING 25c POUND NO. 1 TURKEYS; 19c heavy hens; guineas 40c each. Coops loaned free. The Copes, Topeka.

Thin white waists make dainty corset covers for summer wear, and the heavier waists may be made into corset covers to be worn under woolen dresses in the winter. Kimono night gowns or nighties with set-in sleeves may be made into teddy bears if the upper part is worn while the lower part is still usable.

PERCHERON MARES AND STALLIONS

Thirty Head from Which to Select

Ton mares, big handsome fillies either by or bred to Algarve by Samson. Algarve's colts have great bone and size. His weight is over 2,200 pounds and his get proves beyond doubt his great ability as a sire. A nice lot of young stallions, several coming three-year-olds. Priced for quick sale. Farm four miles east of town. Call on or write

D. A. HARRIS - Route 6 - GREAT BEND, KANSAS

Kansas Herd Chester Whites

BOARS ALL SOLD. :: BRED SOW SALE. :: FIFTY HEAD.
LEAVENWORTH, KANSAS, FEBRUARY 2, 1918
MOSSE THIRTY HEAD. MURR TWENTY HEAD. :: FALL PIGS FOR SALE.
ARTHUR MOSSE, ROUTE 10, LEAVENWORTH, KAN.

HORSES AND MULES.



Percherons, Belgians, Shires 2, 3, 4 and 5-year stallions, ton and heavier; also yearlings. I can spare 75 young registered mares in foal. One of the largest breeding herds in the world.
Fred Chandler, R.7, Charlton, Ia.
Above Kansas City.

Choice Young Belgians, English Shires, Percherons, also Coach stallions, also mares. Many first prizes. Long time 6% notes.
Illinois Horse Co., Good Blk., Des Moines, Ia.

POLAND CHINAS.

BIG-TYPE POLAND CHINA BRED sows, also open sows. Herman Schmale, Dewitt, Nebraska.

DEMING RANCH QUALITY

Big-Type Poland China Hogs.

Fifty March boars for sale. All immuned. Bred sow sale February 18. Send for catalog.

H. O. Sheldon, Herd Manager
OSWEGO, KANSAS.

OLD ORIGINAL SPOTTED POLANDS

Stock of all ages, also bred gilts and tried sows, bred, ready to ship. Priced right. Write your wants to

CEDAR ROW STOCK FARM
A. S. Alexander, Prop. Burlington, Kansas

BIG WONDER 281929

The outstanding spring yearling son of the noted Big Bob Wonder now at the head of my herd. This young sire was first in junior yearling class at Topeka; second at the National Swine Show in competition against the world.

I will sell fifty sows and gilts Saturday, February 23, 1918, and a number of the best sows will be bred to Big Wonder. Send name early for catalog.

V. O. JOHNSON - AULNE, KANSAS

White Oak Park Polands

Outstanding herd boar prospects by 1,100-pound Missouri Jumbo 210461 and 1,000-pound Long Big Joe 227387, twelve-inch bone. Dams popular big-type breeding. If you want boars that will mature to 1,000 to 1,100-pound hogs, I have them, big high-quality fellows. Fall boars farrowed August and September, spring boars February and March. Will record in buyer's name. All immune.

Henry Koch, Edina, Missouri

Spotted Poland Herd Boar

For Sale or Exchange—Big bone Spotted Poland China herd boar, McKee's Giant No. 63987. Can't use him longer. Will exchange him for bred sow or sell worth the money. Pigs for sale.

R. L. Mount - Polo, Missouri
G. T. Hudson, Herdsman.

FAIRVIEW POLAND CHINAS.
Heavy-boned March pigs, either sex. Eighty to select from. Prices reasonable. Write us your wants.
P. L. WARE & SON - PAOLA, KANSAS

GRAND VIEW POLANDS

We are offering big stretchy March and April boars, bred gilts and fall pigs. Herd boar and brood sow prospects, fully guaranteed.

ANDREW KOSAR - DELPHOS, KANSAS

POLAND CHINA BOARS
FOR SALE—Twelve head extra good spring boars, ready for service. Few choice gilts, bred for March litters. Fall pigs, either sex, sired by Big Tecumseh, Orange Wonder, and out of my best herd sows. The best crop of boars I ever raised. Write or come and see me. E. M. WAYDE, BURLINGTON, KANSAS

SPOTTED POLANDS
Sept. pigs, either sex, $20. One tried brood sow, $70. Chas. H. Redfield, Bucklin, Kan.

The Lone Cedar Polands

Last Lot of Meyers' Orange Pigs. I will have either sex, some extra fine gilts. Cholera immune for life.

A. A. MEYER - McLOUTH, KANSAS

FALL PIGS, ready to ship. Select Spotted breeding. Express paid on pigs.
T. T. Langford & Sons, Jamesport, Mo.

Faulkners Famous Spotted Polands

Late summer and fall pigs for sale. Buy them from the Fountain Head. Annual brood sow sale February 13. Ask for catalog.
H. L. FAULKNER, Box K, Jamesport, Mo.

TOWNVIEW HERD

Boars ready for service, sired by King Wonders Giant 77326. A few choice gilts of popular breeding for sale. Everything immune and strictly high-class and priced reasonable. Chas. E. Greene, Peabody, Kan.

CHESTER WHITE HOGS

CHESTER WHITE SPRING BOARS

Husky, growthy fellows of the best breeding. Cholera immune. Priced right.

HENRY MURR - TONGANOXIE, KAN.

Breeders' Directory

ANGUS CATTLE.
D. J. White, Clements, Kan.
DORSET HORN SHEEP
H. C. LaTourette, Route 2, Oberlin, Kan.
RED POLLED CATTLE.
Mahlon Groenmiller, Pomona, Kansas.

DUROC JERSEYS.

TAYLOR'S DUROCS

For Sale—One Missouri State Fair prize winning boar. Seven yearling boars sired by champion boars that are real herd headers. Fifty spring boars that are fine prospects. Write for prices or come and see my herd.

Chas. L. Taylor - Olean, Mo.

THIRTY DUROC JERSEY BOARS
Cholera immuned. Sired by Taylor's Model Chief 126455, winner at Missouri State Fair and American Royal. Extra good breeding boars at prices to close them out. Also choice bred gilts. Dams well bred for years.
W. R. HUSTON - AMERICUS, KANSAS

WOOD'S DUROCS

For Sale—Choice bred gilts, bred to a son of Great Wonder. Spring boars ready for service. Fall pigs of both sexes at right prices. Come and see my herd.

W. A. Wood - Elmdale, Kan.

DUROC BOARS

Thirty-five spring boars by G. M.'s Crimson Wonder, Crimson Wonder Again Jr., Critic D. and Great Wonder, out of my best herd sows. Priced to sell. Come and see my herd.

G. M. Shepherd, Lyons, Kansas

Durocs of Size and Quality

Herd headed by Reed's Gano, first prize boar at three state fairs. Special prices on spring boars from champions Defender, Illustrator, Crimson Wonder, Golden Model and Critic breeding.
JOHN A. REED & SONS, LYONS, KANSAS

PURE-BRED DUROC GILTS
Bred to Invader of Idlewild.
W. J. HARRISON - AXTELL, KANSAS

SHORTHORN CATTLE.

Shorthorn Bulls

FOR SALE—One herd bull and thirteen Scotch-topped bulls, 8 to 12 months old, reds and roans, sired by Pride of Aulne, he by Silver Knight, a pure Scotch bull. Come and see me.

J. R. ELY - - AULNE, KANSAS

ALYSDALE HERD SCOTCH SHORTHORNS
Viscount Stamp 2d, Clipper Brawith and Count Valentine in service. Orange Blossoms, Butterflys, Queen of Beautys and Violets. Choice young stock for sale.
H. H. HOLMES, Route 28, Topeka, Kansas

Pearl Herd Shorthorns

Valiant 346162 and Marengo's Pearl 391-962 in service. Young bulls up to 10 months old for sale. Reds and roans, in good thrifty condition and the making of good useful animals. Inspection invited.

Can ship on Rock Island, Union Pacific or Santa Fe Railway.

C. W. TAYLOR - ABILENE, KANSAS

CLOVERDALE SHORTHORNS—For Sale, two roan yearling Scotch Shorthorn bulls. Exceptional quality and breeding. Also a few heifers. Wesley Jewell, Humboldt, Kansas.

Cedar Heights Shorthorns

For Sale—Three red bulls, 12 months old. A few cows and heifers. Priced reasonable. Come and see my herd.

HARRY T. FORBES
Route 8 Topeka, Kansas

SHORTHORN BULLS
Two registered Shorthorn bulls, one fifteen months old.
F. G. HOUGHTON - DUNLAP, KANSAS

Jerseys for Net Profits





You're in the dairy business for profit—the *net* profit that your herd has made you at the end of the year will determine the size of your bank account. Jerseys yield the largest returns from every ounce of feed—proved by tests at two great expositions. Jersey milk averages 5.3% butter fat, 9.1% solids not fat—highest of all breeds. Buy a Jersey bull. Write the breeders advertised below for prices, pedigrees, etc.

The American Jersey Cattle Club, 375 West 23rd Street, New York City

120 JERSEY COWS AND HEIFERS

Pure-bred and high-grade. Forty bred yearlings, superior individuals, all from profitable dams, now for sale.

J. W. Berry & Son
JEWELL CITY - - - - KANSAS

IDYLWILD STOCK FARM

REGISTERED JERSEYS OF BOTH SEXES FOR SALE

C. F. Blake, Glasco, Kan.

LONGVIEW JERSEYS

(Register of Merit Herd)

Bull calves sired by champion bulls out of Register of Merit dams, for sale at all times.

Longview Farm
LEE'S SUMMIT - - - MISSOURI

BROOKSIDE JERSEYS
Registered Jersey Bulls, few old enough for service from Eminent Flying Fox dams, sired by Idalia's Raleigh, a son of the great Queen's Raleigh. Write for prices.
THOS. D. MARSHALL, Sylvia, Kan.

LOMAX JERSEYS

A Herd of Producers, Backed by Records. Popular blood lines. Choice individuals. We invite inspection of our herd at all times. Write us your wants.

Dr. J. H. Lomax
STATION B - - ST. JOSEPH, MO.

B. C. SETTLES

MAKES A SPECIALTY OF MANAGING JERSEY SALES.

Write for catalogs.

Palmyra, Missouri

REGISTERED JERSEY BULLS

BUTTER-BRED, FROM HIGH-PRODUCING COWS.
Photo furnished.

Maxwell's Jersey Dairy
ROUTE 2 TOPEKA, KANSAS

Fine Young Jersey Bulls

From Register of Merit and tested cows; Register of Merit sire.

Dornwood Farm, Topeka

J. B. PORTER & SON

MAYETTA, KANSAS
BREEDERS OF HIGH-CLASS JERSEYS. STOCK FOR SALE AT ALL TIMES.
WRITE US YOUR WANTS.

Jersey Male Calf, dropped Dec. 14; solid color; sire Nigretta's Fern Lad, dam Winnie's Golden Baby 248077. Heavy persistent milker and noted show stock. Price, $25.

F. J. SCHERMAN, R. 8, Topeka, Kan.



FAULKNER'S FAMOUS SPOTTED POLANDS

The World's Greatest Pork Hog, Sells

Wednesday, February 13, 1918, Jamesport, Mo.

In My Annual Bred Sow Sale.

Ask for catalog. Nothing bred sold at private sale. I am still pricing a few good fall pigs.

H. L. FAULKNER, Box K, Jamesport, Missouri

Grinding Corn for Steers

If you are debating whether it pays to grind or crush corn for fattening steers, the results of some experiments at the Missouri Experiment Station will help to settle the question in your mind. Three trials were conducted during three different years. Ninety head of two-year-old steers were used in the experiments. During each trial different lots of steers received ear corn, shelled corn, crushed corn, crushed corn and cob, corn and cob meal, and ground corn. In other respects the ration was the same. Conclusions drawn from the experiments are:

"The largest average daily gains were made by the cattle in Lot 5 which was fed ground corn; Lot 2 which was fed shelled corn stood second; Lot 4 fed corn and cob meal, third; Lot 3 fed crushed corn and cob, fourth; and Lot 1 fed ear corn, fifth.

"Of every 100 pounds gain made by the cattle and pigs, the following gains or percentages were made by the pigs in the various lots: Lot 1, 21.63; Lot 2, 16.02; Lot 3, 10.63; Lot 4, 4.98; and Lot 5, 4.56.

"It may be profitable to shell and grind corn for two-year-old steers when cattle and corn are high in price if it is not possible to have hogs utilize the undigested and waste feed.

"The efficiency of corn measured by increase in live weight on both cattle and the hogs which follow is less with crushed and ground corn than with ear or shelled corn.

"The results show a slight disadvantage in feeding crushed and ground cobs with the corn.

"The cost of gain in live weight on the cattle, after deducting the value of the gain on the hogs, is noticeably greater where the corn is shelled, crushed and ground.

"The cattle in Lot 5 which were fed finely ground corn brought the highest price. Lot 4, which was fed corn and cob meal, stood second; Lot 2, fed shelled corn, third; Lot 3, fed crushed corn and cob, fourth, and Lot 1, which was fed ear corn, brought the lowest price.

"The net profit per steer shows that it is possible for a cattle feeder to be misled by considering the rapidity of gain in live weight and market price if he does not consider the cost of gains and net profit.

"The average net profit per steer for the three trials was greatest in Lot 1, which received ear corn; Lot 2, fed shelled corn, was second; Lot 5, fed finely ground corn, third; Lot 3, fed crushed corn and cob, fourth; and Lot 4, fed corn and cob meal, showed a slight loss.

"The extra finish and higher market price for the cattle fed shelled, crushed and ground corn was not sufficient to offset the reduced gain in live weight on the cattle and hogs per unit of feed fed and the extra expense of preparing the corn."

Reports indicate that the new winter wheat crop of the United States, just planted, is nearly one-fourth larger in area than that planted a year ago.

The Iowa Holstein Friesian Breeders' Association has announce da two days' sale to be held March 27 and 28. This sale will be held at the state fair grounds at Des Moines, and the offering will consist of a choice lot of Holsteins selected from the best herds in that state.

POLLED DURHAM CATTLE

TRUE SULTAN POLLED DURHAMS

A few heifers bred or open are offered. Some by or bred to the champion $2,200 True Sultan and Sultan's Challenger.

ED STEGELIN

STRAIGHT CREEK - - - KANSAS

RED POLLED CATTLE.

RED POLLED BULLS

For Sale—Thirty head coming yearling bulls. Come early and get the best. Our experience has been those that come late found us sold out. Write or come at once.

E. E. FRIZELL

FRIZELL, (Pawnee County), KANSAS

BERKSHIRE HOGS.

BERKSHIRE HERD BOARS

For quick sale—Two choice Berkshire herd boars, three winter boars and five spring boars, all choice.

E. D. KING - BURLINGTON, KANSAS

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising
O. W. Devine, Field Representative

Address All Communications to Kansas Farmer, and Not to Individuals

Personal mail may have to be held for several days, or be delayed in forwarding, and Kansas Farmer cannot assume any responsibility for mistakes occurring thereby

CLAIM SALE DATES.

Percheron Horses.

Jan. 25—Kansas Percheron Breeders at Kansas Agricultural College, Manhattan. Under management of C. W. McCampbell.

Jacks and Jennets.

March 26—H. T. Hineman & Sons, Dighton, Kansas.

Holsteins.

March 26—Kansas Holstein Breeders' sale, Topeka, Kan.
Feb. 27—W. O. Morrill, Summerfield, Kan.
March 27-28—Iowa Holstein-Friesian Breeders' Association. Sale at the State Fair Grounds, Des Moines. F. C. Barney, Secretary, Chapin, Iowa.

Miscellaneous.

Feb. 25-28.—Kansas National Live Stock Show, Wichita, Kan. Draft, coach, standard-bred horses and jacks; Shorthorn, Hereford and Holstein cattle; Poland and Duroc hogs. F. S. Kirk, sales manager, Wichita.

Poland Chinas.

Feb. 6—H. B. Walter, Effingham, Kan.
Feb. 7, 1918—W. H. Charter, Butler, Mo.
Feb. 8, 1918—W. B. Wallace, Bunceton, Mo.
Feb. 9, 1918—Will J. Lockridge, Fayette, Mo.
Jan. 29—Head & Moore, St. Joseph, Mo.
Feb. 18—Deming Ranch, Oswego, Kansas.
Feb. 13—H. L. Faulkner, Jamesport, Mo.
Feb. 19—Fred B. Caldwell, Howard, Kansas.
Feb. 20—B. E. Hodson, Ashland, Kansas; sale at Wichita.
Feb. 21—E. J. Erhart & Son, Ness City, Kansas; sale at Hutchinson.
Feb. 22—F. Olivier & Son, Danville, Kansas.

Poland Chinas.

Feb. 23—V. O. Johnson, Auine, Kan.
Feb. 28—Clarence Dean. Sale at Dearborn, Mo.

Chester White Hogs.

Feb. 2—Arthur Mosse and Henry Murr, Leavenworth, Kansas.

Durocs.

Feb. 14—B. R. Anderson, McPherson, Kan.
Feb. 20—W. T. McBride, Parker, Kan.
Feb. 27—R. W. Murphy, Dearborn, Mo.
March 7—W. W. Otey, Winfield, Kansas.
March 8—R. L. Hurst, Bolckow, Mo.

Oliver & Doran, of Dornwood Farm, Topeka, report their Jersey herd making a splendid record. Dornwood Jersey herd is one of the richly-bred high-producing herds now assembled and is noted for its high testing cows. A feature of the herd at this time is the fine lot of young stock from Register of Merit dams and sired by a great record bred bull.

G. F. Wagner, of Tuttle Dale Stock Farm, Manhattan, Kansas, reports Tuttle Dale herds of Angus cattle and Poland China hogs doing well. The herds of Angus cattle and Poland China hogs on that farm are among the good ones in this state. The best of blood lines and individuals has been the rule in selecting herd material, and careful mating to improve the standard accounts in a great measure for the excellence of Tuttle Dale herds.

John D. Henry, the well known Poland China breeder of Lecompton, Kansas, reports the sale of his great herd boar, Mammoth Orange, to Carswell & Kelley, of Kansas City, Missouri, to head their choice herd of sows. Mammoth Orange is one of the good Poland China sires now in service.

W. O. Morrill, of Summerfield, Kansas, announces February 27 as the date of his dispersion sale of Holsteins. Mr. Morrill owns one of the choice Holstein herds in Kansas. He has sold his farm and the entire herd will be catalogued for this sale.

R. L. Mount, of Polo, Missouri, owner of one of Missouri's choice herds of big boned Spotted Polands, reports his herd doing well. This herd is made up of representatives of the best blood lines of the Spotted Poland breed. McKee's Giant 63987, now in use in this herd, is one of the good sires of the breed. He has the size and high quality and has proven a great breeder.

A. J. Erhart & Sons, of Ness City, Kansas, have announced February 21 for their annual bred sow sale at Hutchinson, Kansas. This firm made one of the best sales held last spring and will have for the coming sale one of the best and largest collections of brood sows that will go through any sale ring. There will be about fifteen tried sows by old A Wonder. There will also be twenty-five fall and wintor yearlings and ten top spring gilts, mostly sired by Big Hadley Jr., King Price Wonder and Big Jumbo, and bred to the five tried herd boars, Big Wonder by King of Wonders, Big Hadley Jr., Long Bob by Big Bob 2d, and Big Bob Wonder. This hog was the junior champion at the big Free Fair at Topeka in 1917. Also King Price Wonder by King of Wonders, dam Big Ben's Giantess by Big Ben, and Big Bob Jumbo by Robidoux.

The Kansas Holstein Breeders' Association will catalog and offer at public auction 100 head of registered Holstein cows and heifers on March 26, at Topeka. Arrangements are being made for a banquet to be held at the Chamber of Commerce hall on the evening of March 25. Notify W. H. Mott, secretary, at Herington, Kansas.

H. L. Faulkner, of Jamesport, Missouri, owner of the great Highview breeding farms and one of the famous herds of old original big-boned Spotted Poland Chinas, will hold his annual bred sow sale at Jamesport on February 13. The selection of bred sows for this sale will be extra good and advance inquiries for catalogs indicate the usual widespread interest in Mr. Faulkner's annual sow sales that have made Jamesport famous.

Dr. F. M. Marks, of Valley Falls, Kansas, has built up a valuable herd of ninety head of strictly milking Shorthorn cattle, all reds and of the low blocky type. The herd bull now at the head of this herd is Double Diamond by Diamond Goods. Double Diamond is an outstanding bull of the correct type. He carries a double cross of Diamond Goods and is much like his sire. Diamond Goods was by Good Choice, by Choice Goods, and out of Sweetheart. He was undefeated in the aged bull classes of the leading shows of 1912. Most of the females on the farm are descendants of the great Scotch bull, Choice Lancaster, a bull that was widely known for his breeding qualities. A feature of the herd at this time is a choice lot of young stock.

R. L. Hurst, of Bolckow, Missouri, has announced March 8 for a Duroc bred sow sale. On this date Mr. Hurst will offer forty head of spring gilts and tried sows, bred to his trio of boars, Great Pathfinder and two young boars by King the Colonel. The offering promises to be the best lot ever sold from the Hurst farm.

human food?"

Wakarusa Whispers

Our old friend, John Thomas VanDerlip, who writes under the name of Jay Vee, and will be remembered as the author of "Wild Oats," has just published a little booklet of verse entitled "Wakarusa Whispers." Mr. VanDerlip was one of the early settlers in the Wakarusa Valley, and many of the poems deal with local scenes or history. Some of them were written in the author's boyhood, while others are of recent date.

The love of Nature which permenates the verses is indicated by the following words from the preface: "Individuals endowed with pure sentiment hear the music and note the harmony of songs of birds, of the hum of bees, the melody in sound of wind and wave, and see the beauty of leaf and tree and blossom. . . . Viewing a work of art, they see the artisan; a picture, the painter; a poem, the poet; and beyond all, they contemplate the Master Mind of the universe."

A vein of delicate humor bubbles just beneath the surface, appearing here and there. Some of the album verses we imagine are sly thrusts at the persons for whom they were written.

The poem beginning

"It's worth a great deal more to live
Than it used to be"

presents a refreshingly different way of looking at the high cost of living.

The booklet is illustrated with scenes from the Wakarusa, and would make a dainty gift.

Idle Acres

In a recent news letter to farm bureau members, E. J. Macy, county agent of Montgomery County, mentions the fact that a number of farms were not farmed last season. He also intimates that there are some patches or corners that are not being farmed on at least 95 per cent of the farms. "You need only to look around," says Mr. Macy, "in order to find if your farm is in the 5 per cent or in the 95 per cent class of farms.

"Do you want to see a farm that is being farmed to the limit? Come with me some day to the Ernest Miller farm, northwest of Coffeyville. The boys that visited this farm on our last tour will remember it not only as the neatest and cleanest farm visited, but as a farm that had all possible space producing a crop or two crops each year.

"Most of the farms have from two to six acres that are not used at all. Why not use this idle land and raise some

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Offers Registered Holstein Bulls, Ready for Service. Fine toppy fellows, with straight backs, more white than black; in fact real bulls. The sire of most of these bulls was grand champion bull at the International Wheat Show at Wichita in 1916. Their dams led the Mulvane Cow Testing Association this year with records up to 85 pounds milk per day and 111 pounds butter for thirty days. Prices reasonable.

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CLYDE GIROD, At the Farm — F. W. ROBISON, Cashier Towanda State Bank

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MAURER'S HOLSTEIN FARM is offering twenty-five pure-bred heifer calves from six weeks to eight months old; also a choice lot of yearlings, bred heifers and young cows, all with top-notch breeding and at prices that cannot be equalled elsewhere; grade cows and heifers. BUY YOUR NEXT PURE-BRED BULL FROM US. For description and prices, wire, write, or call.
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