

# KANSAS FARMER

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For the improvement  of the Farm and Home.

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Established 1863. \$1 a Year

**W**EEDS use plant food and moisture that should go to the crop. The soil is full of weed seeds of various kinds. If the weeds start with the crop it is a difficult task to destroy them.

The cheapest and most effective cultivating work for destroying weeds is that done before the planting of the crop. A weed that has just sprouted is easy to kill. Before the corn is planted large areas can be covered with a harrow in a short time and in addition to killing weeds the seed bed will be greatly improved.

The corn will start with vigor in a well harrowed seed bed and will soon catch up with that planted earlier on poorly prepared ground.

There is nothing more discouraging to the corn or kafir grower than to see his crop struggling against weeds during its early stages of growth. This is sure to occur if the seed is planted in poorly prepared soil.

By proper planning at least two crops of weeds can be cheaply destroyed before planting time.

G. C. W.



*"A Weed That Has Just Sprouted is Easy to Kill"*

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## POWER PLOWING IN LANDS

By RICHARD OLNEY

**S**UCCESSFUL plowing with tractor outfits depends very largely on the method followed in laying out the field and the manner of plowing it. The best and the easiest way in the greater majority of cases is to follow the method as shown by Figures 1 and 2.

Whether the field is square, rectangular or irregular in shape, large or small, the first thing to do is to set guide stakes at each corner, of equal distance from the adjacent sides of the field, about eighteen to twenty paces—fifty to sixty feet. This should be measured as accurately as possible, as it makes it more convenient when finishing up the field.

Then with the single right hand plow of the engine gang set to cut a shallow furrow, plow in as straight a line as possible between each stake and around the entire field. The strip outside this furrow provides ample space in which to turn the outfit at the ends of the lands. The plowman should pull out the plows and drop them in on this furrow which serves as a mark. By doing this a more even job can be accomplished.

The part outside of this guide furrow should be left till last, after the portion inside has been plowed off in lands.

That part of the field inside the mark should be plowed in convenient lands by a combination of backfurling and dead furling. The lands should not be too wide, as considerable time will be lost in traveling around the ends.

The best method is to divide this portion up into a series of lands of ten to twelve rounds each by setting guide stakes. The operator should be careful to drive straight furrows in striking off these lands so he will come out even when finishing.

After the lands have been plowed off, the strip at the outside is plowed by starting in next to the plowed land at the corner, where it is desired to finish up, and plowing around and around the field. It should be so planned that on the last round, if in a fenced field, the gang will be taking its full width. In this way the operator will be able to plow closer to the fence.

**PLOWING THE HEADLANDS.**

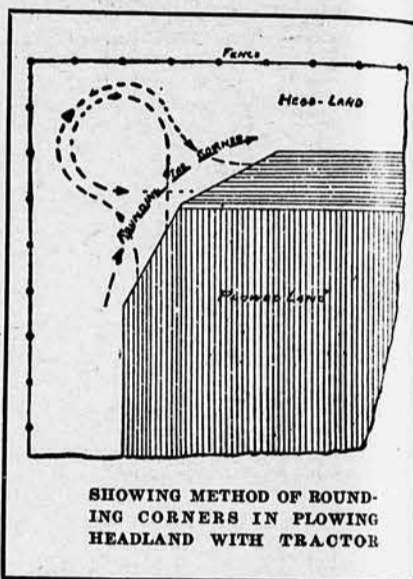
In plowing the outside strip, it is best to follow the plan shown in Figure 2. Start at one corner by dropping in the

around the field. It is known as the dead-furrow method. The plows are not lifted in turning. The disadvantage of this is that a small crescent-shaped strip is left unplowed on each corner of every round.

The second is the back-furrow method. In this one the start is made at the center and the field is plowed by back-furling to the outside without raising the plows. The disadvantage of doing this is that the plows cut a narrower furrow when turning a corner than when driving straight and consequently there is a large triangular-shaped piece left at each corner of the field, which must be plowed with horses.

Either of these two methods is unsatisfactory if a good, thorough job of plowing is desired.

The case of disk plowing is different, however, than plowing with moldboards. The method shown in the cuts would not be at all satisfactory. A field should



SHOWING METHOD OF ROUNDING CORNERS IN PLOWING HEADLAND WITH TRACTOR

be plowed with disks in such a way that it will not be necessary to lift the plows. The best method to use is the back-furrow method described above—starting at the center and plowing toward the outside.

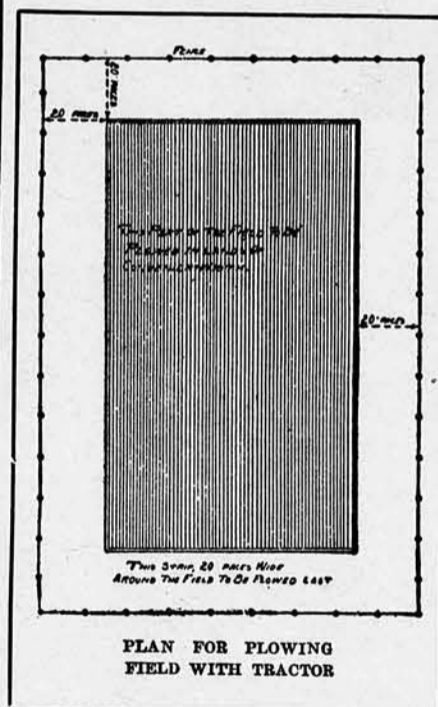
### Testing Horsepower of Gasoline Motors.

The testing of gasoline motors is a matter that is little understood even by the experienced dealer in tractors or gasoline motors. One big manufacturer measures the power efficiency of his product by using an instrument known as a dynamometer. This, in other words, is an electrical generator, so arranged that it is turned by the gas engine. The current or power is measured in two ways; first by the most delicate electric instrument, second by the actual scale which shows the number of pounds of pull produced in the generator, the field of which is on a swivel. The load is varied by cutting in more or less resistance. The indicator shows the number of revolutions per minute which the motor is running. If desired, the operation above described can be reversed, with generator running as the motor, runs the gas engine, thus showing the exact amount of friction produced in the bearings while running idle. This dynamometer is also valuable running oil and fuel economy tests. Every motor tested in this way is sent out, knowing it to be up to the exact standard of efficiency required.

### Public Watering Troughs Dangerous.

The public watering trough is a nuisance that should be abolished. It is common knowledge that some of the worst diseases of horses, such as glanders and strangles are transmitted in this way. Some of the transportation companies place notices in their establishments to the effect that teamsters are not to water at public watering troughs, under penalty of dismissal. It is quite certain that this is the most common means of spreading strangles—distemper—among horses and the public watering trough should be legally abolished.

The successful man is the man who understands his business. This is true of the farmer as well as of other business men. While most farmers know far more about their business than many believe, very few of them can keep the details well in mind unless they have a system of more or less definite records for reference. These records need not be elaborate, but should be kept for the purpose of showing the profits or losses of the farming business.



PLAN FOR PLOWING FIELD WITH TRACTOR

plows nearest the plowed land in such a way that the furrow ends will be on a diagonal. In coming out at a corner do the same thing, only start by raising the plows farthest away from the plowed land. The turn can be made by making a circle at the corners. This should be done on the first one or two rounds. After this the operator can make an easy gradual turn and no land will be left unplowed or plowed twice.

By properly following the methods as outlined above, the engine will at no time travel on the plowed ground. When the last round at the outer edge is plowed, the field is finished. And if the proper care has been exercised in doing the work, the result will be a smooth, even job, which cannot be equalled by horse plowing or any other method.

### OTHER METHODS OF PLOWING.

There are two others methods which are frequently used for plowing a field. The first is to begin at the outside and work toward the center by plowing



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## INSECT CONTROL

The possibility of serious losses from Hessian fly is the chief topic of conversation in the leading wheat-growing sections of Kansas. This pest is present in large numbers and thousands of acres of wheat will undoubtedly have to be plowed up. The mature insect is now emerging from the flaxseeds which lived through the winter. These flies are not over one-eighth inch in length. The females will lay from 50 to 150 eggs on the leaves of the wheat and these will hatch in a few days into tiny red maggots. These maggots will immediately begin to feed upon the juices of the wheat and where present in large numbers the wheat will begin to dry up and fall.

It is this new brood that will do all the damage and the number of flaxseeds found is a fair indication as to the amount of damage that may be expected.

The average farmer is usually helpless when it comes to controlling insect pests unless he is very familiar with all their habits. Special training and knowledge is almost essential in working out plans to prevent or reduce insect damage of any kind. The habits of insects are mysterious. Only the trained entomologist is competent to ferret out the habits and life history of the various insects. Without a complete knowledge of their existence from the egg to the mature insect it is impossible to work out effectual methods of control. We have such men at our experiment stations and they have shown that Hessian fly damage can be almost entirely eliminated.

Those who have paid little attention to this pest in the past are now becoming interested. When confronted with the necessity for plowing up hundreds of acres of wheat, the grower sees the value of taking up some method of controlling the damage. All that is necessary in the case of fly control is for the growers of a community to unite and put into operation in a co-operative way, the plans outlined. While nothing can be done now to reduce this year's Hessian fly damage, it is not too early to begin organizing the community for the fight to save next year's crop. The brood that is now doing the damage will pass into the dormant stage about harvest time and will be found in the stubble. The work of destruction must begin at that time.

## DAIRY COWS FOR CLUB WORK.

The boys and girls of the Kansas Farmer Dairy Club are not finding it an easy matter to get suitable cows. We are getting numerous requests to assist in locating good cows of dairy breeding for those who have enrolled. Kansas advertisers of such stock are few in number. In some counties a carload of good cows could be used by members of the club. It would seem that in some of the communities of Kansas where dairying has been followed for some time there should be some cows for sale. If there is such community in the state, these people are missing an opportunity by not undertaking to supply this demand. It would be a big advertisement for a dairy community to supply the boys and girls of some other county with the cows they need to carry on the work of the club.

Where there is any considerable number of club members, there is sure to be an increase in dairy interest, and that will mean a growing market for dairy-bred stock.

## NEW SHORTHORN PUBLICATION

The initial number of The Shorthorn in America has just come to our desk. It is to be published quarterly by the American Shorthorn Breeders' Association. The first number sets a high mark in fulfilling the purpose of the publication. If continued along the line of this issue it will become a chronicle of Shorthorn progress, a textbook that all Shorthorn students will read with interest and profit and a history upon which future generations can depend. It is printed on book paper and contains numerous photographic illustrations of contemporary Shorthorn types. Frank D. Tomson is the editor.

## DISHONEST SPRAY MATERIALS

Not only are spray materials extremely high in price, but there is the danger that commercial sprays may not be up to specifications. The Federal Department of Agriculture has been investigating and as a result there has been a large number of convictions of individuals and firms for selling dishonest spray materials. Reports of sprays being ineffectual could perhaps in some cases be traced to the use of adulterated materials. Judging from the number of convictions the evil must be widespread.

Few states have made any attempt to protect the purchaser of spray materials. It would seem that some system should be devised to make sure that the grower can depend on the materials he buys. Lists of those convicted for selling adulterated materials can be secured from the Department of Agriculture, at Washington, D. C.

## GROWING POPCORN FOR MARKET

Some weeks ago we received some inquiries relative to popcorn in Kansas.

We found that it was not grown in a commercial way anywhere in the state. The crop is quite an important one commercially in the state of Iowa, hundreds of acres being grown. Last year, owing to the lateness of the season, much of the Iowa crop did not mature.

There seems to be no reason why Kansas could not produce popcorn in commercial quantities. It begins to ripen the latter part of July and therefore escapes the dry spells that come later in the summer. After it reaches a certain point it is better for the crop if the weather is fairly dry.

An Iowa man who makes the handling of popcorn a business, has recently been making contracts with Smith County farmers to grow this crop. He furnishes the seed and contracts to take the popcorn when matured. He has already made arrangements for enough to insure a number of carloads from that part of the state.

There is a good market for popcorn and the industry could easily become a profitable one in Kansas.

## NON-REGISTERED STALLIONS

In carrying out the provisions of the state stallion license law, there is a possibility that in some instances really good breeding animals must of necessity be licensed as "scrubs". There are only three classifications under which horses can be licensed, namely, pure-bred, grade, and scrub. The scrub classification includes all those of unknown or mixed breeding.

We have just received a letter from a reader telling of an instance where a horse that has made good as a breeder is listed as a scrub. This horse was brought to the state some years ago and no pedigree was secured at the time he was purchased. He is said to have sired some of the best horses in the community. It is but natural that the owner of such horse should feel that the law has singled him out in a harsh manner, but if the horse has been successful as a breeder, publicly stating or advertising the fact that his breeding is unknown can do him no harm. The law was meant for the man who owned a horse of mongrel breeding but who represented him to be a pure-bred. The law compels such men to be honest and advertise their horses for what they are.

In spite of the fact that in this instance the horse listed as a scrub is a sire of good horses, the average sire of mixed breeding is unreliable and does not transmit even his own individuality with any uniformity. This was strikingly illustrated in a horse and colt show held in Norton County at which Dr. C. W. McCampbell, secretary of the State Live Stock Registry Board, was the judge. Even Doctor McCampbell was compelled to admit that a non-registered stallion in the show was the best horse there. Later a large ring of colts were judged. After the prizes had all been awarded, Doctor McCampbell, partly through curiosity, interviewed the owners of the colts to find out by what horses they were sired. He failed to find a colt that had even gotten inside the money sired by the non-registered horse. It was evident that in spite of the fact that he was a good horse individually, he lacked the prepotent power to transmit excellence to his offspring.

No license law of this kind can be perfect, but we believe this law has done a great deal to reduce the number of inferior stallions used in Kansas. Such horse as the one referred to by our correspondent will undoubtedly continue to be used because of his record as a breeder, in spite of the fact that he is licensed as a scrub. We do not believe, as does our correspondent, that half the stallions labeled as scrubs are pure-breds the pedigrees of which have been lost.

## FARM NAMES

We always have a feeling that people who give their farms distinctive names take more pride in their occupation than those who do not. This practice is becoming more common and certainly is to be encouraged. We have been invited to visit on some of these farms and the invitation is always given in a tone of voice indicating pride in the surroundings.

The farm name can now be registered with the county clerk upon payment of a one-dollar fee. This gives the owner exclusive right to the use of that particular name in the county.

There are eighty-two farms in Shawnee County having names. Some of these names are very suggestive.

The next step might well be the placing of the name, with that of the owner, on an attractive sign. It is always a matter of interest to the passer-by to know the names of farmers along the way, and where the farm itself has some characteristic name it is more apt to be remembered.

On farms where some special breed of live stock is kept or pure-bred seed is grown, it is a good plan to have these facts incorporated in the name or displayed on a neatly lettered bulletin board. In these days when so many people tour the country in autos, this is a most effective means of advertising pure-bred live stock and other products.

## Kansas Farmer Dairy Club Grows

**E**ACH week brings new evidence of interest and enthusiasm in the Kansas Farmer Dairy Club. During the past few days two fathers and their sons called at the KANSAS FARMER office, seeking information regarding pure-bred and high grade dairy cows. They had driven sixty miles on this mission. Realizing the club work will be of value in the boys' farm training, these fathers are interested in seeing their sons get the best cows possible in order that the year's work may be most productive.

Another father, whose young son is his farm partner, called by telephone to ask whether or not a pure-bred cow now owned by his son, could be used in the club work. They both thought not, but wanted to make sure before purchasing another cow. Upon learning that a cow must be purchased for entry, the father stated the boy would comply with the requirements.

No one can doubt the enthusiasm of the bankers of Kansas nor their willingness to co-operate in assisting boys and girls to take part in the Kansas Farmer Dairy Club.

"We do not care how many boys and girls call upon us for assistance, providing they can satisfy us they have the ability, ambition, and energy to properly carry out the work. Send us such blanks as we ought to have." These are the words of F. H. Foster of the Fort Scott State Bank.

C. R. Hoyt, cashier of the Thayer State Bank, says "We already have the applications of two boys who wish to enter your dairy club contest and will be glad to furnish the purchase money for more on the conditions outlined in your paper. We wish to look after the applicants for this territory."

The Wulfekuhler State Bank of Leavenworth has already enrolled eight boys and is looking for more.

Four girls are now enrolled, and one has just asked if she cannot come in as a partner with her older brother. Even ten-year-old boys are asking for admission.

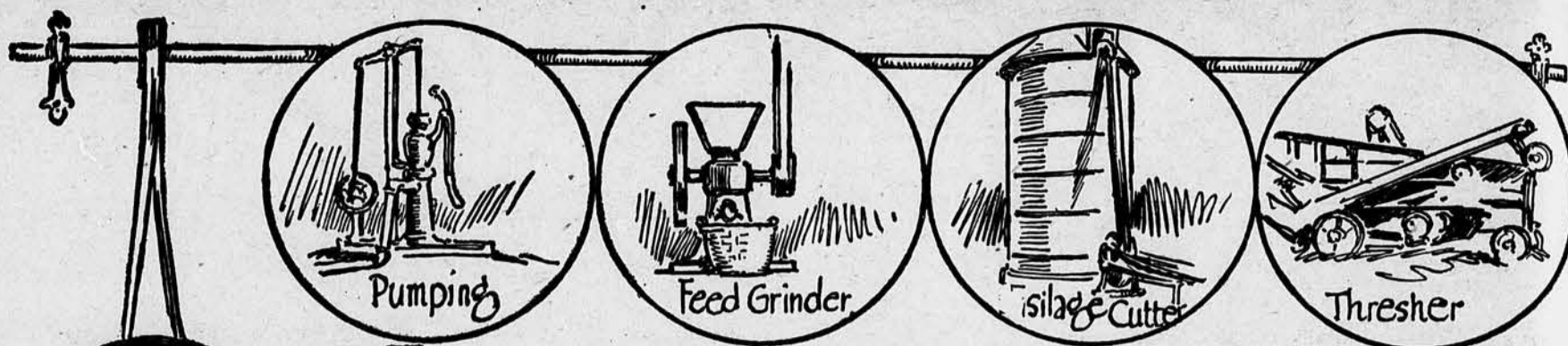
A number of those enrolled have already secured their cows and those who have not are diligently searching for cows suitable for the work of the club. P. H. Ross, agricultural agent in Leavenworth County, was out last week with a party looking for cows.

The buying of cows for foundation stock is an experience all dairymen must go through, and these boys and girls are receiving some valuable training in the selection and purchase of their cows. No matter who wins the prizes, every member of the club will have received far more of actual value than his efforts will have cost. No one who joins this club and does all the work required, can be a loser. It is a proposition in which all who enter will gain something.

At this writing thirty-four boys and girls have completed their arrangements with their respective banks and are now fully enrolled in the club.

Applications for membership will be received up to June 1. Send your names to Albert T. Reid, president of Kansas Farmer Company, Topeka, or have your bankers send them to us.

# ENGINE FARM LABOR SAVER



## Power Plant on Modern Farm Saves Money and Does Away With Much Drudgery

By J. C. SHUTT, Engineering Division, K. S. A. C.

**T**HE oil engine using gasoline or the heavier petroleum fuels has demonstrated, beyond doubt, its adaptability to the varied conditions of the up-to-date farms. Thus far it has been applied principally to pumping water, grinding feed, sawing wood, etc., but many have devised schemes to drive and operate other machines about the premises.

### FUEL USED TO OPERATE ENGINES.

Gasoline has been the principal fuel used for the oil engine. With the present prices of gasoline—and the predictions are that it will go still higher—it seems that something else must be substituted for this fuel. The kerosene, or coal oil, engine, has reached a very high stage of development and is, in many instances, replacing the use of gasoline for power purposes. Many farmers operating engines prefer to use gasoline as the fuel because it is easier to vaporize and causes less trouble. However, with only a little added care and attention, the kerosene engine is just as reliable as the other, and is very much more economical. It requires more gasoline than kerosene to develop a horse power and kerosene is also very much cheaper than gasoline.

The heavier oil engines using distillate, crude oil, etc., are proving quite satisfactory for power purposes about the farm. An advantage in favor of this type of engine is the cheapness of fuel and the absence of complicated electric ignition systems. The ignition is by compression which generates sufficient heat to ignite the fuel vapor in the cylinder, or by a hot head or bulb which is heated by a torch before the engine is started, and is kept hot by the heat of the burning gases within.

### CONNECT MANY MACHINES TO ENGINE.

When installing an engine, facilities for driving other machines should be kept in mind. Quite often it is used only for pumping purposes. An engine house or tool shed should be erected near or over the well where the engine may be housed, and, if the well is outside, a shaft or waterproof belt may be led to a pump jack over it. This may be belted direct from the engine, or better still, from a line shaft. A line shaft, if used, should extend along the entire side or center of the building and be belted direct to the engine. This shaft should be provided with a number of pulleys and belts for driving other machines. It is very convenient, but not at all necessary, to have loose pulleys on the line shaft and use belt shifters for engaging and disengaging the power to the different machines in the building.

The engine house may be used for the dairy and laundry if placed near the residence. If in, or near, the barnyard, it may be used for driving the corn sheller, feed grinder, fanning mill, etc.

Since several of the machines, as the fanning mill, grain grinder, etc., are used intermittently, it is advisable to provide means of clamping them to the floor when in use. After the work is finished, they may be stored until needed again.

### USE OF PORTABLE ENGINES.

The portable engine is very good for those who find it more convenient to locate their machines at various places about the premises. Those mounted on wheels are much easier to move about and line to the driven machine. For the smaller sizes, and when no great amount of changing around is to be done, the skid mounted engine will serve very well. The uses to which an engine of this type may be put depends very much upon its size. Those of one or two horsepower are suitable for driving the machines in the dairy and laundry and have sufficient power to pump enough water from an ordinary well—thirty to fifty feet deep—for one hundred head of stock. It is also suitable for turning small corn shellers, feed grinders, shop tools, etc.

For heavier work, such as shredding, threshing, and filling the silo, a much larger and heavier engine must be used. Sizes ranging from ten to twenty horsepower are suitable for this kind of work. The size of engine suitable depends directly upon the size of machines to be driven. A sixteen or eighteen horse engine furnishes sufficient power to drive the average size of the above named machines. A traction engine is also very suitable for the heavier belt work.

The smaller sized engines may be direct connected to a portable force pump and used for spraying trees and plants. They are also direct connected to hoisting winches for use in connection with hay derricks and for lifting hay into barns.

Many attempts have been made to apply them to horse drawn implements, such as mowing machines and binders. Those that have been attached to binders have shown a very marked degree of success. The only work necessary for the horse is to draw the machine over the field. Because of the steady power from the engine, it is claimed that the wearing qualities of the binder are lengthened and a better grade of work is done.

A great labor saving device is the wagon dump and grain elevator. A small engine furnishes power to raise the front end of a loaded grain wagon, dumping the grain into a hopper, which is conveyed from this by a chain elevator into the bin or crib.

### FARM ELECTRIC LIGHT PLANT.

Without doubt the best time to generate electricity for a lighting plant is while the engine is being used for pumping, separating, or other purpose. It is true that many engines are being used only for driving small electric light dynamos. While most electric machines

used for this purpose are small and consume very little power, it is advisable to install a larger engine and use the surplus power for other purposes while the storage batteries are being charged. Many are finding it very convenient to install an electric equipment of fairly large capacity and then have electric motors at various places about the farm buildings for driving the various pieces of machinery. The electricity is available not only for lighting purposes in the residence, but may be used for electric fans, flat irons, running the sewing machine, etc. Most of the engines used for electric lighting purposes are now being arranged as self-starting. The dynamo takes current from the battery and runs as a motor, turning the engine until it starts on its own power. Then, as the engine turns the dynamo, current is generated which supplies the mains and stores electricity in the battery.

### ENGINE NECESSITY IN FARM SHOP.

No farmer should attempt to get along without some tools for general repair work. Too often the general repair man is no more competent to repair a piece of machinery than the farmer himself. The time required to remove and take the broken pieces to town is generally much longer than that necessary to do the work at home, were a shop equipped for that purpose. Most repair work that is done in the average blacksmith shop is of such a nature that it might well be done at home. Broken castings are drilled and a plate riveted on to hold them together. The welding of mild steel and iron is very simple and with a small amount of practice most men can master the art fairly well. The most useful tool in a shop is an emery wheel, and it is absolutely necessary to have some sort of power other than that of hand or foot to turn it. As for the forge or post drill, they may be turned by hand, but this becomes tiresome and many jobs may be slighted that might otherwise have been finished well had some more powerful means been used for driving the machines. A small rip saw in a shop will soon pay for itself in time and money saved by working broken and split timber into sizes suitable for the various needs about the farm. Wide boards have often been used where narrower ones were much more desirable, but time and means would not permit one to be ripped from a wider one.

In placing an engine for shop power, or for driving a feed grinder or fanning mill, a tight partition should be built between the engine and the machinery to be driven. If a forge and emery wheel are to be driven, a part of the emery wheel wears away with use and dust from the forge as well as emery is carried about the shop by air currents which settles on the engine and is carried into the moving parts, causing very rapid wear.

# GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments

**S**UBSCRIBER H. M., Wilson County, asks if it is a good plan to burn off a prairie grass meadow in the spring.

If quantity of grass only is to be considered, it would be better not to burn. The fall growth of the old grass which settles down against the ground helps to retain moisture and supplies plant food as it decays. Burning the meadow each spring will reduce the total amount of grass grown quite materially.

The quality of the hay produced, however, is always improved by burning. No matter how close the old stubble may have settled down to the ground, enough of it will be raked up with the new hay to give it an off color. Its feeding value is not affected, but if it is to be sold on the market it will not bring as much money as will bright hay free from this mixture of old grass. Burning late in the spring after the weeds have started will kill them or at least set them back so that the hay produced will contain less weeds when it is cut. If the hay is to be fed on the farm, we would not advise burning. If it is to be marketed, the extra quality of the hay produced would more than offset the reduction in quantity.

## Salting Does Not Improve Fodder.

M. M., Reno County, asks if it is a good plan to sprinkle salt water over some poor quality fodder he is feeding to his milk cows. They do not seem to relish it and his idea is to get them to eat more of it.

Usually very unsatisfactory results will follow trying to feed milk cows on forage of poor quality. Animals that are simply being maintained will use low grade roughage to advantage, but milk cows are hard-working animals and even though they might be induced to eat more of this poor fodder, the nutrient value is not there and little effect could be expected in improving the milk flow. It is true, cows need salt, but it is never advisable to give salt in connection with feed. Salt is most satisfactorily supplied by keeping a box of it handy where the cows can help themselves to it whenever they want it.

If there is any good forage on the place it would pay to give it to the milk cows at this season of the year. It might even pay to buy some good alfalfa hay rather than allow them to fall off seriously in milk flow.

## Age to Breed Fillies.

P. S., McPherson County, writes that he has a two-year-old filly of draft breeding weighing about 1,200 pounds. He wishes to know whether it would be a wise plan to breed her this season.

Well developed facilities can be safely bred at this age, but they must be given the best of care and feeding to avoid checking their growth and development. Raising a colt puts considerable strain on the young mare, but we can see no reason why fillies of this age should not be bred. It is being successfully done by horsemen all over the country. Our correspondent must remember, however, that his filly has not only her own growth to complete, but must provide nourishment for the developing colt. The careless feeder had better not risk breeding his fillies at two years of age.

## Deep Plowing.

P. L., Jefferson County, writes that he is on a farm this year where the indications are that the land has never been plowed more than four or five inches deep. He has been in the habit of plowing much deeper than this and asks if it is advisable to increase the depth of plowing very much on this farm this season.

Four or five inches is certainly very shallow plowing and we would not expect corn or other cultivated crops to give very good results where land is not plowed deeper than this. A deep seed bed is to be desired on nearly all kinds of soils. It is not always a good plan to plow new land deep the first year, as it is necessary for the soil to become mixed with organic matter before it is suitable for plant growth. Greatly increasing the depth of plowing in a single year might bring up so much raw soil that it would take several years for the land to get into ideal condition for growing crops.

A shallow seed bed compels the roots of the crop to spread out on the surface. This of necessity restricts their feeding area and makes the crop much more susceptible to dry weather. Soil that has been plowed shallow for a number of years quite often has an artificial

hardpan subsoil made by the sole of the plow. This makes it even more difficult for the plant roots to grow below the bottom of the furrow. If this is the condition on our correspondent's farm, we would advise that the plowing be deep enough this year to break up this subsoil which is found at the bottom of the former furrows. This will deepen the seed bed and will give the roots a larger amount of soil from which to draw.

A deep seed bed not only gives the plants access to a larger amount of fertility, but helps to store a reserve of soil moisture. It might not be advisable to plow this land eight or nine inches deep this year, but the depth could safely be increased an inch or two with good results.

## Market for Castor Beans.

An Oklahoma reader asks if castor beans can be profitably raised, what the seed costs, and how and where they are marketed.

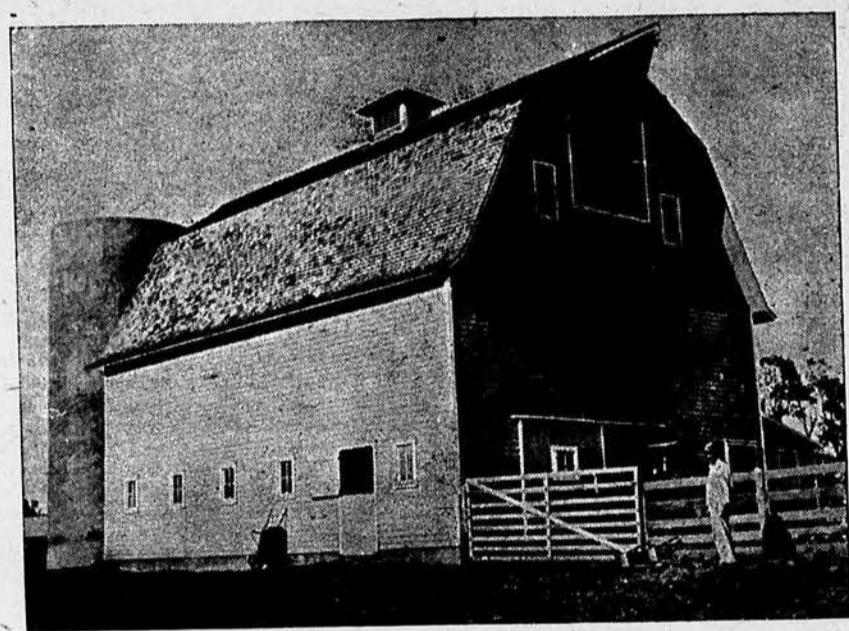
This crop is grown mostly in the Southern States. Only eighty-seven acres were grown in Kansas last year, according to the figures given out by

smoothed and a coat of cement plaster applied. This should be made of one part of cement and two parts clean sharp sand. It may be necessary to moisten the dirt somewhat before applying the plaster. Another four or five feet can be dug and plastered, and so on until the desired depth is reached. This method saves scaffolding work. Some device should be rigged up to haul out dirt. Those who have had experience in digging wells will know how to handle this part of the work. A windlass and bucket is commonly used. We would suggest that our correspondent write to his experiment station at Berkeley, California, for advice relative to the pit silo for his particular section.

A bulletin on the pit silo can be secured from the Kansas Experiment Station at Manhattan.

## No System to Road Work.

I differ from State Highway Engineer Gearhart very much in regard to the building of surfaced roads. I think what we need is a system of better graded and dragged earth roads. In traveling over the county you seldom see a properly graded road. They are just small



LARGE HAY STORAGE SPACE SPECIAL FEATURE OF THIS DAIRY BARN ON FAIRLEA FARM, SHAWNEE COUNTY

our State Board of Agriculture, and over half of this acreage was in Bourbon and Cherokee counties.

The Oklahoma Experiment Station has grown these beans experimentally and in Bulletin No. 54 of that station, the results of this work are given. Those interested should write to Stillwater, Oklahoma, for the bulletin. They found that the best time to plant was about the middle of April. The beans began ripening the third week in July. The best yield they secured was 12.9 bushels an acre.

The beans are marketed in the East, but we can give no information as to prices, nor the probable cost of seed.

## Pit Silo Information.

A. P. H., a California reader, asks for information about the pit silo.

The pit silo is simply a hole in the ground and will preserve silage as well as any other type of silo providing the soil is of such nature that no water seeps into the pit. This type has been quite extensively dug over the Great Plains area, including Western Kansas, Eastern Colorado, and Western Oklahoma. Its principal merit is that it costs very little to make outside of the labor.

Such silo should not be located where there is any possibility of surface water getting into it.

The first step in digging a pit silo is to make a collar of concrete about six inches thick, to prevent the dirt from caving in at the top of the hole. This is done by digging a circular trench 18 to 24 inches deep and filling this in with concrete, using about one part of cement to four parts of sand, or one to five if the sand contains some coarse gravel. After this has set for two or three days, the digging can begin. Great care should be exercised in doing this work in order that the walls be kept perpendicular. After digging four or five feet the walls should be carefully

grades, and when the heavy rains come they become water-soaked and cut up very easily. If the road were properly graded, making a deep, wide ditch, and a good crown were kept on the grade, the road would become solid and would shed the rainfall and become dry after a half day's sun and wind.

The reason we are spending so much money and derive so little benefit from it is because of the poor system of road work and poor work that is done. For instance, I know of many places where the township and county have expended \$2,000 at different times and received no permanent good from it. The trouble with the road work is that there is no system to it and the work done is not permanent in many cases.

I know of a piece of road that a year ago was almost impassable. I have seen three teams stuck along this road at one time on a three-quarter mile stretch. They finally cut two good ditches and now this road is all right. I speak of this simply to illustrate what proper ditching will do.—FRANCIS LONG, Greenwood County.

## Opposes Road Building by State.

Being somewhat of a good roads enthusiast, I read with a good deal of interest State Highway Engineer W. S. Gearhart's article on "Financing Road Building" in last week's issue of KANSAS FARMER. There are several sides to this, as well as to most other questions. Considerable study of the good roads question has convinced me that under existing conditions of development, the common people and farmers of Kansas cannot afford to build what is generally understood by "improved" or "surfaced" roads, costing thousands of dollars a mile to build, but should concentrate their efforts to making and maintaining the best dirt roads possible and building good, durable culverts and bridges.

Our enthusiasm for good roads should always be bounded by the question: "Is

it a good investment? Will it pay, not only the favored few who happen to own property adjacent to a proposed 'improved' road, but the community at large as represented by the people of the township, county or state?" The "improved" roads advocate will be ready with the assertion that it does, but the very plans proposed for financing such projects shows the fallacy of this claim. Mr. Gearhart, after dwelling on the prosperity of the people of Kansas, and reciting the fact that the state is out of debt, asks why the state should not assist in building some good roads? He then proposes that the state should pay 35 per cent of the cost, the county 30 per cent, the township 20 per cent, and the abutting property owners 15 per cent.

Now, let us turn Mr. Gearhart's question "to other end to" and ask: "Why should the state pay 35 per cent? Why should the Shawnee County taxpayer, for instance, pay for an 'improved' road past my farm in Butler County, which he will probably never see or travel?" Just because Kansas is out of debt and her people prosperous? No, the real reason is that if the money is to be raised by the people benefited, the cost will at once be shown to be prohibitive, while if we see a chance to shift 85 per cent of the cost to other shoulders we will be apt to boost the cause, trusting to luck to shift a good portion of the remaining 15 per cent onto some of our neighbors in the assessing of benefits.

It seems to me that every road improvement project should stand on its own merits, and that the Hodges law cited by Mr. Gearhart, providing for county aid building bridges and culverts, and 25 per cent township aid, is certainly going far enough in the matter of outside aid. Any road that is not feasible to build under such provisions, had better be left unbuilt.

I am strongly opposed to state aid in road building, as the benefits to be derived from good roads are at least 90 per cent local, and state aid under such conditions is degrading and demoralizing, but am in favor of liberal and wise expenditure of township funds for grading and dragging dirt roads, not only "between cities and market centers" but throughout the whole township, for, as has aptly been said, as the strength of a chain is determined by its weakest link, so is the hauling capacity of a team determined by the poorest stretch of road. Hence, my plea for the best uniformly good dirt roads we can profitably maintain.—J. H. CLASSEN, Butler County.

## Another Breed of Horses.

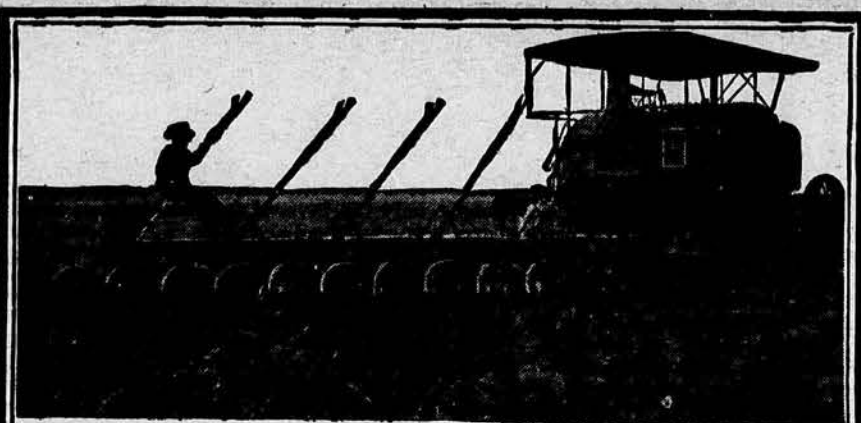
We have just received a communication suggesting the idea that we need a new breed of horses. This writer argues that while the typical draft horse has his place on the farm, it is not the only one. He thinks farmers are contenting themselves with horses entirely too small and of very inferior character for cultivating crops and doing other work for which the heavy drafter is not adapted.

We have no pure-bred horses of the size and type classed as wagon horses. This is the market class including expressers, delivery wagon horses, artillery horses, and fire horses. On the farm horses of this size and conformation are specially adapted for use on the mower, cultivating and harrowing on soft ground, or for farm work. The question raised is, would it be an advantage to take up systematically the breeding and development of horses of this type, with the end in view of eventually having a distinct breed? Do we need a new breed to supply the missing link between the automobile and the draft horse? We would be glad to have KANSAS FARMER readers give their views on this subject.

## Looking After Spring Litter of Pigs.

With the price of hogs soaring around ten cents a pound it will pay to give intelligent care to spring litters of pigs. They should have a comfortable house with dry bedding, milk or milk and shorts ration by the third week of the pig's life, and a clean place to eat with plenty of forage as they get older. If a little pen or creep is built near their sleeping place they can be fed when they are young and small, which prevents the young porkers from losing their "pig fat." By keeping a succession of forage crops for the pigs through the summer the ration of grain can be lessened and the profits increased.

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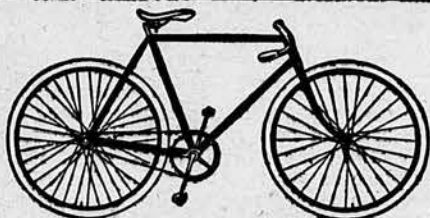
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### Finishing With Milo and Feterita

**E**VIDENCE continues to accumulate that finishing cattle for market is not dependent on corn. For many years it has been the custom to ship the cattle grown in the West to the corn belt to be finished for market. In the territory tributary to Garden City, 6,000 cattle have been on feed the past season. Cattle feeders through this section have been experimenting with the feeding of ground milo and kafir and the results have been most satisfactory. Only last week four carloads of fat cattle were marketed by George T. Inge, of Finney County. These had been fattened on milo, alfalfa, and a little cottonseed cake. They gained well from the very beginning and the increase has been made more cheaply than it could have been in the corn belt and the cattle were just as well finished as they would have been if fed corn.

The beet sugar company has taken up live stock farming extensively, and this company is now finishing several thousand head of cattle, using milo as the grain ration.

The climate of this part of the state is much more favorable to cattle feeding than is the climate farther east. In Eastern Kansas and Missouri feed lots frequently become so muddy during the winter and spring seasons that it is absolutely impossible for cattle to be comfortable. Under such conditions gains are always poor and are made at high cost. There is never any trouble of this kind in the grain sorghum country. Cattle can always be assured of a comfortable place to lie. Not only can the cattle be grown more cheaply under the conditions prevailing in the grain sorghum country, but they can be finished for market as satisfactorily as in sections farther east. There will undoubtedly be much more feeding of cattle as it becomes more generally known that milo and kafir can be used when properly supplemented, for this purpose.

#### Grain for Live Stock.

Live stock production in the past has been marked by great extravagance in the use of grain. The old type of steer feeder gave little consideration to the feeding value of the roughage he used. He looked upon this as simply filling—something that must be supplied to the ruminant animals but not for nutrient purposes.

Grain now has too high a market value to be fed to live stock as formerly. Economy in live stock production requires that the fullest use possible be made of rough feed. In Argentina, which is our greatest competitor in beef production, almost no grain is fed to cattle. They are fed on alfalfa, and the beef produced enters into the trade of the world. Almost all of the grain produced in this country is exported. While it is impossible to produce the highest quality of beef on roughage alone, this Argentina product forms a large part of the world's beef supply.

Even with the high prices for grain, some is necessary on the live stock farm. Some classes of stock can be fed and maintained for considerable periods on roughage alone, but there are few live stock farms where it is advisable to leave out of the plans some provision for grain crops. While corn has long been the principal grain feed for stock, the grain sorghums are coming more and more into prominence and are being used as a substitute for corn. Even where corn is commonly grown, putting out a reasonable acreage of kafir will make grain for the stock more certain. It is not wise to put all the eggs in one basket. A permanent system of live stock farming cannot be developed without the growing of some grain, even though stock must be considered largely as a means of marketing the rough feed of the farm. By practicing a little diversification in the matter of grain crops, the chances of failing entirely will be lessened. We believe much greater consideration should be given to the sorghums as producers of grain for live stock feeding.

Control of hog cholera has been most successful in the counties of Kansas having farm bureau organizations. In many of these counties almost the first thing the agricultural agent was called upon to do was to assist in vaccinating hogs on the farms of bureau members. It has been estimated that over a hundred thousand dollars has been saved in these counties as a result of this hog cholera work done through the agency of the farm bureau. This disease has even caused trouble in Southwest Kansas, but through the systematic work of Lee H. Gould, district agricultural agent, every outbreak in that section during the past year has been controlled.

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## Terms Applied to Market Beef

Few persons know the names given the several kinds of beef. For instance, "Carcass beef" includes both full sides and quarters. The classes are steers, heifers, cows, bulls, and stags. The grades within the classes are prime, choice, good, medium, common, and canners. The grades are based on differences of form, thickness, finish, quality, soundness, and weight.

"Native" carcass beef has sufficient finish to indicate grain feeding; is comparatively compact in form, thickly fleshed, mature in proportion to age, and consists chiefly of medium to prime steers, heifers, and cows of heavier weights. "Westerns" are relatively "rangy" in form, "grassy" in color and general appearance, coarser in quality, and inferior to "natives" in finish, consisting largely of common to good cows and steers. "Texas" beefs are light-weight carcasses inferior to "westerns" in form, finish, and quality, usually bruised and showing considerable age, consisting chiefly of medium, common, and canner cows and heifers.

"Yearlings" are carcasses of young steers and heifers of 400 to 700 pounds dressed weight, with sufficient quality and finish to be sold at retail or on the butcher's block. "Butcher cattle" are those especially adapted to butchershop trade, and consist principally of medium to choice heifers, steers, and cows. "Kosher" cattle are beefs that have been slaughtered, inspected, cleansed, and labeled in accordance with Jewish rites, and include medium to choice steers, cows, and heifers. "Distillers" are steers, bulls, and stags that have soft, "washy" flesh and "high color," characteristic of cattle fattened on distillery slops. They are principally of medium and good grades.

"Shipping" beef refers to that sent to Eastern cities, and consists chiefly of steers, heifers, and cows of medium to prime grades. "Export beef" is made up mainly of medium to choice steers, and includes good and choice heifers, heavy cows, bulls, and stags.

## Texas Cattlemen Pass Resolutions.

The Texas Cattlemen's Association has a membership of almost four thousand. At their recent annual meeting many important subjects connected with the live stock business, were discussed. They turned down the proposition advocating co-operative slaughter-houses. This suggestion came from the National Live Stock Association. It would seem from this action that the Texas cattlemen consider cattle production as their principal business and can see no justification for branching out into the packing house business. They did, however, recommend municipal slaughter-houses for Texas cities.

The proposed congressional investigation of the packing house was discussed at considerable length. The governor of the state advised that they proceed cautiously in order not to create the impression that Texas is unfriendly to capital, but the cattlemen passed some resolutions, the principal point being that Congress be urged to inaugurate a uniform and comprehensive system of accounting for packing houses doing interstate business, this to be under government supervision.

Some most vigorous resolutions were passed relative to guarding more closely against the introduction of infectious live stock diseases into the United States. These resolutions protested against the admission of any stock, hides, or other animal products without the most rigorous inspection.

In view of what has happened in the last year or two, cattlemen are justified in demanding a larger degree of protection from this danger. Although the Kansas outbreak of foot-and-mouth disease was handled most efficiently, it cost the state almost \$6,000 to pay its share of the value of animals slaughtered. In addition there were other expenses that had to be met. This is but a drop in the bucket as compared with the cost of this outbreak to the live stock interests of the country as a whole.

Live stock production is a fundamental industry in this country, and the demands made by such an association as this Texas organization, command a most respectful hearing all over the country.

The state experiment station bulletins are free to Kansans. All that is necessary is to write Dean Jardine, Director of Kansas Experiment Station, Manhattan, requesting that your name be placed on the mailing list for bulletins.

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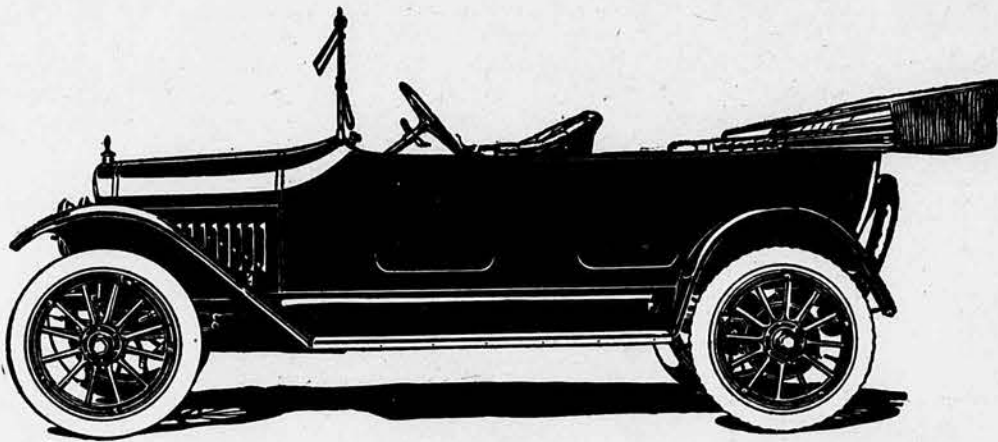
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## Banker and Live Stock Industry

From Address at Hays Cattlemen's Meeting—By M. L. McClure of the Federal Reserve Bank, Kansas City, Mo.

SINCE the Federal Reserve Banking Law went into effect, there has been a remarkably steady financial condition, not so much for what has been done as for what could be done through it should an emergency arise. Knowing what it could do has prevented such emergencies arising. During the past eighteen months at least a half dozen incidents have occurred over which the public and the bankers would have gone into financial fits under old conditions, such as the sinking of the Lusitania and the present critical situation with Mexico. Through relying on the saving emergency purpose of the Federal Banking Law, the situation has remained calm and financial affairs have been serene.

The construction of the Federal Board at Washington in regard to the eligibility of cattle paper is very liberal, and has caused a demand for that class of paper among the member banks, as it is about the easiest paper of all to rediscount. However, that law will not make bad loans good or security that has decreased in value sufficient to pay notes. The eastern banker now wants cattle paper for the reason that loans secured by stocks and bonds and for speculation cannot be rediscounted by the Federal Reserve Bank, as they are not eligible; and at present they have not sufficient demand for their money in the East. All this has made it possible to finance the cattle business as never before. But, so much easy money may not be of benefit to the legitimate cattle interest. It may encourage speculation, over-buying, over-production and over-stocking even among experienced men. It also enables those who are not experienced and not heretofore engaged in the business to go into it and finance their deals in competition with the experienced men. All this is dangerous and there are some indications now that we can expect lower prices for feeders and stock cattle, which are higher in proportion than fat cattle have averaged in the past two or three years. It is a well known fact that in the past few years production of cattle has increased, and it is said that the consumption of beef has decreased. We can see the supply, but we can't see the demand. Each year we know the receipts of beef cattle on the markets, but the demand for beef products is only known to the packer, but we can guess that the demand is better when the exportation has been as heavy as it has been in the past year and a half. When there is general prosperity there are more people employed, causing an increased consumption of beef. Therefore, it is held that we should have had better prices during 1915.

This country, on account of being comparatively new, has had a high rate of interest on account of there not being sufficient funds at home to finance the cattle deals, and a high rate of interest had to be made to induce the loaning of

money to the cattle interests. We think those conditions now are changing. The security is becoming better; this new country is becoming richer, and nearer self-sustaining, and not requiring so much outside eastern assistance. Hence, the rate of interest has a tendency downward. The amount of money that is necessary to finance the cattle interests in the Tenth Federal District is enormous. The banks, loan companies and commission men alone at Kansas City loan annually over eighty-five million dollars to cattlemen. It is estimated that in the district it requires 250 million dollars to finance these interests, a great part of which has heretofore been procured from the East. It is now hoped with the assistance of the Federal Reserve Bank, and with general prosperity in this district, to reduce the amount that has to be obtained from the East, making it a matter of home interests, and the loans being held in your immediate vicinity, you will perhaps have better treatment, as the situation will always be understood better by home people.

There is another matter of great importance that has been discussed during the past year, and that is marketing of live stock. The present system of marketing live stock in the United States has been a development and an evolution and is based on the open, competitive, public marketing system where all the competition there is can be had, and the sales there made are published to the world so that every one can know the market. The boards of trade in the great cities establish the grain markets and publish them.

The cotton exchanges establish the price for cotton through sales made and their publication, just so does the live stock market at the great centers establish the market for live stock and publish these sales so that every man engaged in the business, however small he may be, can know the market. The price obtained on these open, competitive markets is the yardstick or measure for all prices everywhere in the United States.

The price you obtain for the fat calf or cow which you sell to your local butcher is measured by the price that such stock would sell for at the nearest open, competitive market. Therefore, you can see at once the great importance of maintaining these markets and conducting them, so that competition there is can be had and more competition, if possible, created.

The number of cattle, hogs and sheep that are marketed annually on the eighteen main central live stock markets in the United States is staggering. At the public, competitive markets, there are annually marketed around 10,500,000 head of cattle; about 25,000,000 head of hogs, and 15,000,000 head of sheep. The present system of marketing is established and the business so vast that any

## SPRAYING SCHEDULE

AFTER careful experiments, corroborated by extended orchard work, the following is recommended by the Kansas Experiment Station as the most satisfactory spraying schedule:

1. CLUSTER-CUP.—This spray is composed of one and one-half gallons of commercial lime-sulphur and two pounds of arsenate of lead to every fifty gallons of water. It is applied in the interval between the opening of the cluster buds and the opening of the blossoms. It has prevented a very large percentage of the normal curculio damage. It is also very valuable in controlling apple scab.

2. BLOSSOM-FALL.—This spray has the same composition as No. 1. It should be applied after the petals have fallen from half to two-thirds of the blossoms and before the calices close. This spray controls a large percentage of the first brood of codling moth and aids in the control of curculio.

3. THREE-WEEKS SPRAY.—The composition of this spray should be the same as for Nos. 1 and 2, or, if apple blotch is present, Bordeaux 3-4-50 should be substituted for the lime-sulphur. If the weather is damp and threatening at the time when this spray should be put on it will be safer to use the lime-sulphur, and then, as soon as the weather permits, a spray with Bordeaux should be put on. This also aids in controlling curculio and codling moth.

4. FIVE-WEEKS SPRAY.—If blotch is present in the orchard another spraying with Bordeaux should be put on at this time in order to have good control of it.

5. TEN-WEEKS SPRAY.—This spray is applied about ten weeks after blossom-fall. It is composed of two pounds of arsenate of lead, with the addition of Bordeaux if blotch is present or if bitter rot is expected. This spray is valuable in controlling the second brood of codling moth.

6. THIRD-BROOD SPRAY.—Where there is damage from a third brood of codling moth another spray of two pounds of arsenate of lead to fifty gallons of water should be used just as the fruit starts to ripen.

In ordinary seasons and under ordinary conditions sprays 1, 2, 3 and 5 will be sufficient.



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30x4 in.	12.75 3.50	30x4 3/4 in.	22.50 5.75
30x4 1/2 in.	15.75 4.50	30x5 in.	26.00 6.50
30x4 3/4 in.	16.75 4.75	30x5 1/2 in.	28.50 6.50

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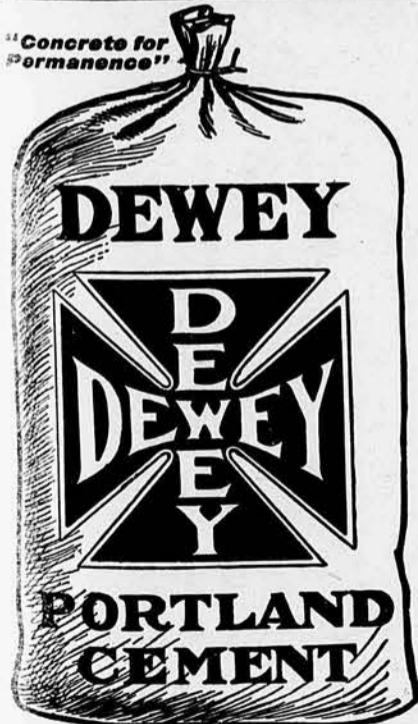
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change from that system would create confusion and destruction to established customs and values. Therefore, nothing should be done to narrow or restrict, but everything should be done to encourage and broaden this system.

**City Boys Study Stock Judging.**

The study of good live stock makes a strong appeal even to city-raised boys and young men. The Saddle & Sirloin Club of Chicago, now has under way a most unique and interesting experiment which consists in ministering to this desire for live stock knowledge in the city of Chicago. Under its management a series of live stock judging demonstrations is being given in the auction ring of the horse market at the Union Stock Yards. These demonstrations are given evenings, and at the first class 143 enthusiastic young men listened attentively for two hours and twenty minutes to the lecture on horses by S. R. Guard of the Breeders' Gazette staff. At the close, a judging contest was proposed and every member of the class took part. Three horses were placed and reasons were submitted in writing. The prize was a copy of "Judging Live Stock" by John A. Craig. This prize was awarded to William Nachtingall, a clerk in the city offices. He expects to take up farming as a life work, and the following extract from his paper on the placing of the horses, shows that he has a clear knowledge of what constitutes a good horse:

"According to my judgment, I believe the horse placed first is the best for the following reasons: In general appearance he was large, heavy, broad and well proportioned. His skin and hair were fine. He lacked a little action, but he had a great length of stride. He had a gentle disposition.

"He had a very intelligent looking head which was well carried. His nostrils and windpipe were large, which shows great breathing capacity. Between his bright and clear eyes, there was great width, indicating power and intelligence. His neck blended well into his shoulders. His shoulders sloped gradually to receive the collar. He had a deep chest, as should be, for here the heart and lungs are located.

"His front legs were placed well under his body and the cannon bones had a flat appearance. The pasterns slanted at the correct angle.

"His back was short. The ribs were close together and well sprung. He was long and broad in the croup. His tail was mounted fairly high. The muscles in the gaskins were large. He had good hocks. His hoofs were smooth with a waxy appearance."

At the next session cattle will be the subject of discussion. In addition to this work of the Saddle and Sirloin Club, 125 boys and men are studying agriculture in evening classes of the Chicago high schools.

Good live stock has always been a force in keeping up the interest in farming. Young men raised on farms where the best of animals are kept, seem to have less inclination to get away and work at something else, than do those on farms where inferior stock is kept. Good live stock has an important part to play in keeping up the interest in farming as a business. It not only helps to hold those raised on the farm, but is a strong force in turning city-raised boys to farming as an occupation offering splendid opportunities. This is evidenced by the keen interest being taken in this Chicago work.

C. P. Hartley of the Federal Department of Agriculture has made five tests of corn in each of twenty-eight states and has found that home-grown seed gives much higher yields than corn brought from a distance. In Ohio, two samples of the same strain of corn were planted side by side. One was home-grown and the other brought from a distance of only fifty miles. The home-grown seed yielded 47 per cent more than the seed brought from fifty miles away.

Four good and well known varieties of Eastern Kansas corn were planted last year on the experiment station farm at Dodge City, in direct comparison with four good but less known varieties of Western Kansas corn. The average yield of the four western varieties exceeded the average of the four eastern varieties by 16 bushels and 10 pounds per acre. In other words, the imported seed was not adapted to Western Kansas conditions.

The value of a dairy bull is determined by his ability to transmit the qualities of the cows he descends from, the most important individual among these being his dam. A dairy bull proves himself through his daughters.



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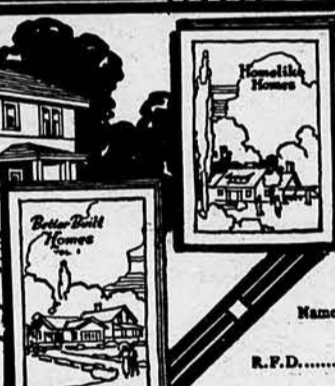
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## FEEDING DRY COWS

It is generally assumed that dry cows do not need much feed. It is true, they are not converting feed into milk, but the unborn calf is making heavy demands and the cow, to be most profitable later, should be so fed as to accumulate a little reserve. A cow that has gone through a long lactation period needs this dry period to recuperate and if kept on too meager rations the full advantage of the rest is not secured.

There should be plenty of protein in the feed at this time for while a very small amount is required for mere maintenance, the dry cow soon to be fresh is doing more than maintaining her own body. Little or no grain is required if the roughage is of good quality. Straw and corn fodder are not suitable because they are too highly carbonaceous. It takes protein to build tissue. The dry cow should have some such roughage as alfalfa, clover, or cowpea hay.

It will not hurt in the least to have a good milk cow accumulate some fat during this resting period. Some dairy-men seem to have a great fear of feeding their cows so they will get fat. A milk cow that gets fat while being milked is not profitable because the feed that should go to milk is being stored as body fat, but during the dry period even the most highly organized milk cow can with profit be so fed as to accumulate a considerable reserve of fat. In the cow possessing the dairy temperament this reserve will be drawn upon during the first few weeks following freshening and more milk will be produced than if she has been so fed as to prevent the accumulation of any fat.

A cow coming up to calving time carrying considerable fat will gradually fall off in flesh until she has reached her normal working condition. We believe this is a point that owners of cows of dairy breeding should not overlook. If the cow is bred right the extra feed stored as fat in the few weeks before calving will be a distinct advantage in enabling her to give a maximum flow of milk during the beginning of the milking period.

A Jersey cow, Mary Maiden, owned by J. T. Thompson of Portland, Maine, has recently made a remarkable record in the production of high testing milk. The average butter fat test for the year was 8.13 per cent. The lowest monthly test was 7.13, and the highest monthly was 10.05 per cent, this being the average test for the twelfth month. This cow was undergoing the regular Register of Merit test which was supervised by the Maine Agricultural College. The total butter fat production for the year was 560.4 pounds.

#### Development of the Dairyman.

A good man is usually the result of good "bringing up" and his own efforts to be just a little better citizen each succeeding day. A good character isn't made in a day or a year. It is the result of many years of doing well. What has this to do with the development of the dairyman? Good dairymen are developed in the same way.

It should always be borne in mind that the owner of the cow must be a better dairyman than she is a dairy cow, otherwise the herd will be graded downward instead of upward. The man who has not been giving thought to the dairy business and who has been keeping cows just because he happens to have them on his hands should also remember that his herd is an exceptionally poor one if there are not a few cows in it that will make pretty good returns if he gives them the chance. These are the cows to which he should give special attention. He should serve them with a good dairy sire and keep the heifer calves from them. He will be delighted with the first cross.

"Nothing succeeds like success." One can't become half so enthusiastic over what some other fellow is doing with his cows as he can when he begins to see the results of his own efforts in his own dairy. He may be aroused to the possibilities of dairying by reading about what some dairymen are getting out of their cows, or when he hears them tell about it, but he can't become a real enthusiastic dairyman until he is enjoying the returns himself.

A good dairyman is the result of years of association with good cows. When a man attempts to become a good dairy-

man all at once, he generally makes a dismal failure. Start in the dairy business by taking good care of the common cow. Improve the herd by improving yourself in that line of work. Then you will be working in harmony with reason and will eventually become a good dairyman.

#### Good Water for the Milk Cow.

Milk is about 87 per cent water. Unless the cow has all the water she wants and can have free access to it, the milk flow will be reduced. It is astonishing how much water a cow will drink in a day. This water should by all means be clean. Frequently cows are compelled to get their water from stagnant ponds during the summer season. Such water is certainly not suited to go into a food product. An abundant supply of clean, fresh water is indispensable on a dairy farm.

#### Grinding Grain for Milk Cows.

No farm where much stock is kept is complete in its machinery equipment unless there is a good feed grinder. Grain fed to milk cows should be ground fine. It is almost impossible to buy ground feed that is really ground as it should be. Go to the grain dealer and call for ground corn and you get cracked corn. You must buy corn meal in order to get corn ground as it should be. The same is true with ground barley. Even where the grain is purchased it pays to buy the whole grain and grind it as you wish to have it ground. Then, too, you don't have to take the sweepings from the mill.

Even if it were possible for the cow to digest all of the whole grain that she eats, it would still pay to grind it for her. As a matter of fact she doesn't digest it, as every farmer knows. Every bit of energy that the cow uses in grinding her food must be supplied from the food and that energy can be more cheaply furnished in the grinder by means of a gasoline engine.

#### Variations in Cream Tests.

Variations in test cause many misunderstandings. Many fail to see why tests are bound to vary from day to day. Change in the speed of the separator is the most common cause of variations in the per cent of fat in cream. The greater the speed of the separator, the smaller the amount of cream and the higher the per cent of fat. A separator when run at three-quarters of the regular speed may deliver cream testing as much as 10 per cent less in fat than when the same machine is run at the regular speed. When run at the lower speed, a larger quantity of cream is secured and it always tests lower. A variation in speed has a much greater effect upon some machines than upon others. Speed also makes a much greater variation in the test of the cream when the separator is set to deliver thick cream than is found when thin cream is separated. If the separator is adjusted to deliver cream testing 25 per cent at regular speed, the test will perhaps not be more than 2 per cent less if the machine be run only three-quarters speed of the regular speed, while if the cream screw be so adjusted that the machine run at full speed delivers cream testing 40 per cent, at three-quarters speed the test may be from 7 to 8 per cent less. This variation due to speed is not caused by a difference in the amount of fat remaining in the skim milk but by the proportion of the whole that is taken out as cream and as skim milk. In other words, at a lower speed more skim milk goes into the cream.

#### Keeping Cows Contented.

It is not an easy task to keep cows contented during the few weeks preceding the beginning of the pasture season. There is the smell of the green grass in the air, and unless the very best of the feed has been saved for this emergency, they are likely to lose their appetites for the dry feed which they have been eating through the winter. If there is any feed on the farm of specially palatable nature, it can be fed to the milk cows with profit at this season. Some specially choice alfalfa will tempt them, and sometimes the addition of new grain or concentrate to the ration will help keep up the jaded appetite.

Those having silage will have less difficulty but it should be remembered that

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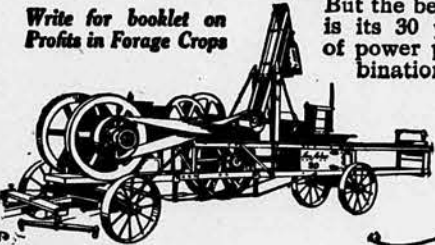
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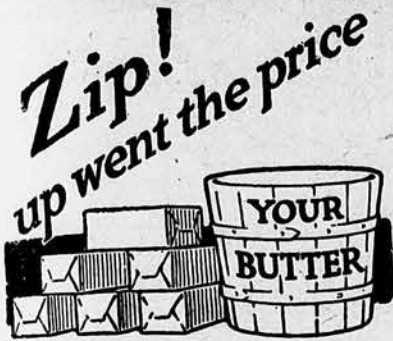
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as the weather gets warmer the silage will more quickly spoil on top and unless a good heavy layer is being fed each day there is a possibility that the silage fed at this season will be off in quality. This is a time when it is sometimes quite a serious disadvantage to have a silo slightly too large for the amount of stock being fed. We have seen this difficulty successfully overcome by covering the surface of the silage with a tarpaulin or stack cover, feeding from half of the silo only at a time. After a few days feeding from one side, the cover can be turned back and the other side can be fed down.

### Early Pasture Lacks Feed Value.

Along about this time of the year the milk cows begin to look with longing eyes at the grass that is springing up in the pasture. While this grass is most appetizing to the cow, it contains little nutrient value. Those who have turned stock out on the pastures too early, expecting them to make their living from the grass, have often been disappointed in the poor results. This early grass is watery and contains but little in the way of real feed value.

It will always pay to give the grass a chance to harden a little before permitting the stock to even get a taste of it. If cows once get a taste of this young and tender grass, they seem to lose all appetite for other feeds. The result is that the milk flow will be very much cut down. All classes of stock should be kept off pasture until it is well started, but none will be more seriously affected than the cow giving milk.

### Treatment of Garget.

Garget or caked udder is a common ailment of milk cows. The udders of heavy milkers nearly always become enlarged, hot and tender just before and immediately after calving. It is so common a condition as to be looked upon as a matter of course. It usually disappears after two or three days, the udder softening and taking up its normal function of producing milk. This softening of the udder is hastened by kneading and manipulation. The suckling of a hungry calf is beneficial and for this reason most dairymen like to let the calves stay with the cows for the first day or so.

It is a good plan to rub the udder with the palm of the hand, using a little lard or camphorated oil. This should be done gently as the udder is very tender at this time.

The caking of the udder so common at calving time may become very much aggravated by permitting the cow to be exposed to cold drafts or lying out at night on the cold or wet ground. With the added inflammation brought about by such exposure a case of garget may easily result in the loss of a portion of the udder. One of the best and safest treatments is the application of hot water. A bucket of hot water may be set under the cow and two persons can wet a heavy piece of cloth in the water and hold it against the udder, renewing its heat as necessary by dipping in the water. Care should be taken that the water is not warmer than can be borne by the naked hand. Another method is to pass a sheet around the body of the cow, cutting holes for the teats, and packing soft cloths around the udder, these to be kept warm by pouring on warm water every fifteen minutes.

The safest plan of all is to avoid these aggravated cases of garget or caked udder by not allowing cows near calving to lie on cold, wet ground, or be subjected to cold drafts or extremes of temperature. Lying on a cold cement floor without bedding will sometimes bring about this condition.

### Care of Heifer with First Calf.

On farms where the heifers have been hand-raised and have always been treated as pets, there is usually little difficulty in getting them accustomed to being milked when they first calve. They will, of course, be somewhat nervous, but with careful handling, treating them with gentleness at all times, they will soon stand quietly while being milked and take their places in the herd like old cows.

It is worth while to take some pains with heifers at this time, because a little harshness in their handling might easily develop habits that would make them very disagreeable as milk cows.

An increased yield from a field of corn without increased labor means a greater profit, and this increased yield can be secured better and more surely by planting well selected seed of good home-grown corn than by planting imported seed of unadapted and untried varieties.

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## Preparing Kafir Seed For Planting

THERE is only one safe way to store seed of the grain sorghums and that is in the head. We hope our KANSAS FARMER folks who plant kafir or other grain sorghums, selected their seed in the field last fall and kept the heads in a dry, well ventilated place through the winter. Bin-stored seed is never safe to use. It is almost sure to be poor in germination and since there has been no selection there can be no improvement in the crop. It is not safe to plant this weak seed as early as good strong seed can be planted. Hence, the practice of kafir growers to wait until the season is well advanced before planting kafir.

The amount of seed required is so small that it does not represent much time or effort to save or store all that is needed. A bushel of kafir will plant from twelve to fourteen acres unless it is planted for forage.

These heads of seed can be very easily threshed by hand. One farmer tells of beating out the seed by striking the heads against the inside of a barrel. The largest and best seed will shatter off first, and it is not a good plan to shell the head completely. The smaller seeds that usually hang more tightly are inferior and will not germinate as strongly. After the seed has been beaten out in this manner, it will require a careful fanning to get out the chaff and any light or cracked grains.

The kafir grower who has his season's seed prepared in this manner, has taken the most important step in the growing of a profitable crop. Such seed will be strong in vitality and when planted a good stand is almost assured.

We recall a striking demonstration of the value of this method of handling kafir seed on a Marion County farm. Part of the field had been planted with head selected seed, but there was not enough for the whole field so ordinary seed from the bin was used to finish. In driving along the end of the field a few days after the seed came up, it could be easily seen where the selected seed ended and the poor seed began. The stand from the selected seed was almost perfect and the plants were uniformly strong and vigorous. On the rest of the field the stand was very poor and the plants were weak and puny.

Well matured heads cared for as indicated usually can be depended upon for germinating quality, but to be on the safe side it is a good plan to test a number of representative heads for germination. This can easily be done by placing the seeds between folds of moistened cloth or blotting paper and keeping in a warm place. Seed that has not been stored in the head should always be tested for germination.

Protection against smut is another precaution that should be taken if there was any smut in the field from which the heads were selected. There is no practical method of treating seed for head smut, but grain or kernel smut which is much more common than the head smut, can be avoided by treating the seed with formalin just before planting. This is done by placing the seed loosely sacked in a solution of one pound of formalin to thirty gallons of water. The seed should remain in this solution one hour. It should then be spread out on a floor and thoroughly dried. It is not safe to attempt to store seed very long after it has been treated, as it is so apt to heat if not sufficiently dry. It is best to treat it just before it is to be planted. The floor upon which the seed is dried should be disinfected with the same solution in order to avoid the possibility of reinfection. The sacks should also be treated, and the planter box.

### Sudan Grass Experience.

Owing to the backward spring, my plantings of Sudan last season were very late. On June 14 I sowed about three acres of creek bottom land in close drills at the rate of about twenty pounds an acre. Late in August this field was cut the first time and made five or six tons of cured hay an acre. It averaged about six feet tall at time of cutting and was of course rather coarse and hard to handle, but made good feed. This, too, in spite of the fact that it was rained on while in the windrow. My observation is that Sudan grass is damaged about as little by rain while curing as any feed crop with which I have had experience. The second cutting was made

the last of September, the yield being about one and one-half tons of splendid hay to the acre. I never saw any finer, more palatable grass hay than this was.

On July 5 and 6 I drilled eighteen acres of sod ground to Sudan in wide rows. I planned to raise seed on this piece of ground but circumstances had prevented earlier planting and the cool wet summer so delayed maturity that frost caught this piece before much of the seed was ripe. As I had a great quantity of other hay I cut most of this field with the corn binder and ran it into the silo. Some of it was shocked and later stacked and this I have been feeding to the horses with good results. As silage, however, I do not like Sudan very well. It is so leafy that it does not pack well and quite a part of the Sudan silage was somewhat moldy while the heavier corn silage put in at the same time comes out in splendid shape. It is possible that the addition of more water at filling time might have caused the Sudan to pack better and resulted in better silage. But Sudan makes such splendid hay that I am convinced that under ordinary circumstances it will not be used for silage. Then, too, under average conditions Sudan will not produce quite as great a tonnage for the silo at a single cutting as will corn.

As a feed for either horses or cattle I like the hay very much. I have now had two seasons' experience with the crop and am positive that I am not mistaken when I say that in our part of Kansas, at least, Sudan is an exceedingly valuable addition to our feed crops. It will not replace alfalfa as a feed for cattle because it is not as rich in protein, but it has the advantage of making a greater yield and also of fitting into a shorter rotation system. For horses it is generally more satisfactory than alfalfa. I do not like the threshed straw for horses because of the dust, but for cattle even the threshed straw is very good roughage.

For ordinary soil in this locality I consider twenty pounds to the acre about right to sow for hay in close drills and three or four pounds in wide rows for seed. It appears that most authorities favor shallow listing for the seed crop, but so far as my own experience goes I rather prefer surface planting. Most failures that I have heard of seem to be due either to planting too early or too deep. For ordinary purposes I believe about the middle of May is a better time to sow than earlier, although this will naturally depend somewhat upon the season.—WILSON G. SHELLEY, McPherson County.

### Farm Tractor Designing.

The following is from a paper given by C. M. Eason before the Society of Agricultural Engineers at Chicago:

"It is universally conceded that a tractor must be capable of running continuously with very little attention, other than replenishing the fuel and lubricant



DEMONSTRATION PLOT OF SUDAN GRASS IN COWLEY COUNTY.—ITS LEAFY HABIT OF GROWTH WELL SHOWN

supply. When ground conditions are right for plowing, or the grain ready for harvest, a tractor must go out and work straight through until the job is finished. In fact, the tractor should run an entire season without adjustment to any of

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the bearings either in the motor or the transmission system. Carburetion and ignition system adjustment must be arranged so that frequent changes are unnecessary. A delay of even a few hours

before the replacement of parts would make the cost of repairs prohibitive. In other words, the tractor should be designed to give about ten years of usefulness. This will certainly require the very highest grade workmanship and material and a type of construction superior to any of the existing farm tools of today which usually have a life of five hundred to a thousand hours.

"With this in view it would seem that the automobile type of construction would have somewhat the best of the situation as regards quantity output. When we speak of automobile type of design it does not mean automobile proportions. A gear or a bearing in an automobile having a given size motor will only be called upon to take the full power of the motor at rare intervals. In a tractor, gears and bearings must stand practically the full load capacity of the motor at all times. This necessarily means large bearing surfaces throughout even though the tractor has only the same size motor used in an automobile.

"Efficiency, or fuel economy, is an important consideration. Essentially a tractor is a mechanism for converting heat units of a liquid fuel into useful farm work. To do this efficiently motors must be designed to deliver as high a percentage of the heat value in the form of useful work as is possible. The energy thus developed should be transmitted to the work with the least possible loss from friction, and to accomplish this the use of cut and hardened gears, mounted on roller bearings, in rigid cases, would seem to have, by far, the best of the situation. In order to absorb as little of the energy as possible in propelling the

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complete Farm Mill is the result of years of study and experiment by the leading mill manufacturers of America. It is a direct result of the insistent demand of the farmer for a small-sized, low-priced, efficient and economical combination mill for the average sized farm—requiring but a small amount of power. Here it is—filling every requirement so perfect that not one out of the thousands who

have already bought, has found a single fault in it, nor able to offer a desired improvement. It takes little space and a 1½ or 2 H. P. engine will operate it nicely. Millions of dollars are wasted in America every year by feeding unground feed—grinding it adds from 25% to 40% to its feeding value. Every dollar's worth of grain which you are now feeding unground can easily be made worth \$1.25 to \$1.40, and in some cases of still even greater

value. This little mill will grind it fine for little chicks and small pigs—fine for medium or coarse for the larger animals. You can grind any kind of grain separately or you can mix your grains—two or more varieties—and grind them together, which usually gives it greater feeding value and is more appetizing. You have paid for a feed grinder many times already in the decreased value of your feeding stuff. Are you going to go right on

and continue this waste indefinitely? Mill will pay for itself in 60 to 90 days. **This Mill will do as Good Work and as much of it as any other Mill now on the market, offered for twice the money. ONLY \$35** Look at this price.

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TH labor getting higher every year—and grain getting more valuable, and surely it will never get lower, thousands of farmers becoming discouraged with their farm investment and work. Get you folks, and do what Big Factories do, what Big Railroads do, what Big Merchants do—put in time-saving, labor-saving, money-saving MACHINERY. They put in a machine that does as much work as ten or twenty men can do—and one man can run it—and a cheaper hand at that. Also figure out all the economy of materials possible—and they save 10, 20% there; altogether they save much more than the advanced costs of time-hand-made methods—that means more profits for them now than before. You want to quit that hand-made farming, too—Isn't it foolish to have five or ten men sweat all day over a job that a little engine and one mill do especially when good hands are worth \$2 a day—including their food? When you buy Power your big expense stops—only 40 or 50 cents for feed—the day after day, never ending pay for 4, 5, 6 or 8 men stops. **TOPS FOR ALL TIME—remember that.** Now listen, here is the greatest opportunity you have ever been offered in all your lifetime to get a GUARANTEED like a Wonderful Year for Farmers to Make Money—Push up Your Production, Cut Down Costs and Save Your Crop—Address **AMERICAN POWER MFG. CO. of Kansas, Dept. A11, Kansas City, Mo.** **AMERICAN POWER MFG. CO., Dept. A11, Kansas City, Mo.**

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machine it is desirable that the total weight be kept down to a minimum. The kind of fuel used and the market price of same also have a bearing on this problem.

"The effort to obtain the greatest possible range of adaptability has probably been the primary cause for the present wide diversity in types. It hardly seems possible to combine the ability to perform all of the farm operations efficiently into one piece of mechanism and it is quite likely that the future development of the industry will bring out several different standardized types which will be particularly adaptable to conditions which may be more or less local in character. For instance, it is quite well conceded that the endless track type of machine is superior to a round wheel tractor for working in extremely sandy or marshy lands. A special type of tractor has also been developed to meet conditions of corn cultivation.

The all around tractor, for which there seems to be a great demand, is one which can be used efficiently at plowing, planting, harvesting, belt work, road work and road hauling."

### Bermuda Grass.

The longer we grow Bermuda, the more we like it. That which we first planted upon the white alkali spot in the front yard is still growing and is now completely covering the ground and so thickly that the ground is hidden. It is still growing upon the subsoil taken from the bottom of a thirty-foot well. We planted some in a big draw that had never been plowed. It has covered the

bottom and is now creeping up the sides. The erosion is entirely stopped.

Upon places too rocky and rough to plow it is now growing.

The poorest thirty acres I have is now in a Bermuda hog pasture and I cannot raise enough hogs to eat it.

It is in my feed yards and will make an excellent growth on account of the richness of the soil. It's hard work to plow up an old feed yard. There is also a loss in time waiting for the crop to grow, but Bermuda does not need to be plowed. As soon as it's spring time the Bermuda is ready to be pastured. An acre of big Bermuda upon such land as that furnishes grazing for a hundred head of hogs. The hogs cannot kill it by rooting. Neither can the cattle kill it by tramping, no matter how muddy it gets.

We feel now that if we had some of the good Holstein cows raised in Kansas we would be all right. In Oklahoma we are coming to dairying. We have the grass and kafir for silage and grain but are in need of good dairy cows. When you get more Holsteins than you need in Kansas, ship them down here.—"BERMUDA" MITCHELL, Oklahoma.

### Steer Feeding in Farm Economics.

The following introduction to a bulletin by C. A. Willson of Tennessee presents some practical thoughts on the relation of steer feeding to farm practice:

"Before beginning any type of farming, one should consider whether or not it will pay. That is usually the first question is meant to be a relative one. The question in any particular section. The question is meant to be a relative one.

The inquirer wishes to know whether beef production will pay more than some other kind of agriculture that he might engage in, and what profit he may expect to make if he engage in the raising of live stock instead of selling his crops from the farm. Most of all he wishes to know how much money he may expect to have on hand when tax time comes, or when he must meet the various other expenses that necessarily arise in the running of a farm.

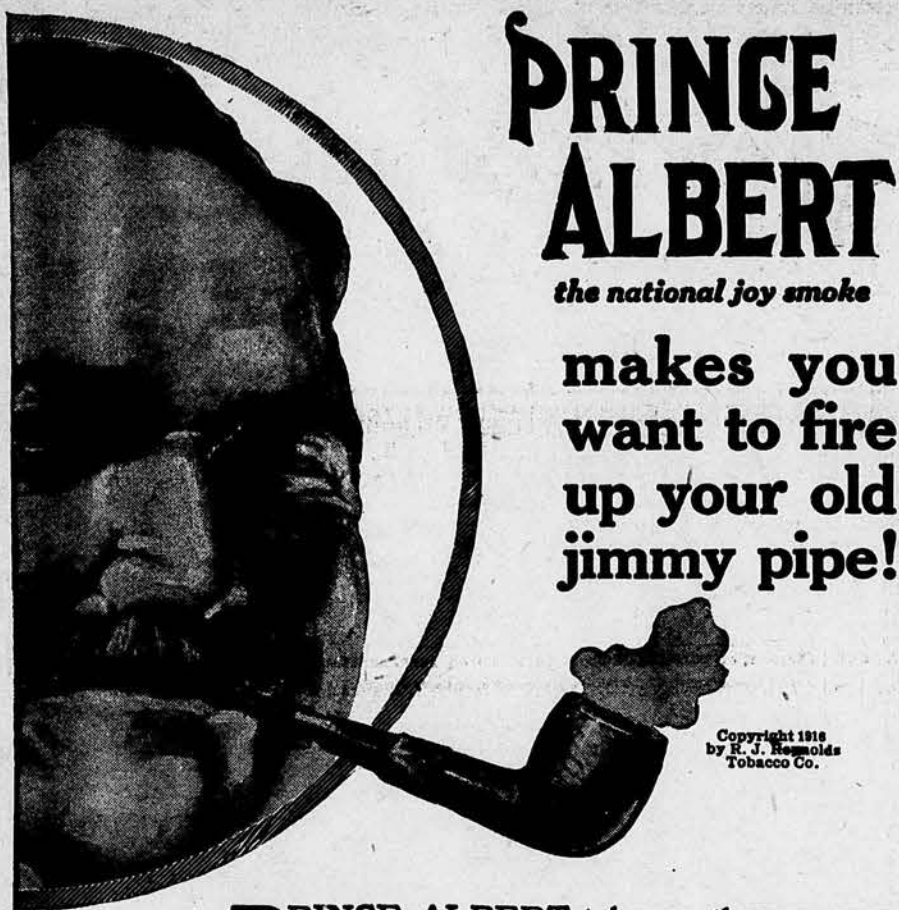
"In order to answer such questions with regard to beef cattle raising it is necessary to relate the work to the acre basis. A feed that is shown to be the most profitable in a feeding trial when considered on the basis of market prices may prove to be the least successful when grown in actual practice for the production of beef. There are several reasons for this. The feed that gives the highest returns in the feeding trial may produce the smallest amount of food nutrients per acre, and hence necessitate larger quantities of the fertilizing elements to replace the loss. These considerations are of more importance in determining the final returns from the farm than is the question which feed will make the most beef per given quantity. The data most needed by the farmer at the present time with regard to live stock production are those that will relate the work to the acre basis. The farmer needs to know which type of farming will return the most per farm. He is interested in the question which type of farming will return the most over a series of years, and not which will return the most for one year without regard to weather conditions or the

condition that the soil will be left in at the end of the year.

"It may be shown in some instances that the selling of the crops off the farm for one year will bring in more money than the feeding of the crops to live stock on the farm, but the history of agriculture shows that the soil is maintained in a higher state of fertility in those counties and communities where live stock production prevails. Again, live stock production is not opposed necessarily to the sale of grains and other marketable crops from the farm. Live stock on the farm will increase the crop production per acre through the conservation of soil fertility. Records of the more progressive stock farms show that they actually sell more crops than the average farm."

Careful English experiments with the storing of manure indicate that rain damages manure worse than anything else. Six months' exposure to rain caused a loss of 75 cents' worth of nitrogen per ton. Manure when put in compacted heaps under cover lost almost no nitrogen. It proved to be poor policy to add water to manure under cover, even though there was no loss by leaching. Many European peasants think it wise to keep the manure pile wet and compact. But the English experiments prove that when manure must be stored, it should be dry and compact, and moved as little as possible.

Now is the time to select the animals you expect to show at the fall fairs. Feed and handle them throughout the summer with this plan in mind.



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You can buy Prince Albert everywhere in the tippy red bag, 5c; or the tidy red tin, 10c; in pound or half-pound tin humidors or in the handsome crystal-glass pound humidor with sponge-moistener top that keeps P. A. fit-as-a-thoroughbred!

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READ KANSAS FARMER'S CLASSIFIED ADVERTISING PAGE FOR READY BARGAINS



## HATCHING TURKEYS

**T**URKEY hens, chicken hens and incubators are commonly used to incubate turkey eggs. During the early part of the laying season it often happens that one has on hand a number of eggs that should be incubated before any of the turkey hens are through laying their first litter and become "broody." In such case, and also when it is desired that the turkey hens lay more than one litter, some of the eggs have to be incubated under chicken hens or in an incubator. About a week before the poults are due to hatch, turkey hens enough should be allowed to sit to take all the poults hatched. They can be given a few eggs from the incubator or from under the chicken hens and allowed to hatch the poults themselves, or at night a newly-hatched poult can be slipped under each turkey hen that is to be given a brood of poults and by morning she will be glad to take them.

Lice are a great annoyance to sitting hens and are one of the worst enemies of young poults. To prevent their getting a foothold, dust the hen thoroughly with some good lice powder before she is placed on the nest and once a week thereafter while she is sitting. The nesting material should be kept clean, and if the eggs become dirty they should be washed with lukewarm water.

If the weather is warm and dry no shelter is required, as the poults do better in the open. Should it be rainy, however, they need to be protected, for nothing is more injurious than for them to become wet and chilled. The most satisfactory plan is to confine the mother turkey hen to a coop and allow the poults to run in and out whenever rain does not prevent. This coop should be placed in a field where they can run out and find grasshoppers, green vegetation, and other feed. The coop should be moved to fresh ground every day.

Improper feeding, combined with close confinement, has been the cause of many failures in turkey raising. Given free range on the average farm, the poults can easily pick up their own living, and one light feed a day for the purpose of inducing them to come in at night is sufficient. If the mother hen is confined to a coop and the poults allowed to run in and out, three times a day is often enough to feed and very little should be given at a time. The poults should always be ready to eat; if given all they will clean up several times a day, indigestion will be the result. If there is little or no feed outside the coop for the poults to pick up, then they should be fed about five times a day, feeding only a small quantity at a time. A good feed for the first few days is stale bread soaked in milk and squeezed dry. Corn bread crumbs and clabbered milk or cottage cheese is also quite often fed and with excellent results. Green feed and grit should be on hand at all times. As the poults grow older, the ration should gradually be changed to grain.

Onion tops or sprouts and dandelion leaves are good green stuff for the chicks and these come before most greens are out. It will pay to chop them up for the young chicks.

Small flocks of hens pay better than large ones. You will get a much larger percentage of eggs where the pens are small, say six to ten hens, than you will where there are fifteen or twenty hens in a pen.

It is time now to be on the lookout for lice. Every one you kill now will save a million killings by and by.

Every poultryman knows what pests mites are when they get into a poultry house. Oftimes when one goes to gather the eggs, he finds the nests so full of mites that they crawl all over him before he gets through. Now is the time to keep ahead of the mites, by keeping the house and nests well sprayed with lice killer.

Where incubators are much used for hatching purposes, setting hens are a nuisance, and where they are not used, the surplus setting hens are useless until broken up. They prevent the laying hens from going on the nests, and quite often break the eggs as a result of quarreling for the nest. Setting hens should be taken away from the laying house and put in a coop by themselves. A

slatted coop through which the air circulates freely is the best place for them. They should be fed sparingly, but given plenty of water. In such a coop the brooding spell should be broken up in a few days. To let the setting hens in the laying house to bother the laying hens not only interferes with the work of the layers, but causes a waste of time for the setter, for if taken in hand properly she can be made to commence to lay again within two weeks.

Many requests have already been received for the two-day extension schools in poultry which will be conducted between March and October by Ross Sherwood, specialist in poultry, division of extension, Kansas Agricultural College. Sixteen schools have been scheduled for March and the fore part of April. A community wishing one of these schools is required to organize a class of not fewer than twelve men and women who must pay a membership fee of not less than 50 cents each, and provide a room and the demonstration material for the school. Work will begin at 10:30 in the morning and will close at 3:30 in the afternoon. Lectures and discussions will be given on the study of breeds, incubation and brooding, housing, egg production, marketing of poultry products and preparation of poultry products for the table.

Occasionally one comes across a farmer who believes that common scrub fowls are harder and more profitable than the pure-breds, but the number is getting less every year. It costs no more, after the first purchase, to keep a flock of improved fowls, than it is to harbor dunghills or cross breeds. Either kind when properly fed will eat just about as much as the other. Or if there be any saving, it is so trifling as between one or the other kind, that it is not worth noticing. If judiciously provided for and tended from the shell upward, as all fowls should be cared for, any of the larger breeds will make good eating at the proper age, and the hens of any one kind will lay an abundance of eggs, take them on the average, throughout the year. Among any of the pure breeds there will always be found some exceptionally good ones for breeding purposes or for exhibition. All these finer specimens will command the highest current prices among fanciers or amateurs who are about to commence the propagation of pure stock, and who are disposed to pay better prices for such prime specimens. At the same time, the imperfect birds, as to form, color and other Standard requirements, come to good size at maturity, and will pay much better for their keeping, at the right killing age, than will the runts of the small barnyard fowls, which cost quite as much to feed and to bring them to the proper state for slaughtering. The improved hens will, in a season, lay one-third more eggs in number, and of a larger size usually, than will be dunghills. As broilers, the young cockerels of the heavy breeds are fitted for this purpose at a much earlier age, and so are far more valuable in this respect than are the lesser sized or common varieties. In any view, then, it has come to be well determined that pure-bred fowls are the most economical, the most valuable, and the most desirable for all purposes; and although any of these better breeds cost a little more at the outset, the product they yield in twelve months in eggs and meat alone, saying nothing of the income that may be had from extra good specimens and for eggs for hatching purposes, will be found far more satisfactory and more profitable than will the same number of the ordinary dunghill breeds. To think or argue differently would cause to go for nothing all the labor and research that has been given to poultry culture for fifty years by experts all over the country, in poultry plants as well as in colleges. Their work has all been in vain if the pure-breds are not better than scrubs.

### Causes of Poor Hatches.

The cause of poor hatches is a much discussed question, which depends on a great variety of circumstances. A poor hatch is more apt to be due to the condition of the eggs previous to hatching than to incubation, although improper handling of either factor will produce the same results. When eggs fail to hatch,

see whether the breeding stock is kept under conditions which tend to produce strong, fertile germs in the eggs, if the eggs have been handled properly before incubation, and whether the conditions were right during incubation, as judged by the time of the hatch.

A daily temperature record should be kept of each machine. The operator can thus compare the temperature at which the machines have been kept, which may prove valuable in the future work, especially if the brooder records can be checked back against those of the incubator.

#### Hints on Running Incubator.

See that the incubator is running steadily at the desired temperature before filling with eggs. Do not add fresh eggs to a tray containing eggs which are undergoing incubation.

Turn the eggs twice daily after the second and until the nineteenth day. Cool the eggs once daily, according to the weather from the seventh to the nineteenth day.

Turn the eggs before caring for the lamps.

Attend to the machine regularly at regular hours.

Keep the lamp and wick clean.

Test the eggs on the seventh and fourteenth days.

Do not open the machine after the eighteenth day until the chickens are hatched.

#### Keep Tested Out Eggs on Farm.

The mixing of infertile eggs taken from incubators with other eggs sent to market, as the practice has grown from year to year, has tended to lower the average prices offered for spring eggs by cold storage packers, who are important buyers at this season. Spring shipments of eggs, free from tested out incubator eggs, are of such good quality that packers do not have to go to the extra cost of candling each egg before storing it. Such eggs can be "clicked," three at a time, to detect cracks, and quality is determined by the fresh powdery look of the shell. These measures, however, will not detect eggs which have been incubated and fail to hatch and which are useless for storage purposes, because, even if not actually rotten when stored, they soon become so.

When the egg packers are forced to candle, they quickly determine accurately the number of incubator eggs to the case from the different collecting points and regulate their prices accordingly. In final analysis, therefore, the country shipper is paid on the average for just what he ships to the wholesale center, and he in turn bases his payment to the producer on his own returns.

The eggs removed from an incubator because they are infertile, while not fit after such heating for keeping, and not good for boiling or poaching, may, if used at once, be fried, and are good for cake and certain other baked foods. Such infertile eggs, moreover, make one of the best feeds for early chicks, and many poultrymen use all their infertile eggs from incubators for this purpose. The farmer, therefore, would be wise to use such eggs immediately at home and not mix them with his spring eggs. He should send only fresh eggs to market and should try to sell to the country collector, or store, on a strict quality basis. Incubator eggs when they reach market are classified as "Low Grade No. 2," and the presence of any number of them in a case reacts unfavorably on the grading of the entire thirty dozen at the hands of the first wholesaler.

#### Raising All Chicks Hatched.

We count on raising all the chickens we hatch, and we are not very often disappointed.

We have a number of small boxes and when taking off a hatch we separate the stronger from the weaker ones, never putting more than twenty chicks together. We keep them divided in this way for three days, and every night for three weeks. We then change them to a large box and let them all sleep together.

We give the chicks their first feed when they are thirty-six hours old, and we also give each chick a drink. We try to have regular hours for feeding and find it best to feed five times daily, giving what they will eat in ten minutes. For the first three days we feed dry rolled oats and hard-boiled eggs. We crumb the egg and shell together and add finely chopped onion and willow charcoal, flavoring with a little salt and red pepper.

After three days we let them all run together in the daytime. We have a pen out of doors, made of good lumber and covered with screen wire. Every day the weather is so we can, we keep the chicks in this pen. After the third day we feed them popcorn and kafir,

first popping, then grinding. Field corn and wheat, parched and ground, are fine feeds. We also give them plenty of fresh water and sweet milk to drink. The second week we add dry bran and corn bread to their feed, and when three weeks old we begin feeding whole small grains, also corn chop. A mash of cornmeal and ground wheat moistened with sweet milk and seasoned with a little salt and pepper, will be good for them after they are three weeks old, but we never feed them a real wet mash.—LYDIA SMYSER, Cherokee County.

#### Lamb Feeding Experiment.

At the Nebraska Experiment Station lambs fed a medium feed of corn and alfalfa made the cheapest gains of all the lots fed, the cost being \$4.90 for each 100 pounds of increase. Eleven lots in all were under comparison. The next cheapest ration was that in which a light feed of corn was fed with alfalfa as roughage. In this lot the cost of each 100 pounds of increase was \$4.90; in a lot fed corn, alfalfa, and silage, the gain cost at the rate of \$4.95; in the corn, alfalfa, and cottonseed meal lot the cost was \$5.15; corn, alfalfa, and sugar beets \$5.45; corn and alfalfa in the open lot \$5.46; corn and a heavy feed of alfalfa \$5.53; hominy feed and alfalfa \$5.78.

The lot that brought the highest profit on the market was the one fed corn, alfalfa, and pea-sized cottonseed meal or cake.

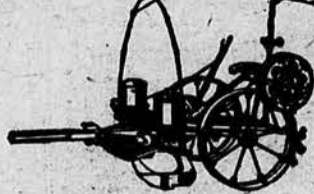
The Linn County farm bureau has been active in reclaiming rich limestone soil by securing the co-operation of a half dozen farmers in one locality in tile-draining wet land. This was made necessary as a result of the excessive rainfall in 1915. The farmers co-operate in the purchase of their tile at wholesale, thus benefiting each co-operator. After these farmers realized that the drainage work could be done at less expense than they had estimated, they reclaimed some of the best land on their farms.

If you do not grow your own seed corn, willingly pay your neighbor a good price for seed that has been carefully selected and stored.

## Profit from Every Hill



International  
and C B & Q  
Planters



**N**EXT in importance to good, tested seed, every authority on corn raising places good planting. Evenly spaced hills; the same number of kernels dropped in each hill; even depth of planting; a reliable foot drop for finishing the field—these are the features demanded of a planter by every careful corn raiser.

This is the standard to which the builders of International and C B & Q corn planters work, and excellent planting is the result. Note, first, the substantial frame and wheels—the foundation of the machine. Then see how simple are the arrangements that enable you to drop 2, 3, or 4 kernels in every hill, or to drill in your corn with accurate spacing between the kernels. The use of an International or C B & Q corn planter gives you assurance that every hill of corn on your farm will produce its full share of corn profit.

Try one this year. Ask the local dealers, who handle these machines, to show you their good points in detail, or write to us for complete information about reliable International and C B & Q corn planters.

International Harvester Company of America

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ADVERTISING PAGE FOR READY BARGAINS



## Victor Records have familiarized millions with the masterpieces of music

A comparatively few years ago the soul-stirring arias and concerted numbers that have immortalized the names of the great composers were hidden mysteries with only an occasional opportunity, at rare intervals, to hear and become familiar with them.

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to music-lovers in every part of the world.

They are presented in all their grandeur by the world's greatest artists whose exquisite renditions are the standard by which the artists' actual performances are judged.

They are noteworthy achievements in the art of recording that have established Victor supremacy on a basis of greater things actually accomplished.

Any Victor dealer in any city in the world will gladly play any music you wish to hear and demonstrate to you the various styles of the Victor and Victrola—\$10 to \$400.

Victor Talking Machine Co., Camden, N. J., U. S. A.  
Berliner Gramophone Co., Montreal, Canadian Distributors

Important warning. Victor Records can be safely and satisfactorily played only with Victor Needles or Tungs-tone Stylus on Victors or Victrolas. Victor Records cannot be safely played on machines with jeweled or other reproducing points.

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The Famous Sextet from Lucia  
by Tetrizzini, Caruso, Amato, Journet, Jacoby, Bada (96201)

New Victor Records demonstrated at all dealers on the 28th of each month

# FREE To Housekeepers Large Trial Size Can of

(This shows the exact size of can).



## With This FREE Can

of Rumford Baking Powder, we include a copy of our latest cook book, "Rumford Dainties and Household Helps." Send for it today mentioning your dealer's name.

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Thousands of women who have tested Rumford, find it so dependable, satisfactory and economical, that they now use it regularly in preference to any other baking powder. We want you to know how much Rumford improves the home-baking. We will send you this trial-size can FREE together with the FREE Cook Book, to have you test Rumford for yourself. Get it—use it in your bread, biscuits, gems and cake. The results will surprise and gratify you. Write at once. Use a postal if more convenient, get it in the mail to-day, and be sure to mention your dealer's name.



## Little Talks to Housekeepers

Helpful Hints Here for the Women Folks of the Farm

As the palm-tree standeth so straight and so tall,  
The more the hall beats, and the more the  
rains fall,  
So the love in our hearts shall grow mighty  
and strong,  
Through crosses, through sorrows, through  
manifold wrong.  
—Longfellow.

While visiting a home where lamps were used, I was much interested when passing through the kitchen to see that all the lamps had paper bags turned over their chimneys. On expressing my curiosity I was told that the lamps had been cleaned and the bags had been placed over them to protect them from the dust, steam and smoke of the kitchen. Later on in the evening I noticed the bright and glistening condition of the lamp chimneys, and decided that the simple device was a good one to remember.

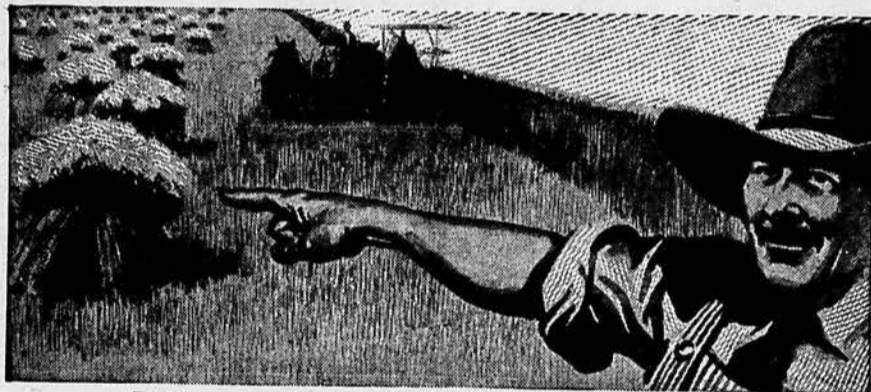
When transplanting any plants, trees, shrubs or flowers, dig a hole deeper than is needed, fill this hole with water, allowing it to sink away three times, refilling it each time. The fourth time it sinks away you will have enough moisture at the root of your plant to last

it several days. It does for it what no amount of surface wettings could do. Then fill up the hole to the proper depth with dry dirt, set your plant in, and draw the earth around it and press it firmly into place. If treated in this way your plants should not wilt when you transplant them.

When making cottage cheese after the whey has separated from the curd, let it cool, for milk that is put to drain while yet warm will result in a tough, indigestible mass.

When people, for the first time, see me cleaning my rooms, they invariably express surprise at my methods of dusting; which, unlike the ordinary method, I consider clean and sanitary. Instead of using the usual sort of duster, I use a damp cloth—preferably some soft stuff, such as a piece of an old gauze undervest or a worn napkin. The cloth is soaked in tepid water, then wrung absolutely dry—so dry that not another drop of water can be wrung from it. With a cloth of this sort the dust is quickly lifted from woodwork and fur-

# MONTANA



## Your Opportunity State Thirty Million Bushels

—of grain was produced in Montana along the Great Northern Railway in 1915. Six years ago this same territory produced only Five Million bushels.

Big facts that make you realize that Montana leads the world in rapid development of farm lands. What is more, Montana leads in quality of grain produced—was awarded the Grand Prize on Exhibits of Grain over all the rival nations—over every other state—exhibiting at the San Francisco Panama-Pacific Exposition—winning a total of 513 medals.

## Learn More About Montana

Then you will understand the wonderful tide of immigration to the Agricultural Treasure-State where every furrow is a pay streak for the profit-seeking crop-raiser. U. S. Land Commissioner, Washington, D. C. reports more than Twenty Nine Million acres Government and Indian lands in Montana disposed of to settlers in the past six years. During the past fiscal year, over Twenty Three Thousand original and final homestead filings have been made in that part of Montana reached by the Great Northern—a record absolutely unequalled by any state, in the operations of the General Land Office.

The homestead lands of agricultural value in Montana are going fast, but you have remarkable opportunity to purchase deeded land at very low prices. Come to the great, new, golden Montana country. Rich soil, favorable climate, convenient market and good prices for all you grow. Get the information—then decide for yourself. Send coupon today for

### FREE—Montana Bulletin

Illustrated and fully descriptive, with experience-letters from settlers—affidavits of crop yields and information concerning opportunities offered home-seekers. Special Low Fares for Home-Seekers. Please use coupon.

E. C. LEEDY  
General Immigration Agent—Dept. 253  
GREAT NORTHERN RAILWAY  
St. Paul, Minn.

MEMORY JOGGER

I will send this today to  
E. C. LEEDY, General Immigration Agent  
Dept. 253, Great Northern Railway, St. Paul, Minn.

Please send me free booklets and full information regarding money-making farms along the Great Northern Railway in Montana.

Name..... Address.....

## FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dress-maker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 7587—Boys' Blouse: Cut in sizes 4, 6, 8, 10, 12, 14 and 16 years. Very mannish in style, this blouse is long enough to tuck into the trousers and may have the lower edge left plain and straight or gathered on a tape or an elastic. The front closing may be in coat style or with a band. No. 7589—Boys' Russian Suit: Cut in sizes 2, 4 and 6 years. This pretty suit has a diagonal front closing, with a deep opening at the neck. This is filled in by a shield with a standing collar and may be worn or not as preferred. The bloomer trousers are provided with the pattern. No. 7601—Ladies' Waist: Cut in sizes 34 to 44 inches bust measure. The new full effect is shown in this waist. The material is gathered in both front and back along the shoulder seams and the front closing is in surplice style with shawl collar. No. 7603—Ladies' Dress: Cut in sizes 34 to 44 inches bust measure. Gracefully simple, this dress has a plain blouse with diagonal closing, the neck slightly open, with chemisette, and wide turnover collar as a finish. The skirt has three gores. It is gathered at the top and joined to the waist beneath a wide, flat belt. No. 7607—Ladies' Skirt: Cut in sizes 22 to 34 inches waist measure. This design offers a novelty in a four-gore model. There is a seam down the center of the side and back and down the lower part of each side, but the upper part of each side is filled in with a sharply pointed gore. No. 7597—Ladies' Apron: This bungalow apron is all but a dress. It is in one piece, and is slipped on over the head. It may have a side front opening as well. The neck is low, the sleeves short, and it has a small patch pocket.

READ KANSAS FARMER'S CLASSIFIED  
ADVERTISING PAGE FOR READY BARGAINS

**"Light as  
a Feather"**

"Talk about light,  
fluffy, tempting  
and wholesome

Jelly Rolls,  
Cakes, Biscuits,  
and other good  
things. My! but

**CALUMET  
BAKING POWDER**

certainly beats the band  
for sure results—for purity,  
economy and wholesome bak-  
ings. Tell your mother to try  
Calumet Baking Powder on the  
money-back guarantee."

Received Highest Awards  
New Cook Book Free—  
See Slip in Pound Can.



**GOOD  
KANSAS  
LAND  
CHEAP**

Those who located in Central  
Kansas 20 years ago are farmer-  
kings today. Their land has  
made them independent.

Your chance now is in the five  
Southwestern Kansas counties  
adjacent to the Santa Fe's new  
line, where good land is still  
cheap.

With railroad facilities this country is  
developing fast. Farmers are making  
good profits on small investments. It is  
the place today for the man with little  
money.

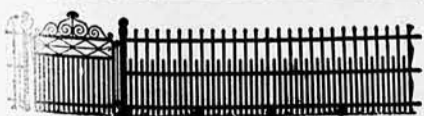
Wheat, oats, barley, speltz, kafir and  
brown corn, milo and feterita grow abun-  
dantly in the Southwest counties referred  
to. Chickens, hogs and dairy cattle in-  
crease your profits.

Write for our illustrated folder and  
particulars of easy-purchase contract by  
which you get 160 acres for \$200 to \$300  
down, and no further payment on princi-  
pal for two years, then balance one-eighth  
of purchase price annually, interest only  
—price \$10 to \$15 an acre. Address

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Santa Fe Land Improvement Co.,  
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**SEED CORN** I grow all I sell. Not  
largest, but best and  
most modern Seed Corn breeding plant in  
field. Field selected before frost, dried  
nature's way, in heated house, on wire racks  
so no two ears are allowed to touch.  
Selected from state and national show winners  
for high production, our yielding average  
at least 15 bushels per acre. A high  
quality product to farmers who want the best.  
Write for free catalog and samples. 98 per  
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Lawn and Farm  
Fence. Sell direct, shipping to users only at  
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19-TO-DATE MFG. CO. 910 10th St. Terre Haute, Ind.

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FARMER live stock advertisers,  
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niture, without being scattered over the  
floor in the process. When the duster is  
dirty it is washed out, and again wrung  
dry. It is essential that the cloth be  
wrung perfectly dry as often as it is  
put in the water; otherwise it will  
streak the furniture and leave damp sur-  
faces to catch more dust. This method  
of dusting is employed in hospitals to  
prevent the dust flying about, to be  
breathed by the patients, and is the san-  
itary method of dusting the home as  
well.

In the making of doll clothes, many  
lessons in sewing that will always be  
helpful can be taught. Make the work  
as attractive as possible by providing  
pretty scraps for the doll dresses. If  
this work is encouraged and well directed,  
the child will not realize she is learning  
to sew—it will all be play to her—but  
her play will be turned to good account  
a few years later when she finds those  
same principles apply in the making of  
her own clothes.

Early teach the child the value of his  
teeth and what will be the result if he  
neglects to care for them and keep them  
clean. It is far more logical to spend a  
few minutes brushing them at least  
twice each day, than to spend much time  
and much money later in repairing the  
damage caused by neglect. And only a  
small part of the damage will show in  
the teeth. Few parts of the body have  
more to do with the general health.

#### Edison's Tribute to His Mother.

During the short time that he at-  
tended school, Thomas A. Edison was  
nearly always at the foot of his class.  
On one occasion a teacher remarked to  
the inspector that the boy was "addled"  
and that trying to tutor him was a mere  
waste of time.

The youth overheard the remark. He  
repeated it to his mother, who promptly  
took the child back to the school and  
told the teacher he did not know what  
he was talking about and that the lad  
had more brains than the teacher.

Referring to this critical period of his  
existence, Mr. Edison once said:

"Had it not been for my mother's ap-  
preciation and faith in me, I should very  
likely never have been an inventor. She  
was so true, so sure of me, that I felt  
that I had someone to live for; some-  
one I must not disappoint. The mem-  
ory of her will always be a blessing to  
me."—Columbus Dispatch.

#### Reading Habit.

The person who has cultivated the  
reading habit cannot be deprived of an  
education. He can be a master if he so  
wills, for in these days there is no end  
of good literature on every subject, the  
use of which is free. There are city and  
state libraries, and traveling libraries.  
Our own state maintains a traveling  
library of nearly 50,000 volumes and  
keeps these circulating. In addition,  
there are government bulletins and those  
of the state educational institutions  
which are well written and full of re-  
liable information on many subjects.

The man or woman who has cultivated  
the habit of gaining information through  
the printed page, appreciates the value  
of these free educational agencies, but  
they mean little to him who thinks that  
because he was unable to spend many  
years at school, knowledge has been shut  
away from him.

The reading habit, like all other hab-  
its, grows upon the individual, and the  
more he reads the more he finds to read  
and the more he is able to learn.

There is no link in the early training

that will be a greater blessing through-  
out life, than that which develops a de-  
sire for good reading and the ability to  
make practical use of the knowledge  
gained.

#### Asparagus.

An asparagus bed should be a part of  
every garden. This is an early spring  
vegetable and supplies the craving for  
something green before the rest of the  
garden has started.

For spring setting of the bed, the  
ground should be given the same prep-  
aration as the rest of the garden. The  
roots should be set either in a deep  
furrow which is generally filled as the  
plants grow, or planted six to eight  
inches deep. Where plenty of manure  
can be used, a trench should be dug and  
the bottom filled with manure, covering  
this with soil. The roots should then  
be planted and the trench filled as the  
plants grow.

By setting one-year-old roots the as-  
paragus can be used the third year. No  
tips should be cut the first two years,  
but the third year it will do no harm  
to cut a part of the crop. This cutting  
should not be continued more than five  
to six weeks any year.

The plants should be set fourteen to  
eighteen inches apart in the rows and  
the rows should be three feet apart.

Early in the spring the asparagus bed  
should be given a thorough cultivation  
with a spading fork or similar tool, to  
the depth of four or five inches. After  
this the weeds should be kept down until  
the cutting season is over and the top  
growth shades the ground sufficiently to  
check the growth of weeds.

#### Kinds of Children.

From the standpoint of attention  
given, there are three types of children  
—those who are allowed to "just grow",  
those who are taught the principles of  
wholesome, busy living, but who develop  
a spirit of initiative, and those who are  
idolized or given so much attention that  
they are helpless to think or do for  
themselves.

If those of the first named class de-  
velop into useful and capable beings, it  
is usually through hard knocks. It is  
but the natural growth of those in the  
second class and as they grow their  
foundation principles also gain strength  
and are adequate for their demands upon  
them.

But the children of the third type are  
the ones to be really pitied. It is their  
very nature to expect kindness from  
others, but this cultivated dependence is  
quite apt to be termed laziness by those  
who do not understand them, and they  
are seriously handicapped and shunned.  
Theirs is a real fight—not only against  
the world, but against themselves.

Kindness to children is a virtue, but  
to idolize or over-tend a child is not a  
kindness.

#### Sweet Violets.

These flowers are among the first  
bloomers in the spring, and their dark  
green foliage and purple heads are the  
last to fade in the fall. Even Jack Frost  
does not scare them, and their beauty  
and fragrance brighten the dark late fall  
days until freezing weather comes.

The violet bed should be in a some-  
what shady, well drained spot. Take  
away the top three or four inches of  
soil, unless it is well enriched loam, and  
replace it with equal parts of well rotted  
manure, leaf mold, and thoroughly de-  
composed sod. The plants may be set  
out late in April. Put them six to eight  
inches apart each way. They must have  
plenty of water all summer.



#### Knox Luncheon Salad

1 envelope Knox Sparkling Gelatine.  
1/2 cup sugar. 1 cup cold water.  
3 tart apples. 1 1/2 cups boiling water.  
1 cup celery, cut in small pieces.  
1/2 cup lemon juice. 1/2 cup pecan nut meats.  
Soak gelatine in cold water for five minutes, and  
dissolve in boiling water. Add lemon juice and  
sugar. When mixture begins to stiffen, add apples  
sliced in small pieces, chopped celery and broken  
nut meats. Turn into mold, first dipped into cold  
water, and chill. Accompany with mayonnaise or  
cooked dressing. This mixture may be served in  
cups made from bright red apples.

Serve this salad to the folks  
today and hear them say  
"let's have this again."

**KNOX**  
SPARKLING  
GELATINE

(Granulated)

lifts a salad out of the ordi-  
nary class and makes it fit  
for the most critical.

Easy to make—economical  
too. One package makes 4  
pints of jelly. You get only  
1 pint out of "flavored" pack-  
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Knox Gelatine should always be  
on your shelf. Use it for desserts,  
salads, puddings, ices, candies, etc.  
You'll find it handy, when unex-  
pected company drops in, to turn  
out the most tempting kind of dishes.

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Enclose 2c stamp for pint sample.

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13 1/2 x 16 1/2 x 18 Inches

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Other machines, \$15  
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in the field before harvest. Yields big on any soil,  
anywhere—rain or no rain. Grows 5 to 8 feet high.  
Makes at least two cuttings a year; one to two tons of  
hay each cutting—400 pounds seed per acre per year.  
Requires little cultivation. Chokes out weeds. Pro-  
duces more and better hay than millet; more nutritious  
than timothy. Our new 1916 Seed Book tells about  
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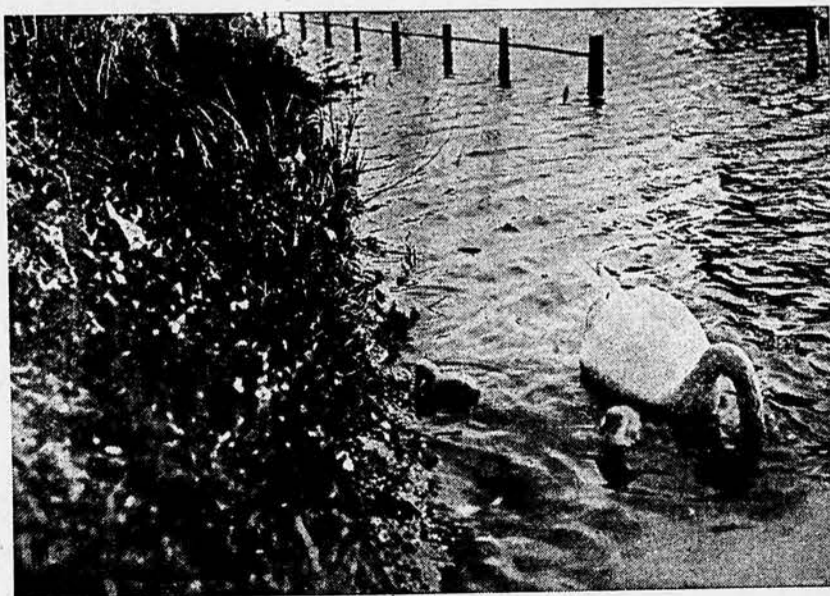
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SINGLE COMB WHITE LEGHORN EGGS. T. N. Smith, Route 2, Chanute, Kan.

PURE-BRED BUFF LEGHORN EGGS, \$4 hundred. Jessie Crites, Florence, Kan.

PURE-BRED SINGLE COMB BROWN Leghorn eggs, \$3 per hundred. Mrs. F. E. Tonn, Haven, Kan.

SINGLE COMB WHITE LEGHORN EGGS—Fine laying strain, \$3 hundred. Mrs. Chas. Bullis, Spring Hill, Kan.

ROSE COMB BROWN LEGHORN EGGS—Heavy laying strain. M. E. Hoskins, Fowler, Kan.

SINGLE COMB WHITE LEGHORN EGGS, \$3.50 per hundred. Heavy laying strain. Mrs. Edw. Dugan, Route 31, Montrose, Mo.

SINGLE COMB BROWN LEGHORN eggs, \$3 per hundred. Good layers. Sadie Litton, Peabody, Kan.

SINGLE COMB WHITE LEGHORNS EXCLUSIVELY. Farm range. Eggs, \$3 per hundred. Henry Richter, Hillsboro, Kan.

SELECT SINGLE COMB WHITE LEGHORNS. Eggs, \$4 hundred. Mrs. Frank Odle, Wamego, Kan.

SINGLE COMB BROWN LEGHORN eggs, \$3 per hundred. H. M. Schoepflin, Route 1, Osage City, Kan.

EGGS, \$1.00 SETTING, \$5.00 HUNDRED. Pure Barron White Leghorns. John Ball, 280 West Locust, Dubuque, Iowa.

SINGLE COMB WHITE LEGHORNS EXCLUSIVELY. Eggs, \$5 per hundred. Mrs. J. G. Olson, Dwight, Kan.

FOR SALE—SINGLE COMB WHITE Leghorn eggs, \$3 per hundred. Mrs. C. C. Cole, Levant, Kan.

HEAVY LAYING SINGLE COMB WHITE Leghorns. Fifteen eggs, \$1; 100, \$4. I. H. Nagay, Pretty Prairie, Kan.

SINGLE COMB WHITE LEGHORNS—Winter layers. Stock and eggs. Eleonora Poultry Ranch, Brighton, Colo.

SINGLE COMB BUFF LEGHORNS—Thirty eggs, \$2; 100 eggs, \$4.50. J. A. Reed, Lyons, Kan.

EGGS—REDUCED PRICE, SINGLE COMB White Leghorns, Keop-laying strain. Thol R. Wolfe, Conway Springs, Kan.

PURE SINGLE COMB BROWN LEGhorn eggs, hundred, \$3. Eighth year. Mrs. D. A. Wohler, Hillsboro, Kan.

R. C. B. LEGHORN EGGS FOR HATCHING, 75c per fifteen, \$2 per fifty, \$3 per hundred. Blue Grass Stock Farm, Oneida, Kan.

PRIZE WINNING SINGLE COMB BROWN Leghorns exclusively, 102 eggs, \$3.50; thirty, \$1.25. Charles Dorr, Osage City, Kan.

ROSE COMB BROWN LEGHORN EGGS, Kulp strain; fifteen, \$1; hundred, \$5. Otto Borth, Plains, Kan.

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CORNISH FOWLS—A FEW UTILITY pullets, cockerels, eggs. L. C. Horst, Newton, Kan.

DARK CORNISH FOWLS EXCLUSIVELY—Eggs, \$1.75 per fifteen. The large White African Guinea eggs, \$1.25 per eighteen. Mrs. L. A. Alexander, Route 1, Peru, Kan.

BARRED ROCK, WHITE WYANDOTTE, Single Comb White Leghorn, Pekin, Rouen, Fawn and White Runner Duck eggs, \$1.25 per setting, postpaid. Fancy stock, good layers, satisfaction and fertility guaranteed. Earl Summa, Gentry, Mo.

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PRIZE BUFF WYANDOTTES—FIFTEEN eggs, \$1.50. G. Kittell, Newton, Kan.

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WHITE WYANDOTTE EGGS—PEN, FIFTEEN, \$1; thirty, \$1.50. Mrs. John Jevons, Wakefield, Kan.

PARTRIDGE WYANDOTTES—EGGS, \$1 per fifteen. Splendid layers, beautiful fowls. Mrs. Zachery Taylor, Marion, Kan.

WHITE WYANDOTTE EGGS FROM utility and show birds. G. D. Willems, Inman, Kan.

EXTRA GOOD WHITE WYANDOTTES—Regal strain. Fifteen eggs, \$1.50; thirty, \$2.50. M. L. VanOrnam, Superior, Neb.

"BEAUTIFUL" SILVER WYANDOTTES, \$1.50 to \$5. Eggs, fifteen, \$1.50; hundred, \$6. Mrs. Edwin Shuff, Plevna, Kan.

R. C. BUFF WYANDOTTE EGGS, \$1 FOR fifteen. Baby chicks, 15c each. G. G. Wright, Langdon, Kan.

WHITE WYANDOTTE EGGS FROM prize winning stock, \$1.50, thirty; \$4.50 hundred. Mrs. Will Beightel, Holton, Kan.

PARTRIDGE WYANDOTTES—EGGS, \$1.25, from winning stock. Jacob Klassen, Inman, Kan.

WHITE WYANDOTTES—EGGS, PEN, \$1.50 setting; utility, \$4 hundred. Mrs. J. W. Johnson, Cedarvale, Kan.

PURE WHITE WYANDOTTE EGGS—Good healthy range birds, \$3.50 hundred. Bertha Rogers, Garnett, Kan.

WHITE WYANDOTTE EGGS, \$1, FIFTEEN; \$5 hundred. Mrs. Geo. Downie, Route 2, Lyndon, Kan.

PARTRIDGE WYANDOTTE EGGS—Prize winners. Mating list free. J. E. Kimsey & Son, Shenandoah, Iowa.

COLUMBIAN WYANDOTTES—PRIZE-winning stock, \$1.50 for fifteen eggs. Breeding stock for sale. Mrs. R. L. Hammond, Hope, Kan.

TWENTY-FIVE YEARS A BREEDER OF Silver Laced Wyandottes and Barred Plymouth Rocks. Fine birds for sale. Wm. Nellers, Cascade, Iowa.

WHITE WYANDOTTES—EGGS FOR hatching from pure white, carefully mated, farm range birds; heavy laying strain; \$4 per hundred. George Guthrie, Exeter, Neb.

WHITE WYANDOTTES—EGGS FROM birds of best strain in state, \$1 setting, \$5 hundred. Cockerels, \$1.25. I. B. Pixley, Wamego, Kan.

GOLDEN WYANDOTTE EGGS FOR SALE from high scoring stock; fifteen for \$1 or 100 for \$4.50. Mrs. Della B. Bilson, Eureka, Kan.

COLUMBIAN WYANDOTTE EGGS FOR hatching, from big, fine prize winning stock. Order early. V. Alexander Grant, Emporia, Kan.

WHITE WYANDOTTES, GUARANTEED stock. Pen 1, pullets, fifteen eggs, \$2; Pen 2, hens, thirty eggs, \$3; utility flock, \$4 per hundred. Effie Acheson, Palco, Kan.

PURE-BRED SILVER WYANDOTTE eggs, \$1.50 per setting of fifteen; five settings for \$6. Mrs. S. L. Hill, Burlington, Kan.

EGGS—SILVER LACED WYANDOTTES, fifteen, \$1; fifty, \$3. Rouen, Pekin and Muscovy duck eggs, eleven, \$1. Fred Kucera, Clarkson, Neb.

SILVER LACED WYANDOTTE EGGS for hatching, \$1.50 per fifteen, \$5 per hundred. Good pure-bred cockerels left. Mrs. Mike Heesch, Randolph, Neb.

WHITE WYANDOTTES—REGAL STRAIN—Extra layers. Males from Martin's. Eggs, lots to suit. Stock for sale. Mrs. C. C. Brubaker, 709 East Euclid, McPherson, Kan.

SILVER WYANDOTTE EGGS, \$1.00 PER fifteen, \$5.00 per hundred, from good individuals of splendid breeding. Mrs. Cecile McGuire, Pratt, Kan.

ROSE COMB WHITE WYANDOTTES—Show quality and heavy egg strain, fifteen eggs, \$1; fifty, \$2.50; hundred, \$4.50. Safe arrival and satisfaction guaranteed. Garland Johnson, Mound City, Kan.

WHITE WYANDOTTES, WORLD'S FAIR winners. Mammoth Pekin White Runners and Buff Ducks. Mammoth Bronze Turkeys. Eggs for hatching. Circular free. Mrs. A. J. Higgins, Effingham, Kan.

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POULTRY WANTED.

PAYING FOR HENS, 15c; BROILERS, 25c; turkeys, 18c; eggs, 17½c. Coops and cases loaned free. The Copes, Topeka.

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SINGLE COMB MOTTLED ANCONAS, heavy layers. Stock and eggs for sale. Write Fred K. Stevens, Seymour, Iowa.

ANCONAS—STRONG, VIGOROUS, FARM-raised stock. Eggs, \$5 per hundred, \$1 per setting. Write for printed matter. C. K. Whitney, Route 9, Wichita, Kan.

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BEAUTIFUL BUFF MINORCAS, LATEST standard breed, great layers. Eggs, \$3, fifteen. S. C. W. Leghorn and Pekin duck eggs, \$1, fifteen. C. H. Catt, Ft. Scott, Kan.

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ROSE COMB RED EGGS, \$4 PER HUNDRED. Mrs. Eva Frederick, Asherville, Kan.

ROSE COMB RHODE ISLAND EGGS, \$3 PER FIFTY. Asen Hinkson, Valley Center, Kan.

ROSE COMB REDS—EGGS FROM SE-  
lected stock, \$1 for fifteen eggs. Bert G.  
Taylor, Cleburne, Kan.

R. C. RHODE ISLAND RED EGGS—  
Mating list free. G. D. Williams, Inman,  
Kan.

DARK R. C. REDS—EGGS, \$1 AND \$2  
PER FIFTY; \$5 PER HUNDRED. Mrs. Howard  
Martindale, Hillside Farm, Madison, Kan.

SINGLE COMB RED EGGS—HUNDRED,  
\$2.50; THIRTY, \$1.50. Mrs. Rosa Janzen, Gen-  
eseo, Kan.

SINGLE COMB REDS—FIFTEEN EGGS,  
\$1; 100, \$4. Gertrude Haynes, Grantville,  
Kan.

ROSE COMB REDS—FIFTEEN EGGS,  
Pen 1, \$2; Pen 2, \$1.50. Andrew Ketter,  
Kelly, Kan.

RHODE ISLAND REDS—FIFTEEN EGGS  
\$2; hens or pullets, \$2 each; cockerels, \$2  
to \$15; cocks, \$6. All good ones. Nicholas  
Jach, Hays, Kan.

ROSE COMB REDS—FINE RANGE  
flock. Hens weigh up to 8½ pounds. Eggs,  
hundred, \$5; fifty, \$2.75; thirty, \$1.85, de-  
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PURE-BRED ROSE COMB REDS—FARM  
range. Eggs, \$4 hundred. Chicks, 10c, hen  
hatched. Mrs. Jas. Crocker, White City,  
Kan.

PURE-BRED ROSE COMB RHODE ISL-  
and Reds, stock and eggs for sale. Mating  
list free. M. L. Puckett, Puxico, Mo.

SINGLE COMB RHODE ISLAND REDS—  
Fifteen eggs, \$1.25; 100 for \$6.50. Satisfac-  
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TRY OUR PEERLESS STRAIN PURE  
Rose Comb Reds. None better. \$4.50 hun-  
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R. C. RHODE ISLAND REDS—FIFTEEN  
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REDS—SINGLE COMB, EIGHT YEARS  
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Reds. Eggs from the finest birds I ever  
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MEIER'S WINNING SINGLE COMB REDS  
—Farm range, headed by brothers of my  
first prize Frisco cockerel. One hundred  
eggs, \$5; fifty, \$2.75. Write for mating  
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GUARANTEED FERTILITY, SAFE DE-  
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high boned, good colored, heavy laying strain,  
both combs, Rhode Island Reds. Mating list  
free. H. A. Sibley, Lawrence, Kan.

FARM RANGE, DEEP BRILLIANT, BIG-  
boned R. C. Reds, red eyes, long back, low  
tail, nice combs. Eggs, 25c each; cockerels,  
\$2.50, \$5, \$10. Guaranteed to suit. High-  
land Farm, Hedrick, Iowa.

SINGLE COMB REDS—STRONG, VIGOR-  
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\$2.50, fifteen; range, \$1.50 thirty, \$4 hun-  
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Okla.

HIGHLY BRED SINGLE COMB REDS—  
Consistent winners six years. Fifteen eggs,  
\$1.25; hundred, \$5, prepaid. Twenty-five  
baby chicks, \$3.00. Live delivery guaran-  
teed. Karl Spellman, Fredonia, Kan.

ROSE COMB REDS—FINE YARDS,  
headed by first cockerel Kansas State, and  
second cockerel Missouri State Shows. Eggs,  
\$1 per fifteen. Fine farm range flock, all  
good birds, \$4 per hundred. Free catalog.  
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SIX GRAND PENS ROSE COMB REDS,  
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\$5. Splendid range flock, \$5 per hundred.  
Send for catalog. W. R. Huston, Americus,  
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Improve your flock. Exhibition settings, \$3.  
Range flock, 60 eggs, \$3. Sumerwell's Hill-  
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MACK'S S. C. RHODE ISLAND REDS—  
Finest exhibition birds scientifically bred  
for years for great egg production. Eggs  
for hatching from six grand matings, baby  
chicks in small quantities. Eggs by hundred  
from fine utility matings. Get our catalog  
free. It describes our fowls and gives a  
list of our winners for the past three sea-  
sons. Some fine yearling hens for sale June  
25. H. H. McLellan, Kearney, Neb.

## RHODE ISLAND WHITES.

RHODE ISLAND WHITE EGGS—HUN-  
dred, \$5. Will Tonn, Haven, Kan.

FRANK'S SUPERIOR STRAIN ROSE  
Comb Rhode Island Whites—Eggs for hatch-  
ing, baby chicks. Louis G. Frakes, Box 7,  
Huron, Kan.

HEIDT'S PRIZE WINNING RHODE IS-  
land Whites. In 1915 exhibited at Kansas  
State Fair, Panama-Pacific Exposition and  
Kansas State Federation Show at Topeka.  
Won total of seven 1sts, five 2nds, one 3d,  
one 4th, one 7th, four club specials and two  
silver cups for best display. Eggs and  
chicks. E. E. Heidt, R. R. 27, Topeka, Kan.

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PARTRIDGE COCHINS—ALL FULL-  
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FINE QUALITY BABY CHICK FEED.  
\$1.75 cwt. F. C. B. Ft. Scott, Kan. "Brooks  
Best" Calif Meal, \$3.25 cwt. Brooks Whole-  
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BUFF ORPINGTON EGGS, FIFTEEN  
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CAREY STRAIN WHITE ORPINGTONS—  
Prize winners. Settings, \$2 to \$5. Mrs.  
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WHITE ORPINGTONS—PRIZE WIN-  
ners, egg layers, mating free. Craig, Galena,  
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S. C. BUFF ORPINGTON EGGS, \$1, FIF-  
teen; \$4 hundred. Buff Ducks, \$1.25, thir-  
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SINGLE COMB BUFF ORPINGTONS—  
William Cook strain. Stock and eggs.  
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BUFF ORPINGTON EGGS, \$1.50 PER  
fifteen, from flock winning cup, best dis-  
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that win, lay and pay. Good buff color,  
shape and size. Eggs, \$1.50 per fifteen. A.  
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Eggs from large vigorous farm range birds,  
\$1 per setting, \$4 hundred. Martha Brown,  
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hundred, \$5. Fannie Renzenberger, Greeley,  
Kan.

FOR SALE—BIG AND BUFF TO THE  
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hundred, \$1.50 per setting. Mrs. N. J. Alvey,  
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WHITE ORPINGTONS, DIRECT FROM  
Kellerstrass \$30 matings; twenty-four, \$1.75  
parcel post; 100, \$5 express. Mrs. John  
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BUFF ORPINGTONS, S. C. WHITE LEG-  
horns, Barred Rocks, \$3.50 hundred, 85c set-  
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prepaid. Chickens on separate farm. Ideal  
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BUFF ORPINGTONS—STRICTLY FANCY  
matings, splendid winter layers. Eggs, \$1.50  
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eggs, \$1.25 per thirteen, prepaid. J. F. Cox,  
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BARRED ROCK AND COLUMBIAN WY-  
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TWENTY LEADING VARIETIES, EGGS  
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EGGS—S. C. BLUE ANDALUSIANS,  
Blue Orpingtons, Buff Leghorns. Egg-bred  
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Wyandottes. Eggs, \$1.80 for 30. If you  
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Reds, \$1 per fifteen, \$2 per thirty; S. C.  
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STOCK, EGGS, BABY CHICKS. LEG-  
horns, Campines, Orpingtons, Langshans, R.  
I. Reds, Plymouth Rocks, Wyandottes. Stock,  
\$2 each; eggs, \$1.50 per 15, \$5 per 100;  
chicks, 15c each. Miller Poultry Farm,  
Box K, Lancaster, Mo.

EGGS FOR HATCHING—FROM OUR  
prize-winning Reds, Rocks, Wyandottes, Co-  
chins, Langshans, Leghorns, Polish and  
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popular prices. Modlin's Poultry Farm,  
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FOR SALE—EGGS FROM PURE-BREDS.  
Turkeys; geese; Pekin, Rouen, Muscovy and  
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land Reds; Hamburgs; Games; Barred and  
White Plymouth Rocks; White and Silver  
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tons; Langshans. Hen eggs, 15 for \$1. Also  
hares, white rabbits, guinea pigs, fancy  
pigeons. Write wants. D. L. Bruen, Platte  
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LIGHT BRAHMAS—FIFTEEN EGGS, \$3.  
Hens, \$2. Nicholas Bach, Hays, Kan.

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Pullets or hens, \$2 each. Cockerels, \$5.  
Nicholas Bach, Hays, Kan.

LIGHT BRAHMAS, REDS, ROCKS, WY-  
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WARD'S LIGHT BRAHMAS, BARRED  
Rocks, S. C. W. Leghorns. Send for catalog.  
Nine yards mated. W. H. Ward, Nickerson,  
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Eggs from carefully mated range flock, \$1.25  
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YOU BUY THE BEST BABY CHICKS,  
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FINE ROSE COMB RED BABY CHICKS.  
Eggs, reduced prices during April. Lily  
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REDS, BARRED ROCKS, BUFF ORP-  
ingtons from free range flocks. \$15 per  
hundred. L. E. Castle, 1920 W. Maple,  
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RICH ROSE COMB REDS, BRED FROM  
winners. Pen eggs, \$2.50 per fifteen; range,  
\$5 per hundred. Baby chicks, pen, 25c;  
range, 10c each, live delivery guaranteed.  
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ENGLISH PENCILED RUNNERS, R. C.  
Red eggs. Wilson Hinesline, Ruskin, Neb.

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eggs, 4 cents each. Sadie Litton, Peabody,  
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age six in seven days each, \$1.00 setting.  
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eggs, \$5 per hundred. Miss Pearl Frederick,  
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\$1 per fifteen, \$2.75 per fifty. J. W. War-  
ner, La Crosse, Kan.

FAWN INDIAN RUNNER DUCK EGGS,  
75c, thirteen, \$5 hundred. Mrs. E. C. Wag-  
ner, Holton, Kan.

INDIAN RUNNER RUCKS—GOLDEN  
fawn and white. Blue ribbon stock, laying  
pure white egg. Stock and eggs. Eleonora  
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CHAMPION FEMALE PENCILER RUN-  
ner duck, also 1st old duck, 2d young duck,  
4th young drake, at great San Francisco  
World's Fair. Baby ducks and eggs. E. E.  
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BOURBON RED EGGS, \$2.50 PER 12.  
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EGGS—FAMOUS NARRAGANSETT TUR-  
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EGGS FROM FINE, LARGE, DARK-  
colored Bourbon turkeys, eleven for \$3. Mrs.  
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BOURBON RED EGGS FROM LARGE  
well marked stock, \$3 per eleven. Julia  
Haynes, McDonald, Kan.

MAMMOTH WHITE HOLLAND TURKEYS  
—Eggs, \$3, eleven. Mrs. C. G. Cook, Lyons,  
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EGGS FROM LARGE BOURBON RED  
turkeys, \$3 for eleven. C. S. Hart & Sons,  
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BOURBON RED TURKEYS—MATINGS  
headed by my Missouri State, Kansas State  
and San Francisco Poultry show first prize  
toms. Eggs, \$3 and \$4 per eleven. Free  
catalog. Mrs. Clyde Meyers, Fredonia, Kan.

BOURBON RED TURKEYS—WORLD'S  
best strain. Great big vigorous farm-raised  
deep-breasted birds, from blue ribbon stock,  
Denver 1916, and first wherever shown.  
Stock and eggs. Eleonora Poultry Ranch,  
Brighton, Colo.

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EXTRA BIG SCORED BLACK LANG-  
shan eggs. H. Osterfoss, Hedrick, Iowa.

BLACK LANGSHAN EGGS, BARKER'S  
strain, \$1.25 per fifteen, \$6.50 hundred. All  
delivered. J. Medford, Wheatland, Okla.

BLACK LANGSHAN EGGS AND BABY  
chicks. Choice stock. Write. Mrs. Geo. W.  
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HIGHEST CLASS LANGSHANS—PEN A  
is headed by a 96 cockerel. Catalog free.  
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BLACK LANGSHANS—EGGS, FIFTEEN,  
\$1, \$1.25 by mail; one hundred, \$4, \$5 by  
mail. Baby chicks, 15c. Mrs. J. B. Stein,  
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BUCKNELL'S BIG BLACK LANGSHANS  
—Show bred and farm raised. Eggs, \$1 for  
fifteen, \$5 per hundred. Postage or express  
prepaid anywhere in the United States. R.  
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## FARM AND HERD.

T. T. Langford & Sons, of Jamesport, Mo.,  
owners of one of the good herds of Spotted  
Polands, report their herd doing fine and a  
good demand for high class Spotted Polands.  
This firm has supplied breeding stock to  
Spotted Poland breeders in a number of  
states during the past year and has bred a  
large number of sows for spring farrowing in  
order to supply the rapidly increasing de-  
mand for their big-boned easy-feeding Spot-  
ted Polands.

I. N. Green of Kiowa, Kan., is one of the  
successful breeders of high-class jacks in  
this state. A number of the best jacks now  
in service were raised on the Green Stock  
Farm. At this time the aged jacks in the  
herd are a good lot and there is also a  
number of two-year-olds that are fine pros-  
pects.

Oklahoma's new hog cholera law goes  
into effect on May 21. The law permits  
persons to administer the treatment who  
are not licensed to do so, only on their own  
farms or those occupied by them, or upon  
petition of ten or more freeholders of a  
community, he may administer the virus on  
farms in their vicinity. The president of  
the Oklahoma State Board of Agriculture  
will examine all applications for license  
under the terms of the new law. The law  
provides that plants making vaccine for  
treatment of hog cholera must be approved  
by the Federal Department of Agriculture  
and the manufacture must be conducted  
under the supervision of agents of the de-  
partment.

Prices of meat animals—hogs, cattle,  
sheep and chickens—were 16.4 per cent  
higher on March 15 than they were on that  
date a year ago and 12.7 per cent higher  
than the average of the last six years on  
March 15. A report of the Department of  
Agriculture says the level of prices paid  
to producers of the country for meat ani-  
mals increased 8.4 per cent from February  
15 to March 15 this year compared with an  
average increase of 3.1 per cent in the same  
period of the last six years. Prices paid  
for hogs showed an increase of \$1.53 per  
hundred pounds over March 15 a year ago,  
and 63 cents over the average of the last  
six years; beef cattle increased 45 cents over  
last year and 98 cents over the six-year  
average.

# 40,000,000 BABIES

Died in Kansas last year. Not real babies  
—but little baby chicks.  
And by losing them, Kansas lost thou-  
sands—yes, millions—of dollars worth of  
real valuable eggs and meat—lost it all in  
one year. Think of it!  
A positively needless loss, too. For, of  
the forty million lost little chicks, fully  
34,000,000 could have been saved, had  
they been raised on

## OTTO WEISS CHICK FEED

Made to make chicks healthy and grow  
twice as fast! Made of oats, wheat, meal,  
beef, bone and "teeth" (grit). Aids digestion.  
Put up in 10, 25, 50 and  
100-lb. sacks. At your dealer's.  
Write for free circular.



## White Plymouth Rocks

Hard to beat as all-purpose fowls. Excel-  
lent layers, with yellow legs and yellow  
skin. Eggs, \$2 per 15; \$5 per 40, express or  
postage prepaid. Have bred them exclu-  
sively for twenty-four years.  
THOMAS OWEN, Route 7, TOPEKA, KAN.

# FREE!

Send in your name. We are  
going to GIVE AWAY this

## \$265.00 Motorcycle



and many other prizes over \$500.00 in all.

## WE PAY YOU IN CASH BESIDES!

Would you like to own a fine speedy \$265 Harley-  
Davidson latest model motorcycle? You CAN own one  
and MAKE GOOD WAGES BESIDES while working.  
KANSAS FARMER, the big weekly published at To-  
peka, is going to give away this motorcycle and \$500  
in other prizes, JUNE 17, 1916, to ambitious young  
men and women for securing subscriptions. AND PAY  
YOU IN CASH for each subscription you secure. YOU  
CAN NOT LOSE in this contest, as you are sure to be  
paid for the work you do, and the best worker wins  
the motorcycle. You can also earn

## \$75.00 In Cash

WRITE TODAY for full information and description of  
prizes. This is the easiest and best way to get a  
motorcycle. Nine others have each won our motor-  
cycles with far less in subscriptions than it would take  
in dollars to buy the machine of a dealer. It costs  
you nothing to enter and places you under no obliga-  
tions to us whatever. It makes no difference where  
you live or what you do, one person has an equal op-  
portunity with another. You will never know about  
our splendid plan unless you send us your name and  
address. Fill in the blank below and mail today to  
KANSAS FARMER, 625 Jackson St., Topeka, Kan.  
This will entitle you to take part in the EXTRA  
PRIZE AWARDS in which you can SURE EARN  
many fine prizes besides.

Manager Kansas Farmer Motorcycle Club,  
625 Jackson St., Topeka, Kan.

Gentlemen: Please tell me, free of cost to me, how  
I can become the owner of the Motorcycle, or one  
of the other big prizes you are going to give away  
and make good wages besides.

Name.....

Address.....

## FARM LANDS FOR SALE

## THIS WILL INTEREST YOU

Do you want to move to Topeka to  
educate your children? If you do, this  
modern five-room home near Washburn  
College will just suit you. New, only  
occupied ten months. A choice location.  
Must sell quick. \$3,200 takes it. Address  
S. CABE KANSAS FARMER, TOPEKA.

## CHOICE

Half Section, Lane County, two miles town,  
within 15 miles of 14 elevators. Price, \$12.50  
per acre, half cash, balance 3 years, 7 per  
cent. No trades.  
P. O. BOX 83, SCOTT CITY, KANSAS.

## FOR SALE

A non-resident has ordered sold at rock  
bottom price, 160 acres, Trego County pas-  
ture land. Title perfect. This will bear  
close inspection by those who have money  
to invest. For description, write the agent,  
C. M. BELL, Box 106, Utica, Ness Co., Kan.

GENUINE BARGAIN—Quarter section 3¼  
miles from market, no buildings; 120 acres  
in wheat; average rental for three years,  
over \$360. Surrounding lands, \$40 an acre.  
This goes for \$30 for quick sale. Terms.  
No trade.  
JAS. H. LITTLE, LA CROSSE, KANSAS

## RESIDENCE NEAR K. S. A. C.

Nine rooms, modern, in the best residence  
section. \$4,100, terms. Address  
MRS. B. E. FORD - Manhattan, Kansas

If You Want 80 Acres pasture and fruit  
land near this city, in oil development ter-  
ritory, \$2.60 per acre, write  
SOUTHERN REALTY CO., McAlester, Okla.

Percy Lill of Mt. Hope, Kan., owns one  
of the good herds of Jersey cattle in Kansas.  
He has in his herd at the present time a  
choice lot of cows and heifers. His herd  
has a good record for production and his  
blood lines are the best of the breed.

When a farm bureau is organized in  
a county, the members themselves hire  
the agricultural agent, and therefore get  
the man they want. Neither the agri-  
cultural college nor the Federal Depart-  
ment of Agriculture can put a man into  
a county as agricultural agent.

## Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement here reaches over 300,000 readers for 4 cents a word per week. No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms, always cash with order.

**SITUATIONS WANTED** ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

### HELP WANTED.

**WANT - EXPERIENCED HAND FOR** general farm work. Steady work all summer for good hand. J. M. Nielson, Marysville, Kan.

**LADY OR GENTLEMAN TO TRAVEL** for old established firm. No canvassing. Staple line. Salary, \$18 weekly, pursuant to contract. Expenses advanced. Address G. M. Nichols, Pepper Bldg., Philadelphia, Pa.

**FARMERS WANTED—\$75 MONTH.** MEN and women. U. S. Government jobs. Short hours. Easy work. Common education sufficient. Write immediately for list of positions now obtainable. Franklin Institute, Dept. J82, Rochester, N. Y.

### AGENTS WANTED

**SUITS \$3.50, PANTS \$1.00, MADE TO** measure. For even a better offer than this write and ask for free samples and styles. Knickerbocker Tailoring Co., Dept. 451, Chicago, Ill.

### REAL ESTATE.

**WANTED—FARMS. HAVE 3,357 BUY-**ers. Describe your unsold property. 679 Farmers' Exchange, Denver, Colo.

**OWARDS OF MISSOURI, FARMS AND** timber lands, from \$5 to \$40 per acre. Write for list. Avery & Stephens, Mansfield, Mo.

**FOR SALE—GOOD 80-ACRE FARM,** well situated in Western Linn County, \$4,400. Robt. Curry, Selma, Kan.

**FREE—320 ACRES LAND, EASTERN** Colorado; good level land in the best stock country on earth. Write me for particulars. W. O. Orr, Granada, Colo.

**WANTED—FARMS AND RANCHES.** Owners send description. We have cash buyers on hand. Don't pay commission. Write Up-to-Date Realty Exchange, La Salle, Ill.

**FARMS WANTED—WE HAVE DIRECT** buyers. Don't pay commissions. Write describing property, naming lowest price. We help buyers locate desirable property free. American Investment Association, 43 Palace Bldg., Minneapolis, Minn.

**FOR SALE—A MODERN HOME IN** Topeka, located on a good street, near school and business district; two lots, modern seven-room house, barn, a choice location. Will sell at a bargain. No trades. Address Z, care Kansas Farmer.

### HORSES AND MULES.

**SHETLAND PONIES, GELDINGS, MARES** and colts, all colors. C. H. Clark, Leocompton, Kan.

**FOR SALE—THREE SPOTTED SHET-**land ponies, good size and style. Also buggy and harness. J. H. French, Topeka, Kan.

**FOR SALE—JACK, "TOM YOUNG," AGE** 10 years; good breeder; shows fine mules. Priced reasonable. Also one four-year-old registered Shorthorn bull. J. M. Elder, Green, Kan.

**THIRTY JACKS AND JENNETS FOR** sale. The big kind. A 4-year-old registered black French Draft stallion, the ton kind. Sudan seed, clean and double sacked, guaranteed free from Johnson, \$4 a hundred. Theodore Conrad, Groom, Carson Co., Texas.

### HOGS.

**FINE O. I. C. BOARS AND GILTS FOR** sale. W. C. Hall, Coffeyville, Kan.

**POLAND CHINA BRED GILTS, \$25;** shoats, \$10; pigs, \$5. Quick. Frank Barrington, Sedan, Kan.

### DOGS.

**TWO HANDSOME FEMALE COLLIES,** five months old, partly trained, \$10. Quick. Frank Barrington, Sedan, Kan.

**AIRDALE—THE GREAT TWENTIETH** century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

### LUMBER.

**LUMBER! BUY FROM US. HIGH GRADE.** Bottom prices. Quick shipment. Keystone Lumber Co., Tacoma, Wash.

### PATENTS.

**IDEAS WANTED—MANUFACTURERS** are writing for patents procured through me. Three books with list hundreds of inventions wanted sent free. I help you market your invention. Advice free. R. B. Owen, 122 Owen Bldg., Washington, D. C.

### NURSERY STOCK.

**HIGHEST QUALITY, LOWEST PRICES,** nursery stock and small fruits wholesale. No agents. Free list. Highland Nurseries, Waukon, Iowa.

### PATENTS.

**PATENTS PROCURED. INQUIRE ABOUT** our \$100 cash prize. Free advice. Free search. Free official drawings. Capital Patent Co., Dept. E, Washington, D. C.

### SILOS.

**MONOLITHIC SILO BUILDER, BUILDS** a reinforced concrete silo on your ground. Manufactures every detail from chute to window. Any farmer can operate it. Only ten days to have complete silo set up and in use. Is absolutely a great money saver. Details, photographs and experiences of others sent you for the asking. Address E. H. Euler, 114 Kansas Ave., Topeka, Kan.

### CATTLE.

**RED POLL BULLS, NONE BETTER.** D. F. Van Buskirk, Blue Mound, Kan.

**REGISTERED HOLSTEIN HEIFERS.** Campbell Bros., Route 4, Manhattan, Kan.

**AYRSHIRE BULLS FOR SALE, AGES** from five weeks to sixteen months; out of choice stock. Jens S. Jensen, Milltown, Wis.

**HIGHLY BRED HOLSTEIN CALVES,** either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for \$20 apiece. Frank M. Hawes, Whitewater, Wis.

**FOR SALE—REGISTERED SHORTHORN** bulls, ready for service; well bred, good conformation, all reds. Write for prices and other information. A. L. Withers, Leavenworth, Kan.

**FOR SALE OR TRADE—REGISTERED** Jersey bull, 5 years old; Flying Fox and St. Lambert breeding. Also registered Jersey bull calf, 8 months old, grandson of Financier Countess Ltd. For particulars write C. H. Browne, Lakin, Kan.

**MUST CHANGE MY HOLSTEIN HERD** bull, four years old. Anyone thinking of changing his herd bull, please write me. Have also for sale a fine yearling bull with A. R. O. breeding on both sides. Write at once for particulars. P. W. Enns, Box 78, Newton, Kan.

**GUERNSEYS OF ALL KINDS, BUT ES-**pecially high grade and registered bulls. Klement Bros., our representatives, will drive you to the different breeders. This service furnished to all purchasers by Jefferson County Guernsey Breeders' Association. H. A. Main, Secy., Fort Atkinson, Wis.

### MISCELLANEOUS.

**FOSTER'S CROP WEATHER FORECASTS** free. Address 28 Tea Street Northeast, Washington, D. C.

**ALL VARIETIES TOMATO PLANTS,** \$2.50 M. Cabbage, \$2 M., 50c per hundred. The Copes, Topeka.

**MONEY TO LOAN ON IMPROVED KAN-**sas farm lands. All negotiations quickly closed. No delays. A. T. Reid, Topeka, Kan.

**GANO APPLES, BARREL, \$3.50. SWEET** potatoes, \$1.25 bushel. Plants of all kinds. The Copes, Topeka.

**BINDER TWINE—SISAL STANDARD 500** feet 10c f. o. b. Minneapolis, Omaha, Kansas City. Cooper Twine Company, Minneapolis, Minn.

**FOR SALE—LATEST PLAT BOOK OF** Shawnee County, 44 pages, size 14 x 19 inches. Shows each township in the county, with name of each property owner on his land, also rural routes, school houses, railroads and complete alphabetical list of taxpayers in county outside Topeka and Oakland. Satisfaction guaranteed. Cloth binding, \$5.00. To close out remaining Bristol board binding will sell a year's subscription to Kansas Farmer and Plat Book for only \$1.50. Last previous county map sold for \$10. Send all orders to Kansas Farmer, Topeka, Kan.

### BERMUDA GRASS.

**ACCLIMATED BERMUDA GRASS ROOTS**—Bran sack full, \$1; six sacks, \$5. Frank Hall, Toronto, Kan.

**BACK AGAIN! THE IMPROVED, BIG,** creeping, hardy Bermuda grass, bigger and better than ever. One sack, \$1; six sacks, \$5. Rates on larger orders. Inquiries solicited. "Bermuda" Mitchell, Chandler, Okla.

**BERMUDA GRASS—HARDY, RANK** growing variety. Stands floods, drouths, hot winds and severe freezing. Best and hardest pasture grass. Great milk producer. Write today for leaflet telling how to get started. Henry Jefferies, Ottawa, Kan.

### SITUATION WANTED.

**WANTED—FARM WORK BY INTELLI-**gent, experienced man, clean habits, best references. Name highest wages you can pay. H. B. Southern, Canadian, Texas.

**YOUNG MAN, AGE 28, WANTS WORK** on farm looking after stock or most anything in the farming line. G. W. Reeves, Columbus, Kan.

**MARRIED MAN WANTS WORK ON** farm with good honest man who can furnish house, driving team and wagon, preferred. W. D. Reeves, Columbus, Kan.

**EXPERIENCED FARMER AND STOCK-**man wants position on widow's farm. Can furnish references. Address P. O. Box 2, Burns, Kan.

### HEDGE POSTS.

**HEDGE POSTS FOR SALE—CAR LOTS.** H. W. Porth, Winfield, Kan.

### TANNING.

**LET US TAN YOUR HIDE: COW, HORSE** or calf skins for coat or robe. Catalog on request. The Crosby Frislan Fur Co., Rochester, N. Y.

### THE STRAY LIST

**TAKEN UP—BY JACOB MEISNER, OF** Bern, Nemaha County, Kansas, on October 1, 1915, one red steer coming two years old, appraised at \$30. W. L. Kauffman, County Clerk.

**TAKEN UP—BY J. C. JORDAN, RESID-**ing one and one-half miles north and two miles east of Harper, Harper County, Kansas, one red cow with four white feet, dehorned, weight about 1,000 pounds, appraised at \$40. R. P. Chevraux, County Clerk.

### TREES, SEEDS AND PLANTS.

**SEED CORN, BRUCE SAUNDERS, HOL-**ton, Kan.

**NORTHWEST KANSAS ALFALFA SEED** for sale. Geo. Bowman, Logan, Kan.

**500 BUSHELS CHOICE PURE "COMMER-**cial White" seed corn. High germination. Sacks free. E. D. King, Burlington, Kan.

**HILDRETH CORN, 129 BUSHELS AN** acre. \$2 per bushel. C. E. Hildreth, Altamont, Kan.

**ALFALFA SEED, FANCY, RECLEANED,** \$12 per bushel. Theo. Smith & Son, Phillipsburg, Kan.

**SWEET POTATO SEED, PUMPKIN** yams, \$1 per hundred pounds. J. Medford, Wheatland, Okla.

**YELLOW JERSEY SEED SWEET POTAT-**oes, \$1 per bushel, sacked f. o. b. C. V. Montford, Burrton, Kan.

**SABLE SOY BEANS, MATURE 90 TO** 110 days, yield 10 to 25 bushels per acre, \$1.50 bushel. E. D. Scott, Udall, Kan.

**FROST PROOF CABBAGE PLANTS—**100, 30c; 500, \$1; 1,000, \$1.90, parcel post. James A. Clifton, Russellville, Ark.

**FOR SALE—RECLEANED ALFALFA** seed, 95 per cent pure, \$8.00 bushel. Geo. Bowman, Logan, Kan.

**McGEE TOMATO—1,200 BUSHELS PER** acre. Please send your address for the proof of this great fact. M. C. McGee, San Marcos, Texas.

**ALFALFA SEED—KANSAS GROWN,** fine germination, \$9.50 bushel while it lasts, sacks free. Brooks Wholesale Co., Ft. Scott, Kan.

**SEED CORN IN THE EAR—PURE-BRED** Yellow Dent and Boone County White, \$2 per bushel. Woestemeyer & Shuyler, Bethel, Kan.

**FOR SALE—EXTRA GOOD WHITE-**hulled kafir seed, was ripe before frost. Also some white corn. John Roehman, Route 4, Herington, Kan.

**MILLET SEED—I HAVE A QUANTITY** of choice German millet seed for sale. Recleaned and fine. Ask for samples and price. Ed Fulcomer, Belleville, Kan.

**PURE BRED SEED CORN, FULLY** tested and guaranteed. Boone County White, Hildreth and Reid's Yellow Dent. M. T. Kelsey, Northwood Farm, Topeka, Kan.

**BROME GRASS SEED—BEST FOR PER-**manent pasture. Fifteen cents per pound in fifty-pound lots. Achenbach Bros., Washington, D. C.

**RED CEDAR TREES THAT WILL GROW** for you. Windbreak and beauty for the farm and home. Transplanted, puddled roots, plant early and firm. Specialty of ornamentals, Farrar Nurseries, Abilene, Kan.

**FRUIT AND SHADE TREES, ORNA-**mentals, evergreens, strawberry plants; spray pumps, spray material, garden implements. Seed corn, our own growing. Falls City Nursery, Falls City, Neb.

**DUNLAP STRAWBERRY PLANTS—**Hundred, 50c; thousand, \$4.50 delivered. Everbearing, 45c dozen, \$2.09 hundred, delivered. Satisfactory plants. J. M. Lancaster, Rockford, Gage Co., Neb.

**BOURBON COUNTY RAISED SEED CORN**—Hand picked, tipped, butted and shelled. Boone County White, Commercial White, Blue and White, Hildreth's Yellow Dent, Reid's Yellow Dent. \$2 per bushel delivered any point in Kansas, Missouri and Oklahoma. Mead Grain Co., Ft. Scott, Kan.

**NANCY HALL SWEET POTATO PLANTS,** tomato plants, \$2 thousand. Cabbage plants, \$1.25 thousand. Any kind, 40c hundred by parcel post. 5,000 lots, prepaid express. Can ship million weekly after May 1. Quantity orders solicited. Catalog free. Acme Plant Company, "Largest Southwest," Bentonville, Ark.

**PURE WHITE BLOSSOM SWEET CLO-**ver seed, hulled, cleaned, scarified, 100 pounds, \$19; under 60 pounds, 20c per pound. Ask me to prove to your satisfaction the superiority of scarified seed. Pure Sudan grass seed from northern-grown stock, grown seven miles from Nebraska state line, in Marshall County. No Johnson grass here. 100 pounds, \$9; 50 pounds, \$5; 10 pounds and under, 12c per pound. Satisfaction guaranteed. Willis J. Conable, Atoll, Kan.

### SUDAN GRASS SEED.

**SUDAN SEED—4,000 POUNDS FROM** seed sent from Department, Washington, D. C. None better. Send cash. M. M. Anthony, Tahoka, Texas.

### BUSINESS CHANCES.

**FREE FOR SIX MONTHS—MY SPECIAL** offer to introduce my magazine, "Investing for Profit." It is worth \$10 a copy to anyone who has been getting poorer while the rich, richer. It demonstrates the real earning power of money, and shows how anyone, no matter how poor, can acquire riches. Investing for Profit is the only progressive financial journal published. It shows how \$100 grows to \$2,200. Write now and I'll send it six months free. H. L. Barber, 431-28 W. Jackson Blvd., Chicago.

### HONEY.

**HONEY—FANCY WHITE EXTRACTED,** two 60-pound cans, \$11; light amber, \$10; amber, \$8.50. Bert W. Hopper, Rocky Ford, Colo.

### TRACTORS.

**FOR SALE AT A BARGAIN—A 22x45** Hart-Parr kerosene tractor and plows in good shape. Herman Unruh, Dundee, Kan.

These are the proper distances for setting out various kinds of fruit trees: Apples from 30 to 40 feet apart; pears, 20 to 30 feet; peaches and plums, 15 to 20 feet; cherries, 15 to 25 feet; apricots, 20 to 30 feet; quinces, 8 to 12 feet.

Water does not soak into concrete. Liquids run into the gutters and then into the manure pits. Concrete floors may be flushed with water and made clean and odorless.

## FARM AND HERD

G. C. Wheeler, Live Stock Editor  
W. J. Cody, Manager, Stock Adver-  
tising. O. W. Devine, Representative

### Address All Communica- tions to Kansas Farmer and Not to Individuals

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### CLAIM SALE DATES.

**Aberdeen Angus.**  
Aberdeen Angus Breeders' Association sales:  
St. Joseph, Mo., April 25; Omaha, Neb., April 26; Sioux City, Iowa, April 27; St. Louis, Mo., May 2. Chas. Gray, Secretary, 817 Exchange Ave., Chicago, Ill.  
May 26—E. H. Salisbury, Kirksville, Mo.

### Shorthorns.

April 18—Robert Russell, Muscotah, Kan.

### Holsteins.

April 18—J. R. Smith, Newton, Kan.  
April 25—F. J. Searle, Okaloosa, Kan.  
April 26—Mark B. Curdy, Howell, Mich.  
April 28—Liverpool Sale & Pedigree Co., Ins., Liverpool, N. Y. Iowa Breeders' Sale at Waterloo, Iowa.

### Jersey Cattle.

May 20—Robt. I. Young, Route 5, St. Joseph, Missouri.

The Liverpool Sale & Pedigree Company of Liverpool, N. Y., claims April 28 as the date of their Iowa Breeders' Sale of registered Holstein cattle. On that date, at Waterloo, Iowa, they will offer a choice lot of registered Holsteins selected from the best herds in Iowa. It is expected that this will be one of the sale events of the season in Holstein circles.

Ed Boen of Lawson, Mo., owner of Prairie View Stock Farm, noted as the home of one of Missouri's most famous and biggest herds of jacks and jennets, reports a good demand for high class jacks. The Prairie View herd is noted for its large number of high class mammoth jacks. All of the jacks in the herd at this time, old enough for service, were raised and broke on Prairie View Farm.

In a bulletin on milk and cream contests, the Department of Agriculture calls attention to the fact that these contests have been found to be a valuable means of inducing dairymen and others to use greater care in handling milk. "Education accomplishes more than legislation," says this bulletin. "The educational value of these contests," the bulletin points out, "is indicated by the fact that almost invariably dairymen who have had little experience in such competitions obtain higher scores than those who have not. On the other hand, the contests are used also to point out to consumers the fact that clean milk is more difficult and expensive to produce than dirty milk."

E. H. Salisbury of Kirksville, Mo., owner of one of the choice herds of Aberdeen Angus cattle in that state, has claimed May 26 as the date for a public sale. On that date he will offer a very choice selection of Angus cattle. The entire offering will be of the best blood lines and are the type that will be profitable on any farm.

Wisconsin is noted as the home of good Holstein cattle, and Holstein breeders in that state are furnishing a large percentage of the breeding stock coming to the Southwest. Whitewater Stock Farm at Whitewater, Wis., is one of the farms that has been drawn upon heavily by breeders in the Southwest, and many good herds in this territory were started with foundation stock from this herd.

W. T. Hutchinson, the well known Duroc Jersey breeder of Cleveland, Mo., has located on one of the good stock farms near Laredo, Mo., and has entered into a partnership with A. H. Schmidt. The new firm of Schmidt & Hutchinson will continue in the business of breeding pure-bred stock. In addition to the splendid herd of Durocs owned by Mr. Hutchinson, they will also breed Hereford cattle.

G. C. Humphrey, head of the dairy department of the Wisconsin Agricultural College, gives ten reasons why dairying on farms in that state is becoming so popular. Among the reasons advanced is that it enables the farmer to receive a regular cash income, and also provides a home market for his forage feeds, and at the same time builds up and enriches his soil. Dairying also produces a human food for which there is no substitute, and for which there is always a demand.

Guernsey cattle breeders in Kansas City territory are working for a big dairy show to be held in Kansas City next September. C. F. Holmes will attend the annual meeting of the American Guernsey Cattle Club to be held in New York City next month, where he will arrange for substantial prizes to be given at the Kansas City show. At a recent meeting of the Mid-West Guernsey Breeders' Association the following officers were elected: Phil R. Toll, president; E. P. Adams, W. H. Holmes, C. E. Fulton, Springfield, Mo., and William Newlin, Hutchinson, Kan., vice-presidents; C. F. Holmes, treasurer, and M. E. Livezey, secretary.

W. H. Richards of Emporia, Kan., is a live booster for better draft horses on Kansas farms. A number of the best imported and home-bred draft stallions now in service in Kansas and neighboring states are from Mr. Richards' barns. The imported and home-bred stallions now in his herd are a choice lot of ideal type drafters and the kind that will make good.

Thirty-one years ago Phil Walker of Moline, Kan., moved from Kentucky to this state. He brought with him ten head of jennets and a herd jack as the foundation for one of the best herds in the state. During the many years that Mr. Walker has been in the business he has been constantly improving his herd, and at this time a better lot than the big, high quality jacks and jennets in the Walker herd is hard to find. A visit to his 600-acre farm will convince anyone that he has found that breeding good jacks is a profitable business.

## HERE IS THE DATE APRIL 28th, 1916 IOWA STATE BREEDERS' SALE To Be Held at Waterloo, Ia.

In this sale will be offered consignments from some of the best Holstein breeders in the state of Iowa. All purebreds and all over six months of age tuberculin tested. Come and see for yourself or write us for full particulars.

**LIVERPOOL SALE & PEDIGREE CO., Inc.**  
Sole Managers  
LIVERPOOL NEW YORK

### SHORTHORN CATTLE.

#### Tenneholm Shorthorns

For Sale—A number of good bulls 8 to 18 months old. Some Scotch, others Scotch-topped. Some herd headers among them. Two outstanding ones. Can spare a few females. Farm one mile from town.

E. S. MYERS - CHANUTE, KANSAS

#### SHORTHORN BULLS.

Twelve head bulls, breeding age, all sired by a pure Scotch bull. Reds, whites and roans. Herd headed by Scottish Monarch by New Goods by Choice Goods, out of Morning Glory, a granddaughter of imported Lady Star. Will sell a few females.

KELLY BROS. - GARDNER, KANSAS

#### HILL'S SHORTHORNS

One red Shorthorn bull 11 months old, sired by Bettie's Albion 399451, pure Scotch, well built, weight between 600 and 700 pounds. Ready for service. Priced to sell.

C. E. HILL - TORONTO, KANSAS

#### Sycamore Springs Shorthorns

Master of Dale by the great Avondale heads herd. A few young Scotch bulls and bred heifers for sale.

H. M. HILL - LAFONTAINE, KANSAS

#### RIVERSIDE SHORTHORNS

For Sale—Five pure Scotch and Scotch-topped young bulls. Prices reasonable. Come and see them. They are extra good and will make herd headers.

H. H. HOLMES, GREAT BEND, KANSAS

### ANGUS CATTLE

#### ABERDEEN ANGUS

We Offer For Sale Bulls and Heifers, Any Number, Single or Carload Lots. These cattle have size and quality and are bred in the purple. See them at Lawrence—forty miles from Kansas City, on Santa Fe and Union Pacific railways.

**SUTTON & PORTEOUS**

Phone 8454. Route 6, Lawrence, Kan.

## Breeders' Directory

#### PERCHERON HORSES.

M. E. Gideon, Emmett, Kan.  
ANGUS CATTLE.  
Geo. A. Deltrich, Carbondale, Kan.  
Geo. McAdam, Holton, Kan.

#### SHORTHORNS.

C. H. White, Burlington, Kan.  
HOLSTEINS.  
C. E. Bean, Garnett, Kansas.  
DORSET-HORN SHEEP.  
H. C. LaTourette, Route 2, Oberlin, Kan.  
JERSEY CATTLE.  
J. B. Porter & Son, Mayetta, Kan.

### POLAND CHINAS.

#### BECKER'S POLAND CHINAS

Seven choice summer boars, ready for service, sired by Hadley's Wonder and Orphan Boy. Priced to sell.

J. H. BECKER, Route 7, NEWTON, KAN.

#### POLAND CHINAS

500 Head Registered Poland Chinas. Bred sows and bred gilts. 200 spring pigs. A few fall boars. Farmers' prices.

DEMING RANCH - OSWEGO, KANSAS

#### FITZSIMMONS' BIG BONES POLANDS.

Choice September and October boars and gilts by King of Kansas Jr. and Big Ben. Priced right. O. H. Fitzsimmons, Wilsey, Kan.

#### OLD ORIGINAL SPOTTED POLANDS.

Booking orders for spring pigs.  
A. S. ALEXANDER, R. 2, Burlington, Kansas

#### LANGFORD'S SPOTTED POLANDS.

Late fall boars. Yours for good hogs. Spotted Poland. T. T. Langford & Sons, Jamesport, Mo.

#### GOOD STRETCHY POLAND CHINA FALL BOARS—Priced to sell.

ED BEAVERS, Junction City, Kansas.

When writing to KANSAS FARMER live stock advertisers, please mention this paper.

### HORSES AND MULES.

#### Belgians and Percherons



A few extra good Belgian and Percheron Stallions and Mares from two to six years old. All priced reasonably. Come and see them.

**W. H. BAYLESS & SONS**

Blue Mound, Kan.



#### DUNHAMS' PERCHERONS

For Fifty Years the Best.

Send for fine photographic catalog.

**DUNHAMS**  
Wayne, Dupage Co., Ill.

#### FAIRVIEW STOCK FARM

Home of World's Grand Champion Jack, Kansas Chief 9194

More registered jacks and jennets than any farm in the West. Jacks to 1,240 pounds. Prices and terms reasonable. Written guarantee with every jack. Car fare refunded if stock is not as represented. Young jennets bred to Kansas Chief. Reference, any bank in Dighton.

H. T. HINEMAN & SONS  
Dighton - - - Kansas

#### PRAIRIE VIEW STOCK FARM

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

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

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ARTISTS AND ENGRAVERS

SIX TWENTY FIVE JACKSON STREET Topeka, Kans.

### FARM AND HERD.

Ira Romig of Topeka, owner of the noted Bonnie Brae Holstein herd, reports his Holsteins doing fine. This is one of the good producing herds and the cows and heifers on Mr. Romig's farm are a choice lot, including a choice herd of high grades.

R. J. Linscott of Holton, owner of the only Register of Merit Jersey herd in Kansas, reports a good demand for high class Jersey breeding stock. The youngsters in Mr. Linscott's herd at this time are a richly bred lot and are backed by records that insure producers.

James W. Anderson of Green, Kan., owner of the Jumbo herd of big-type Poland Chinas, writes that his herd is doing fine and that his fine lot of early spring pigs is starting out in good shape. Mr. Anderson has the big, easy feeding Poland, and has found them very profitable. He has a large number of spring pigs this year and expects to select the tops of the bunch for breeding stock.

The Deming Ranch, owned by Robert O. Deming at Oswego, Kan., is probably one of the largest breeding plants of pure-bred cattle and hogs in Kansas. The farm consists of 2,500 acres of Neosho bottom and 1,000 acres of upland pasture. They have pure-bred Shorthorn and Hereford cattle. They have now on the ranch about 700 head of Poland China hogs that could be registered, and more than 200 head of spring pigs have been saved, with a number of sows to farrow in April and May. H. O. Sheldon, formerly of Lees Summit, Mo., is in charge of the hog department, and they now have the best lot of breeding hogs on the ranch they have ever had. They have always made a specialty of seed corn and seed alfalfa, but this year they will attract no little attention with the fine herd of big-type Poland Chinas. They have nominated several litters for the Topeka Futurity Show and will probably bring a full show herd. L. S. Edwards is manager of the ranch and has good assistants in all the departments.

## SHORTHORN CATTLE SALE

APRIL 18, 1916

AT FARM TWO MILES FROM MUSCOTAH, KANSAS

Fourteen Scotch Topped Bulls Ready for Service.

Eight Extra Good Heifers, Scotch Topped.



All sired by my herd bull, Red Scotchman, bred by R. O. Miller of Iowa, and his dam was Augusta Clipper Mina, a cow now owned by the Kansas Agricultural College. My herd cows are a good lot of Scotch-topped breeding cows and the young bulls and heifers are well grown out and will make any farmer money.

Send for catalog folder and come to sale. Can drive either from Atchison or Whiting, Kansas.

**ROBERT RUSSELL, Muscotah, Kansas**

### HORSES AND MULES.

## The Champion Breeder --- Missouri Chief 8365

Sire of the World's Grand Champion Jack, Kansas City 8743  
In public service at our ranch south of Ellinwood. Excellent facilities for handling any number of healthy jennets.

Write Us for List of Winnings of His Get.

Most liberal terms and other information about this sire possessing excellent size, quality, bone, finish, and unexcelled style and action. Winner first as sire at Kansas State Fair, Hutchinson, 1915.

**M. E. RICHARDSON - - - STERLING, KANSAS**

### HORSES AND JACKS

FOR SALE—Six coming two-year-old fillies, big growthy fillies, dark steel greys; one black mare, three years old in April; stud colt, two years old; all extra good; all out of imported sire and dams; Percheron Society of America. Twenty-two head two-year-old jacks; all raised on the farm; all priced to sell, cash or time. You can see the sire and dams of all this stuff. These are the blacks with meaty noses, the color that all breeders raise. I am now breeding white-faced jacks that will produce white-faced mules, and in a few years the breeding of white-faced jacks, alone, will be continued on this farm. Since running my advertisement every man who came to the farm found what he wanted and bought.

OAKLAND STOCK FARM, Box 207, CHILLICOTHE, MO.

## DEIERLING STOCK FARMS

Have fifteen large, heavy boned, black, registered jacks, 15 to 16 hands high, good heads and ears, good style, good breeders. I have a number of jacks sired by the champion, Pride of Missouri, also several other good herd prospects. In my 1914 sale I sold the champion of Kansas State Fair, 1915, Eastern Lightning, also Demonstrator, first prize aged Jack Missouri State Fair. Reference, Peoples Bank. Written guarantee with each animal. Have a number of Percheron stallions for sale, also saddle stallions. Barn in town. Wabash Railroad.

**WM. DEIERLING, QUEEN CITY, MISSOURI**

## PERCHERON and BELGIAN STALLIONS

Twenty head, imported and pure-bred. I give a gilt-edge two-year guarantee with every horse sold. Come and see them. Priced to sell quick. Barn four blocks from Santa Fe depot.

**W. H. RICHARDS, Emporia, Kans.**

## JACKS & JENNETS AT REDUCED PRICES

TEN LARGE MAMMOTH BLACK JACKS

Ages from 2 to 6 years; large, heavy boned. Special prices for thirty days. Guaranteed right in every way. Come and see me.

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## JACKS FOR SALE OR TRADE

FOUR GOOD JACKS FOR SALE OR TRADE FOR OTHER STOCK.

They are 14 1/2 to 15 1/2 hands and from 3 to 10 years old, quick workers. Also eight coming 2-year-olds for sale. They are big fellows and priced right.

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## THE SAUNDERS JACK COMPANY

U. G. Saunders, of Lexington, Ky., and Bruce Saunders, of Holton, Kan., have shipped a carload of registered Mammoth Jacks from Lexington, Ky., to Holton, Kan. Two to six years old, 15 to 16 hands high. Come to Holton and see as good a load of jacks as ever left Kentucky. Write your wants to **BRUCE SAUNDERS, HOLTON, KANSAS. PHONE 589**

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Stallions from 2 to 5 years old, good ones, the kind that make ton horses. Mares in foal and few yearling fillies. Young bulls, 6 months to 3 years old, some top notchers. A few good cows and heifers for sale. A few Shetland ponies for the children. All priced to sell at let live prices. Come and see us before you buy.

**EWING BROTHERS - - - PAWNEE ROCK, KANSAS**

### PERCHERON STALLIONS FOR SALE

A pair of coming fours and a coming three-year-old, two blacks and the other a bay, sired by the herd stallion Siroco (51358), which we sold to go to Northern Nebraska. They have the size, bone and quality, and are priced to sell.

**A. M. DULL & SONS - - - WASHINGTON, KANSAS**

### REDUCED PRICES FOR A QUICK SALE.

Reg. Percheron stallion, 3 yrs. old, black gray, very blocky, extra heavy bone, ton horse, sound, price \$500. Black gray coming yearling, reg. Percheron, heavy bone, blocky, will make better than ton horse, \$175. Span of reg. Clydesdale brood mares, heavy in foal by imp. horse, wt. 3,750 lbs., sound and prize winners, \$700. Two-year-old Clyde filly, extra good, \$260. Coming yearling Clyde stud colt, extra good, will make herd horse, grandson of Benedict (10315) 9033, price \$175. This stock all sound. Will pay expenses if not as described.

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Imported and Home-Bred Registered Percheron, French Draft and Belgian Stallions for sale cheap. Hart Bros., Osceola, Iowa.

### CHOICE PERCHERON STALLIONS

One coming 3 years old, black, imported sire and dam, weighs over 1,800; good individual, making of a ton horse. Also 6-year-old imported stallion, ton horse. Both guaranteed breeders.

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Reg. Percheron Stallions—Twenty-nine black ton and 2,200-pound 4 and 5-year-olds, 44 black coming 3's, 41 black coming 2's, 29 registered mares for sale. 19 Belgian stallions. Just above Kansas City.

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### ONE HUNDRED

Registered Percheron, French Draft, Belgian and Shire stallions and mares for sale cheap.

**A. LATIMER WILSON, CRESTON, IOWA.**

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More Butter  
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**YOUR HERD** should average at least 500 lbs. of butter per year. A good Jersey herd will do even better—600 lbs. per year, and the butter will be of the finest flavor, texture, and color. There are many individuals of this breed producing 1100 lbs. They make good use of every ounce of feed, do not require fancy feeding, mature early, thrive in any climate, are steady producers, are beautiful and gentle. They pay big dividends on the highest priced land.

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## LOWMONT SHORTHORNS.

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

SEVENTY HEAD REGISTERED JERSEYS.



Forty cows and thirty heifers for sale. Nothing over five years old. Richly bred, Fox Signal and Fern Lad families. All bred to choice registered herd bull. Must reduce herd.

N. L. DUCHESNE, GREAT BEND, KANSAS

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Forty head of registered cows, heifer and bull calves for sale. Of the best blood lines among the breed.

I am a member of the Southwest Jersey Cattle Breeders' Association.

SWEET SPRING STOCK RANCH  
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## Brookside Farm Jerseys

Registered Jersey bulls for sale. Flying Fox and Eminent breeding, good enough to head any herd. Also a few females.

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## JERSEY CATTLE AND CHESTER WHITE HOGS

Two registered Jersey bulls ready for service. Richly bred.

DORNWOOD FARM, Route 1, Topeka, Kan.

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The famous Blue Belle-Golden Rosebay breeding. A few bred heifers and young bulls for sale, singly, pair or trio. Send for circular giving description of herd, breeding, production, etc., and mention your wants.

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

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Kansas' First Register of Merit. Estab. 1878. Bargain in month-old bull calf from one of the heaviest milkers in our herd. Flying Fox blood. Fully guaranteed. A beauty. \$25.00.

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Calves, yearlings and two-year-old bulls, sired by Sultan's Trinity King, Fern's Baby Boy and Majesty Western King. From dams that will give 1,000 pounds of 5 per cent or more, a month. Also some choice young Poland China boars.

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Ten high class young bulls and one aged bull. Can furnish anything in registered cows and heifers. 100 head to select from. Write for special prices or come and see the best herd in the Middle West.

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One 2-year-old, two 1-year-old bulls, choice individuals. Thirty cows and heifers, solid colors, a nice lot. Come or write your wants and about the amount you wish to pay. Will describe the best I have for the price. No cows under \$100.

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TOPEKA, KANSAS

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Thomas D. Marshall of Brookside Stock Farm, Sylvia, Kan., owns one of the good herds of registered Jerseys. Mr. Marshall is one of the progressive breeders who has built up a herd of richly-bred heavy producers that return a profit every year regardless of conditions. At this time he has a choice lot of young stock in his herd. These youngsters are of Flying Fox and Eminent breeding and the lot includes some young bulls that are herd header prospects.

C. H. Wempe of Seneca, Kan., is a consistent worker for improved stock on every farm. His specialty is pure-bred draft horses and his experience has been that it is just as easy to raise a good pure-bred horse as it is to raise a scrub and that a good draft horse sells more readily and at a higher price. At this time Mr. Wempe has a good lot of Percheron and Clydesdale stallions and mares.

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CLYDE GIROD, At the Farm.

## HOLSTEIN FRESIAN FARM, TOWANDA, KANSAS

Pure-bred and high grade Holsteins, all ages. Largest pure-bred herd in the South-west, headed by Oak De Kol Bessie Ormsby 156789, a show bull with royal breeding.

Pure-bred bulls, serviceable age, from A. R. O. dams and sires. A grand lot of pure-bred heifers, some with official records. Choice, extra high grade cows and heifers, well marked, heavy springers, in calf to pure-bred bulls, constantly on hand. High grade heifer calves, 6 to 10 weeks old, \$25. Bargains. Send draft for number wanted. All prices f. o. b. cars here. Inspect our herd before purchasing. Write, wire or phone us.

GIROD & ROBISON.

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Howell, Livingston Co., Mich. Sixth Annual Sale, April 26, 1916

Tuberculin tested. Best families of the breed. Send for catalog.

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## Cederlane Holstein Herd

One of the best bred sires in the state at head of herd. Some of our cows produce 80 pounds milk per day. Buy your next bull from a well bred and high producing herd.

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Holstein-Friesian A. R. O. bulls ready for service. World's record blood flows in their veins.

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Eight bulls, 2 to 8 months, \$100 to \$175 each. Always have a few good cows and bred heifers for sale. Nothing but registered Holsteins.

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Registered bull calves. Prices reasonable. Write today. These bargains will not last long.

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We want to cut down our herd. Will sell ten or twelve choice cows, most of them young, also a few heifers.

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## CORYDALE FARM HERD

Jewel Paul Butter Boy No. 94245

One of the best bred bulls in the state. We offer three bulls ready for service out of good producing dams.

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## HOLSTEIN COWS

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

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Some extra good cows and heifers. High grades.

IRA ROMIG, Station B, TOPEKA, KANSAS

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For Sale—Registered Holstein heifer calf. Well bred, almost white, a splendid individual.

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All combined in the registered Holsteins we offer for sale. Bulls, cows, heifers. Send for bull catalog. 300 in herd. Also 200 Shetland ponies.

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If you want to buy Holstein calves, heifers or cows, at reasonable prices, write to the Whitewater Stock Farm, Whitewater, Wis.

Alb. M. Hanson, Prop.

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Do you want a yearling bull, first cousin to the sire of Duchess Skylark Ormsby, year's butter 1,506 pounds, at \$125?

H. B. Cowles, 608 Kansas Ave., Topeka, Kan.

## TREDICO FARM

Route 44 - KINGMAN, KANSAS

## 23—HOLSTEIN-FRIESIAN BULLS—23

Best of sires. A. R. O. dams, fourteen over 20 pounds. Seven of the others from heifers with records of 14.89 to 19.2 pounds. The kind you want. We have only two cows in the herd with mature records less than 20 pounds.

Breeders for Thirty Years.

McKAY BROS., Waterloo, Iowa

## Golden Belt Holstein Herd

Canary Butter Boy King No. 70508

In Service.

Herd has won more prizes from Holstein-Friesian Association for yearly production than any herd in Kansas. Young bulls for sale from heavy producing cows.

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## CHOICE HOLSTEIN BULLS

Five registered bulls, out of A. R. O. cows. From 1 month to 2 years. Best breeding. Choice individuals. Price reasonable.

BEN SCHNEIDER, NORTONVILLE, KAN.

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Pure-bred and high grade Holsteins, all ages. Largest pure-bred herd in the South-west, headed by Oak De Kol Bessie Ormsby 156789, a show bull with royal breeding.

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## 100—REGISTERED HOLSTEIN FRIESIAN FEMALES—100

Howell, Livingston Co., Mich. Sixth Annual Sale, April 26, 1916

Tuberculin tested. Best families of the breed. Send for catalog.

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## Choice Holstein Bulls

Grandsons of the King of the Pontiacs, also of Pontiac Korndyke, from A. R. O. dams. Write for prices and pedigrees. Senior sire, son of the King of the Pontiacs, Junior sire, son of Pontiac Korndyke.

FRANK BUZARD

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## HOME FARM OFFERS

Two fine sons of Sir Sadie Cornucopia, who has 35 A. R. O. daughters, four of them averaging over 30 pounds. No. 1, born December 5, 1915, dam has 7-day record of 22 pounds and yearly of 641 pounds. No. 2, born January 5, 1915, six nearest dams average over 27 pounds in 7 days.

A card will bring you descriptions and pedigrees.

W. B. BARNEY & SONS, CHAPIN, IOWA

## Albechar Holstein Farm

Offers young bulls, bred cows and heifers for sale. Write for breeding, description and prices. Our herd absolutely free from tuberculosis. Satisfaction guaranteed.

ROBINSON & SHULTZ, Independence, Kan.

## HOLSTEIN CALVES, both sexes, fifteen-

sixteenths pure, \$20 each, crated. Also carload heifers 1 and 2 years old. Write us for Holsteins. Edgewood Farm, Whitewater, Wis.

## REGISTERED HOLSTEIN BULL CALVES

My herd bull grandson Old King Segis, fine animal. E. VIOLETT, Altoona, Kansas.

## HOLSTEIN BULLS, "REGISTERED"

Two ready for service. Smith & Hughes, Breeders, Route 2, Topeka, Kansas.

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Seventy choice bred Berkshire sows, to farrow every week from March 1 until June. Bred to as good boars as the breed has. Cholera immune.

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## THE GUERNSEY is popular among

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Try Guernseys and be satisfied.

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## GALLOWAY CATTLE.

## GALLOWAY BULLS

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

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## DUROC JERSEYS.

## Sisco's Duroc Jerseys

## PRIZE WINNING BLOOD

Big, growthy, richly-bred gilts, bred to a choice son of the great boar, A Critic, for spring farrow. Outstanding spring boars. Also a choice herd boar. Prices right.

A. E. SISCO, Route 2, TOPEKA, KS.

## UNEEDA HERD

## NEXCELLED DUROCS 34 BARGAINS

Late spring boars and gilts, Model Cobs, and Golden Models, \$15 to \$25 for quick sale. Thirty gilts, \$450; twelve bred to our great Iowa boar, Proud Iowa Chief.

TYSON BROS. - McALLISTER, KAN.

## BOARS! BOARS! BRED GILTS!

Eighteen big husky boars, thirty bred gilts, a few tried sows. Crimson Wonder, Illustration II, Colonel, Good Snuff, Defender breeding. Either by or bred to sons of the greatest champions of the breed. Priced for quick sale. Immune.

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## J. P. OLIVER Live Stock and Real

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Twenty years' experience. Newton, Kansas.

You will find a lot of bargains on Kansas

Farmer's Classified Advertising Page this

week. Don't fail to carefully read that page.

## KENTUCKY JACKS AT PRIVATE SALE



**T**HE firm of Saunders & Maggard, Poplar Plains, Ky., has shipped twenty head of jacks to Newton, Kansas, and they will be for sale privately at Welsh's Transfer Barn. This is a well bred load of jacks, including one imported jack, and they range in age from coming three to matured aged jacks; height from 14 to 16 hands. We will make prices reasonable, as we want to close them out in the next thirty days. Anyone wanting a good jack will do well to call and see them. Barn two blocks from Santa Fe Depot, one block from Interurban. Come and see us.

**SAUNDERS & MAGGARD, Newton, Kan.**

## REGISTERED and GRADE Holstein Cattle Sale

At Farm Adjoining Newton, Kan.

**Tuesday, April 18, 1916**



Four Registered Cows in Milk, one with heifer calf at foot and cow rebred to a Pontiac Segis bull.

Two Registered Young Bulls, six months old.

Thirty-four Head of High Grade Holstein Heifers, all in milk or will freshen soon. These heifers are pure-bred but cannot be registered, and are all bred to a registered bull. They are two and three-year-olds and are very promising for heavy producing cows. You must see them to appreciate them.

Two Yearling Grade Heifers, not bred.

Send today for folder catalog and arrange to attend this sale.

**J. R. SMITH, BUSKIRK & NEWTON  
NEWTON, KANSAS**

Auctioneers—Col. Lafe Burger, Wellington, Ks.; Col. J. P. Oliver, Newton, Ks.

## FRANK IAMS'

"Mr. Horseman" 1916 is the "Get Rich Quick" year for "up-to-snuff" Horse Breeders. Get into the "Easy Money-Making Game." Don't wait. Do it in 1916. No horses will be imported in ten years. "Big Horse Farm" 500 horses exported Buyer, buy big "Black of Iams and wear diamonds. "Iams' kind" are known "world over" as Top-Notchers at Bargain Prices. Try IAMS.

Big, Nifty, Classy "New Horses" are "Town Talk." His 34 years of success in Importing, Breeding and Selling, 5,640 registered horses—his "50 trips" across the ocean—make Iams a safe man to buy stallions from. His "old customers" are "best Page advertisers," his Breeding Guarantee backed by "Half Million Dollars." Iams' Imported and Home-bred horses are "classy, model big drafters" of large bone, fine form, quality, finish and flash movers. Several European

### "Gold Medal and State Prizewinners"

"Iams' kind," and in the "Pink of Condition."

Bought at "bargain prices" and must be sold. "Iams sells horses on honor." A lady can buy as cheap as a man. Iams is not in the "stallion trust," and is selling more pounds of "model draft horse" for the money than any competitor. Iams is cutting the middle out of high prices on his

### 40 PERCHERON AND BELGIAN STALLIONS AND MARES

2 to 6 years old, weight 1,700 to 2,410 lbs., all "Branded," "Approved," "Registered and Inspected" by governments of France and U. S. and certificates "stamped" O. K. All "inspected" by a Nebr. Deputy State Veterinarian and certificates of "Health and Soundness" are given with each horse. Iams sells

### IMPORTED STALLIONS AT \$1,000 AND \$1,400

(few higher). "Home-Breds" come cheapest. Registered 1,800 to 2,100-lb. mares at \$700 to \$1,000. Terms cash, or one year's time at 7 per cent; land security at 6 per cent; \$100 less price for cash than time. Iams pays freight and buyer's fare; gives 60 per cent breeding guarantee. Can place \$1,500 insurance. Iams backs up his ads. with a \$500 guarantee that you find the horses as represented. Write for Horse Catalog. It has a "Big Bargain" on each page. References: First National and Omaha National Banks, Omaha, Neb.; Citizens' State and St. Paul Banks, St. Paul, Neb.

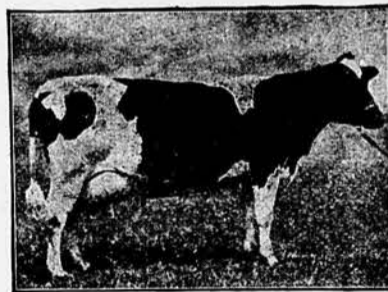
**ST. PAUL, NEB.**

## --SUNFLOWER HERD'S-- SECOND ANNUAL SALE

**110 - HEAD REGISTERED HOLSTEINS - 110**

At Auction on

**Tuesday, April 25th, 1916  
OSKALOOSA, KANSAS**



QUALITY and BREEDING will be the keynote of this great event. One hundred females and ten bulls. It's seldom that so much 30-pound blood is offered among so great a number of cattle in any sale.

There will be twenty females bred to Sunflower Herd's great 30-pound sire, Prince Artis Pontiac Abbecker No. 13282. Many close up springers.

There will be a number of A. R. O. cows bred to a son of Colantha Johanna Lad. Twelve daughters of the 31-pound sire, Sir Pontiac Rag Apple Korndyke No. 49334. (He has fourteen A. R. O. daughters, one above 29 pounds at 3 years.)

TEN daughters of the GREAT SIRE, KING SEGIS PONTIAC. Daughters of this wonderful sire are seldom offered either at private or auction sale. Then there will be a fine lot of daughters of such bulls as Woodcrest Hengerveld De Kol, Oakland Paul Beets Burke, Lewis Prilly Ruble Hartog, Woodcrest Nig De Kol, and the 40-pound sire, Johanna McKinley Segis, nearly all bred to King Segis Pontiac. Such breeding simply cannot be bettered.

The bull offerings will consist of a number of youngsters ready for immediate service and choice individuals. Six sons of King Segis Pontiac, dams of the best breeding. One son of the world's champion show bull, Paul Calamo Korndyke, by a dam that was first prize winner at the National Dairy Show. One son of the 30-pound sire, Oakland Paul Beets Burke, from a 24-pound daughter of Hengerveld De Kol. A son of King of the Pontiacs from an A. R. O. dam, and a son of Johanna McKinley Segis (dam has 40-pound record), and an A. R. O. grand-daughter of Pontiac Korndyke. WHAT BETTER COULD YOU ASK?

Your failure to attend this greatest of all Middle West sales will be your loss. Come and bring your neighbors—seating room for all. The proper state and federal authorities will have tested these cattle for tuberculosis and they will be a clean, straight lot. Don't forget the date, APRIL 25. Send for catalog.

**F. J. SEARLE, OSKALOOSA, KANSAS**  
R. E. HAEGER, AUCTIONEER

READ KANSAS FARMER'S CLASSIFIED  
ADVERTISING PAGE FOR READY BARGAINS



### A Personal Word to You

Right Now I am giving greater engine value for the money than ever before in my 30 years of engine building experience. My half-million dollar factory is one of the most efficient plants in the world. I have the greatest machinery made, and hundreds of skilled workmen turning out engines. I sell direct to you—just "you and I" are concerned in a sale. Whether or not you are thinking of buying an engine at once, I want you to send for my free book, "How to Judge Engines," and latest pricelist.

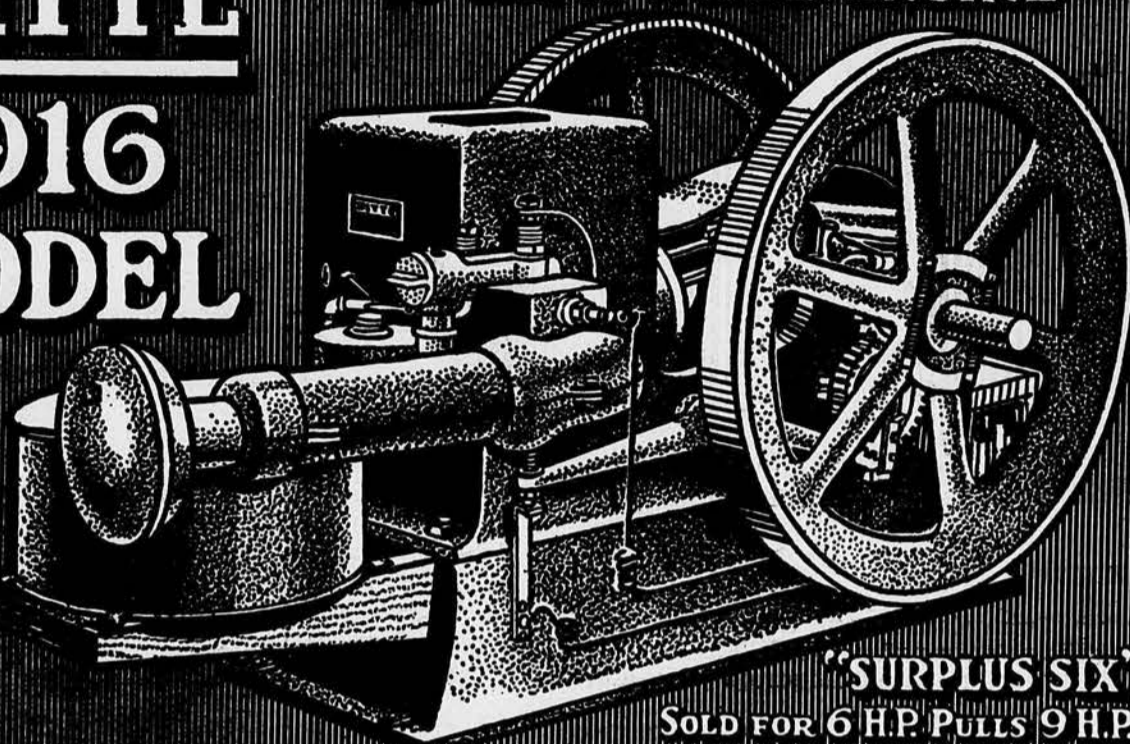
Ed. H. Witte

# KEROSENE ENGINES

## WITTE

## 1916 MODEL

90 DAYS (THREE MONTHS) IN WHICH  
TO TRY A WITTE ENGINE



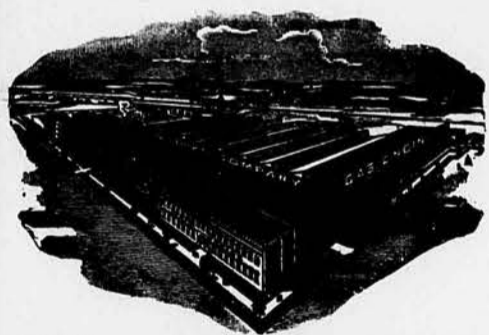
They say that "figures don't lie," but my engines are so good and the prices are so low that the figures are misleading to the man who does not know WITTE quality. If I had a small factory turning out a few hundred engines a month, instead of a factory capacity of thousands, I would have to charge at least one-half more for my engines.

While my great factory enables me to make prices astonishing low, I have always figured quality as more important than prices. What a man pays for an engine is soon forgotten. What an engine **does** is **never** forgotten. The third engine I built—nearly 30 years ago—is still doing steady work in a pumping plant at Chillicothe, Missouri. Probably the owner forgot years ago what he paid for this engine, but what he has to

pay every month for fuel and other upkeep is **always** fresh in his mind.

That is why I have always been so determined to build my engines to **Use Less Fuel, Give More Power, Need Less Attention.**

Then, after building the very best engine that can be built, I figure my prices. The fact that they are the lowest is secondary to the fact that they are the best! **Quality First!**



**THIS** great factory has been built by 43 years of hard work and honest dealing. We have never entered a trust or "combination" or "gentleman's agreement." We have always held steadfast to the determination to give every bit of value possible for the dollar.

ures of merit that it has taken me 30 years to discover are best—and my book, "How to Judge Engines," will show **you** in ten minutes.

### Free Book Tells "How"

Don't buy any engine at any price till you get this book. After reading it you will be in a position to judge engines from the standpoint of an expert. It is clearly written, beautifully illustrated in four colors to make it most understandable, and should save many, many dollars for any man who is going to buy an engine. It is **Free**—and you put yourself under no obligation by letting me send you a copy.

**Ed. H. Witte, Witte Engine Works,**

1608 Oakland Ave., Kansas City, Mo.

1608 Empire Bldg., Pittsburgh, Pa.

### Buy Direct From Factory—Cash or Easy Terms

I want one of my engines to prove to you—right on your own farm—that a WITTE is the biggest value on the market. I want **you** to know, **yourself**, that you can't buy a **better** engine at any price. You should, in justice to yourself, investigate the truth of what I say. Do not accept as final the word of any man who has a "profit" interest in selling you some other engine at a big price. The day of big engine prices is passed, no matter how much talk may be used to excuse the appetite for asking high prices. **I not only make a most liberal trial offer, but you can buy on easy terms and under a rigid guarantee. If I can do anything more to convince you of my honesty of purpose, ask!**

### Let Me Give You Engine Details

I use semi-steel castings where others use common gray iron; why I make cylinder and bed separable; why vertical valves; 4-ring pistons where others use three; automobile style ignition; safety spark shift for easy starting; high carbon, open-hearth steel crank shaft; machine-cut gears; rocking lever valve operation instead of punch lever; and other feat-

Send me your address so I can send you free by return mail, my whole engine story. Learn why

### FREE BOOK COUPON

ED. H. WITTE, WITTE ENGINE WORKS,  
1608 Oakland Ave., Kansas City, Mo.  
1608 Empire Bldg., Pittsburgh, Pa.

You may send me your free book, "How to Judge Engines." It is understood that this request obligates me in no manner.

Name .....

Post Office .....

R. F. D. .... State .....